

SKIN CONDITIONS IN THE UK: a Health Care Needs Assessment



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Foreword

Toyota is a knowledge business, this in the words of the Toyota Motor Corporation which I had thought, as I am sure you do, was an automobile business. However, Toyota sees itself clearly as a knowledge business; both in the development of new products and in improving the products it has developed, it sees knowledge as being even more important than steel.

The NHS is, at least as much, if not more, a knowledge business. We think of the NHS as medication and MRI machines and people and car parks and buildings, but it is a knowledge business. Knowledge is produced and has to be tailored to the particular needs of the individual patient or population.

The generalisable knowledge that we use can be considered to be of three types:

- knowledge derived from the analysis of research data, namely evidence;
- knowledge derived from routinely collected or audit data, sometimes called statistics or information; and
- knowledge from experience.

Knowledge from experience is often tacit, unwritten, and needs to be made explicit before it can be used.

Dermatology, perhaps more than any other clinical specialty, uses all three types of knowledge – knowledge from research, knowledge from data analysis, and knowledge from experience. The dermatologist uses their experience in diagnosis. The tacit knowledge that they accumulate about the seriousness of a lesion, sometimes having to be reinforced by a test, is of vital importance and when I look at a Dermatology Department I see it as a node in a knowledge network, like an electricity substation or a water reservoir and pumping station.

Not only is dermatology more of a knowledge business than any other clinical specialty, it has, in my view, done as much as any other specialty, and much more than some, to recognise this – to produce knowledge and make it available to clinicians and patients.

This document is another example of the knowledge business that is dermatology. It is excellent, clearly written, and of immense importance and I congratulate the authors.

Sir Muir Gray, CBE
Consultant in Public Health

Preface

Over ten years ago, I was invited to participate in a series of UK Health Care Needs Assessments by addressing the area of dermatology services. The idea of trying to plan services on the basis of population needs and according to evidence of effectiveness of services appealed to my epidemiology training and a growing interest in evidence-based medicine. Although gathering critical pieces of information from the grey literature and organising that information in a logical sequence was a lot of work at the time, the report was very popular with those who delivered the service and public health physicians involved in service planning at Regional Health Authorities. The only problem is that the report is now out of date, and there is still large demand for an up to date summary of the health care needs and services available for people with skin diseases in the UK.

With this in mind, Julia Schofield joined our team in 2008 with the aim of undertaking the massive task of updating our original health care needs assessment in dermatology. With her background in primary and secondary care, coupled with a detailed knowledge of health care policy in the UK, Julia was ideally placed to take on such a task. By linking with our information specialist, Douglas Grindlay, at our NHS Evidence - skin disorders specialist collection, Julia has brought lots of new and important up-to-date data into the report which will be crucial for World Class Commissioning.

I am proud to be part of this report. Whether you are someone who pays for dermatology services, someone who delivers the services or a person receiving skin care, I hope that you find the report useful in some way. The report represents a huge amount of work, and I have been delighted with the way that Julia has led the production of this new Centre of Evidence Based Dermatology publication.

Hywel Williams, August 2009

Acknowledgements

The publication of this updated Health Care Needs Assessment would not have been possible without the support of many people who have been generous with time and information and to whom I am enormously grateful. In particular, Dr Douglas Fleming from the Royal College of General Practitioners (RCGP) Research and Surveillance Centre (formerly the RCGP Birmingham Research Unit) was an invaluable source of advice in the context of data interpretation relating to consultations for skin disease in primary care. The important data about specialist unit activity was kindly provided by Dr Dick Mallett, Dr Andrew McDonagh and Dr Robert Chalmers. Supra-specialist activity is from Dr Robert Sarkany and Dr Catherine Smith. I am grateful to the Proprietary Association of Great Britain for allowing me access to their studies of self-reported illness.

The authors would like to thank the following colleagues for reviewing an earlier draft of the report: Rosemary Humphreys, member National Eczema Society, Amanda Platts, general practitioner, Rebecca Penzer, dermatology nurse specialist, Tina Green, consultant dermatologist, Martin McShane, PCT commissioner.

I would like to thank the Centre of Evidenced Based Dermatology, the Psoriasis Association, the Primary Care Dermatology Society and the British Association of Dermatologists (2007 sabbatical fellowship) for their financial support to complete the bulk of the work during a period of sabbatical leave. It has been a privilege to work in the Centre of Evidenced Based Dermatology at the University of Nottingham with my co-authors who have provided constant encouragement and support. Finally, I must thank Professor Hywel Williams for suggesting that I update his 1997 Dermatology Health Care Needs Assessment.

Julia Schofield, September 2009

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- Figure 1 page 7 and throughout Chapter 7 (pages 103-114). 'The commissioning cycle for health services' modified from Figure 1, page 6, in *Health reform in England: update and commissioning framework: annex – the commissioning framework* (Department of Health 2006).
- Figure 3, page 79. 'More detailed model of typical current service provision, Dermatology patient journey' from *Shifting Care Closer to Home demonstration sites – report of the specialty subgroups* (Department of Health 2007b).
- Figure 4, page 83. 'Referral management, financial flows and patient Choice when services such as Clinical Assessment and Treatment Services (CATS) are in place' modified from *Providing care for patients with skin conditions: guidance and resources for commissioners* (NHS Primary Care Contracting 2008).

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Please note: The Royal College of General Practitioners Research and Surveillance Centre is referred to throughout by its former title of Royal College of General Practitioners Birmingham Research Unit.

EXECUTIVE SUMMARY

This document is intended for anyone interested in an overview of services for people with skin problems in the UK, such as health care commissioners, health care workers and the people who access these services. It is an updated, revised and expanded version of the Dermatology Health Care Needs Assessment published in 1997. This Health Care Needs Assessment starts with eliciting the burden of skin disease using prevalence and incidence data plus information on quality of life and direct economic costs. The assessment then provides a description of the range of services available for people with skin conditions from self-care/management through to specialist services. The assessment then considers the evidence for effectiveness of the services within the constraints of various NHS reforms, and concludes with a discussion on appropriate models of care. Devolution in the NHS has created four separate health care systems in the UK with different systems of delivery of care and data capture. Much of the information in this report relates to services in England, due to availability of data and because the pace of change has been quickest there.

How much skin disease is there?

- Previous studies on unselected populations suggest that around 23-33% have a skin problem that can benefit from medical care at any one time.
- Surveys suggest that around 54% of the UK population experience a skin condition in a given twelve month period. Most (69%) self-care, with around 14% seeking further medical advice, usually from the doctor or nurse in the community.
- Skin conditions are the most frequent reason for people to consult their general practitioner with a new problem. Around 24% of the population in England and Wales (12.9 million people) visited their general practitioner with a skin problem in 2006, with the most common reasons being skin infection and eczema.
- Of the nearly 13 million people presenting to general practitioners with a skin problem each year in England and Wales, around 6.1% (0.8 million) are referred for specialist advice. Most (92%) are referred to NHS specialists rather than private dermatologists. Most specialist work is outpatient-based.
- Specially collected data from four specialist dermatology departments in England show that specialists most commonly see people with skin lesions (35-45%), eczema, psoriasis and acne.

Quality of life, mortality and cost of skin diseases in the UK

- The quality of life of people with skin diseases such as psoriasis, atopic eczema and acne can be significantly impaired, and such impairment can be greater at times than for life-threatening conditions such as cancers.
- Most common skin diseases are associated with significant psychosocial morbidity, which may go unrecognised without the use of appropriate assessment tools.
- Many patients with skin disease treated in primary care experience as much impact on their quality of life as patients seen in specialist settings.
- In the public's view, concern about skin appearance is as important as, if not more important than, disability and loss of function.
- There were nearly 4,000 deaths due to skin disease in 2005, of which 1,817 were due to malignant melanoma.
- In terms of cost of skin disease, many people buy skin treatments over-the-counter (OTC). Sales of skin treatment OTC products are rising year on year and comprised £413.9 million or 18% of OTC sales in the UK in 2007.
- Despite skin disease being very common, the direct cost to the NHS of providing care is relatively modest, with overall direct cost to the NHS in England and Wales of around £1,820 million in 2005/6.
- Skin disease, particularly hand dermatitis, causes disability and loss of earnings.

Inadequate data capture systems for skin diseases in the UK

- Commonly used coding systems for service activity on skin disease in the NHS exclude common benign and malignant skin lesions and infections such as warts, fungal infections and herpes infections.
- As a result the amount of skin disease is regularly under-reported in many documents. The same applies to statistics for mortality due to skin diseases, which exclude deaths from malignant melanoma.
- Although there is good information about the amount of skin disease seen in primary care (first point of contact care), there is no national system of data capture for specialist care relating to diagnostic case mix and outpatient activity.

Impact of NHS reform of services for people with skin disease

- There has been a large amount of NHS reform since 1997, resulting in increased service capacity and reduced waiting times for patients with skin disease in England.
- Dermatology services in England are now commissioned by Primary Care Trusts who are required to make funding choices, including whether to fund so-called 'low priority' treatments such as the excision of some benign skin lesions and treatment of hyperhidrosis.
- Clear standards are now in place for the care of people with skin cancer, based around cancer networks and multi-disciplinary working.

Effectiveness of services: Self-care/self-management

- Patient support organisations are mostly charitable institutions which rely, for the most part, on donations from individuals and pharmaceutical companies.
- Experience of the Expert Patient Programme (EPP) for patients with skin disease is very limited and patients with skin disease are not represented in the published EPP studies.
- High sales of OTC skin products suggest that people buy many products from pharmacies. Yet training of pharmacists in the management of skin problems is limited, and evidence that they are providing appropriate advice is lacking.
- Promoting skin health is an emerging concept. The British Association of Dermatologists changed its logo recently to include 'Healthy Skin for All'.

Effectiveness of services: Primary care services

- In contrast to most European countries, where there is direct access to specialists, the UK health care system relies upon the general practitioner as the gatekeeper to specialist services.
- When reviewing and describing services it is important to focus on the type of care being offered rather than the location. Primary care is considered to be first point of contact, generalist care. The distinction is important as some specialists work in primary care settings providing specialist services and some general practitioners work in secondary care settings providing more specialist services.

- Despite skin disorders being the commonest reason that people present to their general practitioner with a new problem, the level of training and knowledge of primary care health professionals in dermatology is generally limited. There is no compulsory requirement for dermatology training in undergraduate or postgraduate medical programmes of study.
- There are a large number of independent and supplementary prescribers working in primary care who are able to prescribe for people with skin disease, yet they may receive little or no training in dermatology.
- Studies documenting effectiveness of primary care dermatology services are few. Some show that general practitioners' skills in diagnosing skin lesions need improvement, and others raise concerns about the standards of skin surgery offered in primary care.
- There is some evidence of effectiveness of general practitioners with a special interest (GPwSI) in dermatology working within appropriate accreditation frameworks.
- Between a third and a half of patients referred by general practitioners to specialists are referred for advice about diagnosis, with the remainder being referred for advice about treatment.

Effectiveness of services: Specialist services

- Compared with mainland Europe, the ratio of consultant dermatologists to the general population remains low in the UK, at 1:130,000.
- Dermatologists now work more within teams that include specialist nurses, Speciality and Associate Specialist (SAS) doctors, and general practitioners with a special interest (GPwSI) in dermatology.
- Around half of referrals to many specialist departments are for the diagnosis and management of skin lesions and skin surgery comprises about 30% of the activity of specialist dermatology services.
- There is good evidence that dermatologists have good diagnostic skills in relation to skin lesions.
- There is evidence supporting the effectiveness of specialist nurse services linked to specialist dermatology teams, and some evidence of effectiveness of skin surgery performed by nurses.
- Although most specialist care is provided in outpatient settings, there remains a need for inpatient services for patients with recalcitrant or life-threatening skin diseases.
- Despite the availability of good tools that can reliably assess the impact of skin disease on quality of life and

response to treatment, their use is not embedded in day to day specialist dermatology practice.

- A range of highly specialist skills is available in supra-specialist (tertiary) centres providing diagnosis and management for people with rare or complicated dermatological disease.

Models of care and organisation of services

- Despite a lack of formal evaluation of models of care for patients with skin disease, consensus models exist and are described in a range of readily available publications.
- Some form of referral management system is probably an inevitable outcome of the new NHS, but care must be taken to ensure that the process works well for patients.
- With regard to shifting care from hospital to community settings, there is some evidence that relocation of specialists to community settings and joint working improves access to care without compromising quality, but little evidence of any reduction in outpatient activity and costs.
- There is evidence that UK dermatology services behave as a complex, adaptive system that is dependent on extensive interconnections between a range of service providers, with outputs unlikely to be traced to single organisational changes.
- The emphasis on integration of services and collaboration that the consensus models propose for optimising patient care is likely to be challenged by the competitive market place that now exists in the NHS in England.

Three key knowledge gaps that need addressing

- There is a need for an up-to-date survey of the prevalence and severity of skin problems at a population level in the UK.
- There is a lack of reliable data capture and analysis of activity relating to skin diseases, due to coding problems and a lack of a national data system for capturing outpatient specialist activity.
- There is a paucity of good studies about the effectiveness of services for people with skin disease.

Ten key recommendations

- There is potential for improving self-care by the provision of high-quality patient information and the

development of the knowledge and skills of community pharmacists in skin diseases.

- There is evidence of an ‘inverse training law’ operating in dermatology: where the need is greatest, with skin problems being one of the commonest problems seen in primary care, the degree of training is least. Undergraduate medical, general practitioner and nursing curricula should be modified to match the dermatological health care need of the population.
- General practitioner training programmes should be ‘needs based’ and linked directly to the common conditions seen in primary care.
- Referrals to specialist services should be triaged by experienced clinicians working as part of the same dermatology team in order to facilitate the ‘right person, right place, first time’ approach.
- Instead of a binary model of care, with a relatively low number of highly trained dermatologists working in hospitals, and a large number of health care professionals in the community with little or no training in dermatology, a more pyramidal service structure that encompasses several layers of different professionals with varying degrees of knowledge and skills would match population needs more appropriately.
- Such population-based teams of health care professionals include Specialty and Associate Specialists doctors and general practitioners with a specialist interest in dermatology, along with dermatology specialist nurses and consultant dermatologists working across health care sectors.
- A process of accreditation of specialist dermatology services should be developed.
- The dermatology specialist service should be led by consultant dermatologists skilled in the diagnosis of skin problems and the management of complex dermatological diseases.
- Dermatologists are also best placed to lead diagnostic and management services for people with suspected skin cancer within a skin cancer multidisciplinary team.
- Patient reported outcome measures (PROMS) and dermatology quality of life tools need to be used as part of everyday clinical practice across generalist and specialist care.

CHAPTER 1: INTRODUCTION

What is a Health Care Needs Assessment?

A Health Care Needs Assessment is simply a formal assessment of the health care needs of a defined population which may focus on a particular area (such as skin problems), or health and well being as a whole. Undertaking a formal assessment of the need for health care with facts and figures underpins decisions about planning and providing health care. The process of completing a Health Care Needs Assessment (HCNA) links the scale of a particular health care problem to models of service provision and makes recommendations about how care may be best delivered within finite resources. A HCNA is therefore an important decision making tool for health care planners and commissioners. The process is especially relevant in the United Kingdom as the National Health Service (NHS) is a cash-limited publicly funded service. Explicit mechanisms are therefore required to influence the type and quantity of services that should be provided. A range of 38 HCNA were published between 1994 and 2007 by Radcliffe Publishing and the second series included a section on dermatology (Williams 1997a). This document is an updated and expanded version of the 1997 dermatology HCNA.

To complete an epidemiologically-based Health Care Needs Assessment for patients with skin conditions, the following are required:

- An understanding that 'need' is the capacity of the population with skin conditions to benefit in terms of health gain (including the use of preventative services).
- A clear definition, explanation and quantification of those factors which contribute to 'the burden of skin disease'. This includes the epidemiology (incidence, prevalence, and mortality), the impact on quality of life, and the cost of skin disease to the patient and society.
- A broad knowledge of the burden of all skin disease, with a clear understanding of those skin diseases that are the commonest and those which consume most resources.
- An overview of the political context and healthcare system, i.e. drivers and constraints, in which care for people with skin conditions is provided.
- An overview of the current range of services and interventions available for this group, with particular emphasis on who provides the care and where it is delivered.
- An analysis of the effectiveness and limitations of interventions and service provision.

This report strives to be based on evidence found in published and unpublished literature and it then uses that evidence to make recommendations about current and future optimum models of care for people with skin diseases. The information should be helpful to commissioners and providers of care when designing services. It should also help service users to understand the important issues that relate to the delivery of their care in the UK.

The importance of the needs assessment in England: the link to commissioning high quality services

Major changes in healthcare delivery have occurred in the UK since 1997, and these are considered in detail in Chapter 3 of this HCNA report. The National Health Service (NHS) in England in 2009 is very different from the NHS when the last HCNA was published in 1997. The former emphasis on increasing the capacity of health care services, reducing waiting times for care and achieving financial balance is now moving towards a linking of the assessment of need and consideration of local priorities to the design and provision of high quality services.

World Class Commissioning

In England, emphasis has been placed on improving the quality of commissioning in order to achieve the provision of high quality services; as evidenced by the Department of Health's published guidance and competencies to deliver the so-called 'World Class Commissioning' agenda (Department of Health 2007a). Commissioners, as part of their competencies, will be expected to '*undertake robust and regular needs assessments that establish a full understanding of current and future local health needs and requirements.*' The information in this HCNA document should support the role of commissioners in relation to services for patients with skin disease. The requirement for a needs assessment as the starting point for the commissioning cycle is shown graphically in Figure 1.

High quality care

The importance of ensuring that all patients treated by the NHS have equity of access to high quality care is now explicitly recognised by the Department of Health (Department of Health 2008a).

The three key components in defining quality of care are effectiveness, safety and patient experience. Reference to these three important areas is made throughout this

HCNA document, especially when reviewing the evidence about services available (Chapter 4), models of care (Chapter 5) and specific skin conditions (Chapter 6).

The importance of the skin

The skin is not a simple, inert covering but a sensitive, dynamic interface between us and the outside world. The skin has a range of functions, including defence against infections and infestations, protection against irritants, ultraviolet irradiation and injury. The skin is also important for controlling water and heat loss, and is an important sensory organ which distinguishes pain, touch, itching, heat and cold. Vitamin D is also synthesised in the skin.

Furthermore, the skin is an important organ of social communication and sexual contact. Western society and its associated media place a major emphasis on how people look. Perhaps the greatest disability of all is to have a lack of confidence in one's appearance, a state that has been termed 'failure of display' (Ryan 1991). There is now a considerable body of evidence about the way skin diseases result in psychological problems and a poor quality of life in many conditions. This will be considered in Chapter 2.

In addition to the main layers of the epidermis and dermis, the skin contains other structures including hair, blood vessels, nerves, and sweat and sebaceous glands, all of which can be involved separately or in combination to produce a wide range of skin conditions. When all of the skin becomes affected by a skin condition such as pustular psoriasis, skin organ failure occurs - a serious condition that can result in death, usually due to infection.

Services for patients with skin conditions are traditionally considered as a single group, so this document considers skin diseases in general in order to be consistent with such an approach. Specific issues relevant to the more common skin conditions are discussed in Chapter 6.

The overlap between skin disease and other conditions

The skin is a large and visible organ which is in direct contact with the outside environment. As a result, it has been possible to observe and categorise a vast range of disease patterns affecting the skin, hair, nails and mucosal surfaces. Unlike most other specialities, which usually deal with fewer diseases, dermatology has a complement of between 1,000 and 2,000 conditions, depending on how they are classified. Yet, there is a close link between skin disease and general medicine.

Most major systemic diseases (e.g. infectious, vascular and connective tissue diseases) have manifestations which are visible in the skin. The skin thus provides a unique opportunity for people trained in skin disease to make a diagnosis of an underlying systemic disorder such as sarcoidosis. Skin organ failure (for example caused by a major drug reaction) has many systemic effects, ranging from dehydration to heart failure, septicaemia and death. There is considerable overlap between therapeutic options for serious skin diseases and other medical conditions. This includes the use of established immunosuppressants, such as prednisolone, azathioprine and ciclosporin, and the more recent biological agents for severe inflammatory dermatoses that are also used for joint disease and inflammatory bowel conditions. The link between general medicine and dermatology therefore remains important, and it is important that dermatologists continue to undergo initial training as general physicians.

There is also overlap between dermatology and other medical specialties. An important area of specialist overlap is the management of skin lesions and skin cancer, which forms up to half of the dermatology specialist's case mix (see Chapter 4). Working in a multi-disciplinary way with clinical nurse specialists, plastic surgeons, histopathologists, oncologists and radiotherapists is a pre-requisite of the NICE guidance on improving outcomes for people with skin tumours including melanoma (National Institute for Health and Clinical Excellence 2006), discussed further in Chapter 7. Historically many children with skin disease have been looked after by dermatologists. Some dermatologists have completed additional training in paediatrics, and others work closely with their paediatric colleagues, geneticists and specialist children's nurses. Joint working is also increasingly common between dermatologists, gynaecologists, oral medicine specialists and genito-urinary specialists in the management of patients with mucosal and genital skin problems. The recognition of the strong relationship between skin disease and mental health has also led to the establishment of collaborative working between dermatologists, clinical nurse specialists, psychologists and psychiatrists.

Relationship between need, supply and demand

The accepted definition of need as 'the population's ability to benefit from health care' (Williams 1997a) is not very helpful in distinguishing between genuine medical need and demand that is not needed. For example, someone who does not like the cosmetic appearance of a mole on the face and who then has it removed on the NHS, may be delighted with the

outcome and can therefore be deemed to have 'benefited from health care'. However, choices increasingly have to be made in the UK about how limited NHS resources are allocated, and some may believe that such a procedure should not be funded by the NHS because it has a lower priority than another intervention. The concept and understanding of what is 'dis-ease' in relation to skin disease is very variable, and will partly be determined by societal values. Commissioners and providers need to be aware of this fluid boundary of what constitutes reasonable need and what may become unaffordable demand. The use of the commissioning cycle (Figure 1) seeks to address such issues by making clear that the local health community must agree priorities for health care collectively, and that they must be explicit in defining these priorities to ensure that limited resources are fairly and appropriately allocated ('one pot spent well'). Due to the different way in which skin diseases affect individuals and the way they are perceived by society, dermatological need will also change, and will need to be reviewed periodically to respond to developments in treatments and changing social attitudes towards skin disease.

Figure 2 attempts to summarise schematically the relationship between need, demand and supply for skin diseases as a whole. Ideally all three circles of need, demand and supply, would overlap each other. Currently, however, there is a lot of demand and a fair bit of need, neither of which is matched by the supply. The relationship between these three factors will vary for different skin diseases, and two examples for specific diseases are illustrated further in Figures 3 and 4. Atopic eczema has high need, high demand and limited supply of services (Figure 3), whereas viral warts and benign skin tumours (Figure 4) have large demand, modest need and moderate supply.

Document structure

The next chapter of this report (Chapter 2) considers the burden of skin disease in the UK. Chapter 3 then describes the political and structural context that has shaped dermatology services by outlining the NHS reform agenda since 1997. Chapter 4 then considers the range of services available along with consideration of their effectiveness. Joining up care, particularly when patients move between different services, is also important so Chapter 5 considers models of care and organisation of services. Specific issues relate to some of the commoner skin problems and these are considered in more detail in Chapter 6. The final chapter then pulls these strands of information together and links them to the steps in the commissioning cycle, and makes some recommendations for the development of future services.

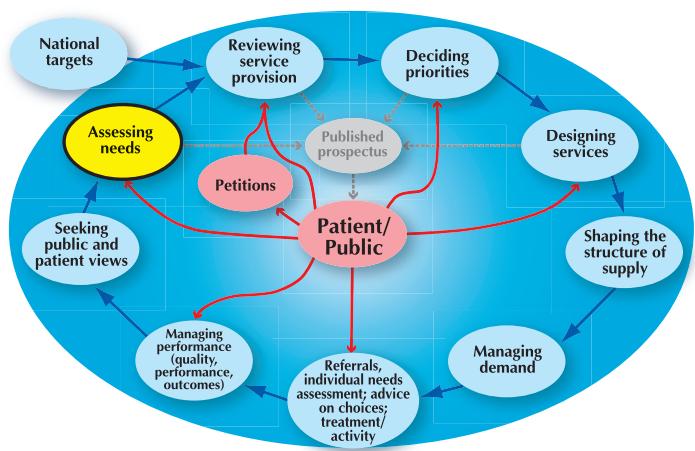


Figure 1: The commissioning cycle

(from: *Health reform in England: update and commissioning framework annex*, Department of Health 2006a)

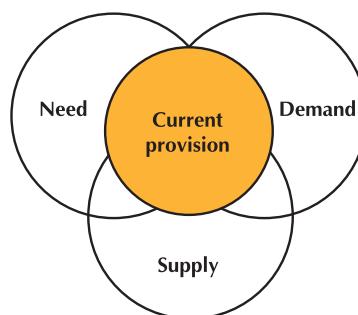


Figure 2: Schematic representation of the relationship between need, supply and demand for health care for skin disease as a whole

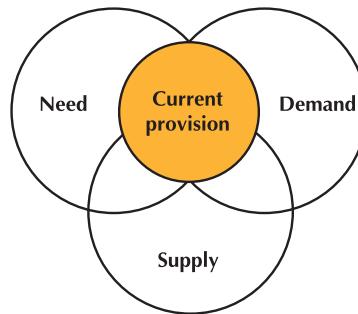


Figure 3: Schematic representation of the relationship between need, supply and demand for people with atopic eczema

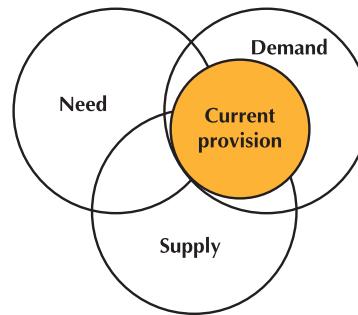


Figure 4: Schematic representation of the relationship between need, supply and demand for people with cutaneous viral warts and benign skin lesions

CHAPTER 2: STATEMENT OF THE PROBLEM: THE BURDEN OF SKIN DISEASE IN THE UK

This Chapter aims to provide a clear picture of the 'burden of skin disease' in the UK. The World Health Organisation (WHO) Global Burden of Disease Study described the determinants of 'burden' of disease as threefold (Lopez and Murray 1998). These are first the epidemiological burden, such as prevalence, incidence and mortality; second, the burden of skin disease in terms of quality of life; and third, the economic burden of skin disease.

An American working group has recently sought to define core measures specifically to address quantification of skin disease burden (Van Beek et al 2007). The group confirms many of the difficulties that were described in the previous edition of the dermatology Health Care Needs Assessment. These include problems in defining what skin disease is; the lack of standardised definitions and reporting for epidemiological data, quality of life and economic burden; the paucity of population survey-based databases; and limitations in the capture of reliable diagnostic information to help to accurately quantify the totality of the health, social and economic consequences of skin disease. The US working group commented in their report that countries such as the United Kingdom, which have national healthcare databases, are better placed to provide information about the epidemiologic burden of skin disease. This is indeed the case and, despite various limitations which will be described later, it is possible to present a considerable amount of useful information about the burden of skin disease in the United Kingdom.

This chapter is divided into three sections which discuss the factors which are documented as contributing to 'the burden of skin disease': epidemiology (Part 1), quality of life (Part 2) and cost (Part 3). There is a strong emphasis on epidemiology, with this section being the longest. A detailed account of the difficulties encountered in

What is this chapter about?

- How we collect information about the amount of skin disease
- The problems with getting accurate information, coding difficulties and data capture
- The total amount of skin disease in the UK: getting as complete a picture as possible
- Mortality and morbidity of skin disease including impact on quality of life
- The costs of skin disease

Types of care

Self-care: the individual manages their problem themselves with the support of those around them and sometimes with medical input

Generalist care: first point of contact care, also known as primary care

Specialist care: the provision of care by someone with special training in the management of skin disease, also known as secondary care

Levels of care are covered in more detail in Chapter 4

capturing accurate information on prevalence, incidence and mortality of skin disease in the UK is included to emphasise the problems in assessing need using current systems. Despite its importance, the section on quality of life and skin disease is relatively short and limited to key messages, mainly because there is already an extensive literature on this topic which the reader is referred to.

PART 1: EPIDEMIOLOGY

Information from a range of sources is available about the amount and severity of skin disease, including that which refers to self-care, surveys of examined skin disease, and the types of skin diseases that are seen in generalist care and specialist care (see box below). This section provides an overview of the prevalence and incidence of skin disease across the whole spectrum of severity and in different care settings. Whilst there is a popular view that skin disease is 'not serious', some conditions, such as malignant melanoma, are life-threatening, and data about mortality from skin disease are also considered.

Problems of data capture

There are real problems relating to the capture of accurate diagnostic information for skin diseases. Some of these difficulties result from the range of coding systems that are in use in different settings, so these issues of classification will be discussed first. This section then considers the prevalence and incidence of self-reported and examined skin disease, followed by information about the amount and type of skin disease presenting to generalists and specialists.

Whilst there are now fairly sophisticated systems for the capture of inpatient activity in England and Wales, accurate systems do not

as yet exist for the capture of outpatient activity, where most patients with skin diseases who present to hospitals are seen. There is thus a paradoxical dearth of reliable national data relating to specialist dermatology services.

Wherever possible information relating to the UK is referred to in this section, but useful studies from other countries are considered where there is a lack of relevant UK studies.

A. Classification of skin disease

Skin disease continues to be classified as a mixture of symptom-based terms (e.g. 'general pruritus'), descriptive terms (e.g. 'papulo-erythroderma', meaning protruding spots on a red background), terms referring to anatomical distribution (e.g. leg ulcer), terms which relate to the pathology as seen on histological examination (e.g. histiocytoma), terms relating to immunological staining pattern (e.g. linear IgA disease), genetic terms (e.g. X-linked ichthyosis), terms which are associated with disability (e.g. hand dermatitis), and terms which imply a cause (e.g. herpes simplex). The classifications used make it difficult to obtain information readily about skin disease without an understanding of the key issues that are discussed below.

(a) Methods of skin disease classification

(i) International Classification for Diseases Version 9 (ICD 9)

The important codes for skin diseases in the International Classification for Diseases Version 9 (ICD 9) are listed in Appendix 1. Although ICD 9 has been superseded by ICD 10, described below, it is still widely used. Appendix 1 illustrates a minimum list which identifies the most important and common skin diseases. Despite the wide use of ICD 9, the chapter code for *Diseases of the Skin and Subcutaneous Tissues*, Chapter XII, is of very limited value on its own, mainly because of incompleteness. This major, historical limitation has been carried through into other data sources, leading others to make the same mistake of underestimating the burden of skin disease. Important exclusions from Chapter XII are all skin tumours (benign and malignant) and many skin infections, such as viral warts, fungal infections, and viral skin infections, which together constitute around 50% of the current specialist dermatology workload. Many publications and studies

only use the data relating to the Chapter XII codes and so omit skin tumour and skin infection data, thereby greatly under-estimating the amount of skin disease. For example, data relating to general practitioner consultation rates published by the Royal College of General Practitioners Birmingham Research Unit in their Annual Prevalence Report (Royal College of General Practitioners 2006a) use Chapter XII codes. In 2006, the RCGP data showed that skin disease was the third commonest reason for patients in England and Wales to consult their general practitioner. However, if consultations relating to all areas of skin disease are included, *skin disease becomes the most prevalent disease type seen in primary care*. Similarly, mortality data and hospital inpatient episodes use Chapter XII rather than all the relevant coded activity, so mortality data for malignant melanoma will not be included. The ICD 9 codes also cause confusion in other ways, as some terms are not mutually exclusive; for example both atopic dermatitis and infantile eczema can be used to code activity relating to children with eczema.

Limitations of ICD 9 and 10

The Chapter entitled Disorders of the Skin and Subcutaneous Tissues does not include codes for the following:

- All skin tumours, benign and malignant
- Many common skin infections, including viral warts

Hence, data using only diagnoses under Chapter XII seriously underestimate the amount of skin disease

(ii) International Classification for Diseases Version 10 (ICD 10)

Relevant codes for the International Classification for Diseases Version 10, or ICD 10, are shown in Appendix 2. The ICD 10 chapter code for *Diseases of the Skin and Subcutaneous Tissues* (L00 to L99) contains a more comprehensive listing of relevant skin diseases than the corresponding chapter in ICD 9, and the exclusions are clearly listed in the ICD 10 Handbook. However, there continue to be anomalies. For example skin

cancer is still not included in the chapter code for *Diseases of the Skin and Subcutaneous Tissues*. In addition, basal cell carcinoma and squamous cell carcinoma of the skin, the commonest forms of cancer to affect the UK population, are given the same code, C44, despite their very different natures; they are simply distinguished by site codes. Contrasting with this lack of specificity, atopic dermatitis is classified in many categories that are of limited clinical significance.

The International League of Dermatological Societies states on its website (2009):

The International Classification of Diseases (ICD) represents the standard classification most frequently used in epidemiological research and public health issues. Due to the large field of general disorders covered by the current version, ICD-10 (10th

revision), many dermatological terms are lacking in this official WHO classification. In the dermatology chapter of ICD 10, distinct diagnoses are quite often classified under a rather crude denominator. In addition, many important terms used by dermatologists are completely missing. As a consequence ICD 10 codes do not sufficiently fulfil the fundamental requirements for documentation of dermatological diagnoses for statistical and scientific purposes.

(iii) Linking ICD 10 and diagnosis-related classifications

The British Association of Dermatologists (BAD) has developed a very detailed and comprehensive hierarchical classification system for skin diseases, the BAD Diagnostic Index. This system is designed by dermatologists for use by dermatologists in the UK. The disease classification headings are logically ordered and sub-categories are based on aetiology and anatomical site. The BAD Diagnostic Index also offers the opportunity for revision and updating. The BAD Diagnostic Index is used by some specialist dermatologists in the UK to capture diagnostic case-mix information.

Since 1998 there has been collaborative working between members of the BAD and the German Dermatological Society (DDG), using their respective diagnostic classifications to create a standardized index of diagnostic terms in dermatology. This work was completed in conjunction with the International League of Dermatological Societies (ILDS). The ILDS website now hosts an ICD 10 compatible catalogue of dermatological diagnoses and terms (International League of Dermatological Societies 2009). Its structure conforms to ICD 10 but is able to accommodate a much richer range of diagnoses by the addition of a two-character extension to the standard four-character ICD code. The catalogue can be searched by ICD code, disorder term or by code and disorder. NHS clinical coding is based on ICD 10 and so this catalogue has the potential to be incorporated into current hospital coding systems.

It should be noted that these coding systems are primarily intended for use by specialist dermatologists and are too detailed for use by generalists. General practitioners usually capture diagnostic information using another system of coding, known as Read codes. This coding system was developed by a general practitioner called James Read and the codes can all be cross-mapped to ICD 9 and ICD 10. The codes were developed in 1982 and then purchased and standardised by the NHS in 1990 standard. The NHS is now introducing SNOMED clinical terms to replace Read codes (NHS Connecting for Health 2007).

(b) Other relevant coding systems

Three coding systems, listed below, which are non-diagnosis related are of particular importance in England, where the system of Payment by Results (PbR) was introduced for all NHS organisations in April 2005. Under this system, providers of care (usually hospitals) are paid for attendances, operations and treatments carried out. This process has required the development of coding systems to capture activity so that those commissioning the care can be charged appropriately, on what is essentially a 'cost per case' basis. Of great importance is the fact that the price for many conditions of each procedure or treatment is fixed across the country, the so-called National Tariff, based on its average cost across the NHS. This was intended to overcome potential variations in the price of service around the country. More information about PbR and Tariff in relation to dermatology in England is included in Chapter 3. Similar coding systems exist in many other countries and their use is well established in the UK private medical insurance sector.

(i) Classification of Interventions and Procedures: Office of Population, Censuses and Surveys codes

OPCS-4 codes, derived from the Office of Population, Censuses and Surveys' Classification of Interventions and Procedures, 4th Revision, are used to record details of any procedures or interventions performed in England. This coding system is therefore of importance in the context of the common procedures performed relating to skin conditions, for example skin surgery. The OPCS-4 codes consist of a letter followed by three figures, with the letter denoting the relevant chapter of the classification. Each chapter deals with a different part or system of the body; all codes beginning with S relate to the skin. For example, S08 denotes curettage of a skin lesion. Where more detail is required, a further subdivision is made using an extra character, so S08.1 is curettage of lesion of the skin of head or neck. Whilst the codes should provide useful information about procedural activity for buying and selling services, they are actually of limited value for understanding the nature of skin diseases. Most of the procedures performed on patients with skin disease are carried out in an outpatient setting but, whilst data capture and coding are now well established as part of clinical practice for inpatients, coding for outpatient consultation activity is much less well developed and data returns are variable around the country. Procedures are only a modest part of outpatient consultations. New OPCS codes are added to reflect changing clinical practice, but there remain significant areas of work that are outwith these codes, such as dermatology day

treatment and phototherapy. Tables are available from <http://www.hesonline.nhs.uk> containing activity and waiting times data relating to procedures using OPCS-4 codes at the 3-character level and 4-character level.

(ii) Healthcare Resource Groups (HRGs)

Health care services in England are commissioned according to so-called Healthcare Resource Groups (HRGs). HRGs are described for the whole range of conditions treated in NHS hospitals and a payment is received by the provider organisation based on the HRG of the condition. Effectively this makes HRGs the unit of currency to support the commissioning of health care across the NHS in England. A list of HRGs that relate to skin disease is shown in Appendix 3. The PbR Tariff paid to the organisation providing care is linked directly to the HRG. HRG v3.5 was in use from October 2003 but following a major revision, HRG v4 has been in use for costing since April 2007 (for the financial year 2007/08 onwards).

(iii) Payment by Results, National Tariff and dermatology

Historically, hospitals were funded according to 'block contracts', which really meant they received a fixed sum for a service that was not specified in terms of activity. One of the key NHS reforms has been linking payment for service to activity performed on a cost per case basis using Payment by Results (PbR). Initially this system was introduced for elective inpatient surgery but has gradually been extended to include outpatient activity. The rate charged per case is nationally agreed and the charge for a particular procedure or activity is set centrally, with this charge being referred to as the National Tariff.

The introduction of the National Tariff for dermatology has been associated with some particular difficulties. First, PbR works best for elective inpatient surgery, where the cost per case, effectively on a procedure basis, can ensure that the money follows the patient to pay for the procedure. Specialist dermatology services are predominantly outpatient based, and the outpatient tariffs reflect a flat rate cost per patient, with no specificity or variation to reflect the complexity of the case. With the advent of new providers of dermatology services and the so-called 'creaming off' of some of the straightforward and less complex cases which in reality cost less to manage, there became a real risk that the Tariff would not cover the costs of those requiring more expensive or complex care. Recognising this difficulty, the Department of Health agreed in 2008 that dermatology services could be removed from the

National Tariff and commissioners were free to negotiate a local tariff with providers. However, developing a more reliable cost per case approach for dermatology speciality services requires access to more detailed and accurate information than is currently available from the routine systems of data capture.

Summary of issues relating to coding and data capture

- Collecting information about the true prevalence and incidence of skin disease is difficult because of the deficiencies of the International Classification of Diseases (ICD) Chapter groupings.
- The Chapter entitled Disorders of the Skin and Subcutaneous Tissues (ICD 9 Chapter XII) is of limited useful value on its own because of incompleteness.
- Common conditions such as benign and malignant skin lesions, and many common skin infections such as viral warts, fungal skin infections and herpes virus skin infections, are coded outside of Chapter XII.
- Primary care activity, including diagnostic activity, is captured by the Weekly Returns Service of the Royal College of General Practitioners Research Unit and their annual prevalence and incidence reports use Chapter XII codings, leading to under-reporting of activity relating to skin diseases.
- A range of well-established systems has developed in England to capture, fairly reliably, inpatient activity. Outpatient systems, where most specialist dermatology activity takes place, are much less well developed.
- There is no national system of data capture relating to diagnostic case mix seen by specialists.
- The lack of reliable information about diagnosis and activity has led to difficulties in developing realistically priced tariffs for activity in the context of the implementation of the National Tariff which was introduced to support Payment by Results in England.

B. The prevalence and incidence of skin disease in the UK

(a) Prevalence and incidence of self-reported skin disease in the UK

Studies of self-reported skin disease are important when trying to establish the total burden of skin disease. The obvious drawback to such studies is that diagnostic information is limited to that given by the person

reporting it, which may not be accurate, and is by necessity symptom-based.

The Proprietary Association of Great Britain (PAGB) has conducted nationwide surveys of the types of minor ailments that people in the UK experience and how they go about managing them, with the most recent studies in 1997 and 2005. The study in 1997 was a repeat of the 1987 study referred to in the previous edition of the Dermatology Health Care Needs Assessment (British Market Research Bureau 1997). It was conducted between May 1996 and April 1997 and posed a range of questions to 2,040 adults and, from these, the randomly-selected parents of 595 children. Amongst children, skin complaints were the most common type of ailment reported as occurring in the previous two weeks, affecting 34% children. Amongst adults, skin complaints were the second commonest type of ailment, reported in 20.5% of respondents, with problems of pain at 23.4%. In addition to estimating the age- and sex-specific incidence of self-reported skin complaints over a two week period (see Table 1), this study provides a useful estimate of the proportion of skin complaints that are not considered by members of the public to be sufficiently severe to seek medical care, and the potential service implication should the threshold change. For example, of the 192 people complaining of acne/pimples/spots; 52% took no action, 36% used or

Self-reported skin disease

- Useful information is available from the Proprietary Association of Great Britain
- Their study in 1997 reported on ailments in the preceding two weeks
- Skin disease was the second commonest ailment (20.5%) in adults
- 34% children reported a skin problem in the preceding two weeks
- The 2005 study asked about a much smaller range of skin problems excluding common conditions such as warts
- Despite this 54% of people reported a skin problem in the preceding 12 months

bought an over-the-counter (OTC) preparation, and 4% used a home remedy.

The PAGB commissioned a further study in 2005 which was published in a report entitled 'A picture of health' (Proprietary Association of Great Britain and Reader's Digest 2005). This study asked different questions from the previous studies and is not therefore directly comparable, but it nevertheless provides some interesting information. In the 2005 survey 1,500 members of the general public were asked a range of questions about their everyday health in the preceding twelve months and the ways in which they responded to a range of health conditions. In total, 818 people (54%) had experienced a skin condition. Compared with the two earlier studies, the range of skin conditions enquired about in the 2005 study was much less comprehensive and therefore it is likely that there was significant under-reporting of skin conditions. In particular, respondents were not asked about warts and veruccae, psoriasis, dandruff, hair loss, headlice, boils, cradle cap or nappy rash. It could also be argued that mouth problems/ulcers and cold sores/lip problems, which were collected as part of ear, mouth and eye conditions should also be included within the skin conditions section. Table 2 shows the reported experience of the common conditions that relate to the skin, by sex and age and expressed as percentages.

Ailments in last two weeks	All adults	% Total ailments	Men	Women	15-19	20-34	35-49	50-64	65 yrs and over	Children	% of Childrens ailments
Digestive	749	13.3	338	411	71	267	184	121	104	149	13.3
Respiratory	821	14.6	392	429	85	271	211	136	117	259	23.1
Pain	1319	23.4	610	709	118	362	354	264	220	125	11.2
Skin	1156	20.5	549	607	123	362	305	179	186	380	34
Sensory	551	9.8	246	305	40	201	126	93	90	113	10.1
General wellbeing	1042	18.5	412	629	82	338	285	188	146	93	8.3
Total ailments	5638	100.1	2547	3090	519	1801	1465	981	863	1119	99.9

Table 1: Information about the range of self-reported diseases by age and sex from *Everyday Healthcare Study: A Consumer Study of Self-medication in Great Britain (1997)* a survey performed by the British Market Research Bureau for the Proprietary Association of Great Britain

	Incidence %	Male %	Female %	15-24	25-34	35-44	45-54	55-64	65+
Minor cuts and grazes	28	50	50	22	21	19	16	11	11
Skin rash allergies irritated skin	26	40	60	16	15	23	15	13	18
Athlete's foot	13	60	41	10	16	27	20	16	13
Eczema	13	42	58	20	19	25	13	12	11
Acne/spots	12	38	62	41	21	22	9	5	2
Minor burns/sunburn	10	46	54	33	24	22	9	5	8

Table 2: Percentage of respondents reporting skin conditions in previous 12 months from *A Picture of Health* (Proprietary Association of Great Britain and Readers Digest 2005)

A total of 828 people were reported as having experienced a total of 1,524 episodes of skin conditions (excluding mouth ulcers and cold sores) in the preceding 12 months in the 2005 survey. Of the overall study group, 26% reported having rash, allergies or irritated skin, while 41% of 15-24 year olds reported acne/spots. Self-care was common (69% of episodes) and sources of advice included friends and relatives. Most importantly, professional advice was sought by only 14% of those with a skin condition. Where advice was sought, this was most commonly from the doctor or nurse at the general practice surgery (82% of those seeking advice), with the pharmacist or chemist the next commonest (17.4%). The survey questioned 135 mothers about the experience of their children in respect of a range of skin conditions in the last 12 months; 30% responded that their child had experienced eczema and 46% of these had sought advice for the management of the episode. Interestingly, all approached the doctor or nurse at the general practitioner surgery, with none seeking advice from other sources such as pharmacists, NHS Direct or family and friends. The remaining parents treated their children themselves. The 2005 survey has confirmed the large amount of self-care for minor skin conditions. For example on reviewing the action taken by those with acne/spots, 59% self-treated and only 14.5% sought advice. Such data raise two issues: first, the potential impact on resources should there be a shift towards more people seeking advice, and second, the need to ensure that the necessary information sources are available to enable effective self-care. None of the PAGB studies asked about skin lesions (lumps and bumps) so information about this area of skin conditions is missing.

Comparison with non-UK studies of self-reported skin disease

A 2003 survey of 25,441 participants from 10,000 households in France, with a 74.7% response rate, found that 43.2% of respondents had experienced skin

problems in the previous 24 months (Wolkenstein et al 2003). Overall, 28.7% said that their skin problems impaired their daily life. The Oslo Health Study of 18,747 people in 2000-2001 described a prevalence of self-reported skin disease in the previous week of 22% in men and 25% in women (Dalgard et al 2004). Interestingly, similar figures were reported by Bingefors in 2002 in data from a cohort of 5,404 responders to a questionnaire in Uppland, Sweden (Bingefors et al 2002). There was an overall two-week prevalence for skin problems of 20.5% in this group. The Italian PrAktis study (Naldi et al 2004) asked 3,660 people aged over 45 about their experience of skin disease; 37% had had a dermatological consultation in their lifetime, with 28% saying they had been diagnosed with a specific dermatological disease by a physician. The data from these studies and a fifth Australian study (Marks et al 1999) are summarised in Table 3 below. The PrAktis study also looked at the range of self-reported skin conditions in the over 45s and this is shown in Table 4.

Study	Cohort	Time period	Data
Australia Marks et al 1999	416 people telephone interview	Self-reported in a) preceding 2 weeks b) preceding 6 months	27% one or more skin conditions in preceding 2 weeks, 59% in preceding 6 months. 13% severe
Oslo Dalgard et al 2004	18,747 people	Self-reported skin disease in the previous week	22% of all men 25% of all women
Uppland, Sweden Bingefors et al 2002	Random study 8000 people aged 20- 84yrs, 5404 respondents	Self-reported skin disease in last 2 weeks	17.3% of all men 23.3% of all women
Italian PrAktis Naldi et al 2002	3660 subjects, all over 45 yrs age	Self-reported lifetime experience	37% had attended a dermatological consultation. 28% had been diagnosed with a specific dermatological disease
France Wolkenstein et al 2003	25,441 subjects from 10,000 households 74.7% response rate	Self-reported, previous 24 months	43% reported having a skin problem. 28.7% reported a skin problem that impaired daily life

Table 3: Summary of non-UK studies of self-reported skin disease

Skin condition	% (n=3,660)
Atopic dermatitis	4.7
Other eczemas	4.3
Urticaria	4.3
Psoriasis	3.1
Tumours	1.6
Vitiligo	0.7
Actinic keratoses	0.3

Table 4: Self reported skin disease in the over 45s in Italy
(PraAktis study 2004)

(b) Prevalence and incidence of examined skin disease in the UK

There appear to have been no new UK studies of examined skin disease since the first Dermatology Health Care Needs Assessment. Indeed, the Lambeth study performed by Rea et al (1976) remains the only UK study that attempts to estimate the prevalence of skin diseases in the general population using some form of physical examination. This study involved sending a questionnaire on skin symptoms to a stratified sample of 2,180 adults in Lambeth, London. All positive respondents, plus one-fifth of those responding that they had not got skin disease, were then examined at home by a team of seven doctors and eleven nurses trained in the recognition of common skin disorders. The overall response rate was 90.5%. Only exposed skin (face, scalp, neck, forearms, hands, knees and lower legs) were examined. Because of difficulties in agreeing objective criteria for skin disease severity, skin disease was classified into trivial (not justifying medical attention), moderate (justifying medical attention) or severe (needing early medical attention because of severe symptoms or risk of progression), based on the judgement of the examiner. Medical need was therefore defined as a person, who, in the opinion of four dermatologists, three general practitioners and eleven nurses, had a skin condition 'justifying medical attention'. Such a normative definition is probably an unstable one, depending upon prevailing medical opinion, accuracy of diagnosis and knowledge of effective treatment. There is some evidence in this study that the dermatologists were more likely to categorize conditions as moderate/severe when compared with the other observers.

The key findings of this study were as follows:

- The estimate of the overall proportion of the population with any form of skin disease was 55% (95% confidence interval 49.6 to 61.3%).
- The estimate of the overall proportion of the population with skin disease considered worthy of medical care (i.e. moderate or severe) was 22.5% (95% confidence interval 17.8 to 27.2%).

The breakdown of the findings according to broad diagnostic group is shown in Table 5.

Skin condition	All grades	Moderate and severe
Tumours and vascular lesions	204.7	14.1
Eczema	90.1	61.2
Acne	85.9	34.6
Scaly dermatoses	84.7	28.7
Scalp and hair disorders	82.1	13.6
Prurigo and allied conditions	82.1	38.9
Erythematous and other dermatoses	75.0	21.4
Injective and parasitic conditions	46.0	6.7
Warts	34.3	1.5
Nail disorders	33.0	18.8
Psoriasis	15.8	5.8
Mouth and tongue disorders	8.9	0.7
Chronic ulcer	1.7	N/A
Any skin condition (confidence intervals)	554.7 (495.9-613.5)	225.0 (178.2-271.8)

Table 5: Prevalence of examined skin disease as expressed as rates per 1000 in a survey of 2,180 adults in Lambeth (Rea et al 1976)

The grouping for tumours and naevi had the greatest overall prevalence (20.5%), but 90% of these lesions were considered as trivial by the examiners. In the eczema group, however, with an overall prevalence of 9%, more than two-thirds were graded as moderate/severe so that the highest prevalence of conditions justifying medical care fell into this group (61.2%). Clear age trends were noted for specific disease groupings, e.g. acne and warts in younger age groups, although age, sex and social class trends were not found when all forms of skin disease were considered together, since several conditions had trends in opposite directions.

Usage of medical care was also recorded in the Lambeth study. The key findings were as follows:

- Of those with moderate/severe skin disease, only 24% made use of any medical service in the past six months;
- A further 30% used self-medication;
- Around 20% of those with moderate/severe conditions had consulted their general practitioner and 7% had been referred for specialist help;
- Medical usage was still considerable for those with trivial skin disease, with 10% using medical services and 33% self-medicating.

In conclusion, despite the large number of observers, the limited nature of the skin examinations and the ambiguous definition of medical need, this important study suggests that:

- Skin conditions that may benefit from medical care are extremely common in the community.
- Most sufferers do not seek medical help.

Comparison with non-UK studies of examined skin diseases

Some limited information is available from a French study (Jagou et al 2006) which took the opportunity of an annual skin tumour screening day for adults in 2003 to study self-reported skin disease and visible skin disease following examination of 4,622 adults by a consultant dermatologist. The authors acknowledge that the demographics of the group studied were not representative of the French population (for example, there were more women, retired and 55-64 years olds). Table 6 below shows the findings of this study.

Skin condition	Diagnosis reported by participant (%)	Diagnosis reported by dermatologist (%)
Fungal infection	11.7	18.0
Acne	10.6	14.6
Eczema	10.6	9.8
Seborrhoeic dermatitis	8.5	11.1
Psoriasis	4.8	6.4

Table 6: Examined skin disease, French study (Jagou et al 2006)

The prevalence of self reported disease when compared with actual, diagnosed disease was lower for all conditions except eczema, which is the opposite of what one might expect. The authors commented on 'bidirectional misclassifications' with some individuals thinking they had a condition when they did not, and vice versa. For example, analysis of the data in respect of psoriasis showed that, when examined by the dermatologist, psoriasis was actually present in 2.6% of the respondents who said they had the condition rather than 4.8%, and the overall examined prevalence was 6.4%.

Given the scarcity of epidemiological data on examined skin disease, mention should also be made of the detailed cross-sectional study of skin diseases contained within the first US Health and Nutrition Examination Survey (Johnson and Roberts 1978). This large study was conducted on a representative population sample of 20,749 persons aged one to 74 years from 65 primary sampling units throughout the US between 1971-74, and included a detailed, structured skin examination by 101 dermatologists. Clinical findings were backed by laboratory investigations such as mycology culture and skin biopsy where possible. Even though this US study is now almost 40 years old, it remains the most detailed account of skin pathology and its relation to health-seeking behaviour to date. The main finding of this study was that nearly one third of the cohort had one or

more skin conditions considered by the dermatologist to be worthy of evaluation by a physician at least once. More details are provided in Appendix 4.

Summary of prevalence studies from self-reported and examined skin disease data

- There have been no new population based studies considering the need and demand for skin care in the UK since the Lambeth study reported in 1976.
- A survey in 2005 of 1,500 people aged 15 and upwards identified that 818 (54%) had experienced a skin condition in the previous 12 months.
- Studies from the 1970s that examined patients for incidence of skin problems found that 22.5-33% of the population were affected at any one time.
- Although similar studies have not been repeated in the UK, we have information from other countries about self-reported and examined skin disease suggesting that the above figures are still relevant.
- Most people with skin conditions in the UK self-care (69%), and the 14% that seek advice most commonly do so from the doctor or nurse at the general practitioner surgery.

(c) Prevalence and incidence of people with skin disease seeking medical help in the UK: generalist care

Within the context of the UK National Health Service, the first point of contact for those people with skin conditions seeking medical advice is a primary care health professional, usually a nurse or doctor. Where further advice about diagnosis or management is required, then patients are referred by their primary care health professional (usually the general practitioner) to a local specialist dermatology service for a more expert opinion.

This section considers the information that we have about those people seeking advice about their skin condition from a primary care clinician. For the purposes of this document, this will be referred to as generalist care (as opposed to specialist care). This distinction is important as some specialist care is provided in primary care settings, so it is necessary to define the nature of the care rather than the setting and who provides it.

The previous edition of this Health Care Needs Assessment document used the four General Practice Morbidity Surveys over the period 1971 to 1992 to provide a range of information about consultations for

skin disease in general practice (Royal College of General Practitioners 1986 and 1995). These surveys showed a steady increase in the number of consultations for skin disease over the period 1955 to 1992. The 1991/92 General Practice Morbidity Survey found that about 15% of the population per year sought advice from their general practitioner about conditions relating to the skin or subcutaneous tissue, the fourth commonest reason for seeking general practitioner advice. However, these estimates included only the ICD 9 Chapter XII conditions and so excluded consultations for skin neoplasms and common skin infections such as herpes simplex and viral warts. The data therefore underestimated significantly the true amount of consultations due to skin disease.

The data for the General Practice Morbidity Surveys used information from the Royal College of General Practitioners (RCGP) Birmingham Research Unit Weekly Returns Service (WRS). Although the General Practice Morbidity Surveys are no longer published, the WRS continues to provide a wealth of comparable information about consultations in primary care and it is these data that have been used here to obtain current information about the prevalence and incidence of skin disease in general practice settings.

The RCGP Weekly Returns Service

The RCGP Birmingham Research Unit Weekly Returns Service collects data each week from 105 practices covering a population of 950,000 (using 2006 figures). The sample covers a reasonably representative sample of the population of England and Wales. The key features of the WRS are as follows:

- The doctors and practice nurses in the WRS practices enter the morbidity relating to every patient encounter onto the electronic medical record.
- Data are stored as diagnostic Read codes which are mapped to ICD 9 for analysis. Where there is uncertainty about the diagnosis, a predominant symptom code is entered and stored as Read code within the ICD 9 chapter for *Symptoms, Signs and Ill-defined Conditions*.
- The data are based on clinical diagnoses that are mostly made by general practitioners. The level of accuracy will vary according to the expertise of the

Limitations of ICD 9 and 10

The chapter entitled Disorders of the Skin and Subcutaneous Tissues does not include codes for the following:

- All skin tumours, benign and malignant
- Many common skin infections, including viral warts
- Hence, data using only diagnoses under Chapter XII seriously underestimate the amount of skin disease

recorder, and for uncommon and less specific syndromes may be limited, but the summated data for skin conditions in grouped totals are reliable.

- The nature of the consultation is also recorded (first/new, or follow-up) so that incidence data can be separated from prevalence and consultation rate data.
- The RCGP Birmingham Research Unit publishes two documents each year containing a range of detailed information using the data collected by the WRS extrapolated to represent activity across England and Wales.
- Whilst the extrapolation of data is not statistically ideal, the Unit believes that their data provide a good picture of what is going on in primary care (generalist) settings.
- The Annual Prevalence Report in 2006 was based on data from 47 of the WRS practices (those with suitable software) and a population of 422,346 similar to the age and gender composition of the entire population of the WRS (Royal College of General Practitioners 2006a).
- The Annual Report of episode incidence (Royal College of General Practitioners 2006b) is based on the accumulated weekly data for the number of episodes and consultations by age and sex group. The data are presented as weekly rates and can be aggregated into annual rates. In 2006 the average population monitored and reported each week was 816,000.
- Episode and consultation data are presented by ICD 9 Chapter codes and by disease specific and disease group codes. As previously described, many skin related disorders are classified in ICD 9 outside the Chapter XII code for skin conditions, and thus estimates based exclusively on Chapter XII underestimate the total burden of skin disease.
- Because of the very detailed information that the RCGP Birmingham Research Unit collects, it is possible to add in those skin conditions classified outside ICD 9 Chapter XII (including symptoms indicative of a skin problem) and so create a clearer picture of both the prevalence and healthcare burden of skin disease presenting to primary care clinicians. Annual prevalence data for a selection of skin disorders are summarised in Table 7 and are

Condition (ICD 9 Code)	Male prevalence	Female prevalence	Male and female prevalence
ICD Chapter XII (680-709)	1315	1691	1505
Skin disorders non Chapter XII			
Herpes Zoster (053)	34	52	43
Herpes Simplex (054)	21	52	37
Viral warts (078)	150	169	160
Dermatophytoses (110)	165	131	148
Malignant melanoma (172)	3	4	4
Malignant Neo- Other Skin (173)	21	18	9
Lipoma (214)	25	21	23
Benign neoplasm skin (216)	102	169	136
Symptoms involving the skin (782)	248	347	298
Non Chapter XII subtotal	769	963	868
TOTAL	2084	2654	2373

Table 7: Prevalence per 10,000 population of common skin conditions for ICD 9 Chapter XII and non-Chapter XII skin conditions, 2006
 (Source: RCGP Weekly Returns Service Annual Report)

presented as gender specific rates as reported in 2006. For most conditions, other than dermatophytoses and other malignant skin neoplasms, prevalence is higher in females than males.

These data show that around 24% of the population have a skin disease for which they seek medical advice in a twelve month period, but the figures need to be interpreted carefully. The Chapter XII prevalence data record from the WRS counts people only once when they present with an ICD 9 Chapter XII skin condition. In other words, a person with psoriasis, eczema and impetigo who consults their general practitioner more than once in the same year would only be counted once in the published Chapter XII prevalence data. Inevitably, pooling the prevalence data to include the non-Chapter XII conditions introduces a degree of inaccuracy as some of these patients may already have been counted if they have had a Chapter XII condition.

An analysis of the annual prevalence data (age standardised to the national census population in 2001) shows that there has been little annual variation in the prevalence rates for these conditions, with no evidence

of increasing or decreasing trend (data from D Fleming, RCGP BRU).

One advantage of WRS prevalence data is the capture of the total number of persons with skin disease, including those whose problem is ongoing over many years. For example, a patient presenting with psoriasis at an on-going consultation would be counted in the prevalence data for that year for that condition even though it may have been diagnosed many years previously.

In 2006, the estimated population for England and Wales was 53,728,900 (www.statistics.gov.uk). If the WRS for primary care estimate of annual skin disease prevalence of 24% is representative, then it would mean that around 12.9 million persons consulted with a skin condition, either new or ongoing, in England and Wales in a twelve month period. This is actually a conservative estimate since other, generally less common conditions such as scabies, pediculosis, chicken pox etc., could be added to the list.

Additional data to determine the burden of skin disease presenting in general practice settings are available in the Birmingham Research Unit's annual episode incidence report, including :

- The episode incidence rate: this captures how often a specific condition presents as a new episode of illness and for some diseases a person may have more than one new episode in a year, for example two episodes of impetigo. The prevalence data count this as one person in one year, but the episode incidence data count two episodes allocated to their weeks of occurrence.
- The consultation rate: this counts new and ongoing episodes for each condition or group of conditions to provide a consultation rate per 10,000 population. The consultation rate is the highest of the three published figures (prevalence, episode incidence and consultation rates), reflecting the fact that patients are often seen more than once with a particular problem. The consultation rate gives a very good indication of general practice workload and is usually expressed as annual consultation rate per 10,000 population for each particular condition or group of conditions.

The overall incidence and consultation rates for the same specified skin conditions shown in Table 7 by prevalence are shown in Table 8. The information in Table 8 shows that for conditions included in Chapter XII there were approximately 2 consultations per episode of illness, and about 1.7 for the conditions reported outside Chapter XII. As in the prevalence data, episode and consultation rates are mostly higher in females.

Condition (ICD 9 code)	Episode incidence			Consultation rate		
	Male	Female	Male and Female	Male	Female	Male and Female
ICD Chapter XII	1138	1487	1316	2245	2899	2578
Skin disorders non Chapter XII						
Herpes zoster (053)	26	41	33	50	78	63
Herpes simplex (054)	16	38	27	26	62	44
Viral warts (078.0&078.1)	122	135	129	196	224	210
Dermatophytoses	146	118	132	233	185	209
Malignant melanoma	1	1	1	6	9	8
Malignant Neo- Other Skin	9	7	8	32	27	30
Lipoma	18	16	17	28	26	27
Benign neoplasm skin	76	127	102	121	202	162
Symptoms involving the skin	163	240	202	285	428	357
Non Chapter XII subtotal	577	723	651	977	1241	1110
TOTALS	1715	2210	1967	3222	4140	3688

Table 8: Annual episode incidence and consultation rates per 10,000 population for ICD 9 Chapter XII and non-Chapter XII skin conditions, 2006

(Source: RCGP Weekly Returns Service Annual Report)

Important information about general practice activity from the RCGP Weekly Returns Service

- Around 24% of the population (12.9 million people) seek medical advice about a skin condition each year
- Skin conditions are the commonest reason for people to consult their general practitioner with a new problem
- There are around 2 consultations per episode of skin disease
- An average general practitioner will have around 630 consultations per year that relate to skin conditions
- Even these figures underestimate the true burden of skin disease because of the limitations of the ICD coding system

Further detail is provided about common skin conditions in Table 9, including prevalence, episode incidence and consultation rates, for all ages, male and female combined. These are presented in rank order of the prevalence for the most frequently occurring disorders or groups of conditions. Table 9 and Table 10 together provide an analysis by age and gender of the episodes rates for skin conditions selected to illustrate

differences by age group. It is important to recognize that these are clinically diagnosed episodes and there is considerable scope for overlap. For example, during a one year period a person may receive treatment for both atopic eczema and infected atopic eczema. Similarly a condition first diagnosed as seborrhoeic eczema may be later diagnosed as psoriasis.

Some very important points emerge from the WRS data in Tables 9 and 10 relating to episode incidence and consultation rates and these are summarised as follows:

- For every 100 persons on a general practitioner registered list there are 37 consultations for skin disease per year. For a general practitioner with an average list size of 1,700, this is equivalent to 630 consultations per year.
- Skin infections represent the commonest group of skin problems presenting to generalists. The skin infections shown in Table 9 are an under-representation of the total burden, as the figures do not include conditions such as chicken pox, parasitic infections and other viral exanthemata which are

Condition (ICD 9 Code)	Prevalence	Episode incidence	Consultation rates
Skin and subcutaneous tissue infections (680-686)	397	335	593
Viral warts and molluscum contagiosum (078 and 078.1)	160	129	222
Herpes zoster (053)	43	33	63
Herpes simplex (054)	37	27	44
Dermatophytoses (110)	148	132	209
TOTAL skin infections	785	656	1131
Eczema other than atopic eczema (692)	251	164	279
Atopic eczema (691)	162	110	278
TOTAL eczema	413	274	557
Symptoms involving the skin (782)	256	202	357
Skin tumours: benign and malignant plus lipoma (172,173,214,216)	172	128	227
Sebaceous gland disease- mainly acne (706)	164	125	251
Psoriasis and related disorders (696)	69	33	109
Hair/hair follicle (704)	64	53	93
Nail diseases (703)	63	49	88
Urticaria (708)	53	40	70
Chronic skin ulcer (707)	27	21	129

Table 9: Prevalence, episode incidence and consultation rates for selected skin conditions per 10,000 population, 2006

(Source: RCGP Weekly Returns Service Annual Report)

	MALES							FEMALE								
	<1	1 to 4	5 to 14	15-24	25-44	45-64	65-74	75+	<1	1 to 4	5 to 14	15-24	25-44	45-64	65-74	75+
Molluscum contagiosum	32	172	95	4	3	1	0	0	24	155	107	7	0	1	0	0
Viral warts	5	83	287	129	77	59	48	36	5	107	333	167	89	73	52	26
Dermatophytosis	93	110	114	124	139	169	196	167	106	79	98	118	131	124	126	98
Impetigo	189	303	192	55	25	12	14	15	195	314	182	81	34	16	12	14
Atopic dermatitis	1973	516	98	43	42	46	76	79	2036	603	117	105	75	59	70	70
Contact dermatitis and other types of eczema																
	807	475	164	102	90	108	158	196	737	488	189	216	168	130	153	174
Psoriasis and similar disorders	7	12	20	39	35	32	27	24	2	7	29	62	45	30	34	23
Sebaceous gland disorders (mainly acne)	25	12	96	378	88	51	51	27	10	15	168	452	166	64	47	36

Table 10: Episode incidence for different skin conditions per 10,000 population by age and gender

(Source: Weekly Returns Service RCGP 2006)

classified in other ICD chapters and captured elsewhere.

- The 2006 RCGP Weekly Returns Service Annual Report comments that there has been no reduction in skin infections since the WRS started to collect data in 1994. This contrasts with a marked reduction in many other infections over the same period. A peak for weekly reported incidence of scabies was seen in 2000, with a decline since then.
- Whilst acne, eczema and viral warts are common, the prevalence of psoriasis is relatively low.
- Around 20% of children in the first year of life are diagnosed with atopic eczema.
- Table 10 shows that atopic eczema presents, as expected, most commonly in the first 12 months of life, warts most commonly in 5-14 year olds, and acne in 15-24 year olds (see shaded boxes).
- The spectrum of skin conditions differs considerably from that seen by specialists (see page 22).

A discussion of the amount of skin disease recorded by the WRS would not be complete without some mention of how it relates to other medical conditions presenting to general practitioners. The data are summarised in Table 11 in order of episode incidence using the ICD 9 chapter groupings which, as previously mentioned, significantly under-report skin disease. If incidence data for common skin conditions reported in other ICD chapters are added to incidence rates for Chapter XII, the combined episode incidence of skin disease is higher than all other disease chapter groupings (see Table 11(a)). However, other specialities may have similar concerns about the ICD 9 chapter groupings, particularly in respect of cancers, so it is not appropriate to include this figure in the main summary table. As expected, much higher consultation rates per episode are seen for disorders of the circulatory system (9.3) and

endocrine, nutritional and metabolic disorders (7.85) and for mental illness (4.6) compared with skin diseases (1.96). This reflects the long-term nature of conditions such as hypertension and diabetes mellitus, and the regular review that these patients receive in this setting.

Chapter	Groupings	Episode incidence	Consultation rate	Consultation rate per episode
VIII	Respiratory system	1903	2578	1.96
XIII	Musculo-skeletal disorders	1461	3325	2.28
XII	Skin* (see supplementary Table 11a below)	1316	2579	1.96
XVI	Symptoms and signs	1160	2387	2.06
VI	Nerves and sensory system	1160	2187	2.06
X	Genito-urinary system	707	1566	2.22
I	Infectious and parasitic disorders	728	1165	1.60
XVII	Injury and poisoning	488	1006	2.06
IX	Digestive system	499	1258	2.52
V	Mental illness	447	2057	4.6
VII	Circulatory system	338	3143	9.3
III	Endocrine nutritional and metabolic disorders	218	1711	7.85
II	Neoplasms	171	601	3.51
IV	Blood and blood forming organs	68	241	3.55

Table 11: Episode incidence, consultation rates and consultation rates per episode for the ICD 9 Chapter disease groupings per 10,000 population in 2006, sorted in order of highest incidence

(Source: Weekly Returns Service RCGP)

	Episode incidence	Consultation rate
Chapter XII Skin conditions	1316	2579
Non Chapter XII skin conditions	651	1110
TOTAL	1967	3689

Table 11(a): Episode incidence and consultation rates for the ICD 9 chapter disease groupings per 10,000 population in 2006 if all skin conditions are included

(Source: Weekly Returns Service RCGP)

Summary points: generalist care

- There is a wealth of information available from the RCGP Birmingham Research Unit Weekly Returns Service about the prevalence and incidence of disease in the primary care setting.
- Limitations of the data include potential diagnostic inaccuracy and the use of the ICD 9 chapter groupings which are not sufficiently specific for skin disease.
- Despite these limitations, the prevalence data suggest that nearly 12.9 million people or 24% of the population visited their general practitioner with skin problems in 2006.
- The combined data on episode incidence of skin conditions, including those not coded to Chapter XII of the ICD, place skin conditions as the most frequent reason, amongst the broad disease groupings, for persons to consult their general practitioner with a new problem.
- The data suggest that a general practitioner with an average list size of 1,700 will have around 630 consultations per year that relate to the common skin conditions.
- The overall number of consultations per episode of skin disease is about 1.87, which contrasts with the on-going need for consultations for patients with circulatory disorders where the number of consultations per episode is 9.3.
- Approximately 20% of children in the first year of life are diagnosed with atopic eczema.

(d) Prevalence and incidence of people with skin disease in the UK seeking medical help: specialist care

This section considers the information that is available about people with a skin problem who are referred for a specialist opinion by a primary care clinician. For the purposes of this document this will be denoted as specialist care rather than secondary care. A distinction between specialist and secondary care is important, as specialist care for patients with skin disease is provided in a range of settings, including facilities in the primary care sector. It is therefore more important to define the nature of the care rather than where the care is provided. Most of this section refers to specialist care in the NHS. A relatively small number of patients are seen in the private sector (less than 10%) and some limited information about this activity will be discussed.

Good quality information is available about the number of patients referred to specialist NHS dermatology

services and the total number of patients who are eventually seen. Such data refer to both nurse and doctor activity. At present separating nurse and doctor activity in the nationally returned data is difficult and unreliable. Information is also available about admissions to hospital for patients with skin disease, as coding systems have been developed to capture inpatient activity. However, there is currently no national requirement in any part of the UK to capture diagnostic information in relation to outpatient specialist dermatology activity where, paradoxically, most specialist activity is undertaken. Consequently, information about case-mix of specialist dermatology services is limited to *ad hoc* audits and reports. This section therefore uses information gathered from dermatology departments that have developed their own clinical information systems to capture diagnostic data at time of consultation. More detail about the range of specialist dermatology services is considered in Chapter 4. This section considers only the factors relevant to the prevalence of skin disease requiring specialist care.

Patients seen in specialist NHS dermatology departments

Information from Hospital Episode Statistics (Hospital Episode Statistics 2008) indicate that in the period 2006/07 a total of 742,412 new patients were seen in specialist dermatology departments in England. Information from www.statswales.wales.gov.uk for the same period in Wales records 49,103 new patient consultations. It can therefore be calculated that about 6.1% of the people consulting their general practitioner with a skin condition during a 12 month period in England and Wales* are referred to specialist dermatology departments. Dermatology referrals represent 4.57% of all new patients seen for all types of condition in specialist outpatient services in England. There has been an increase of about 5.6% in the number of new patients seen in dermatology specialist departments in England between 2000 and 2007 (Hospital Episode Statistics 2008). In Wales the increase is much greater, at 26%. The previous edition of this Health Care Needs Assessment, which reported UK activity, reported a total of 566,454 attendances to dermatology outpatients in the whole of the UK in the year ended March 1994. So even though there is a trend of increasing referrals to specialists, only 1.5% of the total population of England and Wales were seen in an NHS specialist dermatology unit in the 12 months to April 2007.

*This figure is calculated assuming 24% of the population present with a skin problem based on Birmingham RCGP Research Unit prevalence data (12,894,936) and uses the estimated population for England and Wales in 2006 of 53,728,900.

Patients seen privately

Patients are also seen in the private sector, but activity here is more difficult to quantify as the information about whether each consultation is a new episode is not always clear. Data are available for England only; in 2006, there were claims for 28,806 dermatology consultations from BUPA Healthcare (using their own codes AA005 and AA900). This company supports around 42% of the private medical insurance market so extrapolating these figures to the entire private sector would mean there were around 68,586 private dermatology consultations per year in England. This suggests that private activity comprises about 8.5% of the total specialist dermatology activity. If this activity is added to the NHS specialist activity in England, to make a total of 810,998 specialist episodes, then the total percentage of patients presenting with a skin condition in primary care referred for a specialist opinion can be estimated at about 6.3%. This is only an estimate, as data for private consultations in Wales are not included. Comparisons of NHS activity for England and the devolved nations within the United Kingdom are shown in Table 12.

Country	Patients seen in 12 months	Population	Proportion of total population seen by a specialist
England & Wales	791,515	53,728,900	1.5%
Northern Ireland	31,152	1,742,000	1.8%
Scotland	100,042	5,062,011	2.0%

Table 12: Proportion of total population seen in specialist NHS departments in the UK, 2006/07 for England and Wales (www.hesonline.nhs.uk and www.statswales.wales.gov.uk) 2007/08 for Scotland (www.isdscotland.org) and Northern Ireland (<http://www.dhsspsni.gov.uk>)

Prevalence of different skin conditions seen by specialists

Information has been obtained by the authors from four dermatology centres (Manchester, Peterborough, Sheffield and West Hertfordshire) about the type of skin conditions seen by specialists. Two of the centres (West Hertfordshire and Peterborough) are district general hospitals and the other two are teaching hospitals. Different diagnostic databases and coding systems were used, but despite this it is possible to report the type of case-mix seen in specialist departments using the percentage of patients seen with a particular diagnosis. Data for the commonest diagnoses are shown in Figure 1 and, interestingly, there is not a large difference in case-mix between the four centres. The most obvious outlying data point is the percentage of patients seen with psoriasis in Manchester, which is higher than the other centres. This may reflect the fact that Manchester has a major research interest in psoriasis and that their data include psoriasis and related disorders.

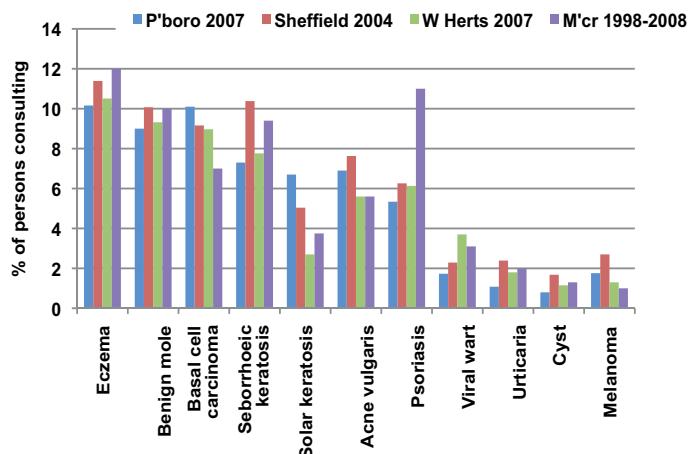


Figure 1: Skin conditions seen by specialists from four centres in England. Data shown as percentage of total caseload during the period shown (Manchester is abbreviated to M'cr, Peterborough to P'boro and West Hertfordshire to W Herts).

It can be noted that the spectrum of skin disease seen in specialist clinics differs significantly from that seen by generalists. Skin lesions, psoriasis and eczema are the commonest reasons for patients to be seen by specialists, whereas skin infections of all types (bacterial, fungal and viral) are the commonest skin problems seen by generalists. Short duration infectious skin diseases usually clear themselves and will often have resolved by the time the patient is seen by a specialist, even with a short waiting time of, say, two weeks. Large numbers of skin lesions are seen by specialists. Data from West Hertfordshire NHS Hospitals Trust show that 45% of all new patient activity in 2007 related to skin lesions (benign and malignant); however the equivalent data over ten years from Manchester showed a lower figure of 34.6% of referrals. When the top ten conditions from the four centres are considered, then 35-40% of the common skin problems seen are skin lesions.

Prevalence of skin disease requiring inpatient hospital treatment

There is some evidence from the British Association of Dermatologists' recent audit of care for people with psoriasis (Eedy et al 2008), that the number of inpatient beds available for managing patients with skin disease has decreased since the first edition of the HCNA was published. Despite this, there continue to be patients with skin conditions that require hospital admission. In the UK in 2005/06 there were 369,000 Finished Consultant Episodes (FCEs) for patients with *Skin and Subcutaneous Disease* (Chapter XII ICD 10); this is equivalent to 6 FCEs per 1000 population and includes all UK inpatient activity, including day case activity (Office of Health Economics 2008). This figure represents 2.1% of all FCEs—a proportion which has

remained static since 1995/6. The figure of 369,000 is an increase from 278,000 in 1995/6, but the increase may be spurious and just reflect altered capture of outpatient day care treatment or skin surgery activity, both of which are often coded as day case activity. Further analysis of this information is provided in Chapter 4 in the more detailed description of specialist dermatology services. A more detailed breakdown for England only is presented in Table 13, with a breakdown by diagnostic code for inpatient activity relating to skin disease in 2006/07 (total number 389,747 FCEs) and includes activity relating to malignant neoplasms of the skin for completion. Interpretation of these data requires caution as coding problems lead to the inclusion of day cases, which may artificially reduce the length of stay data.

	Finished episodes	Median length of stay	Mean length of stay	Day cases	Bed days
L00-14, L55-99 Other infections and disorders of the skin	273,346	2	6.5	41%	873,413
L20-30 Dermatitis and eczema	10,555	1	4.2	22%	30,193
L40-L45 Papulosquamous disorders including psoriasis	11,111	8	10.7	64%	37,286
L50-L54 Urticaria and erythema	6,007	1	2.5	8.5%	12,048
C43-C44 Malignant neoplasm of skin	80,798	2	4.2	82%	56,475

Table 13: Inpatient activity 2006/07 England (data from www.hesonline.nhs.uk)

Summary points: specialist care

- Of the nearly 13 million people presenting to general practitioners with a skin condition in England and Wales per year, around 0.8 million or 6.1% are referred for specialist advice.
- This means that whereas about 24% of the total population of England and Wales visit their general practitioner with a skin disease, only about 1.5% of the same total population see a specialist.
- Most people (92%) are referred to NHS specialists rather than private dermatologists.
- In 2006/07, 4.57% of all hospital outpatient activity in England related to dermatology clinics.
- Unlike the Weekly Returns Service, which provides a large amount of information about the casemix of patients seen in general practice settings, diagnostic information about patients seen in specialist departments is not readily available.
- Data from four departments in England suggest that specialists most commonly see skin lesions, eczema, psoriasis and acne.

- The proportion of skin lesions seen is 35-45% of all specialist activity in the four centres where detailed information was available.
- Despite changes in clinical practice, 2.1% of all Finished Consultant Episodes (reflecting inpatient activity) still relate to skin disease, but a high proportion of these represent day case activity.

C. Mortality of skin disease: missing the melanomas

The number of deaths from skin disease in the UK is not presented accurately in official data because of the use of ICD 10 codes to report the information (Office of Health Economics 2008). The data do not capture deaths due to malignant melanoma, which is a major omission. The published figures for trends in mortality due to skin disease are shown in Table 14 below. What this does not show is that in 2005 there were 1,817 deaths from malignant melanoma (ICD 10 C43) and 453 from malignant neoplasms of the skin other than melanoma (ICD 10 C44). These are in addition to the 1,935 deaths officially recorded for skin diseases. The real mortality due to skin disease is therefore twice that represented in the readily available published data. Deaths from skin disease due to conditions listed in ICD 10 Chapter XII, which excludes deaths from malignant tumours of the skin, accounted for 0.64% of all UK deaths in 2005 (OHE Compendium of Health Statistics 2008 Table 1.27(a)).

	1970	1980	1990	1995	2000	2005
Deaths from skin disease (ICD 10 Chapter XII conditions only)	393	531	923	1,205	1,376	1,935

Table 14: Mortality from skin disease in the UK (ICD 10 Chapter XII) from Office of Health Economics 2008

Deaths from malignant melanoma represent an important area of mortality due to skin disease. Of the 1,817 deaths from malignant melanoma in the UK in 2005, 116 were people aged under 40 and half of all deaths were in people aged under 70 (Cancer Research UK 2009a). This compares with 949 deaths from cervical cancer in 2009. The trends in mortality due to malignant melanoma are shown in Figure 2.

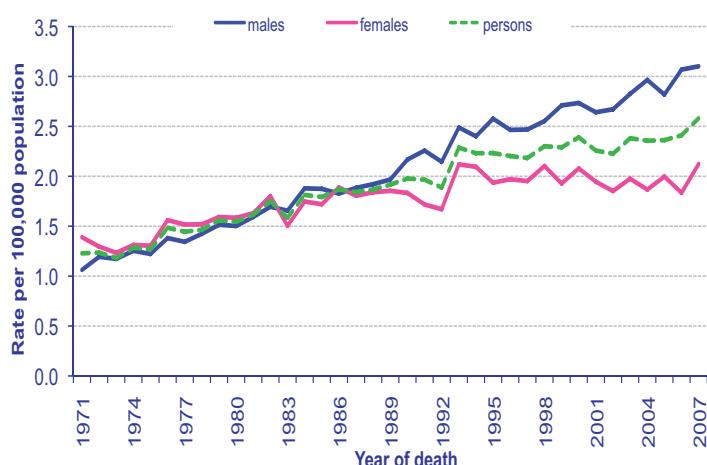


Figure 2: Trends in age-standardised (European) mortality rates, malignant melanoma, by sex, UK 1971-2006 age standardised mortality per 100,000 population

(Source: <http://info.cancerresearchuk.org/cancerstats/types/skin/mortality/?a=5441>)

Mortality of skin disease: important points

- There were 1,935 deaths reported as being due to ICD 10 skin disease in the UK in 2005 (0.64% of all deaths).
- In addition to this, there were 2,075 deaths from malignant skin lesions, of which 1,817 were due to melanoma.
- The true mortality from skin disease is 1.4% of all deaths or double that recorded for skin diseases in ICD 10 and nearly twice that from cervical cancer.

PART 2: QUALITY OF LIFE

Apart from counting cases, a crucial aspect of the burden of diseases is impact on quality of life. This section considers the key literature relating to this area.

Historically, the impact of skin disease has been trivialised and it has been accorded low priority. However, it is becoming increasingly well-recognised that skin disease can have a major impact on the psychological wellbeing, social functioning and everyday activities of patients and their families and carers. Such impact can be assessed by measuring quality of life (QoL). Quality of life can be defined as 'the difference, or the gap, at a particular time between the hopes and expectations of the individual and that individual's present experiences' (Calman 1984). The concept of QoL seeks to encompass 'physical health, psychological status, level of independence, social relations, beliefs and relationships to the environment' (Halioua et al 2000). Health related quality of life (HRQoL) measures link QoL measures to health status.

QoL measures are particularly important in skin disease where there may be no cure. Conditions such as psoriasis, whilst not life-threatening, may be life-long. Reliable assessment of patient morbidity from the patient's perspective rather than the doctor's perspective is therefore very important.

There are a range of health related quality of life (HRQoL) tools which measure the effect of skin disease on quality of life. These measures include generic health quality of life measures such as SF36 and Willingness to Pay for a cure (WTP). There are also speciality-specific measures such as the Dermatology Life Quality Index (DLQI), and disease-specific measures such as the Cardiff Acne Disability Score (Finlay 1997). A detailed review of the use of the DLQI in a whole range of skin conditions was published by Basra et al (2008). More recently, the Family Dermatology Life Quality Index (FDLQI) has been developed and validated to assess the significant impact that skin disease can have on families (Basra et al 2007).

Important studies of quality of life in skin diseases

There has been a range of important studies quantifying the impact of many skin diseases on the quality of life of patients and, more recently, their families. It is beyond the remit of this work to consider this extensive literature in detail but the important points can be summarised as follows:

- Psoriasis has a greater impact on quality of life than hypertension and angina (Finlay 1990) and has as much negative physical, social and psychological impact as life-threatening conditions such as angina or cancer (Rapp et al 1999).
- Willingness to Pay studies show that the WTP for a cure was greater for acne, atopic eczema and psoriasis than for angina, hypertension and asthma (Parks et al 2003).
- Specific studies of patients with psoriasis receiving specialist treatment have identified a significant impact of the condition on employment in around a third of patients (Finlay and Coles 1995). In a study of 369 patients requiring systemic therapy or inpatient treatment, the 59% of the 150 patients who were working had lost a mean of 26 days work in a year. Of the 180 not working, one third felt that this was related to their psoriasis.
- In the same study (Finlay and Coles 1995), 98.9% of patients said they would rather have a cure for their psoriasis than receive £1,000, 78% said they would pay up to £1,000 for a cure and 38% £10,000 or more.

- More recent studies have identified the significant impairment that skin disease can have on the partners and relatives of those affected—the concept of the so-called ‘Greater Patient’ (Eghlileb et al 2007, Basra and Finlay 2007).
- There is evidence that life choices and employment opportunities are influenced by chronic skin disease (Bhatti et al 2009).
- The use of quality of life assessment in the consultation can influence management decisions and, when used in combination with the clinical assessment of disease severity, has the potential to influence management decisions (Katugampola et al 2005, Salek et al 2007).
- Although there is only limited information available about patients with skin disease in primary care, one study reported DLQI scores not dissimilar from those collected in dermatology hospital outpatient settings, suggesting that many patients seen in primary care have significant physical, social and psychological impairment (Harlow et al 2000).

There is also a wide literature documenting the significant psychological impact of skin diseases on patients. Key points are as follows:

- Psychiatric and psychological factors have been documented as playing an important role in a quarter of patients presenting to a dermatology outpatient clinic (Picardi et al 2000). A range of studies have described a clear link between psychological morbidity and psoriasis, atopic eczema in childhood, and acne (Gupta and Gupta 1998, 2003, Griffiths and Richards 2001, Yazici et al 2004, Lewis-Jones 2006).
- In many cases the clinical severity of the disorder as assessed by the physician is a less good predictor of the psychiatric morbidity than a measure of the impact of the condition on the patient’s quality of life (Picardi et al 2000, Gupta and Gupta 2003). Studies in this area make clear recommendations that clinicians should supplement clinical assessment of disease with formal evaluation of impact on quality of life using the validated tools available (Sampogna et al 2003). Other tools such as the Hospital Anxiety and Depression scale (HAD) can also be used.
- With regard to acne, there is a theme from the literature suggesting significant psychological morbidity including anxiety, depression, suicidal ideation and suicide (Yazici et al 2004, Gupta and Gupta 1998, Cotterill and Cunliffe 1997), even in patients with mild to moderate non-cystic acne—disorder of body image (dysmorphobia) is a factor here. The use of isotretinoin in patients with acne has been shown

to improve psychological factors, but not necessarily emotional factors, in this group (Kellett & Gawkrodger 1999).

- Specific issues relating to the psychological impact of childhood eczema on children and their families are well documented (Absolon et al 1997, Lewis-Jones 2006), with sleeplessness and its consequences leading to impaired psycho-social functioning of the child and the family. The impact on adults with eczema is less well documented, although a study from Sweden reviewing patients with long standing hand eczema recognised a significant impact on sleep and leisure activities (Meding et al 2005).

Health planners need to be mindful of this evidence of the impact of skin diseases on quality of life and psychosocial factors when allocating resources.

Summary points about quality of life and skin disease

- There is good evidence from the UK and US which documents a significant deleterious impact of skin diseases (particularly psoriasis, atopic eczema and acne) on quality of life.
- The impact on quality of life has been shown to be greater for some skin chronic conditions, such as psoriasis, than for life-threatening, non-dermatological conditions such as cancer.
- Many common skin diseases are associated with significant psychosocial morbidity which may go unrecognised without the use of appropriate assessment tools.
- Many patients with skin disease who are treated in primary care experience as much impact on their quality of life as patients seen in specialist settings.
- In the public’s view, concern about skin appearance is as important as, if not more important than, disability and loss of function (Williams 1997a).

PART 3: COST AND DISABILITY

The final way in which the burden of diseases can be measured is financial cost. The costs of a disease comprise direct and indirect costs, some of which are readily measurable and some of which are not. This section considers some of the direct costs to the individual and to the National Health Service. Good information is now available about the costs of treating skin disease and this is described first followed by consideration of disability in relation to skin disease.

A. Costs of skin disease

(a) Over-the-counter skin treatment sales

Over-the-counter (OTC) sales in the UK for skin disease treatments such as anti-fungals, so-called medicated, and dry skin treatments have been increasing year on year from 2001 to 2007, the last year for which a figure is available (Figure 3).

In 2007, OTC sales for skin disease treatments were £413.9 million, representing 18% of total OTC sales. This compares with £138.8 million or 11.8% of total OTC sales in 1993, so the proportion has increased.

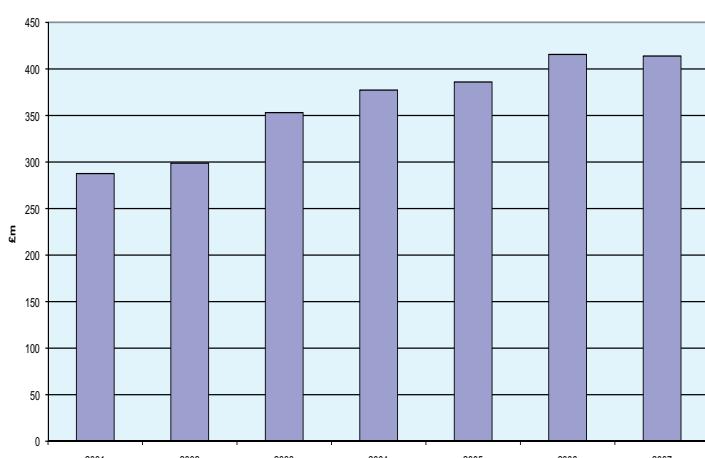


Figure 3: Trend in over-the-counter (OTC) skin disease treatment sales in the UK, 2001-2007, courtesy of the Proprietary Association of Great Britain via Information Resources Incorporated

The OTC sales for skin disease treatments, at 18% of all OTC sales, were similar to those for coughs/colds and sore throats (at 19%) over the last seven years, with only sales of OTC products for pain relief being greater (23%). Trends in OTC sales for different types of condition are shown in Figure 4. These data should be interpreted with some caution, however, as different products are added and information about sales collected at different times. For example, data in respect of wart treatments and headlice/worm treatments were only collected from 2003. In addition, over this period some products (such as topical steroids) have become available for purchase OTC rather than being available only on prescription.

Trends in the sale of the different type of OTC skin treatment products are shown by type over the period 2001 to 2007 in Figure 5. There has been a steady increase in the sale of medicated skincare (such as topical steroids) and anti-fungal agents. This probably reflects the shift of some of this group of products from prescription only medication to OTC sales (see Chapter 4 for more details).

This section looks at the cost of skin disease and considers:

- Treatment costs including over-the-counter (OTC) sales and prescribed treatments
- The cost of providing NHS care for people who seek medical help
- Costs related to disability, where the information is available
- Studies on the cost of illness for specific diseases

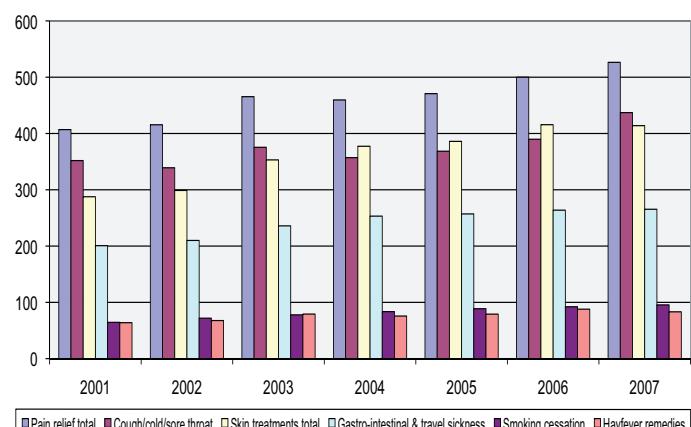


Figure 4: Trends in over-the-counter (OTC) sales in the UK, 2001-2007, for different types of condition, courtesy of the Proprietary Association of Great Britain via Information Resources Incorporated

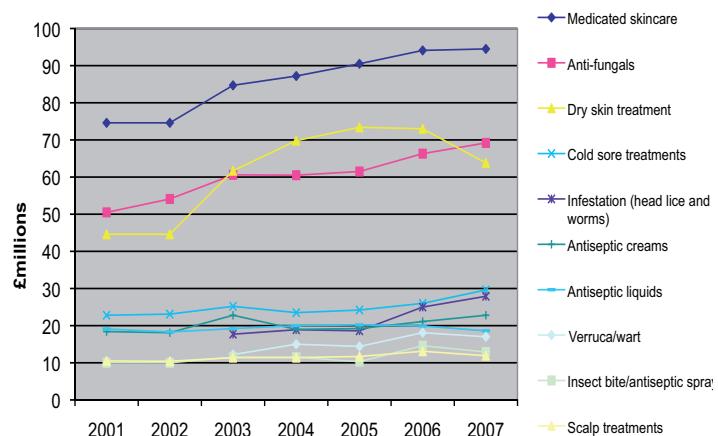


Figure 5: Trends in UK OTC sales of different types of skin treatments 2001-2007 courtesy of the Proprietary Association of Great Britain via Information Resources Incorporated

(b) Prescribed skin treatment costs

Information on prescribed skin treatment costs is readily available for England from the Prescription Cost Analysis Data, which are published annually. As most skin disease is managed in generalist/primary care settings, it is likely that these costs reflect the majority of the prescribing costs for skin disease in England. Hospital prescribing costs are discussed later in this section. The cost of prescription items dispensed in England in 2007 for drugs in the British National Formulary (BNF) Chapter 13, 'Skin', was £238,689,800

(expressed as total net ingredient cost or NIC). A total of 35,262,500 items were prescribed, giving a net cost per item prescribed of £6.77. This represents 2.85% of the overall total prescribing cost for all Chapters of the BNF. Comparative data for other BNF Chapters are shown in Table 15.

Prescription numbers and prescribing costs have risen sharply for cardiovascular and central nervous system therapeutic groups over the last 20 years (Office of Health Economics 2008, Figures 4.20 and 4.21). However, over the last 10 years there has been relatively little change in the net ingredient cost (NIC) per item at 2006 prices for skin prescriptions (Table 16). So despite skin conditions being one of the commonest causes of general practitioner consultations, the unit costs of treatment for skin conditions are low, as are total net costs.

What is known about NHS treatment costs for skin disease?

- Prescribed treatment costs from primary care clinicians are relatively low compared with those for other disease groups
- There is little readily available information about hospital prescribing costs
- Information is available about total expenditure on specialist hospital dermatology services and primary care prescribing
- The cost of general practitioner consultations for skin disease can be calculated

BNF Chapter	BNF Chapter	Pxs thousands	NIC £thousands	NIC/Pxs £s
Gastro-intestinal system	1	58,906	92,530	7.98
Cardiovascular system	2	250,862	1,813,361	7.23
Respiratory system	3	53,613	886,899	16.54
Central nervous system	4	137,986	1,731,129	12.55
Infections	5	45,056	220,133	4.89
Endocrine system	6	67,438	912,151	13.53
Obstetrics, gynaecology, & urinary-tract disorders	7	18,325	265,605	14.49
Malignant disease & immunosuppression	8	3,529	328,176	92.98
Nutrition & blood	9	29,454	397,534	13.50
Musculoskeletal & joint diseases	10	28,602	205,542	7.19
Eye	11	17,153	139,933	8.16
Ear, nose & oropharynx	12	9,962	65,605	6.59
Skin	13	35,262	238,690	6.77
Immunological products & vaccines	14	13,877	130,366	9.39
Anaesthesia	15	959	4,420	4.61
Other drugs and preparations	16	1,356	51,397	37.89
Dressings	17	9,592	169,051	17.63
Appliances	18	9,367	130,110	13.89
Incontinence appliances	19	1,493	40,280	29.67
Stoma appliances	20	2,606	164,801	63.23

Table 15: Comparative prescribing costs for 2007 in England by BNF Chapter from the NHS Information Centre Prescribing Support Unit (prescriptions is abbreviated to Px and Net ingredient cost to NIC)

	1996	2001	2004	2005	2006
Number of prescriptions	43.1	43.0	43.3	43.4	43.0
NIC of prescriptions (£M)	215.4	234.6	262.4	263.8	278.0
% of total prescriptions	7.2	6.0	5.1	4.9	4.7
% of total NIC cost	4.3	3.1	2.6	2.7	2.7
NIC per item (£) 2006 prices	6.38	6.27	6.35	6.22	6.47

Table 16: Price trends in net ingredient cost (NIC) for skin (BNF Chapter 13) prescriptions in the UK 1996-2006, from Compendium of Health Statistics 2008 Table 4.31

The limitation of the Prescription Cost Analysis Data is that they do not include hospital prescribing. There is in fact relatively little information available about the cost of hospital prescribing for skin disease. Overall figures show that about 25% of the total NHS prescribing budget in England in 2007 related to hospital prescribing (The NHS Information Centre 2007). It is increasingly common for hospital pharmacies not to dispense outpatient prescriptions, other than for a limited period of time, but instead transfer the cost to the general practitioner budget. Where treatments are only available from hospital pharmacies, such as isotretinoin, these costs will be reflected in the total NHS expenditure costs for diseases of the skin, as considered later (see below).

Table 17 provides information about the most commonly prescribed products from Chapter 13, 'Skin', of

the BNF in England in 2007. It will be seen that whilst most prescriptions are for topical corticosteroids and emollients, the highest cost per prescription is for psoriasis. The latter may well result from the large number of prescriptions for Dovobet, which represents 59.6% of the total ingredient cost of prescriptions for psoriasis. There were 0.384 million prescriptions for Dovobet in England in 2007 at a total cost of £21.12 million, with a net ingredient cost per prescription of £54.95 (data from the NHS Information Centre, Prescribing Support Unit).

These data do not include the cost of oral antibiotics prescribed for skin disease. This cost is particularly relevant in the context of acne treatment, where long-term, low-dose antibiotics are commonly prescribed. Data from the Prescribing Support Unit show that there were 2.7 million prescriptions for oral tetracyclines in 2007, costing £21 million. It is likely that most of this cost relates to acne prescribing.

(c) Total costs of providing NHS care

The Compendium of Health Statistics 2008 (Office of Health Economics 2008 Tables 2.29 and 2.30) records total direct expenditure in the NHS in England and Wales in 2005/06 for diseases of the skin and subcutaneous diseases as £1,424 million, representing 2.23% of total NHS expenditure. This figure is based on Primary Care Trust (PCT) expenditure and therefore includes prescribing costs for inpatient, outpatient and family health services, but does not include the cost of

primary care consultations provided by general practitioners and their staff. General practitioner consultations are funded through the General Medical Services (GMS) budget, which was £9bn in 2005/06. The average cost of a general practitioner consultation is estimated at £30.45 (Office of Health Economics 2008 p201, Box 8), and if the number of persons consulting with a skin problem is around 13 million per year, then the GMS cost for general practitioner consultations for skin conditions is about £395 million per year, or around 4.4% of the GMS budget.

	COST (£M)	Pxs (millions)	NIC/Px (£)
Topical corticosteroids	66.14	12.27	5.39
Emollients	64.83	11.77	5.51
Psoriasis treatments	35.39	1.138	31.11
Acne, oral and topical, NOT antibiotics	21.34	1.96	10.88
Topical anti-fungal	12.78	1.96	6.53
Shampoos	8.46	1.4	5.9
Topical anti-bacterial	7.56	1.55	4.87
Sunscreens	3.23	0.218	14.86
Warts and calluses	2.56	0.372	6.9
Parasiticidal	2.44	0.352	6.93
Other	13.96	2.242	6.23

Table 17: Total cost, number of prescriptions (Pxs) and net ingredient cost per prescription (NIC/Px) for commonly prescribed skin treatments from Chapter 13 of the BNF, England 2007

For comparison, a US project tried to estimate the direct and indirect costs of people with 22 of the commonest skin disease categories in 2004 and found that they accounted for around \$29 billion in direct costs (medical care and products), \$10 billion in lost productivity costs, and a further \$56 billion for loss of quality of life (Bickers et al 2006). No similar study has been done in the UK or mainland Europe.

Summary points about the direct costs of skin disease

- OTC sales of products for skin treatments in the UK are rising year on year and in most recent figures comprised 18% of OTC sales, costing the public £413.9 million.
- Prescribing costs for skin disease in England in 2007 accounted for 2.85% of the total prescribing budget (£237.7 million). The cost per item has remained fairly static over the last 10 years and was £6.47 in 2006.
- The cost of providing inpatient, outpatient and family health services prescribing for skin diseases was 2.23% of the total NHS budget for England and Wales in 2005/06 (£1,424 million), excluding the cost of general practitioner consultations.

- It can be calculated that general practitioner consultations (in England and Wales) for skin disease cost about £395 million per year, or 4.4% of the General Medical Services budget.
- The overall direct cost of providing care for people with skin disease was about £1,819 million in England and Wales in 2005/6.
- Despite skin disease being very common, the direct cost to the NHS of providing care is relatively low.

B. Disability due to skin disease and its costs

(a) Work-related skin disease

The cost of disability due to skin disease can be expressed in different ways and many of the costs are difficult to measure. For example, some chronic skin conditions such as hand eczema may be associated with unemployment and resultant financial hardship (Finlay and Coles 1995, Meding et al 2005), while other patients may have prolonged periods when they are unable to work leading to a financial cost to the state, but information about this is not easy to find. The most readily available UK information is about occupational disability, with information available about work-related skin disease and disablement benefit payments for occupational dermatoses, as there continue to be patients who develop skin disease as a result of their employment. In 2006/07 there were 29,000 cases of self-reported work-related skin disease (Health and Safety Executive 2009). In addition there is still a significant number of workers reported as having occupational skin disease, most commonly documented as dermatitis (68% of all cases), by occupational health physicians and dermatologists through the THOR and EPIDERM reporting systems. Trends in occupational dermatitis are shown in Figure 6 from the UK Health and Safety Executive website.

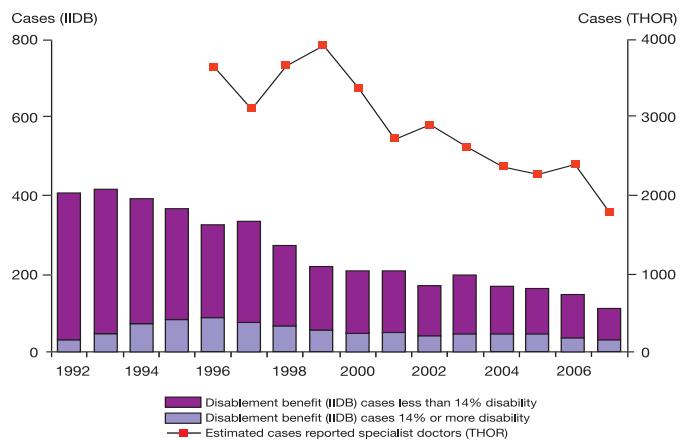


Figure 6: Trends in disablement benefit payments to, and estimated reported cases of, occupational contact dermatitis, 1992-2006, reproduced from UK Health and Safety Executive website <http://www.hse.gov.uk/statistics/causdis/dermatitis/trends.htm> accessed February 21st 2009

(b) Disability Living Allowance (DLA)

Many people with long-term skin conditions require care from family or paid carers. This is particularly the case for children severely disabled with inherited skin disorders, such as epidermolysis bullosa, but is also relevant for children with very troublesome atopic eczema. In the UK, families are entitled to apply for Disability Living Allowance (DLA), which provides some limited financial assistance. The application process is laborious and can be daunting, and figures suggest that, of all applications for DLA for all conditions, only around 50% of claimants are successful (Hansard response to parliamentary question 2007). In May 2007, 14,490 claimants with skin disease as the main disabling condition were in receipt of DLA, which represents 0.5% of all those receiving DLA payments. The DLA process is heavily weighted towards inability to do physical tasks such as walking or washing, rather than inconvenience caused by the need to apply creams or the inability to perform household tasks such as cleaning or food preparation. Figure 7 shows the age distribution of DLA claimants where skin disease is the main disabling condition, with the largest number being 5-11 year olds, almost certainly reflecting the high prevalence of atopic eczema in this age group.

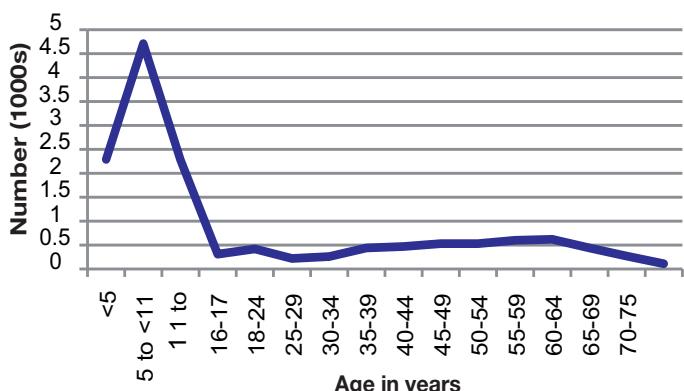


Figure 7: Age distribution of claimants in receipt of Disability Living Allowance (DLA) with skin disease as main disabling condition in England and Wales at August 2008 (obtained from Department of Work and Pensions website using their tabulation tool <http://www.dwp.gov.uk/asd/tabtool.asp> accessed 21st February 2009)

(c) Cost of illness studies

Attempts have been made to cost the commoner skin conditions such as psoriasis and eczema. These studies collect information about costs to the state through direct health care costs, disablement and sick pay, costs to third party providers (insurance companies), and costs to the patient and their families, including OTC medication, required changes to the home environment, loss of earnings and loss of productivity. The studies are difficult to carry out and comparing this type of study between different countries is often

unsatisfactory because of differing healthcare systems, models of care and currencies.

There have been some studies from Germany looking at the cost of psoriasis (Berger et al 2005, and Schoffski et al 2007, Sohn et al 2006), but these pre-date the availability of the biological agents, which are likely to have had a major impact on the economic burden of this disease, with a shift from inpatient to outpatient care.

There have also been two important UK studies looking at the cost of atopic eczema (Herd et al 1996, Emerson et al 2001). The first by Herd et al in 1996 identified 155 children and adults with atopic eczema in a community in Lothian, Scotland and calculated the expenditure on the condition over a two month period. The mean cost to the patient at that time was £25.90, and to the Health Service £16.20. There were 58 lost working days and 17 lost school days during the study period. Costs were higher for younger patients, and ten patients who were affected more severely incurred much higher costs (£325 cost to patient and £415 to the Health Service) over the two months. The biggest personal cost was loss of income, while the majority of health service costs were on treatments, with 38% on emollients or bath additives and 32% on topical steroids. General practitioner consultations comprised 30% of costs and hospital consultations 6%. The authors used the data to try to calculate annual overall UK costs and suggested this to be around £465 million.

The later study by Emerson et al (2001) evaluated the economic burden of atopic eczema in children between the ages of 1 and 5 years in Nottingham. Direct comparison with the study by Herd et al (1996) is not possible because of the different cohort of patients that was studied, but some interesting similarities emerge. Once again, about a third of the annual Health Service cost related to general practitioner consultations, with very few children seen by specialists (6%), and a third of the disease costs related to prescriptions. Mean personal expenditure was similar. A much higher proportion of prescribing costs (76%) related to bath additives and emollients in the Nottingham study. Total costs were lower, with a total mean cost for this group of children of £79.59 per child per annum, compared with £42.10 for a two month period in the Scottish study by Herd et al (1996). The higher costs in the Scottish study probably reflect the inclusion of adults with more severe disease. Extrapolation of the data from the Nottingham study suggested an annual cost of atopic dermatitis for children aged 1-5yrs of around £47 million in 1995-96 for the UK, of which £30 million (64%) was spent by the NHS and £17 million (36%) by the families of children with the condition. Costs to the state were mainly consultations in primary care and prescribed treatment. The authors compared the cost of

childhood eczema treatment with an estimated cost of treating asthma in all age groups in 1990 of about £843 million.

Summary points for whole of chapter 2

- Self-reported skin disease is very common, with more than 50% of people reporting a skin condition in the preceding 12 months.
- However, just a minority (14%) of those with a skin condition seek the advice of a health care professional.
- Although there have been no new studies of examined skin disease in the UK since the 1976 Lambeth study, which suggested that 22.5-33.0% of people had skin disease, other studies from Europe indicate that these prevalence estimates are still representative.
- Establishing incidence and prevalence data for those seeking medical help for skin disease using existing coding systems is fraught with difficulty; commissioners and providers of health care must be aware of this.
- The prevalence of skin disease in patients presenting to primary care health care professionals in England and Wales in 2006 was about 24% of the population or approximately 13 million people.
- The combined data on episode incidence of skin conditions place skin conditions as the most frequent reason, amongst the broad disease groupings, for persons to consult their general practitioner with a new problem.
- A general practitioner with an average list size of 1,700 will have around at least 630 consultations per year that relate to the common skin conditions.
- Despite an increase in referrals to dermatology specialists over the last ten years, only 6.1% of those presenting with a skin problem to the general practitioner are referred for a specialist opinion; of these about 92% are seen in NHS clinics and 8% privately.
- Skin infections are the commonest problem presenting to general practitioners, whereas skin lesions and chronic inflammatory dermatoses such as eczema and psoriasis are the biggest skin disease groups seen by specialists.
- Patients are still admitted to hospital with skin disease.
- There were nearly 4,000 deaths from skin disease in the UK in 2005, with 1,817 due to malignant melanoma (nearly twice as many as for cervical cancer).

- There is strong evidence that skin disease has a major adverse impact on quality of life; for some conditions, such as psoriasis, this impact can be the same as having cancer.
- Many skin conditions are associated with significant psychosocial morbidity, particularly acne, psoriasis and eczema.
- Despite the large amount of skin disease, the cost to the NHS of providing care is relatively low; many patients self-treat and buy over-the-counter preparations. The overall cost to the NHS in England and Wales 2005/2006 was probably about £1,819 million.
- Although there is a downward trend in claims for disablement benefit due to occupational dermatitis, work-related skin disease continues to be a problem.
- Even though most skin diseases are not life-threatening, the combination of high disease prevalence and morbidity creates a large burden of disease in absolute terms.

CHAPTER 3: THE NATIONAL HEALTH SERVICE: RECENT CHANGES IN HEALTH POLICY THAT IMPACT ON DERMATOLOGY SERVICES

People with skin problems require a wide range of health services, from simple advice to specialist investigation and management. Before considering the services available and their effectiveness in Chapter 4, it is important to document the political frameworks in the UK which have shaped the way such care is delivered.

The National Health Service (NHS) was established in 1948 to provide health care for the population free at the point of delivery. There have been many changes in the NHS since its inception sixty years ago. However, in the ten years since the first dermatology Health Care Needs Assessment was published, an unprecedented scale of change and reform has occurred, as evidenced by the eleven key policy documents referred to in this chapter. This new dermatology Health Care Needs Assessment would be incomplete without a summary of the key stages of this programme of change.

What follows is a chronological summary of the relevant policy documents and their proposals for change. The impact of these policies on services for patients with skin disorders is then discussed. Most reform of the health care system has taken place in England and so the emphasis is on this. Figure 1 shows

a schematic representation of the NHS in England in 2008.

PART 1: HEALTH POLICY 1997 TO 2008

A Labour government was elected in 1997 after 18 years of Conservative administration and immediately published a White Paper in December 1997.

White Paper: The new NHS: modern, dependable (Department of Health 1997)

The key points of the White Paper, *The new NHS: modern, dependable*, were as follows:

- The replacement of general practitioner fund-holding by Primary Care Groups and Primary Care Trusts requiring general practitioner practices to work together to commission services;
- The establishment of the National Institute for Clinical Excellence (NICE) to review and make recommendations about cost effectiveness of treatments and interventions;
- The concept of clinical governance to become embedded in clinical practice in order to improve and standardise quality of care;

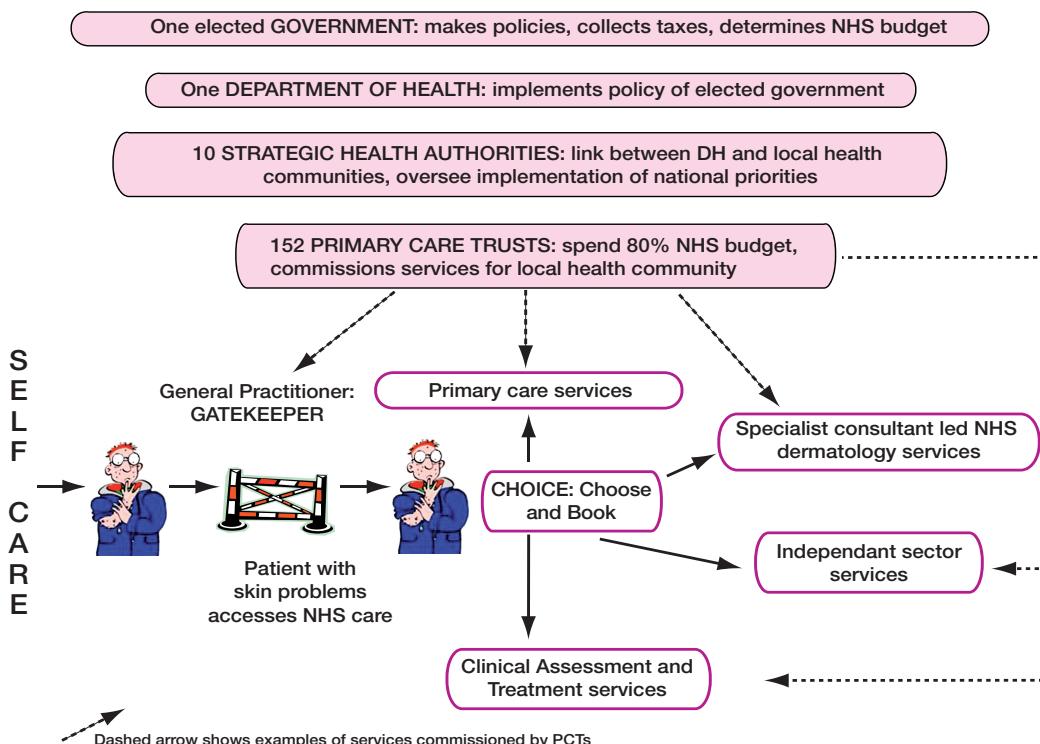


Figure 1: Schematic representation of the NHS in England as at 2008

- Different statements for England and Scotland, even at this stage, before devolution.

Devolution (1999)

One of the incoming Labour government's policies was devolution in Scotland, Wales and Northern Ireland. The first elections for the Scottish Parliament and the Welsh Assembly took place in May 1999. From this time the delivery of health and social services became the responsibility of the devolved governments in these countries. Scotland and Wales have their own Health Ministers and Chief Medical Officers and are shaping health care delivery in their own way. Difficulties with the peace process in Northern Ireland meant that even after devolution there were periods of 'direct rule' by ministers from the UK government and so changes in health policy have been slow. The range of reforms outlined below therefore relates mainly to England and does not include Scotland and Wales. The impact of devolution on services is discussed at the end of the chapter.

The NHS Plan: a plan for investment, a plan for reform (Department of Health 2000a)

In the 2000 NHS Plan, which was published as a Command Paper presented to parliament, the 'New Labour' administration set out a programme for investment, reform and modernisation of the NHS. The main developments proposed were as follows:

- The plan made clear the intention to invest in the NHS, with an average annual, real terms growth of 6.3% (quoted in the document as twice the historic growth rate, one half in cash terms and one third in real terms in five years);
- A pre-requisite of this investment was that those working within the NHS would be expected to modernise and redesign services around the needs of the patient, and to facilitate this the NHS Modernisation Agency was established;
- The first national targets to improve access to services were identified; these included a reduction in waiting time for outpatient appointments to three months and for inpatient elective procedures to six months;
- For the first time a concordat was agreed between the NHS and private sector to provide additional capacity for NHS patients;
- A commitment was made to provide the opportunity for nurses and other staff to develop extended roles, particularly in respect of practical skills (such as skin surgery) and nurse prescribing;

- Specialist general practitioners taking referrals from fellow general practitioners for conditions in specialties such as dermatology were advocated, as a way of improving waiting times for patients with skin disease.

The NHS Cancer Plan: a plan for investment, a plan for reform (Department of Health 2000b)

This Department of Health document built on the 2000 NHS Plan and sought to establish better care for patients with cancer. It included the following commitments:

- Maximum one month wait from diagnosis to treatment for all cancers by 2005;
- Maximum two month wait from urgent general practitioner referral to treatment for all cancers by 2005;
- No patient waiting longer than one month from an urgent referral by their general practitioner with suspected cancer to the start of treatment, except for a good clinical reason or through their personal choice, by 2008;
- Two week maximum wait for all urgent cases of suspected cancer (excluding basal cell carcinoma), to be in place by December 2000.

Delivering the NHS Plan: next steps on investment, next steps on reform (Department of Health 2002)

This Department of Health document presented a progress report on the NHS Plan. It also proposed the following further changes:

- Increases in staffing levels, including consultants, general practitioners and nurses;
- Modernisation of information technology systems;
- Waiting times to continue to fall, with a reduction in waiting times for surgery to six months by 2005 and three months by 2008;
- Primary Care Trusts (commissioners of services) to control 75% of the NHS budget by 2004 and able to commission services from whoever they want based on a system of Payment by Results (PbR) using a national tariff;
- NHS Trusts to be able to apply for 'Foundation Hospital' status with less monitoring and inspection and easier access to capital resources - foundation Trusts to remain part of the NHS but with much greater freedom;

- The concept of patient 'Choice' - by 2005 patients to be able to choose who provides their care and book outpatient appointments at a time and place convenient to themselves.

The NHS Improvement Plan: putting people at the heart of public services (Department of Health 2004)

This 2004 document from the Department of Health set out the priorities for the NHS between then and 2008. It stated that the additional investment in the NHS had led to faster, more convenient care for patients. It then indicated that there would be a new emphasis on the importance of personalised care tailored to the needs of the patient, to be supported by the following:

- By the end of 2005, a new electronic booking service called 'Choose and Book' to connect all general practitioners and primary care services to all specialist providers, allowing initial hospital appointments to be booked at a time and place convenient to the patient - patients able to leave the surgery with their appointment time and date, or book online or via a telephone booking management service;
- From December 2005, patients to be able to choose from four or five providers for planned hospital care;
- By 2008, patients to have the right to choose from any health care provider which met the Healthcare Commission's standards and which could provide the care within the price that the NHS would pay;
- By 2008, all hospital trusts to be in a position to apply for NHS Foundation Trust status;
- By 2008, no-one to wait longer than 18 weeks from general practitioner referral to hospital treatment, with even quicker access in priority areas such as cancer.

Creating a patient-led NHS: delivering the NHS Improvement Plan (Department of Health 2005a)

This document set out guidance to facilitate the implementation of the patient-led approach outlined in the 2004 NHS Improvement Plan. It stated the following principles:

- The need for the expansion of innovative new models of care;
- Primary Care Trusts and Strategic Health Authorities to be given explicit responsibility to review and develop integrated networks of emergency, urgent

and specialist care, to ensure equity of access to high quality care;

- The need for all parts of the NHS to be involved in health promotion and protection;
- The importance of promoting more choice in acute care for patients, including NHS providers, nationally-procured Independent Sector Treatment Centres (ISTCs), and any other independent sector providers if able to operate to NHS standards and at the NHS tariff;
- Improvements in contract management and further development of Payment by Results (PbR) to create and develop financial incentives;
- Emphasis on development and support for organisations and on the importance of leadership at all levels, with greater support for front-line staff and clinical leadership;
- A reminder that as part of the arm's length body review (which set out the way forward in reducing the national overheads of the NHS), many organisations such as the NHS Modernisation Agency would cease to exist; however a new NHS Institute for Learning, Skills and Innovation would be established.

Commissioning a patient-led NHS (Department of Health 2005b)

This document followed on from '*Creating a patient-led NHS*' and was published later in the same year. It considered how the Department of Health would develop commissioning throughout the NHS. To facilitate the implementation of high quality commissioning of patient-centred care, changes in the organisation of Primary Care Trusts (PCTs) and Strategic Health Authorities (SHAs) were considered necessary.

The following steps were implemented:

- Reconfiguration and establishment of new PCTs and SHAs;
- A new statement of the roles and responsibilities of all those involved in commissioning services for patients, in particular a statement that the major responsibility of PCTs is to commission services and that their role as providers of services should be kept to a minimum;
- An expansion and roll out of Practice-Based Commissioning (PBC), the process whereby groups of general practitioners use devolved budgets to commission services for their patients.

Health reform in England: update and next steps (Department of Health 2005c)

This document restated the rationale for NHS reform, summarised the policies already developed, and outlined plans for future policy documents. The reform workstreams were identified as follows

- Demand-side reforms: more choice and a much stronger voice for patients;
- Supply-side reforms: more diverse providers, with more freedom to innovate and improve services;
- Transactional reforms: money following the patients, rewarding the best and most efficient providers and giving others the incentive to improve;
- System management reforms: system management and decision making to support quality, safety, fairness, equity and value for money.

Additionally the document stated that the national tariff for Payment by Results (PbR) would be extended to include outpatient care in hospitals.

White Paper: Our health, our care, our say: a new direction for community services

(Department of Health 2006b)

Our health, our care, our say: a new direction for community services was a White Paper published following a consultation exercise with the general public. It set a new direction for the whole health and social care system and made the following commitments:

- More care to be provided in more local and convenient settings (i.e. 'Care Closer to Home');
- Department of Health to work with the specialty associations '*to define clinically safe pathways that provide the right care in the right setting, with the right equipment, performed by the appropriate skilled person'*;
- Dermatology to be one of the six identified specialties to complete a piece of work reviewing, piloting and recommending models of care that could be used nationwide to facilitate the delivery of the 'Care Closer to Home' agenda;
- Practices and PCTs to be responsible for commissioning services for these and subsequent specialties, using the recommended models of delivery;
- Specific targets to be introduced regarding referral rates to specialist services and new to follow-up patient ratios for several specialties, including dermatology.

Shifting care closer to home: Care Closer to Home demonstration sites - report of the speciality subgroups (Department of Health 2007b)

In 2007 The Department of Health published a report that evaluated Care Closer to Home 'demonstration sites' for each of the six speciality sub-groups identified in the 2006 White Paper. The aim was to identify and publicise models of care to support the shift of care closer to home. Key points were as follows:

- Broad stakeholder groups reported on the specific issues for the six specialities and made recommendations;
- The dermatology sub-group felt that the methodology in respect of the evaluation of the demonstration sites was limited in value because of the difficulties of identifying control sites for comparison;
- The dermatology chapter of the report reviewed the evidence base for different models of care and made a range of recommendations, including the need to develop guidance and resources for commissioners around commissioning care for people with skin conditions.

World class commissioning (Department of Health 2007a)

The increasing emphasis on the importance of commissioning services led the Department of Health to publish a statement of intent to support the delivery of excellence in commissioning services in the NHS.

The *World class commissioning: vision* document (Department of Health 2007a) described what will be expected of commissioners. The Department also set out competencies that PCTs will need to deliver on this agenda. Some very important principles were laid out:

- PCTs will lead the commissioning process and ensure that local needs and priorities are met; this will include shaping clinical outcomes and agreeing priorities;
- There needs to be an evidence based approach to commissioning and this will include a robust and regular assessment of need for services reflecting current and future needs and requirements (this is one of the key competencies required by PCTs);
- More clinical involvement in the design of services is needed to improve quality and safety and ensure that services are delivered in a timely fashion and in the most effective way;
- The focus of commissioning should move from

- diagnosis and treatment to prevention and well-being;
- The commissioning cycle should be used to underpin service provision.

It is expected that this dermatology HCNA document will be a valuable resource to support these principles.

High quality care for all: NHS Next Stage Review final report (Department of Health 2008a)

After several years of increasing capacity within the NHS and reducing waiting times for treatment, the government felt it was timely to consider the next steps for the NHS and to create a vision for how the NHS would look in the future. They asked Lord Darzi, a consultant surgeon, to undertake a major review of the NHS and make recommendations for the future. *High quality care for all*, widely known as the Darzi review, was developed with input from patients, frontline staff and the public. The key messages were:

- A major emphasis on the provision of high quality, up to date clinical care for all;
- The development of a new national quality board to advise on priorities for clinical standard setting;
- A strong move towards measuring the outcomes of care, as determined by patients, and the reporting of quality standards by providers of care;
- The piloting of Integrated Care Organisations to try to provide services that cross organisational boundaries and ensure more joined up care;
- The development of an NHS constitution to attempt to create some distance between the NHS and the day to day political process.

Whilst the Darzi review is accepted as having set out bold policy proposals for the future of the NHS, concerns were expressed about the capacity of the NHS to implement these goals in a report from the NHS Institute for Innovation and Improvement entitled '*The next leg of the journey: How do we make High Quality Care for All a reality?*' (Bevan et al 2008). In this report the authors described the challenges to successful implementation of the Darzi review and highlighted specific areas that will need to be addressed if transformational change is to occur. Key issues mentioned included:

- The need to acknowledge that the NHS is a complex 'human activity system' where the capacity to implement change is currently limited and issues of politics, group and self-interest are difficult to predict;

- Acknowledgement of the likely long term benefit of 'inside out' change involving those working within the organisation rather than the short term gain of 'outside in' change capability provided by external experts;
- The importance of developing leadership skills, and the real benefits shown in some case studies of continuity of leadership;
- The use of information and comparative data to improve performance by an overall raising of expectations in respect of standards of care;
- Recognition that when competition goes too far this can create barriers to collaboration and improved patient care.

Providing care for patients with skin conditions: guidance and resources for commissioners (NHS Primary Care Contracting 2008)

This guidance from NHS Primary Care Contracting was published at the same time as *High quality care for all*. The principles underpinning the guidance reflect *World class commissioning: vision* and *High quality care for all*. The guidance was produced by the dermatology Care Closer to Home Group and was a response to the recommendation in the 2007 *Shifting care closer to home* report about the need for resources to support commissioners in ensuring the provision of high quality care for all patients with skin conditions. The document sought to bring together all the previous dermatology guidance and placed emphasis on the following:

- The use of the commissioning cycle, underpinned by a needs assessment, to develop services;
- The importance of patients and local people in the development of services;
- The need for commissioners to incorporate outcome measures into measuring quality of care, with the development of Patient Reported Outcome Measures (PROMs) for people with skin disease based on existing quality of life measures.

Other important initiatives and publications that relate to service delivery and skin conditions

In addition to the above policy documents, various other national initiatives and documents have impacted on service delivery for skin conditions, as listed below.

NHS Modernisation Agency:

- *The Action on Dermatology (AOD) programme.* This programme was established in 2001 and brought together, for the first time, a broad stakeholder group including representation from patient groups, general practitioners, dermatologists, nurses and other health care professionals. The programme funded pilot site work to evaluate new ways of working, and capital funding to equip new dermatology facilities around the country.
- *Action on Dermatology - good practice guide* (NHS Modernisation Agency 2003). The results of the pilot site work from *Action on Dermatology* were incorporated in this guidance document, with a range of other examples of good practice.
- *Action On Plastic Surgery - a good practice guide* (NHS Modernisation Agency 2005). There was dermatology input into the Action on Plastic Surgery (AOPS) programme in 2003-2005, and following evaluation of AOPS pilot site work, the *Action on Plastic Surgery* guidance was published.

National Institute for Health and Clinical Excellence (NICE):

- *Guidance on cancer services: improving outcomes for people with skin tumours including melanoma: the manual* (National Institute for Health and Clinical Excellence 2006). This NICE guidance provided clear guidance and standards for all those involved in delivering care for patients with skin cancer.
- *Atopic eczema in children: management of atopic eczema in children from birth up to the age of 12 years* (National Institute for Health and Clinical Excellence 2007). This NICE Clinical Guideline provided guidance on the diagnosis, assessment and management of children with atopic eczema and how best to provide information and education for children, their parents and carers.
- NICE Guidelines for a range of biologic treatments for psoriasis.

Department of Health:

- *Implementing care closer to home: convenient quality care for patients* (Department of Health 2007c and 2007d). This document provided guidance for commissioners about implementing the Care Closer to Home agenda without compromising the quality of care provided, and included generic guidance for the accreditation of practitioners with a special interest (PwSIs).

- *Guidance and competencies for the provision of services using General Practitioners with Special Interests (GPwSIs): dermatology and skin surgery* (Department of Health 2007e). This document provided speciality-specific guidance to facilitate the accreditation of GPwSIs in dermatology. It described three different types of dermatology GPwSIs and provided a curriculum, learning methods and recommended assessment tools with the emphasis on demonstration of competency using approved national tools. The training needs for community cancer clinicians were specified and the issue of accrediting general practitioners performing skin surgery was considered. Requirements for ongoing continuing professional development were included.

All Party Parliamentary Group on Skin (APPGS):

The All Party Parliamentary Group on Skin was established in 1994. Its membership includes Members of Parliament from all parties (including the House of Lords), health professionals, patient groups and representation from the pharmaceutical companies. The organisation was set up to '*raise awareness and understanding of skin issues in parliament and to seek improvement of delivery of treatment to those with skin diseases*'. The group has published eleven reports since 1994 considering a range of issues but particularly looking at the training of health care professionals involved in the care of people with skin disease and services available to patients. A list of their publications is included in Appendix 5.

PART 2: THE IMPACT OF NHS REFORM ON THE PROVISION OF CARE FOR PATIENTS WITH SKIN PROBLEMS IN ENGLAND

All health care services for people in England sit within the context of the NHS reform agenda and the policy frameworks outlined above. The following sections explain how these principles translate to models of care for people with skin conditions.

Contestability and Choice

The NHS in England is now a market place with competition between providers. Commissioners are able to commission services from a range of providers through a range of contracting mechanisms, including the private sector. Groups of general practitioners are working together as Practice Based Commissioners. Additionally, all commissioners have to be able to offer patients a choice of dermatology providers, including private sector providers. Tendering and contracting

arrangements are continually evolving, with formal tendering now only required where the result is likely to create a monopoly, by awarding a contract to a single provider. Increasingly, groups of Practice Based Commissioners are advised to use the 'any willing provider' model by the Department of Health. This model gives no guarantees of volume or payment in any contract awarded. Contracts can therefore be made with a number of different providers, but without any guarantee of activity or income.

Payment by Results (PbR) and Tariff

The National Tariff for outpatient services, where the bulk of hospital-based specialist dermatology activity sits, was introduced in the 2005/06 financial year. The tariffs for dermatology provided no specificity according to the complexity of caseload. For example, the same rate would be payable for a patient attending for a diagnosis of a skin lesion as for a course of isotretinoin. The income from the simpler cases effectively subsidised the more complex cases. Such lack of specificity can lead to 'cherry picking' or 'creaming off' of the simpler cases into pre-tariff settings, which could in turn lead to destabilisation of specialist services. In recognition of this problem, dermatology was moved out of the National Tariff arrangements from April 2008, with an expectation that locally agreed tariffs would be developed that reflected local case mix.

Targets

There are two specific targets derived from NHS reforms that have had an impact on the delivery of services for people with skin conditions:

- **18 week wait:**

The time from referral by general practitioner to first definitive treatment for the skin condition to be no longer than 18 weeks by the end of 2008. The first definitive treatment for patients with skin disease include such things as phototherapy and day treatment or skin surgery (Department of Health 2004);

- **2 week wait:**

All suspected skin cancers (excluding basal cell carcinomas) to be seen within two weeks of the date of general practitioner referral (Department of Health 2000b). By the end of 2005 no patient with skin cancer to wait longer than a month from the decision to treat to first treatment, and the total time to first definitive treatment from the date of an urgent referral to be no longer than two months. This target changed in 2008 to one month from an urgent referral by the general practitioner with suspected cancer to the start of treatment, except for a good clinical reason or personal choice (Department of Health 2000b).

Specific implications of *Our health, our care, our say: a new direction for community services*

Chapter 6 of the 2006 White Paper *Our health, our care, our say: a new direction for community services* (Department of Health 2006b) was about 'Care Closer to Home', and made the following specific statements about how care for patients with skin conditions should be delivered:

- 'Wherever possible, patients with long-term skin conditions such as psoriasis and eczema should be managed by appropriately trained specialists in convenient community settings and should be able to re-access specialist services as and when needed'.
- 'Many specialist dermatology units already provide up to 30 per cent of their services in community settings, usually in well-equipped community hospitals. This type of service should be encouraged wherever possible'.
- 'Practitioners with a special interest (PwSIs) and specialist dermatology nurses can have an important role in providing care close to home for patients with skin disease. Health communities should develop these services where they are not already in place'.

The White Paper also proposed that as part of the 'Care Closer to Home' agenda, referral rates around the country for patients with skin disease should approach the low decile of 2.89 per 1000 per quarter (11.56 per 1000 per year). A reduction in number of follow-up appointments per patient to match the low decile of 1.53 was also advocated, in an attempt to reduce unnecessary hospital visits.

Quality frameworks

Improvement in waiting times for diagnosis and treatment were the initial priority of the NHS reform agenda. Now that these have improved, emphasis has moved towards quality. The care provided is expected to be of the same high standard, whoever provides it and wherever it is provided. This has necessitated the development of a formal accreditation process for GPwSIs and community cancer clinicians, requiring accreditation of the service, the facilities and the individual delivering the service (Department of Health 2007c, 2007d, 2007e).

Benefits and opportunities

A number of benefits and opportunities for skin disease services can be identified from the NHS reform agenda:

- The time from general practitioner referral to

accessing specialist dermatology services has improved enormously, with good evidence that the target of no patient waiting longer than 18 weeks from referral by the general practitioner to receiving their first definitive treatment is likely to be met by the end of 2008 - this compares with an average waiting time for an outpatient dermatology appointment of more than 26 weeks in 1997 (see Chapter 4 for more detail).

- The two week suspected skin cancer referral process has provided a rapid access service for patients with suspected skin cancer. Along with the 31/62 day cancer treatment targets, a framework now exists to optimise the diagnosis and management of people with skin cancer.
- The NICE guidance *Improving outcomes for people with skin tumours including melanoma* (National Institute for Health and Clinical Excellence 2006) has provided a framework to provide equity of high quality care for people with skin cancer.
- Guidance documents for commissioners developed by national stakeholder groups stress the importance of delivering high quality care wherever and whoever delivers the care, with emphasis on formal demonstration of competency and accreditation.
- The development of extended role specialist practitioners has provided an opportunity to work towards ensuring that patients are seen by the 'right person, in the right place, first time'.
- There is a new emphasis on the involvement of patients and the public in the development of 'patient-centred' services.
- It is expected that patients will receive care as close to home as is appropriate but without compromising quality of care.
- The development of Payment by Results, Foundation Hospitals, patient 'Choice' and competition between providers (contestability) provides opportunities for clinicians to provide different, new or additional services.

Threats

As well as the benefits and opportunities, some threats can be identified:

- To date, whilst PbR and Tariff have the potential to ensure that the money follows the patient, the issue of 'creaming off' or 'cherry-picking' of straightforward cases by private providers has led to concerns about the sustainability of specialist services; the removal of dermatology from the National Tariff has not addressed this issue fully yet,

and there remain inconsistencies of pricing.

- The training and accreditation of general practitioners with a special interest (GPwSIs) should raise standards, but uptake and implementation of the frameworks is slow, with little evidence that the 2009 deadline for accreditation will be met.
- The specific targets in the 2006 White Paper *Our health, our care, our say* (Department of Health 2006b) relating to new and follow up caseload are likely to be non-achievable in the context of national clinical guidance and the increasing complexity of case mix that is likely to be managed by specialist dermatologists in the future.
- Primary care Practice Based Commissioning (PBC) groups in some parts of the country are closely linked to primary care provider organisations. This can lead to potential conflicts of interest when new community services are being established (Moore 2007a). There is the potential for PBC groups to commission services from their own local primary care provider groups. This needs to be monitored by PCTs to ensure that general practitioners are not buying services from themselves, something which is not in the spirit of separating the commissioning of services from the provision of care.
- The 'any willing provider' contracting framework leads to uncertainties in terms of volume, activity and income for those bidding to deliver services; this contracting framework is unlikely to lead to the development of high volume, innovative, quality, intermediate or community services, where staff recruitment and retention require some guarantee of activity and related income.
- There are undoubtedly challenges to the implementation of the NICE guidance *Improving outcomes for people with skin tumours including melanoma: the manual* (National Institute for Health and Clinical Excellence 2006), particularly with the rise in skin cancer cases and the centrally imposed cancer diagnosis and treatment targets (Department of Health 2000b). The evidence suggests that large numbers of patients with skin lesions are now seen in specialist units (see Chapter 4) and there is a risk that this may reduce access to care for people with inflammatory skin disease.
- Priority setting in the context of local commissioning frameworks is likely to become a reality. This is particularly important for some patients with skin disease where the boundary between need and demand is sometimes difficult to define. For example, in many parts of the country there are already clearly defined, so-called 'low priority frameworks' that preclude NHS funding for a range

of procedures such as the excision of benign skin lesions unless they give rise to ‘functional or psychological’ symptoms; inequity of access in different geographical locations seems inevitable. (See Chapter 7 for more details).

Specific issues in Scotland, Wales and Northern Ireland

Other parts of the United Kingdom have rejected, to date, the models of contestability and choice to drive health service improvement that have been implemented in England (Greer 2008). In Scotland, in particular, there is very limited involvement of the private sector, and patients have free social care. However, waiting times remain long. The emphasis increasingly is on abolishing the purchaser/provider divide, with integration of the health care system. There is a reliance on professionals to deliver policy changes and, it is said, the ‘politics value professionalism, as well as the professionals’ (Greer 2008).

In Wales, where prescription charges have been abolished, there has been more innovation around public health because of good links between NHS and local government. There has been much less emphasis in Wales on reducing waiting times and these remain a problem.

Progress in Northern Ireland has been slow because of the political difficulties around the establishment of the Northern Ireland Assembly. There is now, however a move towards reconfiguration of hospital Trusts and a move to develop commissioning models, but the future direction of change is not yet clear.

barriers to collaboration and reduce the likelihood of optimal patient care.

Concluding remarks

This chapter describes the very significant amount of NHS reform that has occurred in the last few years and the impact that this has had, and is likely to have in the future, on services for people with skin disease. There have been clear benefits of centrally driven policy changes in terms of access to care and modernisation of services. People with skin disease are fortunate in that there exists a range of published guidance documents to support the provision of high quality care for them. Further information about proposed consensus models of care and organisation of services is widely available and is discussed in Chapter 5. The challenge in England, in the context of contestability and a market-place, will be to ensure implementation of models of care in which the needs of the patient, rather than the financial gain of the provider, are at the centre. Key to this will be an acknowledgement between providers and commissioners that too much competition can create

CHAPTER 4: SERVICES AVAILABLE AND THEIR EFFECTIVENESS

Previous chapters have reviewed the burden of skin disease (Chapter 2) and the context in which care for people with skin conditions are cared for in the NHS in 2009 (Chapter 3). This chapter starts by considering the levels of care that are available for patients and then reviews the range of services available for each level of care by considering the following:

- The people who deliver the care;
- How and where the care is delivered;
- The capacity and activity of the services;
- The evidence of effectiveness of the services.

There is a deliberate attempt to be inclusive by reviewing all possible types of care, from the straightforward to the very complex, that a person with a skin problem might receive. The various levels of care that are to be discussed are clearly defined first. For each level of care there is then a description of the first three points listed above, namely 'who, where, and how much?' This description is then followed by the evidence of effectiveness of services for that particular level of care. This approach of considering the whole service differs from many evaluations of service delivery which tend to focus on individual components of care.

Levels of care and their settings

Since the 2006 White Paper *Our health, our care, our say* (Department of Health 2006b) and the agenda to shift care closer to home, which is discussed in more detail in Chapter 3, it has become very important to describe services according to the type of care or *level of care* being provided. The *location* of the care or setting should also be considered, especially as specialist care may be delivered in a community location.

Levels of care are more helpful than type of care as they determine the skills needed to deliver the care. Commissioning guidance is moving towards using this approach (see *Providing care for patients with skin conditions: guidance and resources for commissioners*, NHS Primary Care Contracting 2008). The following levels of care are often used:

Level 1: self-care/self-management*

Level 2: generalist care

Level 3: specialist care

Level 4: supra-specialist care

Level 2 care is typically described as primary care or first point of contact care. Levels 3 and 4 would usually be referred to as secondary care with Level 4 often known as tertiary care or regional services.

The **location of the care** can be described as in either acute or community settings. The clarity of definition in specifying the level of care is necessary as many specialist services are now provided in community settings, which would historically have been described as primary care. These are not actually primary care services (first point of contact) but are specialist services being provided in close to home settings. These services may be delivered from premises owned by primary care providers such as GP surgeries. Another example of a community setting for specialist services is in community hospitals. It should also not be forgotten that in some towns the acute hospital may provide the most convenient 'close to home' services for large numbers of people.

Figure 1(a), which was published in 2003 in the *Action on Dermatology Good Practice Guidance* (NHS Modernisation Agency 2003), shows an example of how the needs of a person with psoriasis might vary over a time using the terms primary, secondary and regional services. Figure 1(b) defines levels of care and possible settings and shows how the components equate to the four levels of care which are used in this chapter.

*These terms are often used interchangeably but are best considered as follows: **Self-care**: the action of an individual to gain or maintain a level of health; **Self-management**: disease management guided at some point by a clinician and often involving the individual in modification of a management plan

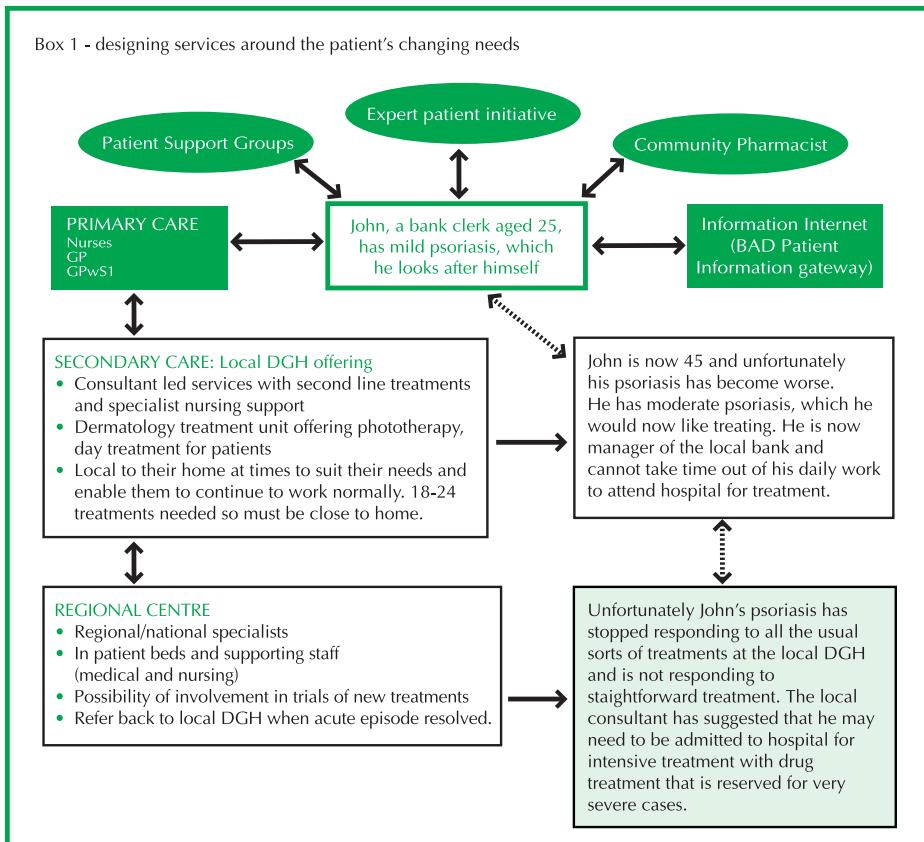


Figure 1(a): Examples of levels of care and their settings in the context of a patient with psoriasis. Taken from *Action on Dermatology Good Practice Guide* (NHS Modernisation Agency 2003)

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4

LEVEL OF CARE	LOCATION OR SETTING		WHO AND WHAT
	Community health care facility	Acute Hospital	
Level 1 Self-care/self-management	Some	None	People with skin conditions, their friends and family, books, magazines, television, internet, patient groups, local community pharmacists, Expert Patient Programme (EPP)
Level 2 Generalist care — also known as primary care	All	None	First point of contact care; usually GP or practice nurse. Might include community dermatology nurses and pharmacists with special training in skin problems
REFERRAL TO MORE SPECIALIST SERVICES			
In the UK the GP acts as the GATEKEEPER to access specialist services Interface services e.g. liaison services, referral management, teledermatology			
Level 3 Intermediate specialist services — also known as Intermediate care, Tier 2 services, Clinical Assessment and Treatment services (CATS)	Most	Some OR most if the acute hospital is the most convenient location for most patients	Specialist outreach services from consultants, Staff Grade and Associate Specialist doctors and/or dermatology specialist nurses Accredited GPwSIs Possibly accredited pharmacists with a special interest in dermatology (PhwSI)
Level 3 Specialist care — also known as secondary care	Some	All	Consultant dermatologists and specialist registrars Staff Grade and Associate Specialist (SAS) doctors, clinical assistants and hospital practitioners, dermatology specialist nurses, GPwSIs (accredited or in training)
Level 4 Supra-specialist care: regional centre — also known as tertiary care	None (usually)	All	Consultant dermatologists and other health care professionals with special skills in the management of complex and/or rare skin disorders

Figure 1(b): Levels of care and their location

Level 1: Self-care/self-management

A. Introduction

Some idea of how many people self-care and self-manage when they have a skin problem is documented in the Proprietary Association of Great Britain (PAGB) surveys referred to in Chapter 2. Their report published in 2005 found that 818 of 1,500 (54%) of respondents had experienced a skin problem in the previous twelve months and 86% of this group had self-treated (Proprietary Association of Great Britain and Reader's Digest 2005). There are a range of resources available to support self-care and these are considered below.

B. The services available: the care provided and levels of activity

(a) Patient support organisations

There are many well-organised patient support organisations that provide a range of services for, and are an extremely useful source of advice to, those with (mainly) long-term skin conditions. Details of the main UK organisations are shown in Appendix 6. These organisations provide resources for patients including printed information, web-based resources and telephone advice. The activities and resources provided by the organisations varies. An example of the information provided by the Psoriasis Association (UK) over a recent twelve month period is shown in Table 1 (information from the Psoriasis Association 2007). Whilst the Psoriasis Association is a membership organisation (3,144 members at November 2008), most of their enquiries are from non-members.

Written enquiries (letters, email, fax)	1,094
Telephone enquiries	1,625
Visits to the website	185,713
Web pages viewed	693,792

Table 1: Information provision by the Psoriasis Association in 2007

Most of the patient groups belong to an umbrella campaigning organisation called the Skin Care Campaign (SCC), the aims of which are as follows:

- To work for the improvement of health care for people with skin disease;
- To educate and inform the public and others about skin diseases and their treatment;
- To support other organisations in order to pursue these objectives.

The SCC and most patient support organisations are charitable organisations, funded by membership subscriptions, donations from the public and, in some cases, donations from pharmaceutical companies. The precarious nature of this type of organisation and funding mechanism is demonstrated by the demise of the Acne Support Group in 2007.

To date the focus of the SCC has been predominantly related to inflammatory skin diseases. The general cancer charities such as Cancer Research UK and Cancerbackup have historically provided support and advice to patients with skin cancer, but recently the SCC has become more involved in this area and a patient group has been set up specifically to offer information on skin cancer and campaign on its prevention, called Skcin.

In 1994 the All Party Parliamentary Group on Skin (APPGS) was established. This group works with the SCC, health professionals, patient groups, pharmaceutical companies and other organisations, as well as Members of Parliament from all political parties, to raise the awareness of skin disease issues in parliament and in wider society. The APPGS has published a series of reports covering a range of issues relating to skin disease and provision of care (Appendix 5).

(b) Written patient information

Written information is available to patients from a range of sources including pharmacies, patient organisations, GP surgeries and hospitals. Increasingly, written information from clinicians is provided by printing copy as required from a range of different websites (examples are listed in Appendix 7) during the consultation. During the general practitioner consultation, sources such as NHS Choices, Clinical Knowledge Summaries (CKS) service which uses material from NHS Choices, the patient support organisation websites and sites such as www.patient.co.uk may be used. Specialist clinicians often access the British Association of Dermatologists website (www.bad.org.uk) or that of the New Zealand Dermatology Society (www.dermnetnz.org) to supply patients with information. This list is not exhaustive but gives some idea of patient information providers.

Since 1999, the development of reliable written patient information has been supported by the development of DISCERN (Charnock et al 1999), a tool that can be used

to measure the quality of written health information and also support the development of appropriately written resources. Charnock et al (1999) showed that the use of this tool, supported by writing in plain English (as described by the organisation of the same name, Plain English®), can improve the writing of resources and reduce their shortcomings.

(c) Information from the internet

The internet is now a major source of readily accessible and updateable health information for patients. In the UK in 2008, 65% of households were reported as having internet access, with most access in the South East (74%) and least in the North East (54%) of the country; 71% of the population said they had used the internet in the preceding three months (Office for National Statistics 2008). Even in 2001 there were 70,000 websites disseminating health information and more than 50 million people seeking information from the websites (Cline and Haynes 2001). The Health on the Net (HON) Foundation has published a code of conduct as part of an accreditation process for medical and health websites which sets out clear guidance for the provision of high quality information (<http://www.hon.ch/HONcode/Conduct.html>). The Clinical Knowledge Summaries Service (CKS, see above) links only to such accredited websites.

There are two main ways in which the internet can be used for patients with skin disease:

- To access written information about a condition whatever the severity or impact;
- As part of a social networking facility to provide support for patients with a similar condition (Idriss et al 2009).

Information on how the use of health information from the internet can impact on the relationship between the patient and the health professional has been reviewed elsewhere (McMullan 2006).

The digital divide

Any expansion and development of the internet as the main source of information for patients needs to be

Self-care/self-management services

- Patient support groups provide support for patients
- Providing patients with good reliable information is beneficial
- A lot of information is available for patients on websites
- There are still many people who do not access the internet regularly
- It should be possible to produce good written patient information
- NHS Direct receives a lot of calls from people with skin rashes
- The Expert Patient Programme does not specifically target people with skin problems
- Pharmacists are regularly asked for advice about skin problems

mindful of the fact that not everyone in the UK has access to a computer. The same 2008 Office for National Statistics study reported that 70% of over 65 year olds never use the internet. An Age Concern survey in 2006 reported that 44% of over 50s had no access to a computer. Likewise a report by an internet research firm, *comScore*, looked at the age of the internet users in the UK and found that although the over 55s make up 34% of the population, they comprise only 18% of internet users (Moore 2007b). This raises the issue of a so-called 'digital divide' between those who have access to internet e-health resources and those who do not. So whilst research shows that access to good quality information and educational resources can be highly beneficial, it is important that such information is available widely and provided in appropriate formats for all patient groups, including the elderly.

NHS Choices

In 2007 the Department of Health launched the NHS website called *NHS Choices*. The site aims to provide users with a broad range of information about health promotion, health care services,

and access to a library of patient information, with links from the site to other useful sources. There is also the opportunity in the 'Your thoughts section' to make comments about the care received from health care providers. The recommended editorial process for the patient information includes involvement of the NHS Evidence Specialist Collections to gather up to date evidence from systematic reviews and peer reviewed articles and consultation with clinicians, patients and patient organisations.

(d) NHS Direct

NHS Direct was established in 1998 as part of the programme to modernise the NHS. The service was started as a telephone helpline, available 24 hours seven days a week, staffed by nurses whose role was to support patients by providing them with easy access to information about health and illness in their own homes to support self-care (Department of Health 1997). A website was added to the telephone helpline service in 1999 and a digital television channel in 2004. The

2007/08 NHS Direct Annual Report documents the organisation as having received 5 million calls to the telephone helpline and over 30 million unique visits to the website in the preceding twelve month period (NHS Direct Annual Report 2007/08). During the same period 50% of telephone calls were managed 'in-house' requiring no onward referral and around 25% of calls resulted in onward emergency or urgent referral to other services.

Information about the total number of calls to NHS Direct from people with the full range of skin problems is not readily available. However, data provided by NHS Direct (written communication 2009) indicates that there were about 0.2 million calls relating to skin rashes in 2008 (around 4% of all calls). The commonest age group where advice was sought about rashes related to children aged 1-4 years (31.8%) with a further 15.3% of calls relating to children less than 1 year of age and 15.1% in the 5-14 year old age group. Of those seeking telephone advice about a skin rash, 50% did not require onward referral and about 25% were advised to see their general practitioner, usually within 6 hours. A small minority were advised to contact the emergency services (0.6%) or attend accident and emergency at the local hospital (1.8%).

(e) The Expert Patients Programme (EPP)

Historically, support for self-help and self-treatment have not been considered to be part of the services provided by the NHS. However, the last ten years has seen a move towards supporting self-management through the Expert Patients Programme (EPP). In 1999 the Department of Health published the document *Saving Lives: Our Healthier Nation* (Department of Health 1999) in which the decision to establish an Expert Patient Programme was announced. A task force was established and reported in September 2001 in a document called *The expert patient: a new approach to chronic disease management for the 21st century* (Department of Health 2001). The task force made recommendations for the introduction of self-management training programmes for patients with long-term conditions, which were piloted between 2002 and 2004. Following the publication of the White Paper *Our health, our care, our say* (Department of Health 2006b), a new community interest group was established to market and deliver the EPP. The model developed aims to promote the development of local self-management courses led by lay-people, using the model of the Stanford Chronic Disease Self-Management Course (<http://patienteducation.stanford.edu/programs/cdsmp.html>). The EPP provides six week training courses enabling anyone with a long-term condition to develop new skills to manage their

condition better on a day-to-day basis. It is commissioned by Primary Care Trusts (PCTs) and delivered by people who have personal experience of living with a long-term condition.

Despite the long-term, relapsing and remitting nature of many skin conditions, little has been written about the EPP programme in relation to conditions such as psoriasis and eczema. The EPP courses are in fact generic rather than disease-specific so they could theoretically be applied to skin conditions. A report completed for Newham PCT in 2005 (Zenonos 2005) described two years' experience of the EPP, with information on 85 patients. None of the patients recruited had skin disease, and the commonest diagnostic groups were arthritis, diabetes, heart disease and asthma. More recent work (Wilson et al 2007, Wilson 2008) has looked at attitudes of health care professionals to the EPP and reviewed the experience of the programme. More recently an EPP has been piloted for people with the atypical mole syndrome in respect of checking their moles in Hertfordshire and the results of this study are awaited.

(f) Pharmacy services and self-care

Community pharmacies provide an important first point of contact for people with skin disease who are self-managing. They are able to provide a range of services including the following:

- Advice and sale of non-prescription items (OTC sales).
- Dispensing of prescription items and advice about their correct usage.
- Medicines use review and prescribing intervention (MUR) for patients with long-term skin disease (England and Wales only).
- Prescriptions, as independent prescribers.
- Pharmacist with a special interest in dermatology service (PhwSI).

It is the advice on, and sale of, OTC products for skin conditions that is relevant to self-care.

Over-the-counter (OTC) sales

The range and quantity of over-the-counter (OTC) sales of skin treatments presented in Chapter 2 confirms the importance of this sector in supporting self-care and self-management. The OTC market is continuing to grow, both in volume of sales and in the type of treatments available. More detail is provided in Chapter 2. In addition to the established OTC products for skin problems, there is a range of treatments that were

previously only available on prescription but which can now be purchased OTC. These are summarised in Table 2 with the date at which the change was introduced (Proprietary Association of Great Britain 2008). Within the range of OTC products many effective treatments are available, but there are also treatments where an evidence base for efficacy is lacking. The large supermarket chains such as Tesco, Asda and Sainsbury's now have in-store pharmacies to support the sale of OTC products and dispense prescription items. Pharmacists therefore have the potential to play a key role in advising the public on the use of both OTC and dispensed products because of their availability as the first point of contact for those enquiring for information about skin problems.

Year	Product (topical unless otherwise specified)
1987	Hydrocortisone preparations up to 1%. Podophyllin resin (20%).
1992	Clotrimazole, econazole, isoconazole, miconazole. Hydrocortisone with crotamiton.
1993	Aciclovir. Acrivastine and cetirizine (oral).
1994	Aluminium chloride hexahydrate. Minoxidil 2%. Tiocanazole.
1995	Hydroxyzine (oral). Ketoconazole.
1997	Hydrocortisone/clotrimazole combination. Sulconazole.
1998	Hydrocortisone/miconazole combination. Ketoconazole.
1999	Minoxidil 5%. Nystatin /hydrocortisone combination.
2000	Terbinafine.
2001	Clobetasone butyrate.
2002	Griseofulvin 1%.
2006	Penciclovir.

Table 2: Dermatology products previously available as prescription only medicines now available as over-the-counter (OTC) treatments, information from the Proprietary Association of Great Britain (PAGB) 2008

A study carried out in the summer of 2004 questioned community pharmacists about their undergraduate training, the number and type of skin conditions seen over a one month period in their every day pharmacy practice and their confidence in managing them (Hafajee and Coulson 2006). Nineteen out of 20 community pharmacists who were contacted responded. The mean time since qualification of the group was 17.8 years (range 2-38 yrs). About half estimated that they had spent less than 1% of their undergraduate training learning about skin conditions. The remaining half spent between 1 and 5% of curriculum time on skin problems. Most accessed journals for continuing professional development,

although 52.6% had undertaken some form of distance learning. Interestingly, 11/19 scored themselves above 80% on a visual analogue scale relating to confidence in dealing with patients with skin problems, and the rest scored themselves between 50 and 80%. In terms of facilities for seeing people with skin problems, 13/19 had a privacy area in their pharmacy for consultations and 12/19 had access to patient information about skin conditions. In the one month study period, a total of 735 consultations for skin problems were reported upon, with 80% of those seeking advice being women. The spectrum of conditions is shown below in Table 3.

Condition	Frequency (%)
Head lice	16.3
Insect bites	13.3
Dry skin	10.3
Warts	9.1
Urticaria-like rashes	9.1
Acne	5.1

Table 3: Spectrum of skin problems seen by pharmacists (Hafajee and Coulson 2006)

Despite very little undergraduate training in dermatology, the community pharmacists seemed confident in the day-to-day management of the skin conditions they encountered. The authors of this study commented that this could be because most were very experienced in their role and only six conditions made up nearly two-thirds of the problems seen

A more recent, small prospective study in Devon of 23 consecutive requests for advice to a pharmacist from patients with skin problems showed a different case-mix, with seven people having presumed fungal infections of the skin and nails. Twelve of the patients seen were advised to see their general practitioner but when contacted a few days later, four indicated that they preferred to self-treat. Other conditions seen included eczema (4) and insect bites (2). No attempt at a diagnosis was made by the pharmacist in six cases (Killer 2008 written personal communication).

(g) Other roles of the community pharmacist

Despite the pharmacy often being the first point of call for people with a wide range of ailments, including skin conditions, establishing the precise role of the community pharmacist in care pathways has proved difficult. Some authors believe that this is because of the links between community pharmacy and the commercial environment (Denzin and Mettlin 1968, Jesson and Bissell 2006). However, new roles for pharmacists have been introduced that aim to develop and use pharmacists' skills and knowledge and optimise patient care, as described in the following sections.

These roles are more management and treatment rather than supporting self-care but it is appropriate to consider them here.

Medicines use review and prescribing intervention (MUR)

Medicines Use Review and Prescribing Intervention (MUR) was launched in 2005. It enables pharmacists to become involved in supporting concordance with prescribed treatment, discussion of lifestyle factors, and liaison with the prescriber to modify the treatment plan as appropriate (Department of Health 2005d).

Independent prescribing and the PhwSI framework

In April 2006, *Improving patients access to medicines: a guide to implementing nurse and pharmacist prescribing within the NHS in England* described ways in which pharmacists could take on additional roles as supplementary and independent prescribers (Department of Health 2006c). There is now a framework for the accreditation of pharmacists with a special interest (PhwSI) (Department of Health 2007d) and speciality-specific guidance for dermatology PhwSIs is also available (Department of Health 2009a). The further education and training required for this extended role is formalised within the guidance document.

Mole scanning services in pharmacies

The use of digital imaging to screen moles is now available in some commercial pharmacy outlets using digital imaging technology and remote viewing of the image by a dermatologist. Some of the larger pharmacy groups are proposing to offer this service to Primary Care Trusts to enable patients to have rapid access to a mole checking service.

C. Evaluation of the effectiveness of self-care/self-management services

(a) Patient support organisations

Patient support organisations play an important role in informing and supporting patients trying to manage their skin problem themselves. However, the authors could not find any formal studies evaluating the effectiveness of patient support organisations.

(b) Written patient information

A study commissioned by the Department of Health, completed by the Picker Institute and published in 2006 entitled *Assessing the quality of information to support*

people in making decisions about their health and healthcare (Coulter et al 2006) looked at the quality of written patient information across a range of disease areas (skin conditions were not specifically included) and information providers. The authors concluded the following:

- The provision of written and/or computer-based information helps to improve patients knowledge and recall of important facts about their condition.
- The materials available are of variable quality and often lack reliable, accurate and sufficiently detailed information.
- Patients are not involved in the development of materials in a sufficiently systematic way and clinicians alone should not be developing patient information materials.
- It is often difficult for patients to access the information relevant to their condition.
- An accreditation scheme should be developed to help to raise standards.

With regard to information for people with skin conditions, an assessment of dermatology patient information using the DISCERN score performed in 2003 showed shortcomings in the literature produced by the common information providers such as the British Association of Dermatologists and the New Zealand Dermatology Society (see Table 4).

	British Association of Dermatologists leaflet	New Zealand Dermatology Society (dermnetnz.org)	Dermatology.co.uk
Psoriasis	2	2	2
Acne vulgaris	3	3	3

Table 4: DISCERN scores for patient information with 1= serious shortcomings to 5 = minimal shortcomings

(Source personal written communication British Association of Dermatologists Patient Information Gateway project 2003)

(c) Information from the internet

The same study from the Picker Institute (Coulter et al, 2006) highlighted the very variable nature of information available via the internet and the problems for patients of accessing reliable information. Again the study did not specifically consider information from the internet relating to skin disorders and there is limited evaluation of this topic. There is, however, an interesting study by a group of plastic surgeons evaluating access to reliable information from the internet about skin cancer which highlights the problem of using the widely available search engines (Lloyd et al 2007). The study showed that when using a commercial search engine such as Google®, some of the patient

information that scored highest using the DISCERN tool ranked lowest on a Google® search and would therefore be buried and difficult to find. This report therefore advocated that an information portal directing patients to sites that have been robustly evaluated is a recommended approach and suggests that their methodology is readily transferrable to other clinical areas. There are clearly very significant resource implications of this approach.

Additionally, what is known is that the Clinical Knowledge Summaries (CKS) website makes specific mention that it links only to accredited websites and that, of the regularly accessed dermatology websites, only the New Zealand Dermatology Society documents on its website that it follows the *Health on the Net (HON) Foundation* code of conduct. The British Association of Dermatologists and www.dermatology.co.uk make no such acknowledgement and none of these sites are accredited by HON.

Online support communities

A recent study has looked at the role of on-line support communities for people with psoriasis (Idriss et al 2009). In light of the evidence that there are benefits of structured, moderated online support programmes for people with some chronic conditions such as back pain, the authors set out to explore the potential benefits of such virtual support groups. They completed an exploratory cross-sectional study using five virtual communities providing support for people with psoriasis in the UK, USA and the Philippines. They evaluated responses from 260 people regularly accessing the sites. The reported advantages of this type of support included: relative anonymity and the ability to access the service at any time, from any place and when convenient. Some respondents posted messages and questions, others replied to queries, and some used the site just to search for information. There was some limited evidence of an improvement in the quality of life of the users. The authors concluded that the dermatology community should seriously consider facilitating the development of online support groups to provide an additional way of supporting the personal needs of patients with psoriasis.

(d) Expert Patient Programme (EPP)

A review of the effectiveness of the impact of the Expert Patient Programme (EPP) in the UK suggests that the Programme does confer some benefits (Wilson 2007), with patients learning to manage their conditions more effectively. However, there is little published evidence of reduction in healthcare utilisation and the 2007 paper highlights some of the problems of the EPP, in

particular the lack of clinician engagement with the programme. One randomised controlled trial published in 2007 (Kennedy et al 2007) compared health care utilisation six months after the intervention date in two groups, those who had completed the six week generic EPP course and those who had not. The study found no difference between the two groups for various measures of health care utilisation, including general practitioner consultations, practice nurse appointments, accident and emergency visits, and outpatient visits. There was, however, some evidence of reduced health care costs, but costs to patients were increased. The EPP is relatively inexpensive because volunteers with chronic conditions lead the modules. The study concluded that condition-specific EPP groups were preferable and that the use of a voluntary workforce, often with a chronic disease, was a drawback to the programme.

The specific role of the EPP in the management of patients with long-term skin problems has not been evaluated. The results of the pilot trial of the use of EPP for patients with the atypical mole syndrome are awaited.

(e) Community pharmacists

Whilst community pharmacists are potentially an important source of advice for people with skin problems, it is not clear from research to date whether the advice given is beneficial or whether it simply delays appropriate medical consultation. Robust published studies considering the effectiveness of community pharmacists in the assessment and appropriate management of people with skin disease are lacking. The available studies are few in number and are largely qualitative. For example, a review of pharmacist-led prison dermatology clinics (Tucker 2004) reported high patient satisfaction with the service but did not consider effectiveness of diagnosis and treatment.

With regard to Medicines Usage Review and Prescribing Intervention (MUR) services, preliminary results suggest that whilst the number of pharmacists willing to offer this service is increasing, the practicalities of offering the service present difficulties. These include poor liaison with primary care clinicians, complex documentation and a lack of access to patient records (Blenkinsopp et al 2008). Despite the potential value of MUR for skin disease, no published studies were found of the provision of this service for people with long-term skin conditions.

The pharmacist with a special interest (PhwSI) role is new and has not yet been evaluated.

Private mole scanning services, including those in community pharmacies

The evaluation of effectiveness of so-called ‘mole scanning’ services in real life settings is limited. There is limited evidence to date to suggest that digital imaging of moles in the hands of either experienced or inexperienced clinicians is likely to increase the likelihood of the early diagnosis of malignant melanoma (Haniffa et al 2007, Perrinaud et al 2007, Boldrick et al 2007). A recent systematic review of artificial intelligence systems and their use in the early diagnosis of malignant melanoma suggested that, although results are promising, further trials are needed in real life clinical settings (Rajpara et al 2009). A recent report by the All Party Parliamentary Group on Skin (2008) has highlighted concerns about the limited training of some of the practitioners providing private mole scanning services.

D. Level 1: Self-care/self-management: Key points

- Services to support self-care for patients with skin conditions include patient support organisations. These organisations are mostly charitable institutions which rely on donations from individuals and pharmaceutical companies.
- The use of the internet for providing high quality information and virtual support groups needs further development and support; organisations responsible for the development of patient information should be aware of the importance of accreditation systems and their value in ensuring the development of good, reliable, accessible resources.
- Experience of the Expert Patient Programme (EPP) for patients with skin disease is very limited. The programme could potentially benefit some patients, such as those with the atypical mole syndrome, but to date, despite the generic nature of the programme, patients with skin disease are not represented in the published studies.
- High sales of over-the-counter (OTC) skin treatment products suggest that patients buy products from pharmacies, even though studies suggest that of the 14% of people that seek advice about a skin problem, only 17% visit a pharmacist.
- Training of pharmacists in the management of skin problems is limited. Good evidence that pharmacists are effective in providing appropriate guidance and management for people with skin conditions is lacking.
- The close links between community pharmacists and

the commercial environment may cause problems with the development of the community pharmacy role. The All Party Parliamentary Group on Skin has recently published concerns about mole scanning services in community pharmacies.

- Opportunities exist for pharmacists to extend their skills in performing Medicines Use Review and Prescribing Intervention (MUR) and as independent prescribers, but dermatology training programmes are not yet in place. The new guidance for pharmacists with a special interest (PhwSI) may address this issue to some extent by providing a framework to support the development of the required skills and knowledge.
- The informal role of other health care professionals involved in self-care/self-management such as nurses and health visitors is acknowledged but not discussed in the text.

Level 2: Generalist care – also known as primary care

A. Who, how and where?

(a) Introduction and overview

Most generalist first point of contact medical care in the UK is provided by general practitioners and their staff. There were 30,936 full-time equivalent general practitioners in England in 2007 (The Information Centre 2008). General practitioners usually work in partnership with other general practitioners and staff including nurses and administrative staff as a small business unit, or so-called practice, accommodated in what is usually called a surgery. In 2007 there were 8,261 general practitioner partnerships in England. Every individual in the UK is entitled to register with a local general practitioner. In 2007 the average number of patients registered per full time equivalent (FTE) general practitioner was 1,606, or per partnership, 6487. For the most part general practitioners are self-employed and they are the employers of their staff, 71.5% of whom are administrative and clerical staff, and 19.4% practice nurses. Some practice nurses, known as nurse practitioners, have further training and qualifications and have an extended role which includes the independent management of patients, particularly with minor ailments. The average number of practice staff per general practitioner is 2.4. Most practice income is from the NHS and is calculated based on a range of factors, including the number of patients, the area in which the practice is located and, more recently, payments in respect of the Quality and Outcomes Framework (QuOF) to encourage health promotion and effective management of long-term conditions such as diabetes and asthma. Some general practitioners will develop particular interests in a clinical area and they are known as general practitioners with a special interest (GPwSIs). This role, in relation to dermatology, is considered in detail later in the chapter.

(b) How and where is the care provided?

General practitioners and practice nurses work in community settings in surgeries where most of their clinical workload will be face-to-face consultations, usually by appointment. In fact 83% of all primary care consultations are provided in the surgery, 11% on the telephone and 4% as home visits. Available data show 62% of all consultations are provided by general practitioners and 34% by nurses (The Information Centre 2008). The range of services and facilities provided varies from practice to practice. The size of

the premises varies dependent upon the size of the partnership and the accommodation required to provide the necessary services for the number of registered patients. Some groups of general practitioners own their own premises and others rent them from the local Primary Care Trust. There is a move towards groups of practices working more closely together and offering services in larger, so-called Polyclinics (Department of Health 2008a).

(c) Primary care staff: training and education

Some information is available on the training and education of general practitioners and health care professionals working in primary care settings as the first point of contact in the care pathway for people with skin disease. This information comes from two reports published by the All Party Parliamentary Group on Skin in 1998 and 2004 respectively (1998 and 2004). The 1998 report highlighted clearly the lack of training for health care professionals in dermatology in primary care settings in particular. Unfortunately, the 2004 report showed that little progress had been made in implementing the recommendations of the 1998 report. The later document itemised clearly the education and training requirements for those health care professionals working in primary care (first point of contact) settings. Specific issues relating to general practitioners and nurses are outlined below.

(i) General practitioners

The APPGS reports referenced above identified that undergraduate and postgraduate medical training in dermatology is poor and inadequately formalised. Other reports confirm this. A study of all 24 Medical Schools in the UK in 2002 reported that the dermatology attachment was optional in undergraduate training in three of the schools (Burge 2002). The length of the attachment varied and in four schools was less than five days. Only 14 schools had some form of dermatology assessment. A small study of 43 general practitioner registrars in 2003 identified that four had no undergraduate training in dermatology, and 21 had two weeks or less (Schofield et al 2003).

In June 2006, new recommendations for the undergraduate dermatology curriculum were circulated to all medical schools (British Association of Dermatologists 2006a).

An audit against these recommendations was published in 2007 and showed some encouraging results, but there was still a wide variation in what was included in the curricula (Davies and Burge 2009). The authors concluded that there were some areas of good clinical teaching practice but that these needed to be extended to improve further the teaching and learning of dermatology in medical schools. A recent survey of UK final year medical students (Chiang et al 2008) identified that 56% of the 449 respondents regarded the level of education in dermatology as sufficient, but despite this, only 65% felt that they had the skills to adequately assess patients with skin disease while only 52% felt they had the skills to adequately manage them.

Some attempt has been made to improve postgraduate training for general practitioners with the introduction of the new curriculum for general practitioners in training. Skin problems are represented as one of a number of curriculum areas which it is anticipated that general practitioner specialist registrars will complete as part of their specialist training but this area of the curriculum remains optional (Royal College of General Practitioners 2005). It is hoped that with the changes to the undergraduate curriculum and postgraduate general practitioner training in dermatology, there will be a raised level of knowledge and skills in dermatology in general practitioners over the next 5-10 years.

(ii) Nurses

The two APPGS reports already referred to also stress the importance of education and training for nurses working with patients with skin disease. Despite this recommendation, there is no requirement for pre-qualification courses for student nurses to include specific dermatology training, although it is likely that wound care will be included at some point. There are a small number of dermatology specific post-qualification courses available, but nurses often struggle to access these due to lack of opportunity or resources. There are no formal dermatology training requirements for practice nurses or nurse practitioners working in primary care and the generic training programmes for nurse practitioners includes very limited dermatology. Nurses who are independent or supplementary prescribers, most of whom are based in primary care, are not required to undergo formal training in

Generalist-primary care services

- These services are provided by general practitioners and their staff
- Attempts are being made to improve the training of primary care health care professionals about skin problems
- Most skin disease is managed in primary care and very few patients are referred to specialists (about 6-8% of patients seen)
- Many patients with skin diseases are seen in nurse-led Walk-in-Centres (WiCs)

dermatology, even though many will prescribe for skin conditions (Courtenay et al 2007) and it is acknowledged that dermatology is often inadequately covered. Cox and Bowman (2000) reported a study of 69 nurses, including 30 practice nurses and 39 community nurses. All were regularly managing a mix of skin problems. Within this group, 28% had received no dermatology training and only one nurse had attended teaching from dermatology nurses lasting more than five days in the preceding five years. Both this study and an earlier one by Smoker (1999) reported that the nurses had a lack of confidence in the management of psoriasis, scalp conditions and eczema. The nurses in the studies recognised their limitations of knowledge and confidence, and were keen to have additional training. A more recent study questioned 20 nurse practitioners (Ogden et al 2006) specifically about their dermatology training. Eighteen of the nurses had completed a BSc or MSc (one of the RCN requirements for nurse practitioners) and the amount of dermatology in the course ranged from 0-20 hours in total (mean 4 hours). All of the nurse practitioners questioned were keen to extend their dermatology knowledge. The authors concluded that there was a need to improve the content of nurse practitioner training programmes.

(iii) Physicians assistants

The role of the physicians' assistant, whilst established in the USA is not yet well developed in the UK. Typically physicians' assistants are life sciences graduates who complete a generic training programme and then go on to develop skills in a particular area to work alongside doctors, taking on some of the more straightforward tasks. Even though it is not clear whether this new role will be developed to support clinicians managing people with skin conditions, the curriculum for physicians' assistants does have a section related to common skin conditions.

B. Services offered: capacity and activity

(a) General practitioners

In addition to making a diagnosis and prescribing medication, management by general practitioners may

include simple reassurance or explanation and advice. Some general practitioners offer liquid nitrogen cryotherapy and skin surgery services. The 2003 general practitioner contract introduced a Quality and Outcomes Framework (QuOF) with activity targets for a range of chronic conditions such as asthma, diabetes, hypertension (Department of Health 2003a). The framework does not include any targets that relate to skin disease, although the SCC and APPGS are lobbying for their inclusion.

(b) Consultations

Data from the Royal College of General Practitioners Birmingham Research Unit Weekly Returns Service in 2006 suggest that the episode incidence of skin disease presenting to general practitioners and practice nurses is around 1,967 per 10,000 population per year, giving rise to 3,688 consultations per 10,000 population per year (see Chapter 2). The accuracy of these data is supported to some extent by other published studies. Julian (1999) described five years of one general practitioner's experience of patients with skin disease. Over the study period, 21% of all consultations related to skin disease. A more recent study by Kerr et al (2007) looked at the burden of dermatological disease presenting across 13 general medical practices in Scotland, serving a total population of 100,000, over a two week period. Skin complaints accounted for 14% of consultations in this study. Detailed information on 720 consultations for skin disease was obtained and the commonest reasons for patients attending were eczema and skin infections. Table 5 summarises the disease spectrum in primary care consultations from these three sources.

Reason for consultation	Kerr et al 2007 (%) N=720	BRCPG 2006 (%) using episode incidence of 1967 per 10,000	Julian 1995-1999 (%) N=2386
Eczema	22	14.0	14.0
Infections or infestations	20	26.5	6.0
Benign tumours	11	6.6	16.0
Acne	5	6.4	2.9
Psoriasis	5	1.7	2.6
Warts	4	6.5	23.0
Skin cancer	2	0.5	3.0
Other	31	37.8	32.5

Table 5: Percentage of consultations for individual skin diseases in three UK studies

(c) Skin surgery and cryotherapy

Historically, many general practitioners have offered skin surgery services for their patients provided in their

own premises. A new general practitioner contract in 1990 introduced payment for minor surgical procedures including joint injections and liquid nitrogen cryotherapy (Health Department of Great Britain 1989). A study published in 2004 showed that following this, there was an 11% increase in claims for payment by general practitioners for minor surgical procedures (Pockney et al 2004). This was largely due to more claims for cryotherapy for viral warts. The authors commented upon how service payments can distort treatment priorities, highlighting the fact that, under the terms of the 1990 contract, cryotherapy proved to be more profitable than other skin surgery procedures.

The 1990 general practitioner contract has now been superseded by the 2003 General Medical Services Contract for general practitioners in England (Department of Health 2003a). This includes new models for the provision of skin surgery services, known as Local Enhanced Services (LES) and Directed Enhanced Services (DES). Item of service payments for cryotherapy have been withdrawn and many general practitioners no longer offer this service.

New national guidance is now in place in respect of standardising the provision of high quality skin surgery services. This includes the National Institute for Health and Clinical Evidence (NICE) *Improving Outcomes Guidance for people with skin cancer and melanoma* (2006) and the guidance for general practitioners with a special interest in dermatology and skin surgery (Department of Health 2007e). Recommendations for commissioners in respect of the provision of skin surgery services by general practitioners are included this latter document (Department of Health 2007e).

(d) Nurses

Practice nurses and nurse practitioners work alongside general practitioners. Community nurses (also known as district nurses) provide generalist care for patients with skin problems, and in particular leg ulcers and pressure ulcers. A study by Smoker (1999) identified that 58% of primary care nurses saw between one and five people per week with skin problems, while 20% saw six or more. These findings were confirmed by Cox and Bowman (2000). They received responses from 69 nurses (30 practice nurses and 39 community/district nurses), and the mean number of patients with skin disease seen by these respondents was 5.4 per week. In this study the spectrum of conditions seen was largely similar in the two groups of nurses. Over half of the patients seen were adults with eczema and about a fifth had psoriasis. Interestingly, 86% of the nurses in both groups were regularly managing patients with leg ulcers. Whilst Cox and Bowman's study reported practice nurses as managing people with leg ulcers,

increasingly they only provide this service for mobile patients who are able to visit the surgery for care. The routine care of most patients with leg ulcers now takes place in the home or in community leg ulcer clinics provided by suitably trained community nurses. Since the introduction of Quality and Outcomes Framework (QOF) payments in 2003, many practice nurses now concentrate on the clinical areas that are reimbursed through this framework rather than other clinical areas. A study in 2006 (Ogden et al 2006) of 20 nurse practitioners, who saw an average total of 96 patients per week each, found that between 10 and 20% of their consultations related to skin disease. This fits with a further report that in one practice, 25% of the nurse practitioners' workload relates to a skin problem (Platts personal oral communication 2003).

Some practice nurses, nurse practitioners and community nurses have completed additional training to become nurse prescribers which enables them to be either supplementary or independent prescribers. Supplementary prescribers prescribe in the context of an agreed management plan with the support of a medical prescriber for a particular condition. Extended nurse prescribers have now been superseded by new frameworks. Since May 2006, independent nurse prescribers have been able to prescribe 'any licensed medicine for any medical condition within their competence' (Department of Health 2006c). This includes the whole range of products listed in the British National Formulary (BNF) with the exception of Controlled Drugs. There are now more than 8,000 independent or supplementary nurse prescribers, accounting for 0.9% of prescriptions items dispensed in the community in the period April to September 2006 (Avery and James 2007). A national questionnaire survey of 638 independent extended and supplementary nurse prescribers for patients with skin conditions identified that 90% were based in primary care, working in general practices (Carey et al 2007). The study identified that although these prescribers were highly qualified and very experienced, their knowledge of dermatology was 'patchy' and some lacked confidence in their prescribing.

(e) NHS Walk-in Centres (WiCs)

NHS Walk-in Centres (WiCs) were established to improve access to primary care (first point of call) services and are included here because they are staffed by nurses. These are different from general practice as they provide open access to patients who do not need to be registered with the service. Walk-in Centres are led by experienced nurses. A study published in 2005 reported that 21% of nurse-assessed patients attending a WiC in the south of England had a skin condition and of these 89% were recorded as having a rash. Of those

seen, 16% were advised to see their general practitioner and 10% to visit the local pharmacist (Ersser et al 2005). Most (52%) were given advice about self-care/management. The authors recommended further research into the casemix and needs of this group of patients and highlighted the importance of suitable training for the staff of WiCs.

C. Evaluation of the effectiveness of Level 2 generalist (primary care) services

(a) Effectiveness of general practitioners in managing skin conditions

Using a range of search terms relating to the effectiveness of general practitioner dermatology services, only two relevant studies were found that evaluated the management of patients with skin disease by general practitioners except in relation to skin lesion diagnosis and skin surgery. A summary follows of the limited information available.

The All Party Parliamentary Group on Skin (APPGS) has published two reports that comment on the effectiveness of general practitioners in managing skin conditions (2002, 2006). Whilst they make useful statements, it is important to recognise that the comments are sometimes anecdotal and not always backed up by robust scientific evidence. The reports are a mix of oral and written evidence from a wide range of individuals and organisations drawn together by a panel of expert advisors. Based on the evidence received, the report on the enquiry into primary care dermatology services published by the APPGS in 2002 (All Party Parliamentary Group on Skin 2002) stated the following:

- Skin diseases could be better managed in primary care*.
- Better management is hindered by a continued lack of appropriate training in the primary care setting.
- Diagnosis is key to managing skin conditions but primary care health practitioners were under no obligation to have training in dermatology which would help with this skill.

The second APPGS report published in 2006, entitled *Report on the enquiry into the adequacy and equity of dermatology services in the UK* commented upon 'the difficulty that many general practitioners have in making a correct initial diagnosis leading to sub-optimal prescribing and high levels of inappropriate or non-referral' (All Party Parliamentary Group on Skin 2006).

* Definition of primary care used in this report was: The first level of contact with the National Health system; the first element of the continuing healthcare process (based on the WHO definition).

Amongst those presenting evidence to this enquiry, there were those that were satisfied with the service received from their general practitioner, but some evidence was received that general practitioners often dismiss skin disease as unimportant.

A small qualitative study published in 2007 reported on semi-structured interviews with 20 patients with skin disease as part of a wider study considering patients' attitudes to types of secondary care services (Horrocks & Coast 2007). The participants in the study with longstanding skin disease reported a lack of satisfaction with their consultations with the general practitioner. The concerns raised included poor efficacy of treatment prescribed, a lack of understanding of the impact of the skin disease on their life, and a reluctance to refer for a specialist opinion.

In 1991 Roland published a study of 22 patients seen by their general practitioner who were then reviewed by a dermatologist to establish whether the patient might benefit from a change in their management. In 14 cases the dermatologist recommended changes to the management plan, and of these six patients documented subjective improvement in their skin condition six weeks later. The conclusion of this small study was that there may be a group of patients who would benefit from specialist advice where such advice is not sought (Roland et al 1991). No similar, more recent studies using this approach were found in the literature.

Another measure of the quality of a general practitioner's care that is sometimes used is the referral rate to specialist services, with the assumption that a high referring doctor is one with little knowledge or expertise in the speciality, so referring inappropriately to the specialist. This may be the case, but there is also evidence to suggest that more experienced clinicians sometimes refer more (Reynolds et al 1991).

(b) The relationship between diagnostic accuracy, appropriateness of referral and effectiveness of general practitioner services

Appropriateness of general practitioner referrals to specialist services as assessed by measures of diagnostic accuracy are sometimes used as a measure of the effectiveness of general practitioner care. While some information can be obtained from this approach, caution in the interpretation of the information is required. This was highlighted by Williams (1997b) in response to a study published by Basarab et al (1996) where the diagnostic accuracy of 686 consecutive general practitioner referrals was quoted as 47%, a figure that was thought to reflect poor diagnostic skills on the part of the referring doctors. Williams (1997b)

pointed out that the reason documented for referral in 31% of cases was for diagnostic advice, so the use of diagnostic accuracy as a measure of effectiveness in this context is misleading. Providing diagnostic advice is a very important and appropriate reason for referral to specialist services, particularly in respect of skin lesion diagnosis. A UK study in 2005 questioned general practitioners about the reasons why they refer patients for a specialist opinion. Diagnosis (39%) and management (57%) were the principal reasons for referral (Amirtha Vani et al 2005). A more recent study from Scotland analysed general practitioner referrals over a one month period in 2005 and reported that 59% of referrals were for diagnosis and 38% for management advice (Kerr et al 2007). The recently published HTA MISTiC study considering effectiveness of general practitioner skin surgery commented that 'there are clear deficiencies in general practitioners' abilities to recognise malignant skin lesions' (George et al 2008). An earlier study in 2006 from Sheffield (Westbrook et al 2006) reported that of 176 suspected malignant melanomas referred for assessment, the diagnosis was confirmed histologically in 21. It is of interest that Australian authors have highlighted the particular difficulties that general practitioners have with skin lesion diagnosis in two studies of referrals, where they showed that correct diagnosis of conditions such as acne, warts, skin tags and alopecia areata was very high (approaching 100%), but was only 47% in malignant and pre-malignant skin lesions (Tran et al 2005, Moreno et al 2007)

(c) Reports on studies of effectiveness of general practitioners and skin surgery

Studies have been made of the effectiveness and outcomes of minor skin surgery performed by general practitioners. The most recent and important is a randomised controlled trial of skin surgery (George et al 2008) published in 2008 that compared skin surgery performed in primary and secondary care. The study concluded that the quality of minor surgery was higher when performed in hospital compared with general practice. Even though patients found it more convenient to have their minor surgery performed locally, the authors stated that 'The safety of patients is of paramount importance and this study does not demonstrate that minor surgery carried out in primary care is safe as it is currently practised'. Hospital-based services were also shown to be more cost-effective. The report highlighted the need to examine and test models of skin surgery provision that ensure that clinicians are suitably trained to deliver this service. In the review of the evidence for the effectiveness of shifting care of services by Roland et al (2006), transferring minor

surgery from outpatient settings to primary care was associated with important reductions in quality and safety of care.

(d) Reports on effectiveness of general practitioners in the management of skin cancer

National guidance relating to treating skin cancer and melanoma (National Institute for Health and Clinical Excellence 2006), makes clear recommendations and standards for the management of patients with all types of skin cancer, whoever undertakes the treatment and wherever it is performed. There have been studies that look at the treatment and management of skin cancer by general practitioners in this context. Research by Al Rusan et al (2008) compared the rates of completeness of excision for basal cell carcinoma (BCC) over a twelve month period and found that 58% of facial BCCs, and 47% of BCCs at other sites, excised by general practitioners were incompletely excised. The comparable figures for dermatologists were 7% and 5% respectively. Another study published in 2009 evaluated all histopathology reports for skin cancer ($n=1,111$ new skin tumour specimens) over a three month period (Goulding et al 2009). General practitioners were the least accurate in providing a correct clinical diagnosis, with 43% of their request forms including the eventual histological diagnosis, compared with 70.5% for dermatologists (odds ratio, OR 0.33, 95% confidence interval, CI 0.22-0.48). Inappropriate procedures were most often performed by plastic surgeons, often involving large excision biopsies for benign lesions in elderly patients. The presence of residual tumour in resection margins was most common for general practitioners, 68% vs. 8% for dermatologists (OR 25.47, 95% CI 8.26-78.53). In relation to National Institute for Health and Clinical Excellence guidance, it was considered that 14% of tumours operated on by general practitioners should have instead been referred to specialist care for further management. Murchie (2007) reviewed 142 people diagnosed with melanoma in the Grampian Region of Scotland over a ten year period (1994-2004). Forty patients had the primary biopsy of their tumour performed by the general practitioner, and in all cases except one this was done inadvertently, as the diagnosis of melanoma was not suspected at the time of surgery. This study firstly confirms the view that general practitioners have difficulty in diagnosing melanoma as there was a mean delay of 23.5 days between presentation to the general practitioner and subsequent skin surgery for the melanoma. Secondly, delays in referring the patient on to specialist care following diagnosis were highlighted such that if there were to be any advantage gained by a speedier

pathological diagnosis in primary care this was lost; the time to first definitive treatment being reported as the same whether the patient had surgery in primary or secondary care. Although this study predates the introduction of the rapid access two week wait skin cancer referral process (Department of Health 2000b) and the NICE 2006 guidance in England, it was conducted in Scotland where these factors are not relevant.

(e) Reports of the effectiveness of nurses providing generalist dermatology services

There have been a few UK studies considering the effectiveness of primary care generalist nursing interventions for skin disease. The studies have to be interpreted with caution as many are questionnaire studies using convenience samples and lacking control groups. The experience of the nurses involved in the interventions is not always made clear. Therefore, it is not always possible to generalise the results. There is only one study which makes clear the experience of the nurse involved in the intervention. Kernick and colleagues published a study in 2000 that considered the impact of a dermatology-trained practice nurse on the quality of life of primary care patients with eczema and psoriasis (Kernick et al 2000). The identified practice nurse received 87 hours of training in dermatology, including teaching in outpatient and inpatient settings, direct supervised tuition and background reading. The outcome of the nursing intervention (consultation in a general practitioner surgery) for a group of 109 patients with psoriasis and eczema was then compared with a control group that had no intervention. There was some limited improvement in outcome measures in the intervention group compared with the control group but this did not reach statistical significance.

A study by Chinn et al (2002) considered the benefit of a single 30 minute consultation by a 'dermatology-trained nurse in primary care' on the quality of life of 235 children with atopic eczema. There was marginal improvement in quality of life of the children and benefit to the family at four weeks. The study authors drew attention to some limitations such as lack of power and the fact that the quality of life tools used might not have been appropriate for the milder cases of eczema seen in primary care settings. Another small study in 1997 considered the development of a practice nurse-led clinic for children with eczema (Edwards 1997). The author decided to review the experience of service-users to evaluate the service. Thirty patients were sent questionnaires of whom ten responded, so the sample size was small. Responses were positive overall, with most parents believing that their understanding of their

child's condition, and also their child's eczema had improved (Edwards 1997). Other studies relate to specialist nurses providing nurse-led dermatology clinics in primary care settings and are therefore considered in the later section reviewing the effectiveness of specialist nurse services.

D. Level 2: Generalist care – also known as primary care: key points

- First point of contact generalist services are provided by a range of health care professionals in primary care, including general practitioners, practice nurses and nurse practitioners.
- There is evidence that the level of training and knowledge of these health care professionals in skin diseases is limited and probably inadequate.
- General practitioners see a large amount of skin disease (annual prevalence among general practitioner patients of 24%) as do nurses working in NHS Walk-in Centres (21%).
- Steps are in place to try and improve the dermatology education of undergraduate medical students and general practitioners in training, but it may be some years before tangible benefits are seen and the training remains optional.
- There are a large number of independent and supplementary prescribers working in primary care non-specialist services, who are able to prescribe widely for patients with skin disease but who receive little or no training in skin disorders.
- Good studies of the effectiveness of generalist services provided by general practitioners or nurses for people with inflammatory skin conditions are not available.
- There are some studies of general practitioner skin surgery which suggest that the standards of skin surgery performed by general practitioners need to improve if general practitioners are to continue to offer this service.
- There is some evidence that general practitioners lack skills in the diagnosis of skin lesions.
- There is some evidence that the rate of incomplete removal of skin tumours is highest for general practitioners.
- There is no clear evidence at present that up-skilling primary care nurses to provide dermatology services may benefit patients.

Level 3: Specialist care

A. Who delivers the care?

Specialist care services are provided in a range of settings by teams of specialist health care professionals including consultants, Staff and Associate Specialist (SAS) doctors (formerly known as Non-consultant Career Grade doctors), specialist dermatology nurses and general practitioners with a special interest (GPwSI) in dermatology. The following section describes the typical training and skills of each of these groups.

(a) Consultants

Consultant dermatologists in the UK follow a formalised training programme including training in General Medicine, with a requirement to pass the Membership of the Royal College of Physicians (MRCP) examination, followed by a four year specialist training in dermatology. The training includes the whole range of skin diseases, comprising diagnosis, investigation and management. All dermatologists are trained in skin surgery, with some being trained in advanced surgical techniques such as Mohs micrographic surgery. Following the successful completion of the specialist training programme, trainees apply for their Certificate of Completion of Training (CCT). This replaced the Certificate of Completion of Specialist Training (CCST) in 2005. The two are equivalent and are a pre-requisite for appearing on the Specialist Register of Dermatologists in the UK.

What do consultant dermatologists do?

Information was obtained from the Royal College of Physicians (RCP) about consultant dermatologist workload. A census of consultants across the full range of medical specialities is performed each year by the RCP and information about individual specialities can be obtained on request from the college. Data on 316 of 542 consultant dermatologists in the UK was returned for the 2007 Census, equivalent to a 58% response rate. Information on full- or part-time working was available for 275 and of these 185 worked full-time and 90 part-time. The mean number of programmed activities (one programmed activity or PA representing 4 hours of time) worked per week across the whole group (full-time and part-time) was 9.76. Most consultants were working about 0.8 PAs more than they were contracted for. Around 70-75% of PAs were spent in clinical activities and about 20% in supporting activities (continuing

professional development, audit etc.). The data suggest that the respondents were doing about five clinics per week and about 3 hours a week was spent on ward work. Despite the poor response rate and the fact that some respondents did not answer all the questions, some idea of the type and amount of different clinical activities carried out can be obtained, as shown in Figure 2.

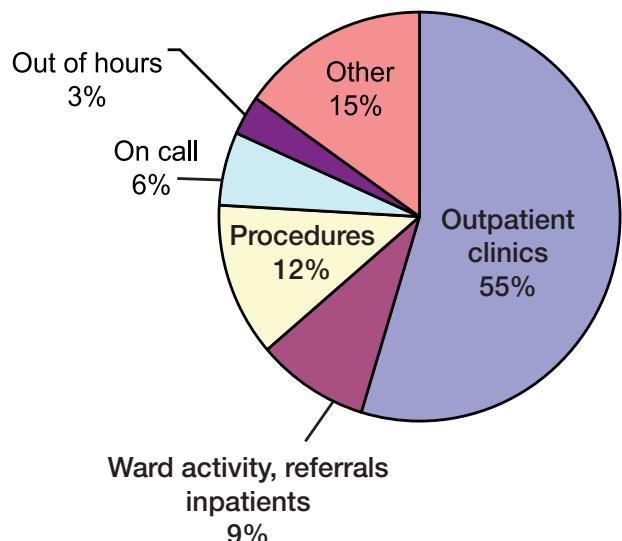


Figure 2: Consultant dermatologists' clinical activity
(from Royal College of Physicians census 2007)

The RCP data suggest that there are currently about 542 consultant dermatologists in the UK, although this figure differs from that published by the Office of Health Economics (OHE) of 451 full time equivalents in Great Britain in 2005 (Office of Health Economics 2008, table 157). Many consultant dermatologists work part time so this may explain the difference. Also the OHE data relate to Great Britain and the RCP data to the United Kingdom. More information about consultant numbers in England only is available from *NHS Hospital and Community Health Services: Medical and Dental Workforce Census*. England: 30 September 2006 (The Information Centre 2007). This source documents a slow but steady rise in consultant and trainee numbers over this time. This trend is shown in Figure 3.

Using the estimated population of Great Britain from the Office of National Statistics for 2005 of around 58.5 million and the OHE documented number of dermatology full time equivalent consultants as 451, the ratio of consultants to population is around 1 per 130,000. This compares with 1 per 217,000 in 1992. Table 6 below shows how this number compares with

other countries in Europe. The UK continues to have a much lower specialist ratio compared with all the other countries except Ireland. These numbers are not really directly comparable as the UK healthcare system requires that the general practitioner acts as the 'gatekeeper' to specialist services whereas in other countries, such as Germany, patients have direct access to a dermatologist (known as 'office dermatology') and some countries, such as France, have a mixed system.

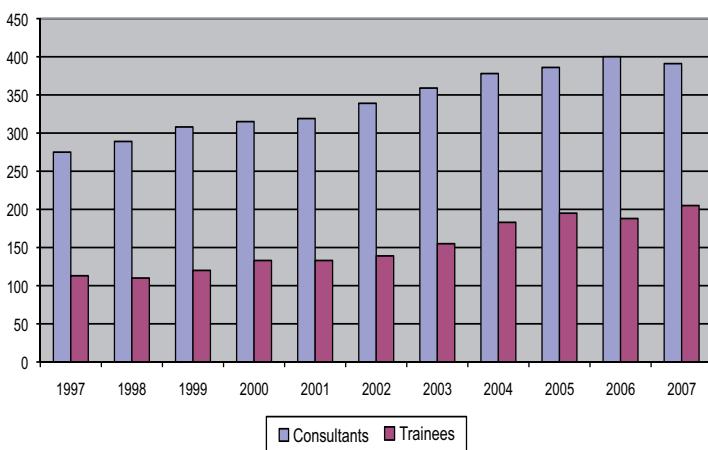


Figure 3: Trends in dermatology consultant and trainee numbers in England, 1997 to 2007, from the Medical and Dental Workforce Census (Office of Health Economics 2008)

Country	Number of Consultants	Ratio of consultant numbers to population 2007	Ratio of consultant numbers to population 1992
Latvia	183	1:12,780	n/a
Greece	800	1:13,750	1:25,000
Czech Republic	735	1:14,082	n/a
Germany	5114	1:16,096	1:39,000*
France	3500	1:17,714	1:20,400
Switzerland	420	1:18,075	n/a
Belgium	550	1:20,000	1:22,000
Sweden	354	1:25,744	n/a
Finland	181	1:29,297	n/a
Denmark	167	1:32,780	1:50,000
The Netherlands	491	1:33,438	1:80,000
Norway	130	1:36,154	n/a
UK	451	1:134,340	1:200,000
Ireland	24	1:175,000	n/a
Italy	3800	1:15,000	1:20,000
Spain	1804	1:25,000	1:43,000
Portugal	n/a	n/a	1:44,700

Table 6: Ratio of dermatology consultant numbers to population in different countries of Europe
(n/a = not available)

In 2006 48% of consultant dermatologists in England were male (The Information Centre 2007) but this is likely to decrease as 76% of the specialty registrars currently in dermatology are female (Royal College of Physicians 2007 personal written communication).

A comparison with changes over time in other specialities in the UK is shown in Table 7, with dermatology doing well compared with ENT and matching the improvement seen in ophthalmology.

	1992	2005
Dermatology	1:217,000	1:134,340
Ophthalmology	1:115,000	1:67,619
ENT	1:128,000	1:98,197

Table 7: Changes in ratio of consultant numbers to population for three different specialities in the UK.

(b) Staff and Associate Specialist (SAS) doctors

Staff and Associate Specialist (SAS) doctors, formerly known as Non Consultant Career Group doctors (NCCGs), include a group of clinicians with a range of experience, who work as important members of specialist dermatology teams, but by and large do not complete specialist dermatology training with a view to obtaining a Certificate of Completion of Training (CCT). This group of doctors can apply to the Postgraduate Medical Education and Training Board (PMETB) for a Certificate Confirming Eligibility for Specialist Registration (CESR) under the provisions of the General and Specialist Medical Practice (Education Training and Qualifications) Order 2003. Applicants are required to demonstrate knowledge and experience equivalent to that of a consultant with a Certificate of Completion of Training (CCT). If successful the candidate can then be admitted to the General Medical Council Specialist Register and become eligible to apply for a definitive consultant appointment. About a third of 114 respondents to a recent questionnaire of SAS doctors expressed an interest in going through the process; six had applied and of these three been successful in their application (Horn 2008 personal written communication).

The grades and titles of this group of doctors are currently confusing as their positions migrated over to a new contract which was introduced in 2009. Collectively, this group of doctors contribute enormously to the provision of care for people with skin disease, seeing large numbers of patients, particularly in district general hospitals. Table 7 below summarises the number of doctors in the different groups at April 2008 when the group were still known as NCCG doctors (Jackson 2008 personal written communication):

Title	Number
Associate Specialist	85
Staff Grade	45
Trust Doctor	7
Non-GP Hospital Practitioner/Clinical Assistant	33

Table 8: Non consultant Career Grade doctors, in the UK, numbers at April 2008

The new contract means that from 2009 appointments will no longer be made to Staff Grade, Trust Doctor or non-general practitioner clinical assistant posts, although those doctors currently in these posts can remain on the old contract. There will only be two grades of SAS doctors: Specialty Doctor and Associate Specialist, and both will collectively be known as Specialty and Associate Specialist (SAS) doctors. The Associate Specialist grade closed in March 2009 and will gradually be phased out over the next 20-30 years as this group of experienced doctors retire. Eventually there will be one group of doctors called Specialty doctors amongst whom experience will vary from the very junior to the highly experienced clinician dependent on the number of years in post, the clinical experience of the individual and the level of competency. General practitioner clinical assistant and hospital practitioner posts are not eligible for the new Specialty doctor contract and remain unchanged.

In 2005, the results of a postal questionnaire described this group of doctors in some detail (Schofield et al 2005a). Of 123 respondents, 43% were Associate Specialists and 27% Staff Grades, and 33% were working full time in dermatology. The survey found that 96% of the doctors worked all of their sessions in specialist secondary care dermatology departments, 75% were involved in teaching and training, and 21% were involved in research. The mean number of years of experience was 13 years. Most (83%) were trained in the UK and 78% were female with 79% working totally in dermatology although 56% were previously general practitioners. Large numbers of new and follow-up patients were seen by this group of doctors, and the majority work unsupervised (88%). In addition to managing general skin disease, 74% of respondents stated that they had special interests and skills in areas such as patch testing and contact dermatitis, advanced skin surgery including Mohs, phototherapy, vulval dermatology, photodynamic therapy or paediatric dermatology. Many saw patients with skin disease on the wards on their own (61%).

Of the respondents, 47% indicated that they would like to increase their clinical activity and 72% said they would be interested in a new role working across acute/community, primary/secondary settings. The study concluded by proposing that those developing services and new models of care should consider involving NCCGs (now SAS doctors) in their development.

(c) Dermatology specialist nurses (also known as specialist dermatology nurses)

Dermatology specialist nurses are very involved in the delivery of care for patients with skin conditions in

specialist units. They provide a range of services including patch testing, leg ulcer assessment, phototherapy, day treatment, nurse-led clinics for childhood eczema and psoriasis, second-line treatment, drug monitoring and skin surgery. They offer support to patients with long-term skin conditions particularly in the context of supporting self-management and also for skin cancer. They also have a role in the explanation and practical demonstration of how to use treatments. This group of nurses often have a significant teaching and educational role and many are independent and/or supplementary prescribers. An audit of care for patients with psoriasis published in 2007 included a question about whether dermatology units had access to dermatology specialist nursing and 80% of departments indicated that they did. The median number of nurses per department in this study was 1.5, but eight departments had less than 1 whole time equivalent (Eedy et al 2008 and 2009).

There is a lack of standardisation of roles and job titles within dermatology specialist nursing which has been highlighted by information collected by the British Dermatological Nursing Group (BDNG). This organisation has 679 members, of which 643 are UK members and the remaining 36 are from the Republic of Ireland. Information about roles and responsibilities of 444 members in 2008 showed salary scales and job titles to be very variable. Using the Agenda for Change banding applying at that time, 30% were Band 5, 30% Band 6 and 32% Band 7. A minority (4.7%) were Band 8. About a third were known as a specialist nurse or clinical nurse specialist, and slightly more as staff nurses. There were four nurse consultants. Table 9 overleaf gives an indication of the varied activities that dermatology nurses in the BDNG perform, with many involved in more than one.

It is hoped that two new processes that are currently being implemented, *Agenda for Change* (AfC) and the *Knowledge and Skills Framework* (KSF) will address the issue of standardisation of roles of dermatology nurses. AfC seeks to link competencies and skills to grading and the KSF supports this initiative. The Integrated Career and Competency Framework published in 2005 (Royal College of Nursing 2005) provides guidance on roles and competencies, but its implementation is patchy. The RCN Dermatology Nursing Forum is currently working to link this to the KSF. The need for improved education of dermatology nurses is highlighted in a review of the literature about nurse-led care in dermatology (Courtenay and Carey 2007).

Useful information about the dermatology nursing workforce was also obtained as part of the Dermatology Workforce Group project in 2005. This project sought to identify the workforce requirements to deliver a dermatology service and as part of the process attempts

Dermatology Nursing activity	Number
Inpatient care	116
Outpatient care	324
Phototherapy	216
Day care	177
Primary Care	123
Patch testing	186
Minor surgery	196
Chronic disease management clinics	139
Patient education clinics	187
Skin cancer clinics	73
Cryotherapy	164
Liaison role	112
Prescribing (patient group directive)	70
Independent prescriber	106
Lasers	23
Photodynamic therapy	105
Counselling	53
Iontophoresis	105
Teaching—undergraduate	173
Teaching—postgraduate	124
Paediatrics	135

Table 9: Type of nursing activity performed by dermatology nurses (BDNG 2008), responses from 444 nurses

were made to collect baseline information about nurses in post at the time. The project used a questionnaire and the results provided a ‘snapshot’ of the activity of 449 nurses involved in caring for people with skin disease (Penzer 2005). The report confirmed many of the problems already described above but in addition the study highlighted that a high proportion of dermatology nurses that will be retiring in the next ten years.

(d) General practitioner with a special interest in dermatology (GPwSI)

The idea of suitably trained general practitioners with a special interest in specific disease areas such as dermatology taking referrals from fellow general practitioners was advocated as a way of reducing waiting times for patients in the NHS Plan in 2000 (Department of Health 2000a), with dermatology identified as one of the specialties where the development of the role should be encouraged. There was already a group of general practitioners working alongside consultant dermatologists in specialist departments as hospital practitioners and clinical assistants, and it was envisaged that these doctors would be suited to the new role. The NHS Modernisation Agency *Action on Dermatology* programme piloted models of general practitioner with a special interest (GPwSI) services (NHS Modernisation Agency 2003), and also developed guidance for the accreditation and

training of dermatology GPwSIs which was published in 2003 (Department of Health 2003b). The accreditation framework was updated in 2007 as part of the process of ensuring that GPwSI services met recognised standards in providing quality care. A generic framework for the accreditation of all GPwSIs, whatever the specialty, now sits within the guidance for commissioners entitled *Implementing care closer to home: convenient quality care for patients* (Department of Health 2007c). This document defines the GPwSI as a clinician who:

- Is a generalist and draws very much on his or her generalist skills;
- Works unsupervised taking referrals from other general practitioners usually in a community setting;
- Has skills and knowledge over and above that of the average general practitioner and is accredited to meet national guidance.

Part 3 of the generic guidance on GPwSIs is mandatory from March 2009. Once accredited, Primary Care Trusts will be expected to publish a list of accredited GPwSIs.

In addition to the generic guidance, dermatology specialty-specific guidance was published in 2007 by the Department of Health (Department of Health 2007e). This document sits with the generic guidance to provide a clear framework for the training, accreditation and ongoing professional development of dermatology GPwSIs. The guidance also identifies the requirements for different types of GPwSIs, including community skin cancer clinicians.

(e) Other health care professionals

Most dermatology departments will work closely with cosmetic camouflage experts. For the most part this service is provided by volunteers, often from the Red Cross camouflage service, although some specialist nurses are now taking on this role. Some podiatrists are developing an interest in foot dermatology. Many departments have links with tissue viability and leg ulcer services, although the extent of such links is variable and tends to depend on the special interest of the dermatologist. Non-registered nursing staff (usually known as health care assistants) have an important role to play in supporting trained nurses and doctors, particularly in outpatient clinics, to support the smooth running of services. Some will provide direct patient care, depending on their level of knowledge, skills and training.

Summary points: Clinicians working in specialist departments

- In the UK consultant dermatologists are a highly trained, relatively scarce resource.
- Other European countries have many more consultant dermatologists, but many countries also operate on a direct access to 'office dermatology' principle.
- There has been an expansion in consultant numbers over the last ten years matched by an increase in dermatology training posts. Currently there are about the same number of male as female consultants, but this will change because of the predominance of female trainees (currently 75% of trainees).
- Staff and Associate Specialist doctors (formerly Non Consultant Career Grade) have a range of skills and experience and provide a large amount of clinical care, particularly in district general hospital dermatology departments. It appears that many would be prepared to work additional sessions and work in outreach settings.
- Around 80% of dermatology units have specialist dermatology nurses who are valued members of the team. Their level of knowledge and skills is variable, and grading and titles are inconsistent.
- The GPwSI is a generalist with additional knowledge and skills in dermatology. New accreditation frameworks for this group have recently been established and should have been implemented in March 2009.

B. How and where is the care provided?

For the most part dermatology is an outpatient-based speciality. Historically, most specialist services for patients with skin disease took place in acute hospital outpatient departments and patients requiring anything more than straightforward treatment would be admitted to hospital for specialist dermatology nursing care. Now, many acute and community hospitals have designated dermatology units which combine outpatient, skin surgery and dermatology treatment facilities. The NHS Modernisation Agency funded many of these developments through the *Action on dermatology* capital development programme between 2001 and 2003.

Care in the community

The 2006 White Paper *Our Health, our care, our say* gave a clear commitment to the provision of care as

close to home as possible, but not at the expense of quality of care (Department of Health 2006b). With regard to dermatology, it made the statement that up to 30% of specialist services should be provided in community settings. Interestingly, a study published the same year of 57 dermatology departments in England and Wales reported that 72% of these departments were already offering services in community settings in addition to the main acute hospital. Community settings included community/non-acute hospitals and general practitioner surgeries. An estimated 23% of total specialist caseload was then being seen in these settings (Schofield et al 2007a). To support the delivery of care in the community, some dermatology specialist nurses provide liaison services between acute and community settings (generalist and specialist services) and domiciliary visits. These services aim to improve continuity of care. There is no published information about how widespread these services are.

Move from hospital inpatient treatment to outpatient treatment

There has been a change in available treatments for patients with skin disease over the last 30 years, including the introduction and increased use of phototherapy, photo-chemotherapy and new second-line treatments for people with chronic diseases such as psoriasis. With this has come a steady trend towards managing as many patients as possible using day treatment facilities, thereby avoiding the need for patients to be admitted to hospital unless absolutely essential. The first dermatology day care treatment centre (DCTC) in the UK was established in Newcastle by Ingram in the 1950s. Subsequently, in the USA in the 1980s, medical insurers became reluctant to fund prolonged inpatient stays for patients with skin disease and promoted the move towards establishing DCTCs in that country (Warin 2001). It soon became clear that there were advantages for patients with this approach, as it enabled their lives to go on much as normal. Warin reviewed this trend in an article in 2001 which described how such services could be established to the benefit of patient care. The recent Royal College of Physicians/British Association of Dermatologists (RCP/BAD) audit of provision of services in secondary care (Eedy et al 2008), which focussed on the care of people with psoriasis, documented that outpatient phototherapy and photo-chemotherapy were available in more than 90% of the 100 centres that responded, with day treatment using dithranol or tar available in more than 50% of the centres.

Inpatient services

The reduction in designated dermatology beds that has accompanied the development of outpatient-based treatments is documented in two studies. In the south east of Scotland, an 82% reduction in designated dermatology beds has been seen between 1980 and 2005 (Benton et al 2008)—for a population of 1.2 million the number has reduced from 44 to 8. In Manchester, a 57% reduction in the five years prior to 2002 was documented (Helbling et al 2002), leaving 32 dermatology beds to service a population of 3 million. However, there is evidence of the ongoing need for a minimum number of designated dermatology beds, particularly in regional supra-specialist centres. In an audit of admissions to dermatology beds in Manchester over a six month period published in 2002, there were 280 admissions and the bed occupancy rate was 82% overall (Helbling et al 2002). It was considered that an alternative to admission would have been possible in just 8.4% of such patients, for example by the availability of daily dressings for some patients and low-dependency accommodation for others. The recent RCP/BAD audit of psoriasis care suggests that 56 of the 100 responding dermatology departments have access to dedicated dermatology inpatient beds, providing a ratio of around 2 beds per 152,229 population (Eedy et al 2008). Further information about the effectiveness of inpatient services is considered later.

Standards for facilities in dermatological units

Recommended standards for facilities are given in a document published by the British Association of Dermatologists (2006b). Despite these published standards, the recent RCP/BAD audit reported that bathing and showering facilities were inadequate in more than 30% of units (Eedy et al 2008).

C. Services offered

Multi-disciplinary team working is an important feature of specialist dermatology departments and is acknowledged as very important in the delivery of a range of high quality specialist services. In addition to diagnosis, explanation to patients and treatment in routine clinics, which can be accomplished without recourse to further investigations in most patients, the consultant-led specialist dermatology department offers a range of services as outlined below:

- Skin surgery services: about 30% of patients referred to specialist dermatology departments require a surgical procedure such as excision, biopsy, curettage and cauterity (Schofield 2007 personal written communication); the range of surgery

provided will vary from straightforward to more complex procedures such as Moh's micrographic surgery.

- Skin cancer services: these need to meet the standards set in the *Improving Outcomes Guidance for patients with skin tumours including melanoma* document. (National Institute for Health and Clinical Excellence 2006). Requirements include close working with plastic surgeons, oncologists, histopathologists and cancer specialist nurses as part of the skin cancer multi-disciplinary team (MDT) and the establishment of skin cancer monitoring clinics for immune-suppressed patients (e.g. as post transplant).
- Patch testing services: for the diagnosis and management of allergic contact dermatitis - this may include expertise in occupational dermatoses.
- Combined clinics: working closely with other specialists and a range of health care professionals, as appropriate, to manage particular types of conditions - these include paediatric skin disorders (e.g. atopic eczema and genetic diseases), genital dermatoses, and chronic wounds.
- Dermatology outpatient treatments: these include phototherapy, day treatment, iontophoresis and botulinum toxin injections for hyperhidrosis, photodynamic therapy for some skin cancers and pre-malignant lesions, and behavioural therapy.
- Inpatient care: for two main groups of patients, those with severe, widespread and complex skin disease, and those admitted with other medical problems that develop a skin condition requiring assessment by a specialist whilst in hospital.
- On-call services: about two thirds of departments provide some on-call service, with about half providing a twenty-four hour service (Eedy et al 2008); a review of out-of-hours dermatology services published in 2001 suggested that 12.2% of on-call advice is sought outside of working hours (Ghura et al 2001).
- Teaching: all members of the specialist dermatology team have an important role in the teaching and training of dermatologists in training and a range of health care professionals, including medical students, nurses, postgraduate students, general practitioners and GPwSIs.

Some hospitals provide more specialist clinics for a range of complex skin problems, including blistering disorders, clinics for patients with severe psoriasis who need biologics, eczema clinics, vulval clinics, clinics for people with lymphatic and vascular disorders, cutaneous lymphomas and other rare skin malignancies, and psychodermatology services. However, in some parts of the country these services are

provided by supra-specialist/regional services (see later). The British Association of Dermatologists has produced a summary of the staffing and services that a specialist dermatology department should provide entitled '*Staffing and facilities for dermatological units*'. (British Association of Dermatologists 2006b)

Skin surgery services for benign skin lesions

Most specialist dermatology departments in England only offer skin surgery where there is a medical need for a procedure and follow so-called 'low priority exclusion frameworks' that restrict the excision of skin lesions unless there is a clearly defined medical need. Interestingly, despite the investment in 'out of hospital' skin surgery services with changes in the general practitioner contract in 1991 and 2003, there has been no published evidence of reductions in skin surgery activity in secondary care (specialist) departments. Instead reports from histopathology departments indicate an *increase* in health community-wide skin surgery excisions (Schofield et al 1993). There are many patients who would like to have a skin lesion removed who are excluded from NHS care because of the local low priority framework (see Chapter 7). Some departments in England offer self-pay skin surgery services to such patients in order to generate income for the department (Baxter et al 2007).

D. Specialist care activity

This section considers in detail the range of activity performed in specialist units in terms of the number of patients seen, the problems that they have and the treatment offered.

(a) Activity: outpatient services

Given that there is now very little dermatology inpatient activity, outpatient activity is a useful measure of overall activity and caseload. In England during the twelve month period ending March 31st 2007, a total of 742,412 new patients were seen in specialist dermatology departments (Hospital Episode Statistics Online 2008). This represented 4.8% of all new outpatient activity, 4.5% of all follow-up outpatient activity, and 4.6% of total outpatient activity in England. The figure representing dermatology as the proportion of total outpatient activity has been much the same over the last four years at around or just below 5%. Table 10 shows how this compares with the outpatient activity of other major specialities.

Figure 4 shows the trends in dermatology outpatient activity in England over the period April 2000 to end of

March 2007 and shows new, return and total activity. The highest new patient activity was seen in the year 2005/06, when 788,799 new patients were seen. New patient activity for 1993/94 documented in the previous Health Care Needs Assessment (Williams 1997a) was 566,454.

A study by Benton et al published in 2008 described changes in new patient outpatient consultation rates in south east Scotland over 25 years and documented a steady rise in referrals, from 12.6 per 1,000 population in 1980 to 21 per 1,000 in 2005 (Benton et al 2008). Interestingly this study also documented a large increase in referrals from other secondary care specialities to dermatology, with these now accounting for 11% of all referrals. Secondary care inter-speciality referrals are discouraged in England, unless urgent, following the introduction of payment by results (PbR). Instead the general practitioner is asked to make the specialist referral, thereby undertaking to pick up the cost of the consultation. This may confuse interpretation of referral data in the future for England, as this referral activity was not previously included within general practitioner referral numbers.

Speciality	New	New as % of total	Returns	Returns as % of total	Total	% of Total
Trauma & orthopaedics	2,051,174	13.36	3,914,919	10.77	5,989,388	11.53
Ophthalmology	1,392,197	9.07	3,664,006	10.08	5,082,218	9.78
General surgery	1,359,994	8.86	2,194,828	6.04	3,565,460	6.86
General medicine	841,675	5.58	2,297,049	6.32	3,148,221	6.06
Gynaecology	1,142,698	7.44	1,723,961	4.75	2,874,584	5.53
ENT	1,000,042	6.51	1,474,906	4.05	2,484,340	4.78
Dermatology	742,412	4.8	1,621,501	4.46	2,373,679	4.57
Rheumatology	275,405	1.79	1,101,014	3.03	1,379,525	2.65
All activity	15,347,684	100	36,333,987	100	51,939,835	100

Table 10: Number of patients seen as outpatients for a range of common specialities, by activity 2006-07 in England (data from Hospital Episode Statistics online www.hesonline.nhs.uk)

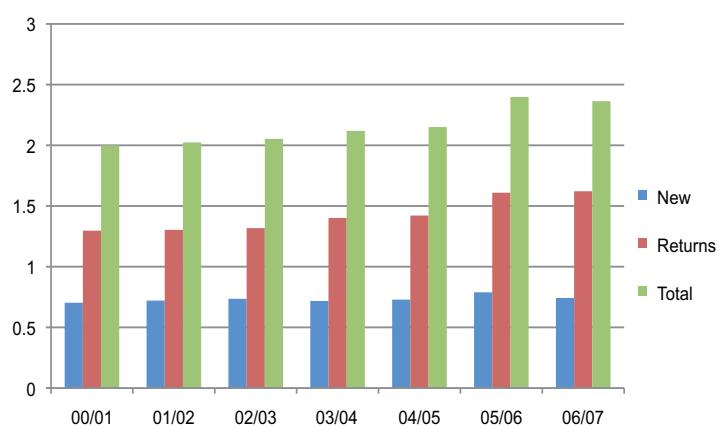


Figure 4: Trends in overall dermatology in England activity (millions of patients seen) 2000-2007
(from www.hesonline.nhs.uk)

Figure 4 shows the highest follow-up activity in 2006/07 when 1,621,501 patients returned for review. However, the figures must be interpreted with some caution, as in some centres the return figures include patients having skin surgery and attending for treatments. The ratio of new to follow up for dermatology specialist referrals using the Hospital Episode Statistics online data, at around 1:2.2, are certainly higher than reported from other sources (Schofield et al 2007b, Benton et al 2008). Benton et al's study makes reference to the problems of accurately collecting follow-up activity. The local hospital activity statistics recorded the ratio of new to follow-up consultations as 1:4, but accurate collection of the data by the clinicians, excluding phototherapy treatments and leg dressings, recorded the ratio as 1:1.3. Just to confuse the picture further, in 2006/07 around one million outpatient episodes in England were recorded as 'nursing episodes' and some of these may represent dermatology nursing activity (Hospital Episode Statistics 2008, Department of Health 2009b).

More women than men are typically seen in outpatients; 57.6% women and 42.5 % men during 2005/06 (Hospital Episode Statistics 2008). This is exactly the same sex distribution as that reported by Williams (1997a). Figure 5 shows the age and sex distribution of the patients seen, with by and large more women being seen at all ages but particularly in the 20-39 year olds category.

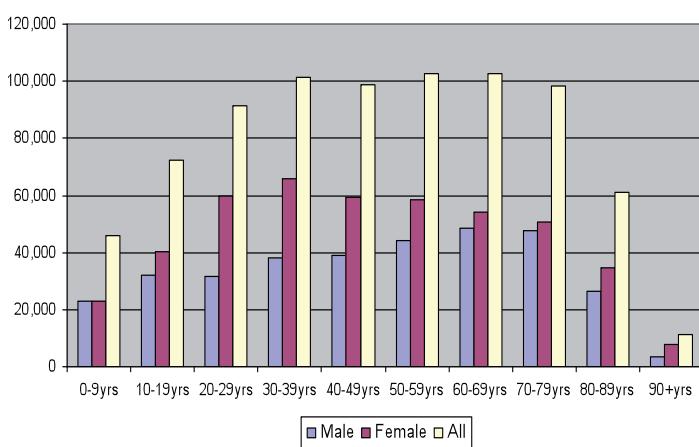


Figure 5: Age and sex distribution of new patients with skin disease seen in dermatology departments in England in 2005/06 (Hospital Episode Statistics Online 2008)

(b) Activity: casemix

Overall casemix

Casemix information is important when planning services, but there is relatively little published information. A recent audit of psoriasis services in UK dermatology departments found that only 23% of departments collect diagnostic data routinely (23/98)

and only half of those collecting such data were able to provide details of the number of attendances of patients with psoriasis (Eedy et al 2008).

The study by Benton et al (2008), using a standard data collection tool across south east Scotland for one month every five years from 1980, provides a very helpful overview of activity and case mix in the region over a time period of 25 years. Some information is also available from Belfast (Devereux et al 2006). Both these authors comment on the lack of reliable hospital information systems available to collect useful diagnostic information. Data from these studies will be referred to in this section along with information collected from four dermatology centres (Manchester, Peterborough, Sheffield and West Hertfordshire) about the type of skin conditions seen by specialists in these centres. Enthusiasts in the four centres referred to have established their own clinical information systems and have kindly agreed for their data to be used in this document. Different diagnostic databases and coding systems are in use, but despite this it is possible to report some trends in the type of casemix seen in these specialist departments, based on the percentage of new patients seen with a particular diagnosis (Figure 6).

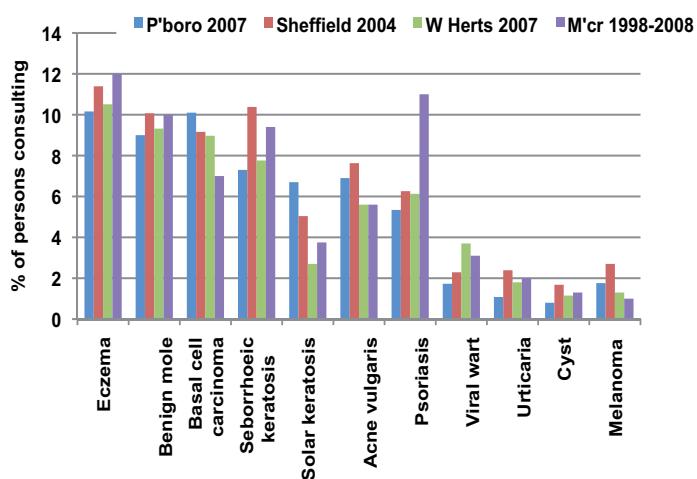


Figure 6: Skin conditions seen by specialists from four centres in England. Data shown as percentage of total caseload during the period shown (Manchester is abbreviated to M'cr, Peterborough to P'boro and West Hertfordshire to W Herts).

The spectrum of skin disease seen in specialist clinics shown in Figure 6 differs very significantly from that seen by generalists (Chapter 2). Psoriasis, eczema and skin lesions are the commonest reasons for patients to be seen by specialists, whereas skin infections (of all types, bacterial, fungal and viral) are the commonest skin problems seen by generalists. The low prevalence of patients with psoriasis in primary care (69 per 10,000 population) contrasts sharply with the high prevalence in specialist dermatology departments supporting the documented evidence (Nevitt and Hutchinson 1996) that there is a high referral rate for specialist, second line

treatments in this group of patients. A different picture is seen for people with eczema where the prevalence in primary care is six times higher (413 per 10,000 population) than psoriasis but the specialist activity for patients with eczema is only about twice that of patients with psoriasis.

These findings are similar to those documented in the Scottish study by Benton et al (2008), which documented all secondary care activity for one month in 2005 across a population of 1,205,100. The study from Belfast by Devereux et al (2006) records diagnoses differently, using eight subgroups that are not directly comparable with those above but it does provide information that in the calendar year of 2004, the most commonly encountered diagnostic group was neoplasms (20%), of which 63% were benign, 25% pre-malignant and 12% malignant.

Diagnosis	% NHS new patients
Benign tumours	33.4
Malignant tumours	11.6
Eczema	16.0
Psoriasis	7.4
Acne/rosacea	5.5
Infection/infestation	3.0
Viral warts	2.1

Table 11: Common secondary care diagnoses over one month in SE Scotland in 2005 (Benton et al 2008)

Skin lesion referrals for diagnosis

Benton et al (2008) recorded 45% of new patient referrals to dermatology departments in SE Scotland as having skin lesions. Information from other sources confirms that nearly half of specialist dermatology workload is related to the diagnosis and management of skin lesions. Data from West Hertfordshire NHS Hospitals Trust in 2007 (Schofield 2008, personal written communication) show the same figure of 45% of all new patient activity being related to skin lesions (benign and malignant). A scoping exercise in 2003 at West Hertfordshire NHS Hospitals Trust reviewed prospectively one month of referrals, and found that 50% of total referrals were for skin lesions, of which 72% were for the diagnosis and/or management of suspected skin cancer (Schofield 2003, personal written communication). In Poole on the south coast, up to 60% of referrals are skin lesions for suspected skin cancer (Joseph et al 2008).

Skin cancer assessment and treatment

A large prospective audit in 2006 conducted in twelve dermatology departments, covering a population of

over 3 million people in north west England, sought to quantify the amount of skin cancer assessment and treatment undertaken over a four week period (Singh et al 2008). The study identified that 24% of all the 3,951 new referrals seen during the four week study period were considered by the dermatologist to be suspected skin cancer. This figure would appear to exclude the referrals where the diagnosis was suspected by the referring generalist but not confirmed by the dermatologist. It therefore reflects skin cancer workload after a diagnosis has been made (rather than the higher figures documented earlier which reflect total referrals, including those where the diagnosis is suspected but not confirmed by the specialist clinician). The study by Singh found that 86% of the 686 patients with confirmed skin cancer were managed within dermatology departments, with 11% requiring referral for plastic surgery services, and 1.5% for radiotherapy. Only one patient was referred to the oncologists.

Changes and trends in casemix

There is little doubt that the casemix seen in specialist dermatology departments has changed over the last 25 years, with evidence suggesting a three-fold increase in patients seen with skin cancer and a six-fold overall increase in attendances for benign and malignant skin tumours over this time (Benton et al 2008). A more recent review of ten years of data obtained from West Hertfordshire NHS Hospitals Trust suggests there was little change in the proportion of skin lesion referrals over that period, so it may be that the increase occurred earlier and that this upward trend is no longer occurring (Schofield 2009, personal written communication).

Casemix in private practice

As previously mentioned, dermatology activity in the private sector is difficult to quantify. Data from BUPA, the biggest provider of private medical insurance in the UK, with a 42% market share, suggest that 8% of specialist referrals to dermatologists are seen privately. This is supported by Benton et al's study in Scotland (2008), where 6.7% of referrals were seen privately and the actual numbers seen privately had increased by 134% since 1980. This has to be put into the context of continuing lengthy waiting times in Scotland, unlike in England, where access times are now much shorter (see later in the chapter). Little information is published about the differences between NHS and private dermatology clinical casemix. The Scottish study recorded that patients seen privately are more likely to have acne, rosacea and viral warts, with proportionately fewer cases of psoriasis and eczema. This trend was similar for both new and return patients.

Diagnosis	Number of patients	Mean number of FU in 12 months	Total number of FU slots in 12 months	Reason
Basal cell carcinoma	328	1.52	499	Most are discharged after first excision, but high recurrence sites and those having curettage and cauterity are followed-up with an extra visit. Many have multiple tumours. Follow-up arrangements meet national guidance.
Eczema/dermatitis	325	1.94	630	Adults with difficult eczema on second line treatments such as azathioprine, ciclosporin, oral steroids, PUVA or day treatment. Prevents hospitalisation. Three appointments are required for investigation of allergic contact dermatitis. Children followed-up and supported in nurse-led eczema follow-up clinic to avoid hospitalisation.
Psoriasis	253	2.17	549	Represents those patients with complex disease on second line treatments. Nurse-led psoriasis clinic and second line drug monitoring clinic in place. (New availability of biologics will increase, rather than reduce, this caseload.)
Squamous cell carcinoma	207	1.88	207	NICE guidance requires specialist follow-up to agreed national protocols. Well differentiated tumours already discharged. Many patients have multiple lesions.
Melanocytic naevi	206	1.37	282	Includes patients with multiple atypical naevi. Expert Patient Programme being developed.
Acne	199	1.92	382	Male isotretinoin patients need a minimum of three follow-up appointments. Female isotretinoin patients need five visits to meet the EU pregnancy prevention programme.
Actinic keratosis	199	1.59	316	Many patients have associated skin cancer. The unit is trying to discharge all these but they commonly are re-referred.
Malignant melanoma	95	1.91	181	NICE guidance requires specialist follow-up to agreed protocols. This guidance requires three-monthly follow up for five years. NICE indicates consultation should be with dermatology specialist.
Lichen sclerosus	70	1.84	129	Chronic condition which requires follow-up in a small cohort of patients with difficult disease. Audit shows that national guidance is met.
Leg ulcers	64	2.25	144	Review rate should decrease with development of community leg ulcer services.

Table 12: Top ten diagnoses of patients requiring more than one follow-up appointment in 2005-6 West Hertfordshire NHS Hospitals Trust and the reasons for the follow-up appointment. (Schofield et al 2007b)

(c) Activity: follow-ups

Review appointments in England have become a focus of attention since the introduction of Payment by Results (PbR) and Tariff. With a cost per case arrangement, commissioners are keen to see that specialist follow-up appointments are appropriate. By contrast, hospital managers keen to maximise income generation and keep waiting times short view the freeing up of review appointments as a way to increase capacity for new patient appointments. The Department of Health has signalled a similar lead from the centre, with their White Paper (Department of Health 2006b) indicating that the new to follow up ratios in some dermatology departments of 1:1.53 should be aspired to. In England in April 2005, there was a published range of 1:1.53 to 1:2.41 reviews for every new patient seen, with a median of 1.82.

The Scottish study by Benton et al (2008) found a new to follow up ratio of 1:1.4 in dermatology departments, with this ratio being relatively stable since 1980, while reporting a ratio of 1:0.6 for patients seen privately. A report from West Hertfordshire (Schofield et al 2007b) documented that 36% of new dermatology patients

were seen once and then discharged and another 35% were reviewed once (2005-2006 data). The same study looked at the reasons for follow-up, and commented upon the difficulties of reducing follow-up case load whilst following nationally agreed guidelines. The main diagnoses needing more than one follow-up visit and the specific reasons for specialist follow-up from this study are given in Table 12. With the trend towards more straightforward cases being seen and managed by GPwSIs and/or in community dermatology services, or seen once and discharged, there is an inevitability that the specialist casemix will become more complex, and the new to follow-up ratios advocated by national policy may become difficult to achieve.

(d) Activity: treatment and procedures performed in specialist units

Skin surgery

Accurate information separating out and detailing the different procedures performed in specialist dermatology settings is very limited and often inaccurate, for reasons already outlined in Chapter 2.

The range and complexity of procedures is also often not captured adequately, with some dermatologists performing complex procedures in outpatient settings that were previously only performed by plastic surgeons in day case units. Data capture for procedural activity is not uniform - skin surgery is recorded separately as day case procedures in some centres, but more often it is not captured separately but is instead included within routine outpatient follow-up activity. Where skin surgery procedures are performed at the same time as the first attendance at the outpatient clinic, the surgical activity is often not captured at all. Some specialist departments have looked at the ratio between new patient referrals and the number of surgical procedures performed and have shown that for every three new patients, one skin surgery procedure will usually be performed (Benton et al 2008, Schofield 2008, personal written communication). This ratio will vary depending on the particular interest and skills of a department.

There is little recent information about the type of skin lesions excised. A study from Torquay (Frost et al 2006) reviewed the records of 21,000 skin surgery specimens across the whole health community (i.e. primary and secondary care) between 2000 and 2004 and found that 28% of the lesions were malignant and 72% benign and of the latter 60% were benign tumours removed by general practitioners. The total number of primary care excisions was largely unchanged over the five year period. The authors found that 15% of all basal cell and squamous cell carcinomas were removed in primary care. A more recent study from Poole (Joseph et al 2008) documented that 34% of skin surgery performed in the dermatology department in 2001 was for benign lesions. In view of the high skin cancer referral rate, the specialist dermatology team and the Primary Care Trust agreed to try to reduce the amount of benign skin surgery activity and a limited list was established, with inappropriate referrals being sent back to the general practitioner. A prospective three month re-audit of surgical activity in 2007 showed that 90% of cases related to skin cancer surgery with only 10% for benign lesions. The study demonstrated how collaborative working could ensure that non-essential surgery is not performed in specialist units.

Phototherapy, nurse treatments and other non-surgical activity

Phototherapy and day treatment activity are currently not nationally recorded and the recording of nurse treatment activity is variable. Some information about the range of day care treatments provided in dermatology treatment units is available from the recent national audit of care for patients with psoriasis mentioned previously in this chapter (Eedy et al 2008)

and shown in Table 13.

The snapshot audit data from Scotland (Benton et al 2008) showed about one in ten of new patients as needing nursing input for either dressings or phototherapy, and one in three new patients with eczema requiring patch testing.

Treatments for psoriasis offered in day care units	% of units
Narrow-band UVB (TLO1)	92
PUVA	90
Bath PUVA	71
Topical (hand/foot PUVA)	92
Dithranol short contact treatment	63
Dithranol long contact treatment	45
Tar treatment for outpatients	54
Scalp treatment for outpatients	74
Education about how to apply treatment	92

Table 13: Range of treatment provided by dermatology treatment units, from RCP/BAD audit of provision of care for people with psoriasis (Eedy et al 2008)

(e) Activity: Inpatients

Inpatients admitted with skin disease

In the UK in 2005/06 there were 369,000 Finished Consultant Episodes (FCEs) for patients with skin and subcutaneous disease (Chapter XII ICD 9) (Office of Health Economics 2008 Table 3.21(b)). The term FCE is used to record episodes of admission to hospital in the UK, and includes all inpatient activity. Confusion arises when comparing FCE data because of the variation in coding of day case activity. The total number of 369,000 FCEs per annum in 2005/06 is an increase from 278,000 in 1995/06, but the change may at least partially reflect improved data capture of outpatient day care treatment or of skin surgery activity as day cases. In England in 2005/06 there were 309,000 FCEs, of which 185,000 were *not* day cases and therefore were admissions across the spectrum of skin disorders that could not be managed in day case or outpatient settings (Office of Health Economics 2008, Tables 3.20 and 3.22). When day cases are excluded, 1.8% of all hospital admissions in England related to diseases of the skin and subcutaneous system (Chapter XII ICD 9). Information is available from www.hesonline.nhs.uk for 2005/06 using ICD 10 codes that subdivides this inpatient activity further to indicate the different skin disease groups involved in hospital admissions, as shown in Table 14. Interpretation of this information is again difficult because of the variable interpretation of what constitutes day case activity.

Cellulitis (ICD10 L03), listed under other infections in Table 14, was responsible for 53,037 admissions in 2005/6, of which 50,084 were emergency admissions.

The condition accounted for a total of 73,617 FCEs in all. Most of these patient admissions (46,462) had cellulitis affecting a limb, and the mean length of stay was 7.7 days. There is some evidence (page 69) that early specialist dermatology intervention in these patients could reduce admissions.

	Finished consultant episodes	Median length of stay	Mean length of stay	Day cases as percentage of total	Bed days
L00-14, L55-99 Other infections and disorders of the skin	273,346	2	6.5	41%	873,413
L20-30 Dermatitis and eczema	10,555	1	4.2	22%	30,193
L40-L45 Papulosquamous disorders including psoriasis	11,111	8	10.7	64%	37,286
L50-L54 Urticaria and erythema	6,007	1	2.5	8.5%	12,048
C43-C44 Malignant neoplasm of skin	80,798	2	4.2	82%	56,475

Table 14: Inpatient admissions (finished episodes) for patients with skin disease, 2006/07 England (data from www.hesonline.nhs.uk)

Specific issues relating to day case activity data

A day case, for the purposes of data capture in the UK, is defined as 'a patient attending a hospital ward for investigation, treatment or operation under clinical supervision on a planned non-resident basis and who occupies a bed'. It is well recognised that classification of day cases in dermatology varies from hospital to hospital and examples of this are in Table 15. Published hospital day case activity by speciality for England shows 52,000 dermatology day cases in 2005/06 which represents 86% of all dermatology FCEs (Office of Health Economics 2008 Table 3.33).

Procedure	Possible classifications
Skin surgery	Day case, outpatient follow-up/return
Phototherapy (usually 2 or 3 times a week for 6-10 weeks)	Day case, outpatient follow-up, Nurse led clinic
Photodynamic therapy	Day case, outpatient follow-up/return
Other day treatment	Day case, outpatient follow-up/return

Table 15: The range of possible classifications of dermatology procedures

Inpatients with other medical problems requiring specialist dermatology input

The consultant dermatologist activity data obtained from the Royal College of Physicians UK census for 2007 (page 57), suggests that around 3 hours work per week is spent on ward work, and this will include so called 'ward referrals' when a specialist opinion is requested for patients not under the care of the dermatology team. This activity involves the diagnosis and management of medical dermatology including

drug reactions, sick skin and a range of medical problems with associated cutaneous disease. A regional audit in Merseyside over a period of three months recorded a total of 135 such referrals to the dermatology team, including 14 to the dermatology specialist nurses (Panting et al 2008). The study found that although 60% of the patients were actually admitted for a non-dermatological condition, the majority of cases had severe eczema, psoriasis, vasculitis and cellulitis.

(f) Activity and link to waiting times

Specialist dermatology departments in England have had to respond to a range of targets determined by the Department of Health, as described in Chapter 3. Departments have needed to examine their activity and referral patterns, and to learn techniques such as so-called 'capacity demand modelling' (NHS Modernisation Agency 2003) in order to meet these targets.

Outpatient waiting times

At the end of March 2000, there were nearly 35,000 people waiting longer than 13 weeks for a specialist dermatology outpatient appointment in England, but this figure had been reduced to none by the end of March 2005 (Department of Health 2009b). This downward trend is summarised in Figure 7.

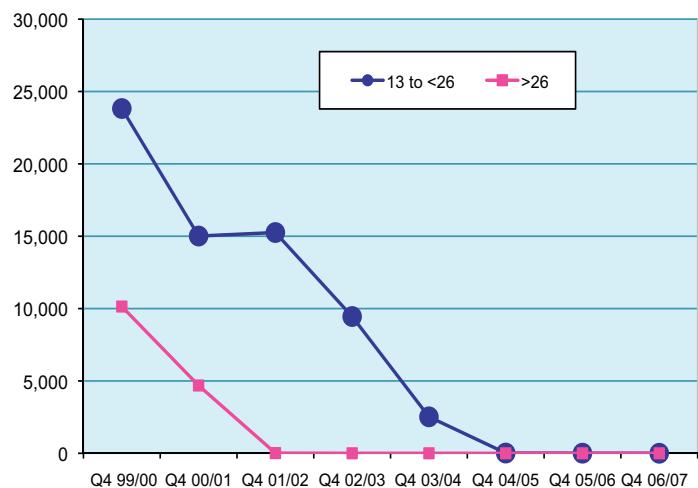


Figure 7: Trends in the number of dermatology patients waiting 13 to <26 weeks and >26 weeks to be seen using fourth quarter data 1999-2007, England,
source: www.performance.doh.gov.uk/waitingtimes

However, despite the downward trend in waiting times of patients not yet seen in the outpatient clinic, data that record the time from general practitioner referral to first attendance show that some patients still wait longer than 13 weeks. This is shown in Table 16.

Patients seen: time from GP referral to first attendance in weeks							
Q4 date	GP Referrals	0 to <4	4 to <8	8 to <13	13 to <26	>26	% GP referrals seen in > 13 weeks
99/00	151,176	40,655	58,688	37,440	14,393	34	
00/01	162,517	47,632	64,951	38,694	11,240	31	
01/02	161,275	46,330	64,729	40,302	9,914	31	
02/03	176,839	47,675	66,919	44,101	704	25	
03/04	192,090	51,775	76,046	34,084	217	18	
04/05	180,974	47,379	78,533	25,260	1,811	1	
05/06	177,867	53,502	92,861	5,764	556	0	
06/07	162,427	59,137	42,687	40,743	1,305	1	

Table 16: Trends in number of general practitioner referrals and waiting times, 1999/00 to 2006/07, actual time from referral to appointment, England
(source: www.performance.doh.gov.uk/waitingtimes)

Skin cancer waiting times

In England in 2000, a target of a two week maximum wait for all urgent cases of suspected skin cancer (excluding basal cell carcinoma) was introduced (Department of Health 2000b). Data from the Department of Health confirm that currently virtually all of around 140,000 referrals per year received using the appropriate referral procedure are seen within the required 14 days (Department of Health 2008b).

A questionnaire-based study in 2004 obtained information from 272 dermatologists in England about the introduction of this new 2 week wait referral care pathway (Cox 2004). Based on a total of 52 audit studies or information from departmental databases, the proportion of confirmed skin cancer referrals received through the two week wait referral process was shown to be about 12%. Nearly half (48%) of skin cancer referrals were received by other routes. A systematic review of cancer waiting time audits published in 2005, using audit information from hospitals around the country in relation to cancer waiting times, showed low cancer detection rates (2-33%), similar to that reported for dermatology (Lewis et al 2005).

National information about skin cancer diagnosis and treatment times for England, in the context of the 31 and 62 day cancer diagnosis and treatment targets introduced in 2005, and the more recent one month target from urgent referral to start of treatment introduced in 2008, is not readily available, as the published data are pooled for all cancer types.

18 week referral to first definitive treatment

A target of 18 weeks from date of general practitioner referral to first definitive treatment was implemented in

England from December 2008. Although data capture is not complete, the evidence to date suggests that 97% of referrals to dermatology departments are meeting this target (Department of Health 2009c).

E. Evaluation of the effectiveness of Level 3 specialist services

(a) Consultant dermatologists/specialist dermatology teams

There is little evidence of formal evaluation of the effectiveness of specialist dermatology services. Despite the availability of tools for measuring quality of life in patients with skin disease (Basra et al 2008), the use of such tools in everyday clinical practice to measure the outcome of care is limited. The 2008 national audit of care for patients with psoriasis (Eedy et al 2008) reported that only 2% of dermatology units regularly recorded a quality of life score in outpatient records, with 39% never recording a score. However, a few studies evaluating aspects of specialist dermatology services were found and are discussed below.

Outpatient services

A small study in 2005 used the Severity Scoring of Atopic Dermatitis (SCORAD) index and the Dermatology Life Quality Index (DLQI) to assess the impact of a secondary care dermatology consultation in patients with atopic eczema. It demonstrated a 52% reduction in SCORAD assessed six weeks after the first visit (Baron et al 2006). The same study showed little further reduction in SCORAD three months later. The mean DLQI was reduced at each of the three study visits.

Another study suggested that involvement of dermatologists in the outpatient diagnosis of cellulitis can prevent unnecessary hospital admissions (Rose et al 2005, Wingfield et al 2008).

Diagnostic accuracy

Studies suggest that dermatologists have a high rate of diagnostic accuracy, particularly in respect of skin cancer. A study by Brown and Lawrence (2006) reviewed 1,195 skin cancers retrospectively and showed 84% diagnostic accuracy by dermatologists. A ten year evaluation of a pigmented lesion clinic showed a very low false negative rate for the diagnostic rate (10%) compared with other clinical settings (Osborne et al 2003). Studies comparing experienced dermatologists using handheld dermoscopy with computerised dermoscopy show similar diagnostic accuracy (Rajpara et al 2009). Diagnostic skills are

necessarily important to ensure timely and appropriate access to patient care and there is good evidence that consultant dermatologists have these skills.

Skin surgery services

Two recent published studies confirm that basal cell carcinomas (BCCs) excised in specialist dermatology departments are more likely to be completely excised (Goulding et al 2009) with complete excision of between 93% and 95% of 161 cases (Al Rusan et al 2008). Incomplete excision usually results in disease recurrence if not re-excised, which can lead to more complicated and costly procedures. Further detail about skin cancer is included in Chapter 6.

Inpatient services

Two studies of inpatient experiences have documented benefits for patients. A study in Manchester (Helbling et al 2002) showed a clear improvement in quality of life at the time of discharge compared with admission using Dermatology Life Quality Index (DLQI) scores, with an overall mean reduction in DLQI of 41.8%. A more recent, UK multicentre study (Woods et al 2008) found a 50% reduction in PASI score (a measure of psoriasis severity) in two-thirds of inpatients with psoriasis and a 75% reduction in PASI in 30% of inpatients.

(b) Dermatology specialist nurses

There are several studies that consider the effectiveness of specialist nurses, as reviewed by Courtenay and Carey (2007). Various studies in patients with psoriasis and eczema describe improvements in quality of life (Penzer 2000, Wong et al 2003, Muller et al 2004), more effective use of treatments (Cork et al 2003), and a reduction in the number of follow-up patients seen by the dermatologist (Gradwell et al 2002) as a result of interventions by dermatology specialist nurses. There are also reports of specialist nurses providing outreach community dermatology clinics (McGrath et al 2003, English et al 2004, McEvoy 2004), with positive patient and general practitioner feedback. In the larger study from Nottingham, a total of 1,699 patients were seen in 18 months, of whom 28% required referral to the specialist centre (English et al 2004).

Skin surgery by nurses

The positive impact of skin surgery by nurses on waiting times for surgery is documented by Godsell (2005). The introduction of nurse surgery services led to a reduction of eight weeks in the time from presentation to excision of the skin tumour in many patients. Satisfaction and

patient outcomes were good in a study in 2004 that compared nurse and doctor surgery (Elston et al 2004). The authors of the latter study concluded that the use of nurse surgeons did not compromise quality of care or patient satisfaction.

(c) General practitioner with a special interest (GPwSI) services

Two studies were found considering the effectiveness of dermatology general practitioner with a special interest (GPwSI) services. A randomised controlled trial in 2005 showed that GPwSIs were effective, with patients being seen more quickly and with similar clinical outcomes and better satisfaction compared to the local specialist service (Salisbury et al 2005). However, the economic evaluation published at the same time showed that the cost of care for the GPwSI service was 75% *more* per patient than for the specialist clinic (Coast et al 2005). Other studies of the subject have highlighted the fact that to improve access to services for a whole health community requires the establishment of many GPwSI clinics (Schofield et al 2004), which further increases the cost. There is also evidence that some GPwSI services result in an increase in specialist referrals. Roland (2005) concluded that GPwSI services improve access and patient satisfaction but will increase costs and may not be the most cost-effective way of increasing overall capacity of specialist services. It should also be noted that a questionnaire study of 80 dermatology GPwSIs published in 2005 (Schofield et al 2005b) found that many were not meeting the requirements of the 2003 guidance for dermatology GPwSIs (Department of Health 2003b), in particular in respect of accreditation, 46% were not accredited and 28% had 12 months or less of postgraduate dermatology experience.

(d) Evidence of effectiveness of shifting services from hospitals to the community

A review of the evidence about shifting care from hospitals to community settings in 2007 considered the various strategies proposed to achieve this objective (Sibbald et al 2007 and 2008) across the NHS in England and various services, not just skin disease services. A range of strategies was considered, including the following:

- Transferring services to primary care;
- Relocating hospital services in primary care;
- Joint working between primary and acute care (secondary care);
- Interventions to modify referral patterns.

Sibbott et al considered a total of 119 studies. There was some evidence that transfer of services to primary care and interventions to change referral behaviour did reduce hospital outpatient activity, but with some evidence of loss of quality of care. Relocation of specialists to primary care community settings and joint working improved access and quality was retained, but there was little evidence of any reduction in outpatient activity and costs were not usually reduced.

F. Level 3: Specialist care – also known as secondary care: key points

- In the UK, the general practitioner acts as the 'gatekeeper' to NHS specialist services.
- Around 6.3% of all patients seen in primary care with a skin problem are referred for an NHS specialist opinion.
- Dermatology referrals comprise 5.3% of all outpatient referrals in England.
- Specialist dermatology departments are made up of multi-professional teams and provide a wide range of services.
- Skin surgery, particularly for skin cancer, forms about 30% of activity in specialist services.
- For many specialist departments nearly half of referrals are for the diagnosis of skin lesions.
- The spectrum of disease seen in specialist unit differs from that seen in primary care. Interestingly patients with psoriasis are more likely to be referred for specialist management than with some of the other inflammatory skin disorders such as eczema.
- There is good evidence that dermatologists have good diagnostic skills in relation to skin lesions.
- There is some evidence supporting the effectiveness of specialist nurse services linked to specialist dermatology teams and some evidence of effectiveness of skin surgery performed by nurses.
- Evidence suggests that dermatologists are good at diagnosing and initiating or recommending a management plan; nurses work best when implementing the management plan for a patient with a pre-diagnosed condition.
- There is some evidence of effectiveness of GPwSI services but accreditation frameworks will need to be implemented and there is some trial evidence that these services may be more expensive.
- Waiting times have fallen dramatically over the last ten years in England and the Department of Health's targets for access to care appear to be met.

- Despite a large amount of care being provided in outpatient settings, there remains a need for inpatient services for patients with recalcitrant or life-threatening skin diseases. There is evidence that admissions for cellulitis could be reduced with early intervention from dermatologists.
- As the complexity of specialist dermatology increases, attempts to reduce follow-up activity may run into difficulties.

Level 4 Supra-specialist care

What services are there?

Most skin disease is managed in district general hospitals by specialist dermatology teams. There is a range of more complex dermatological disorders some of which may be managed in district general hospitals. However the management of severe and difficult dermatological problems will often require a fuller range of supra-specialist services (also known as tertiary services). Examples of such supra-specialist services are listed in Table 17 with the type of additional treatments available. Regional centres, usually linked to teaching hospitals, provide these type of services, although the range and nature of the services will vary. Referral pathways are often historic and information about service availability limited.

Supra-specialist involvement in skin cancer

Since the introduction of the NICE skin cancer guidance (National Institute for Health and Clinical Excellence 2006), there is a requirement for supra-specialist multi-disciplinary teams to be involved in the management of rare and more complex skin tumours, particularly cutaneous lymphoma. The guidance also makes a clear statement that 10% of patients with skin cancer should be entered into clinical trials and supra-specialist units can play an important role in boosting such trial recruitment.

Inpatient/day care treatment

Supra-specialist units continue to provide inpatient services for people with life threatening skin diseases, but innovative models of care are developing whereby, following an assessment of the severity of the skin disease and the medical needs of the patient, care is offered in a range of settings from full ambulatory day care, through on-site hostel/hotel accommodation supported by specialist nursing, to full inpatient care in either a general medical/dermatology ward or a high dependency area if needed. This facilitates step-up and step-down care according to patient need and may well lead to reduced length of stay in hospital for these patients (Smith 2009, personal written communication).

Research and teaching

Supra-specialist units have a key role to play in research and teaching. These units are likely to have extensive

experience in the management of patient cohorts with rare or very complex dermatological problems and be centres of excellence in delivering up-to-date care and offering patients the opportunity to access new treatments by entering clinical trials. The biological therapies for psoriasis is an example of the introduction of a new treatment that was led by research studies and clinical trials in supra-specialist centres and the information and knowledge obtained has now been cascaded to specialist dermatology units around the country, to the benefit of patients. The Darzi review (Department of Health 2008a) recommended the development of Academic Health Science Centres (AHSC) which involve the development of partnerships between a health care provider and a university to optimise opportunities for linking the results of research and promoting relevant implementation in the NHS. This model is already well established in the United States, Canada, Singapore, Sweden and the Netherlands.

Facilities and inter-disciplinary links

The supra-specialist unit is likely to require more sophisticated equipment and facilities and have greater links with other medical specialisms than many district general hospital dermatology units. Treatments such as photophoresis require special equipment whereas complex immunotherapies may not be disease specific but may best be delivered in supra-specialist units either because they are high risk, or of limited application in dermatology but also used in other medical conditions. Links with a range of other specialties including rheumatology, neurology, allergy and haematology are important and there is an increasing emphasis on the development of the specialty of medical dermatology which incorporates the breadth of severe inflammatory disorders.

Dermatopathology

Supra-specialist services perform an essential role in the provision of highly specialist dermatopathology services providing a second opinion on difficult skin histopathology specimens for histopathologists. Sophisticated immunocytochemistry services are also offered in these centres, where there is also usually extensive experience in the laboratory diagnosis of genetic skin disorders linked to relevant clinical expertise.

Supra-specialist service	Type of conditions seen	Services offered
Allergy services	Complex cases of allergic contact dermatitis including occupational dermatitis, difficult urticaria	Highly specialist allergy testing, access to immunotherapy and biologic therapy
Genetic dermatology	Rare inherited skin diseases affecting hair and nails, such as epidermolysis bullosa	Diagnostic and genetic counselling service; outreach (to community and district general hospital) nursing service
Photodermatology	Skin disorders related to sunlight, including rare conditions such as porphyria and xeroderma pigmentosum	Specialist diagnostic services including light testing
Lymphovascular services	Patients with skin disease related to lymphovascular disorders	Diagnosis and management
Connective tissue disorders	Systemic lupus erythematosus and a whole range of other conditions	Multi-disciplinary team working particularly with rheumatologists
Paediatric dermatology	Children with birthmarks requiring assessment and treatment. Rare genetic paediatric dermatoses. Complex cases of common paediatric dermatoses such as eczema	Enhanced clinical setting with access to specialist management and multi-disciplinary team including paediatric dermatology skills including diagnostics, specialist psychological and nursing skills
Inflammatory skin disorders	Psoriasis and eczema unresponsive to conventional treatment. Immunobullous disorders	Complex assessment of patient needs and management; multi-disciplinary team working; availability of specialised intensive nursing care; access to complex/high risk therapies (biologic agents/immunotherapy)
Inpatient services*	Severe inflammatory dermatosis, such as eczema, psoriasis, blistering disorders, where outpatient care has proved unsuccessful. Life-threatening skin conditions, such as toxic epidermal necrolysis or other sick skin conditions	Specialist nursing care and support
Dermatological surgery and laser unit*	Complex, large and difficult to manage skin cancers. Extensive birthmarks requiring laser treatment	Access to Mohs micrographic surgery and complex reconstructive surgery involving joint working with a range of specialist plastic and reconstructive surgeons. Specialist laser services
Skin cancer services	Rare skin tumours such as those identified within the NICE IOG as within the remit of the specialist skin cancer multidisciplinary team (SSMDT)	Management of rare tumours involving multi-disciplinary working with medical oncology/plastic and reconstructive surgeons as appropriate. Photophoresis services
Genital dermatology*	Genital dermatoses, including men and women with complex vulval disorders	Enhanced diagnostic skills, multidisciplinary management of men and women involving urologists, gynaecologists, sexual health clinicians and psycho-sexual practitioners as required
Psychodermatology	Skin problems related to mental illness	Psychiatric and psychological assessment and treatment as appropriate
Specialist laboratory services	Rare dermatological conditions	Immunohistochemistry, mutation analysis, prenatal diagnostic services, molecular diagnostic services using polymerase chain reaction (PCR)
Research	Any skin disease requiring evaluation of new treatments or investigation of the basic science underlying the condition	Recruitment of patients into studies of new therapeutic agents, such as biologic agents (which are now available in District General Hospitals). Basic scientific research into the causes of skin disease

Table 17: Examples of supra-specialist services and the type of conditions treated

*Many district general hospitals offer these services, which should not necessarily be considered supra-specialist services.

National services

Some supra-specialist services are commissioned nationally for particularly rare diseases, the commonest being epidermolysis bullosa. There are around 30 newly diagnosed children with this condition per year and their management is complicated and difficult, requiring specialist input from a range of health care professionals and medical and surgical specialities. The national centre for this service is currently at St John's Dermatology Centre at St Thomas' and Guy's NHS Foundation Hospitals Trust. Further information about the commissioning process for supra-specialist services is available at: <http://www.dh.gov.uk/ab/Archive/NSCAG/index.htm>.

Sample activity in a supra-specialist unit

Information obtained from St John's dermatology unit at St Thomas' and Guy's Hospital NHS Foundation Trust in 2008 suggests that around a third of the department's new patient activity and over half of total activity (when follow-up caseload is included) related to supra-specialist or tertiary referrals. The commonest referrals were to the dermatological surgery and laser unit which performs a large amount of Mohs micrographic surgery. Other common tertiary referral activity included the investigation and management of allergic contact dermatitis, photodermatoses and photobiology, vulval disorders, problems of hair and nails, lymphoma, malignant melanoma, urticaria and psoriasis.

Managed clinical networks (MCN)

In Scotland the concept of managed clinical networks (MCN) was introduced in 1998 to try and link services, including supra-specialist services, more effectively. A MCN is defined as being where:

'Linked groups of health professionals and organisations form primary, secondary and tertiary care working in a co-ordinated manner unconstrained by existing professional and Health Board boundaries to ensure equitable provision of high quality clinically effective services throughout Scotland' (Scottish Office 1998).

An example of a MCN in Scotland is Photonet (NHS Scotland 2009), which provides a comprehensive high quality service to patients requiring phototherapy services, either as outpatients or inpatients, across Scotland. Although the patients with the most complex needs will form a minority of those treated, the aim of the MCN is to ensure that the service facilitates the managed care of all patients, whatever the severity of the disease. No publications were found about MCN in dermatology in England. This is unsurprising as the move towards a competitive market, where the money follows the patient, in England will not necessarily facilitate this approach. Arguably, however, the implementation of good practice guidance for conditions such as rare skin cancers is leading to the development of joined up networks of care between supra-specialist units and district general hospitals.

Activity and effectiveness

Published information on activity and effectiveness of supra-specialist services is lacking other than in relation to inpatients. A study published in 2008 about inpatient services (Woods et al 2008) documented admissions in four centres around the country, two of which were tertiary referral centres. Most admissions (86%) were for patients with psoriasis. The study demonstrated clearly a reduction in the Psoriasis Area and Severity Index (PASI) in psoriasis patients from a mean of 15.7 on admission to 5.7 on discharge. Length of stay was greater in the tertiary centres (19.7 days) and there was a link between severity of disease on admission and length of stay. Interestingly, three months after discharge, when 84 of the 183 patients attended for review, there was a reverse correlation between the increase in the PASI following discharge and the length of stay. In other words, this suggests that a longer stay in hospital may confer some disease stability.

Supra-specialist services: key points

- Whilst some district general hospital dermatology departments provide supra-specialist services,

regional centres are able to provide additional skills and expertise for particularly complex skin disease.

- Systems need to be in place to ensure that highly specialist services are commissioned appropriately and that care pathways are clearly defined.
- Supra-specialist services have a key role in research, providing patients with the opportunity to try new treatments, where appropriate, through involvement in clinical trials.
- There is a range of highly specialist services that need to be provided to cater for patients with particularly rare or complex disease and commissioners must ensure that such services are available for their health community.
- Some patients with skin disease still require hospital admission and innovative models are being developed to identify the specific medical and nursing needs of this group of patients.
- Experience of a managed clinical network for phototherapy in Scotland suggests that this model of care may work well for patients.

CHAPTER 5: MODELS OF CARE & ORGANISATION OF SERVICES

Introduction

Previous chapters have looked at:

- The burden of skin disease with emphasis on prevalence and incidence in different settings (Chapter 2).
- The NHS context in which care is delivered (Chapter 3), with a discussion of the workings of the NHS in relation to the provision of care for people with skin disease.
- The range of services available for people with skin disease and the effectiveness of those services (Chapter 4).

This chapter looks at how important aspects from each of the preceding chapters relate and link together in the

What is this Chapter about?

- The different models of care that have been proposed
- The links between these and national guidance
- Models for skin lesion diagnosis and management
- Referral management services
- Teledermatology and its role in dermatology services

overall organisation of services and delivery of care. In particular, consideration is given to how the various components of different services are, and could be, integrated. A range of consensus documents describing models of care is discussed. The importance of team working and integration of services is emphasised in all of these.

Models of service delivery and provision of care have evolved within the context of the NHS reform agenda, changing roles and responsibilities for health care professionals, and the advent of new technologies and treatments. How these factors have impacted on the different levels of care is summarised in Table 1.

Level of care	NHS reform	Changing roles and responsibilities	New treatments and technologies
Self care/management	Increasing range of over the counter (OTC) skin treatment products	Expert Patient Programme	Internet e-health, NHS Choices. High Street mole clinics
Generalist care (primary, first point of contact care)	Primary Care Trusts commission services on behalf of groups of GPs (Practice Based Commissioning groups) Walk-in-clinics Polyclinics—groups of GP practices working together in larger premises	More services for minor ailments provided by nurses Expansion in range of health care professionals that can become independent prescribers and the range of products available to prescribe	Map of Medicine to provide electronically available algorithms to manage patients
Referral/"gatekeeping" - from generalist to specialist care	Payment by Results and tariff—money follows the patient Services can be purchased from a range of providers, including the independent sector	Clinical input to referral management processes GPs as purchasers of services	Choose and Book system to enable the GP and the patient to agree choice of provider of treatment
Specialist care	Waiting times targets for outpatient attendances and treatment Specialist care to be provided as close to home in community settings; shifting care Quality must be maintained Some contracting arrangements risk 'creaming-off' simple cases—may lead to financial instability of specialist departments	Extended roles of Dermatology specialist nurses, including skin surgery & chronic disease management clinics Development of Practitioners with a Special Interest (PwSI) including GPwSIs and PhwSIs	Biological therapies for skin disease—reduce the need for inpatient services Medical treatments for non-melanoma skin cancer
Supra-specialist care	Specialist commissioning gives opportunities to ensure quality standards Tariff and Payment by Results create disincentives and obstacles to joint working between local and regional services	Many specialist surgical procedures now performed by dermatologists	New specialist and treatments techniques Prenatal diagnostic services

Table 1: The impact of NHS reform, changing roles and new therapeutic options on models of care for people with skin conditions in different settings and levels of care

Box 1 - designing services around the patient's changing needs

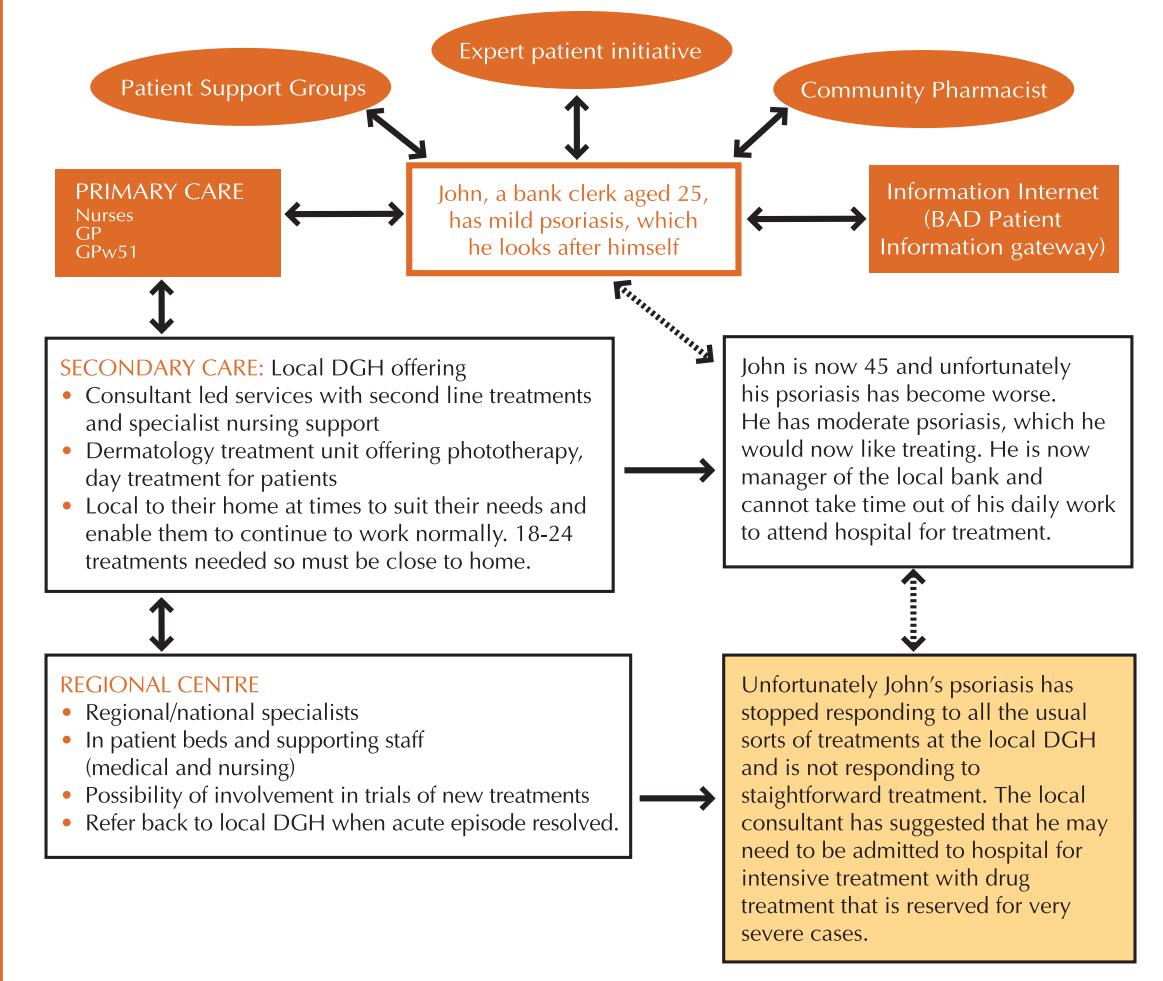


Figure 1: Example of how service models should be designed around patient need in the context of a patient with psoriasis. Taken from *Action on Dermatology Good Practice Guide* (NHS Modernisation Agency 2003)

Examples of models of care

Evidence of evaluation of the effectiveness of models of care for people with skin disease is lacking. Models of care based on consensus views of a broad range of health care professionals and patient groups, and the limited available evidence, have been published in the following documents:

- *Action on Dermatology Good Practice Guidance* (NHS Modernisation Agency 2003) (Figure 1), also discussed in Chapter 3 of this document.
- *Models of Integrated Service Delivery in Dermatology* (Dermatology Workforce Group 2007) – the Department of Health supported a Dermatology Workforce Group in the preparation of this document in 2007, which proposed models of care for people with inflammatory skin disease (Figures 2(a) and 2(b)).
- *Shifting Care Closer to Home demonstration sites - report of the specialty subgroups* (Department of

Health 2007b) - a dermatology stakeholder group, commissioned by the Department of Health to make recommendations following the publication of the White Paper *Our health, our care, our say: a new direction for community services* (Department of Health 2006b), published the model illustrated in Figure 3.

- *Providing care for patients with skin conditions: guidance and resources for commissioners* (NHS Primary Care Contracting 2008) - this document brings together ideas from the above publications to support the commissioning of services for people with skin disease and, once again, uses the model illustrated in Figure 3.

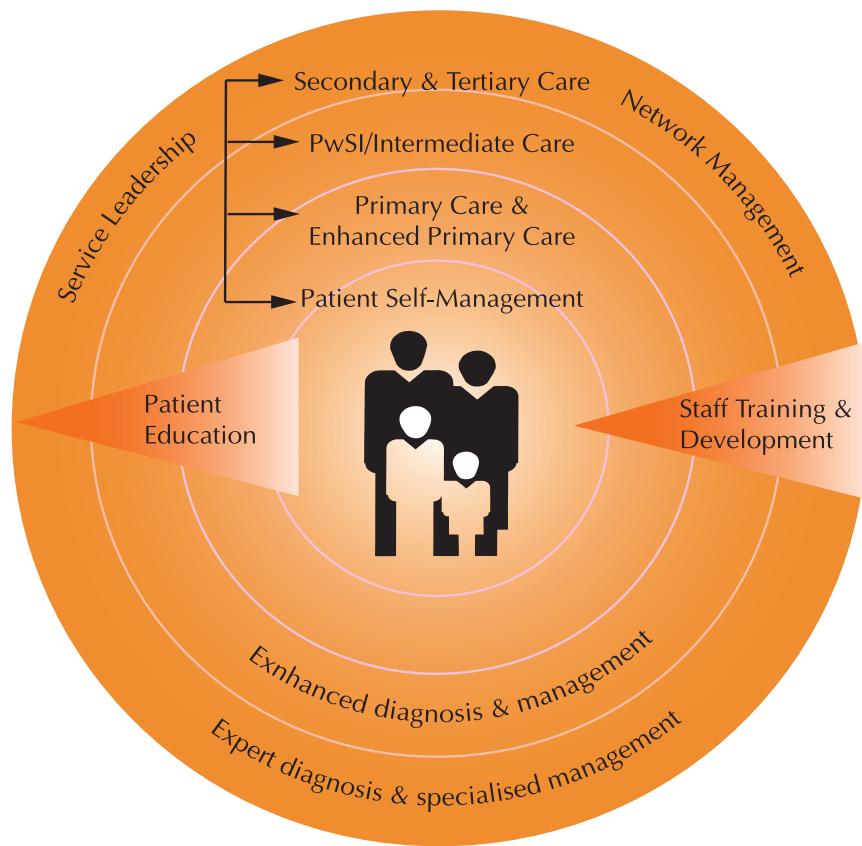


Figure 2(a): Schematic representation of care levels for people with skin disease from *Models of Integrated Service Delivery in Dermatology* (Dermatology Workforce Group 2007).

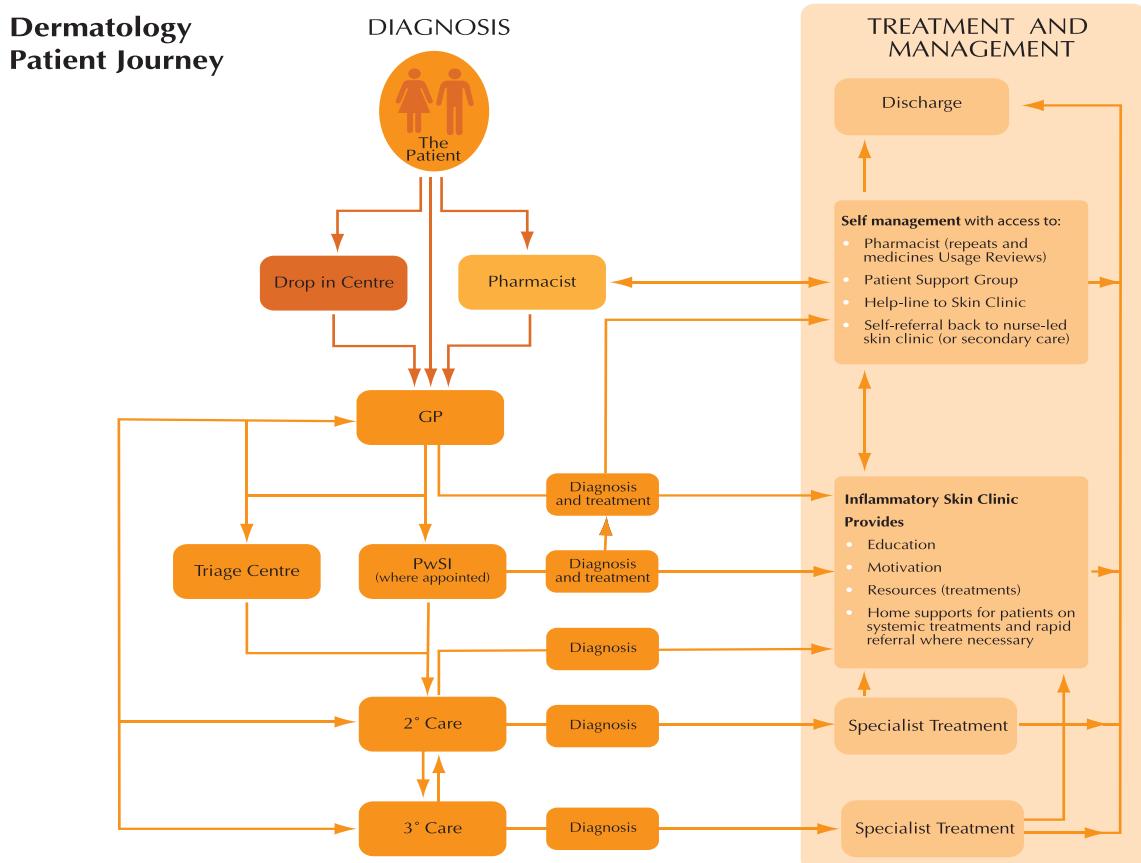


Figure 2(b): Proposed service model of the future for chronic disease management from *Models of Integrated Service Delivery in Dermatology* (Dermatology Workforce Group 2007).

How were these models of care developed?

The Action on Dermatology programme was led by the NHS Modernisation Agency and was launched in 2000. This was the first time that all key stakeholders, health care professionals and patients, worked together to look at ways to improve patient care. The programme was developed following the *Action on Cataracts* programme, which improved the waiting times for cataract surgery following the implementation of so-called 'new ways of working' and service redesign, essentially by seeking out good practice and cascading this widely throughout the NHS. The *Action on* programmes were, by and large, funded to tackle areas where there were long waiting times for access to services, with the idea that 'modernisation' might provide patients with timely access to care. The mantra of the programmes was that patients should be seen by 'the right person in the right place at the right time' (NHS Modernisation Agency 2003). Pilot site funding was made available for dermatology and a range of models of care was piloted over a two year period, with the findings from the pilot site being incorporated in the *Action on Dermatology Good Practice Guide* published in 2003 (NHS Modernisation Agency 2003). Figure 1 shows the proposed model of care at that time. The guidance made recommendations about developing specialist nurse services and also supported the Department of Health in the publication of the first guidance document for general practitioners with a special interest (GPwSI) in dermatology (Department of Health 2003b).

The Dermatology Workforce Group brought together a similar stakeholder group to consider the workforce needs for the delivery of dermatology services and also made recommendations about levels of care and staffing requirements in its report (Dermatology Workforce Group 2007). This was the first time that the concept of intermediate dermatology services was identified and clear levels of care described, see Figure 2(a). The group made specific recommendations for the patient journey for people with inflammatory skin disorders, see Figure 2(b). There was emphasis on patient self-care and self-management, and a recognition that a large amount of skin disease does not require the services of a highly trained dermatologist. The group also made it clear that there was a need for improvement in the knowledge, training and skills of all those involved in the care of people with skin disease.

The 2006 White Paper *Our health, our care, our say: a new direction for community services* (Department of Health 2006b) made very specific recommendations about the provision of care for people with skin disease and there was an emphasis on the delivery of care in closer to home settings. The specific statements relating to dermatology services from Chapter 6 of

the document were as follows:

- *Wherever possible, patients with long-term skin conditions such as psoriasis and eczema should be managed by appropriately trained specialists in convenient community settings and should be able to re-access specialist services as and when needed.*
- *Many specialist dermatology units already provide up to 30% of their services in community settings, usually in well-equipped community hospitals. This type of service should be encouraged wherever possible.*
- *Practitioners with a special interest (PwSIs) and specialist dermatology nurses can have an important role in providing care close to home for patients with skin disease. Health communities should develop these services where they are not already in place.*

The 2006 White Paper also made clear that the Department of Health wanted to work with the professional organisations to deliver on these ideas and develop clinically safe pathways to ensure that patients received care in the right setting provided by suitably trained health care professionals. The *Care Closer to Home* dermatology stakeholder group was established in 2006 with a similar membership to the *Action on Dermatology* stakeholder group and the Dermatology Workforce Group, encompassing a broad range of health care professionals and patient groups. Funding was made available for some limited pilot site work and the group took the opportunity to review the evidence available around a range of models of care and extended role practitioners. They published their recommendations as part of the *Shifting Care Closer to Home* report (Department of Health 2007b). Figure 3 is taken from this report.

The final, most recent, document relating to models of care and organisation of services is *Providing care for people with skin conditions: guidance and resources for commissioners* (NHS Primary Care Contracting 2008). This attempts to join all the previous guidance together in one document and link this to the commissioning cycle (as described in Chapter 1 and Chapter 7), to help commissioners to shape and design services for people with skin disease using the available guidance and evidence.

Skin lesions

Around the same time as these models of service delivery for dermatology were being developed, rapid access to appropriate services for the diagnosis of skin lesions was given a higher priority, so that skin cancer could be diagnosed promptly and (particularly for malignant melanoma) treated quickly, to improve

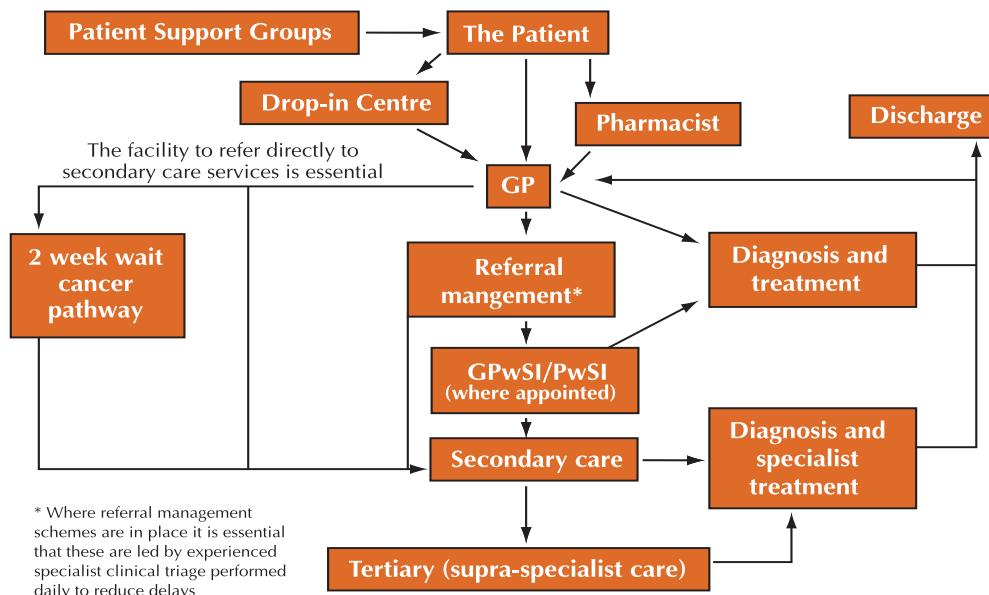


Figure 3: Model of care pathways from *Shifting Care Closer to Home demonstration sites – report of the specialty subgroups* (Department of Health 2007b).

prognosis. More detailed information about skin cancer is given in Chapter 6. Some work on developing models of care for skin lesion diagnosis and management was undertaken as part of the NHS Modernisation Agency's *Action on Plastic Surgery* (AOPS) programme. The *Action On Plastic Surgery Good Practice Guidance* (NHS Modernisation Agency 2005) proposed the model shown in Figure 4 (overleaf). Emphasis was placed on ensuring rapid access to specialists for diagnosis and facilitating management by suitably trained skin surgeons. This was to be done within the context of agreed national guidance documents, particularly in relation to skin cancer diagnosis and treatment. The NICE guidance *Improving outcomes for people with skin tumours including melanoma* (National Institute for Health and Clinical Excellence 2006) shows a skin lesion patient pathway (Figure 5 overleaf) describing a proposed model for suspected skin cancers. These two models complement one another and would logically be considered together when setting up skin lesion services.

Referral processes

As mentioned in the previous chapter, the UK system of health care uses a gatekeeper, the general practitioner, to control access to specialist services provided by the NHS. A good referral should ensure that the right patient accesses the right service or specialist, at the right time (Davies and Elwyn 2006) and the referral process should facilitate this outcome. Referral rates vary between general practitioners and understanding of referral patterns is limited. A study by Roland and colleagues published in 1990 commented that, at that time, there was no known relationship between high or low referral rates and quality of care (Roland et al 1990).

In the context of the long delays for outpatient appointments in the 1990s and early 2000s, and in order to try and improve access to care, attention became focused on managing the demand for services and ensuring the appropriateness of referrals, particularly in England. The National Institute for Health and Clinical Excellence published referral advice in 2001 (National Institute of Health and Clinical Excellence 2001) for acne vulgaris, atopic eczema in children and psoriasis to support appropriate referral from generalist to specialist services. No studies evaluating the implementation of this referral advice have been published.

Relationship between waiting times and referral rates

An interesting study published in *Nature* found evidence that waiting lists in dermatology behave as a complex system that resists change (Smethurst and Williams 2001). In an analysis of the month to month variation for four dermatology specialists over a six year period, variation was not random at all. Instead, the variation seemed to fall into a pattern that can be described by 'power laws'. Power laws are used to describe systems that are semi-chaotic, such as the behaviour of sand pile avalanches and traffic jams. Such 'complex' systems resist intervention. Impacts to the complex system are dissipated throughout a network of connected agents and they appear to have a self-regulating life of their own. Complex systems demonstrate the same straight-line logarithmic plot when the frequency of occurrences is plotted against the amplitude, which was exactly what was seen in this study, and similar effects were seen for all four consultants' waiting lists despite their different clinical

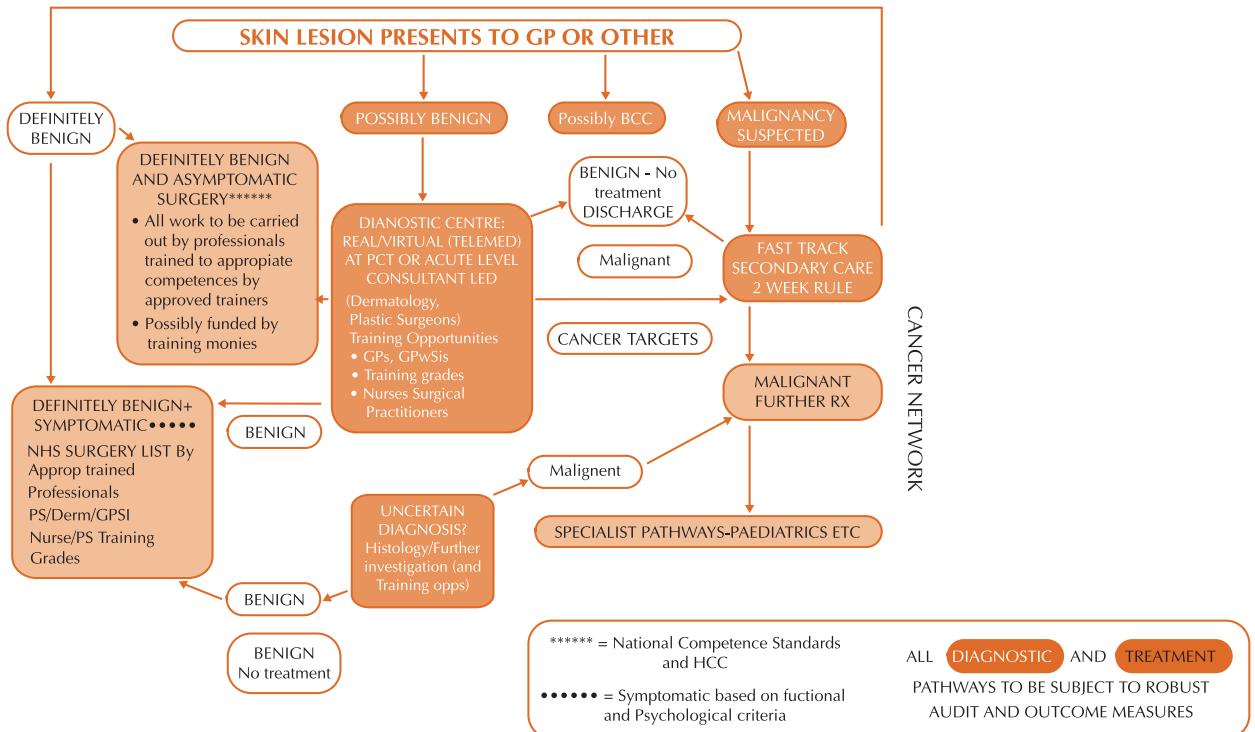


Figure 4: Proposed care pathway for patients presenting to the general practitioner with a skin lesion. From *Action on Plastic Surgery Good Practice Guidance* (NHS Modernisation Agency 2005).

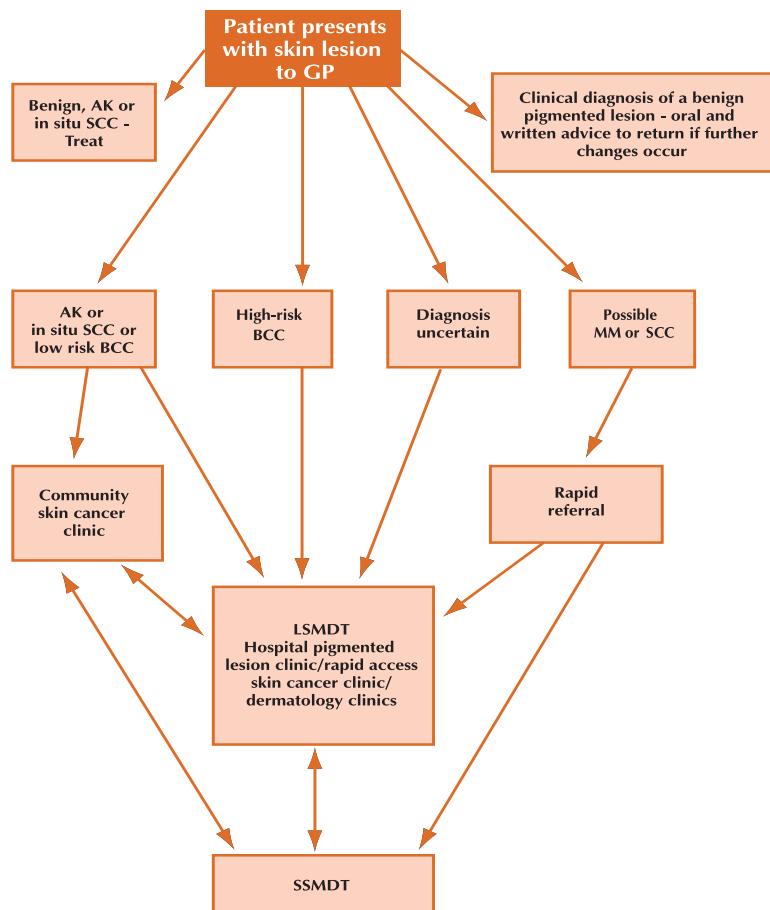


Figure 5: Skin lesion patient pathway from the NICE *Improving Outcomes Guidance for people with skin tumours including melanoma* (2006). LSMDT refers to Local Skin Cancer Multi-disciplinary Team (MDT) and SSMDT to Specialist Skin Cancer MDT. MM is malignant melanoma, SCC squamous cell carcinoma, BCC basal cell carcinoma and AK actinic keratosis.

sub-specialisation and workloads. Such similarity (known as finite scaling) is another characteristic feature of complex systems, i.e. the individual components are self-similar. A further paper by the same authors published in 2002 considered the link between hospital waiting lists and numbers of referrals (Smethurst and Williams 2002). There was anecdotal evidence at the time that reducing waiting times increased referrals, so the authors looked at whether this was actually the case. Eight specialities were considered, one of which was dermatology. The study demonstrated clearly that as the number of patients on the waiting list (i.e. waiting list densities) increased, referral rates decreased, and *vice versa*. This was particularly true of the specialities with the longest waiting lists, which at that time were ENT, orthopaedics and dermatology. Although the relationship seems self-evident, it does have important implications for the NHS in 2009. Waiting times are now much shorter in England as a result of the introduction of a broad range of Department of Health targets over the last ten years (see Chapter 4). The lesson here is that a broad range of key directives are the best way to work with complex systems, rather than single costly interventions and micromanipulation, as may be the case for simple input-output systems. As the current waiting list time decreases, it is possible that referrals to secondary care will also increase again (Smethurst and Williams 2002). It is also possible that waiting lists, like avalanches or sand piles, may suddenly deteriorate again for no obvious external reason because the system has been absorbing a wide range of hits over a sustained period.

Interventions to improve quality of referrals

A Cochrane systematic review was first published in 2005 assessing the effects of a range of interventions introduced to improve the quality of referrals from primary to secondary care across all specialities (Akbari et al 2008). Of all interventions considered, development of referral guidelines, supported by active educational input from the local secondary care specialist and structured referral sheets, was most likely to provide a positive impact on the quality of referrals. An earlier systematic review by Faulkner et al (2003) described 16 studies that considered the impact of guideline development on the number of referrals and found a mixed picture, with some studies showing an increase in referrals, others a reduction and some no change at all. The group did not however evaluate the quality of referrals specifically.

The use of referral guidelines in dermatology

The high volume, outpatient-based nature of specialist

dermatology services has meant that the use of referral guidelines for dermatology is an attractive method to restrict the total volume of referrals within a fixed budget, and also to minimise inappropriate referrals. A study published in 2000 evaluated the impact of the implementation of clinically-led dermatology guidelines on appropriateness of referrals to a dermatology department in the south of England (Hill et al 2000). Appropriateness in this context did not relate to diagnostic accuracy, but to whether the referral was necessary or whether the correct treatment had been given prior to referral. The study showed that the percentage of appropriateness of total referrals increased from 57% to 80% immediately after the introduction of the referral guidelines initiative, but this was not sustained two years later, when the rate of appropriateness of referral had fallen to the same level as before the study. The authors concluded that in order to maintain the benefits of referral guidelines, ongoing training and education are required. A more recent randomised controlled trial looked at the impact of the dissemination of guidelines to general practitioners for the management of psoriasis, supported by practice-based training sessions (Griffiths et al 2006). Patients in the intervention arm were significantly more likely to be appropriately referred in comparison with patients in the control arm (difference = 19.1%; odds ratio (OR) 2.47; 95% confidence interval (CI) 1.31-4.68).

Referral management systems

The term referral management refers to any arrangements that create an intermediate level of triage, assessment and/or treatment between primary (generalist) care and secondary (specialist) care (Davies and Elwyn 2006). Referral management includes paper-based screening, or its electronic equivalent. Referral management services may be known as any of the following:

- Referral Management Centres (RMC);
- Clinical Assessment Services (CAS);
- Clinical Assessment and Treatment Services (CATS);
- Integrated Clinical Assessment and Treatment Services (ICATS);
- Tier 2 Services.

Referral management services have developed in England particularly since the introduction of Payment by Results (PbR) and the national Tariff to help to manage the demand for specialist services. Primary Care Trusts - the commissioners - are keen to ensure that referrals made to specialist services by generalists are appropriate.

The principal purposes of referral management systems started out as follows:

- To count referrals;
- To assess the quality of referrals and reduce inappropriate referrals;
- To redirect referrals to ensure that patients are seen by the appropriate service.

At first many referral management systems lacked clinical input and were essentially management-led, representing a paper checking exercise. However, in many parts of England referral management has been established as part of CAS, CATS, ICATS or Tier 2 services. Following triage in such a system, the patient is offered an appointment in an alternative, intermediate service for assessment (often provided by a general practitioner with a special interest) and possible treatment. The triage process is important in ensuring that patients are seen appropriately.

A review article by Davies and Elwyn (2006) described referral management systems as having 'appeared overnight in an evidence free zone'. The same article recognised that such services were fairly widespread, as evidenced by information from the annual reports of some Strategic Health Authorities and Primary Care Trusts. A critical review of their effectiveness showed a lack of studies evaluating referral management systems. The authors concluded that referral management systems could be useful in helping to monitor referrals but concerns were raised about the cost of such services, the possibility of introducing delay, and the involvement of managers rather than clinicians in the referral process.

Guidance about some types of referral management has been published in Appendix A of the Department of Health 2006 Commissioning Framework (Department of Health 2006a). This guidance states that referral management (RMCs or CAS):

- must not lengthen the patient journey or create 'hidden' waiting times;
- must carry clinical support;
- must provide real diagnostic or treatment benefit to patients;
- should not be imposed without agreement.

The guidance also states that patients need to be fully informed of the service to which they are being referred and that there needs to be a clear explanation of how this sits with the idea that patients should be offered a wide range of choice of care provider, the so-called patient 'Choice' agenda, which is a priority for the current government. Some general practitioners would describe themselves as a 'referral management centre'

and feel that their role is key as the gatekeeper to specialist services (Greenhalgh 2006).

Dermatology and referral management

The Skin Care Campaign published a position statement in 2006 expressing concerns about the development of referral management systems in dermatology (Skin Care Campaign 2006). A range of services was discussed in the document, including Clinical Assessment Services (CAS), Clinical Assessment and Treatment Services (CATS) and Tier 2 services. The authors believed that such services risked creating additional steps in the patient journey, delaying access to specialist services and reducing the access of patients with chronic skin conditions to suitably trained dermatology specialists. Studies of these types of referral management services in dermatology are lacking. Two recent studies of a specialist-led dermatology CATS have shown that such services can work well for patients, and recognised certain important requirements to support high quality care: specialist clinicians performing the triage of referral letters; experienced clinicians providing the services (a mix of consultant outreach, GPwSI, Associate Specialist and nurse specialist sessions); and robust clinical governance frameworks (Schofield et al 2009, Healy et al 2009).

Figure 4 indicates how the patient pathway, financial flows and patient choice function following the implementation of a CATS service as part of the referral management process (NHS Primary Care Contracting 2008). An important point to note is that the CATS sits outside the secondary care specialist service, so any patients seen within the CATS requiring specialist services will only be able to access care with a new referral using the *Choose and Book* process.

Referral management services: key points

- Referral management systems have been introduced to count referrals, to ensure that they are appropriate, and to ensure that referrals are directed to the appropriate service.
- There is little published evidence about the benefits of referral management systems to date.
- The Department of Health has given clear guidance about the need for referral management systems to be of benefit to patients and to not create delays in patient care.
- There is some early evidence that the development of referral management in the form of dermatology Clinical Assessment and Treatment Services (CATS) can work provided that experienced clinicians

FINANCIAL FLOW

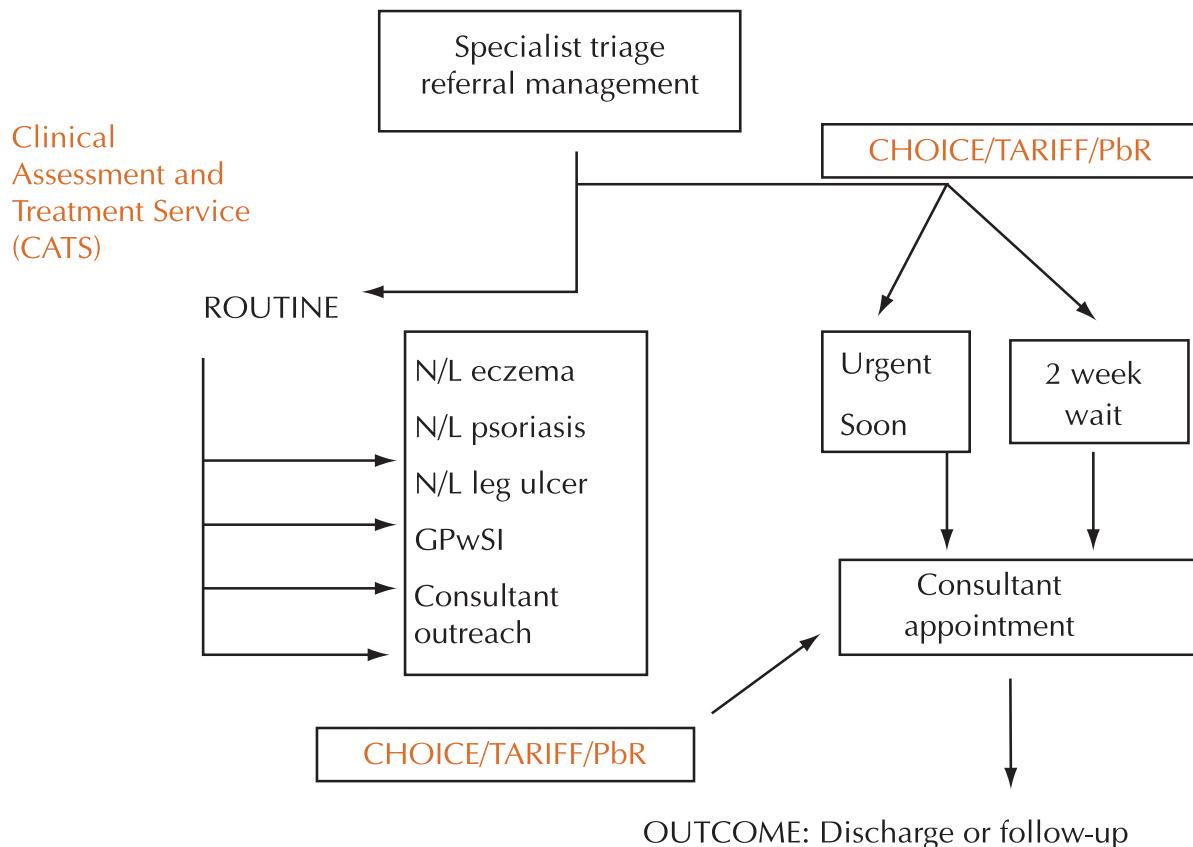


Figure 4: Referral management, financial flows and patient choice when services such as Clinical Assessment and Treatment Services (CATS) are in place (NHS Primary Care Contracting 2008)

perform the triage and then deliver the service, and that those working within the service are working within good clinical governance frameworks.

- Services such as CATS, CAS, ICATS, and Tier 2 have a significant impact on patient choice and financial flows.

Teledermatology

Teledermatology involves the use of digital images to support the delivery of dermatology services 'at a distance'. Dermatology is a highly visual speciality, and teledermatology was initially thought by policy makers to provide a potential solution to long waiting lists and a shortage of dermatology consultants (Finch et al 2007). It was proposed that the use of digital imaging might reduce inequities of access to dermatology services, particularly the use of real time video linking for geographically disparate regions. Additionally, it was felt that the use of so-called 'store and forward' digital imaging might enable more appropriate triage of referrals and reduce the need for face to face consultations. The 'store and forward' approach involves taking pictures with a digital camera and then forwarding them electronically to be reviewed at a later date in a remote location. Some services use specialist

nurses to see patients and take the image (Warin et al 2003) whilst others rely on the general practitioner to take the pictures (Mallett 2003).

Effectiveness of teledermatology in service delivery

A recent review of the role of teledermatology in service innovation (English and Eedy 2007, Finch et al 2007) describes the difficulties of incorporating teledermatology into everyday practice, without careful consideration of how the new service fits into the existing dermatology service and without the support and enthusiasm of the 'key players'. The authors identified triage as an area where the technology seemed to be finding its place.

The use of a nurse-led teledermatology service was piloted as part of the *Action on Dermatology* programme in Devon (Warin et al 2003). Five hundred patients (about a third of all new patients referred during the study period) were assessed by suitably trained nurses in community settings and the referral, accompanied by a digital image, sent to the dermatology 'hub' unit. Of the 500 referrals received in this way, 42% were referred back to the general

practitioner with a management plan, 28% were triaged and booked directly on to a skin surgery or plastic surgery operating list, and the remaining 30% were seen in the outpatient clinic. There was a 20% increase in referrals during the study period. The *Action on Plastic Surgery* programme included pilot sites exploring the use of 'store and forward' systems for skin lesions, with some encouraging results in respect of appropriate triage. Based on this experience the use of digital image with referral was incorporated in the proposed care pathway for patients presenting to the general practitioner with a skin lesion published in the *Action on Plastic Surgery Good Practice Guidance* (NHS Modernisation Agency 2005), shown as Figure 4 earlier in this chapter.

However, a randomised controlled trial of teledermatology (Bowns et al 2006) concluded that the use of digital photography for suspected skin cancer was unlikely to reduce the need for a conventional consultation whilst maintaining clinical safety.

Role of teledermatology in models of care

In a few parts of the UK, 'store and forward' digital imaging has become established as part of the referral pathway, but the system is by no means widely implemented. It had been thought that the *Choose and Book* electronic booking system in England would have enabled this approach to be used more regularly, but to date this is not the case. Obtaining patient consent, photographing the lesion, attaching the image to the referral and then sending it electronically requires time, commitment, enthusiasm, and due consideration of data protection issues.

Electronic referrals versus paper referrals

A study compared 131 electronic and 129 paper referrals (Shaw and de Berker 2007). Demographic data was better recorded in the electronic referrals but clinical data was better documented in the paper referrals. The authors concluded that paper referrals were more likely to reveal what is wrong with a patient than electronic referrals.

Models of care and organisation of services: key points

- NHS reform, changing roles and responsibilities, and new technologies and treatments have influenced the way that models of care have developed by creating restraints and opportunities.
- Despite a lack of formal evaluation of models of care for patients with skin disease, consensus models exist

and are published in a range of readily available publications.

- Referral management is an inevitable outcome of the new NHS and care must be taken to ensure that the process works well for patients.
- With regard to shifting care from hospital to community settings, there is some evidence that relocation of specialists to community settings and joint working improves access to care and maintains quality, but little evidence of any reduction in outpatient activity and costs.
- There is some evidence that referrals in dermatology are self-regulating and that they operate within a complex adaptive system.
- Although the use of teledermatology seems attractive, evidence suggests that to date implementation in every day models of care has been largely unsuccessful.

CHAPTER 6: SPECIFIC SKIN DISEASE AREAS

A. Introduction

The overall burden and provision of care for skin disease as a whole has been discussed in earlier chapters, with some occasional reference to particular disease groups. Although up to 2,000 skin diseases have been described, most dermatological consultations in the UK are accounted for by around seven main disease groupings. The prevalence and incidence data for these main diseases were described briefly in Chapter 2. This chapter considers these common skin diseases in more detail. The chapter covers disease definition, burden of disease, a description of treatments and services available, and a mention of any special issues that are relevant when planning services. An overview rather than a detailed review is provided. Much of the evidence was obtained from the Annual Evidence Updates on atopic eczema, psoriasis, acne and skin cancer provided by NHS Evidence – skin disorders (www.library.nhs.uk/skin).

What conditions does this chapter cover?

- Eczema
- Psoriasis
- Acne vulgaris
- Skin cancer
- Skin infections
- Non-genital warts and molluscum contagiosum
- Wounds and leg ulcers

B. Atopic eczema

What is atopic eczema?

Atopic eczema is an itchy, chronic inflammatory skin disease characterised by onset typically in early life, a familial tendency and a predilection for affecting the skin creases such as the folds of the elbows or behind the knees. Genetic factors that determine the integrity of the skin barrier and inflammatory responses are important. Atopic eczema typically remits and relapses over many years, and is associated with a dry skin in general. There is a whole range of different types of eczema but atopic eczema is the commonest. The terms atopic eczema and atopic dermatitis are often used synonymously. Strictly speaking, the term 'atopic' in atopic eczema refers to individuals who have circulating IgE antibodies in their blood to common environmental allergens such as the house dust mite, but such tests are not commonly carried out in clinical practice, and the term 'atopic eczema' is used more loosely to denote the phenotype of flexural eczema in childhood.

Prevalence and incidence

Eczema is common, affecting up to 20% of children worldwide. The prevalence of eczema is increasing

worldwide, especially in younger children, for reasons that are as yet unknown (Williams et al 2008). A study in Sheffield in 1994 that interviewed the parents of 1,104 children aged between 3 and 11 years recorded a lifetime prevalence of atopic eczema of 20% in boys and 19% in girls (Kay and Gawkrodger 1994). In those with eczema, 60% developed it in the first six months of life. A survey commissioned by the Proprietary Association of Great Britain (PAGB) in 2005 (Proprietary Association of Great Britain/Reader's Digest 2005) questioned 135 mothers about the experience of their children in respect of a range of skin conditions in the last 12 months, and 30% responded that their child had experienced eczema. Of these parents, 46% sought advice for the management of the episode and 66% self-treated (the figures do not add up to 100% as some people followed

more than one course of action). Interestingly, all those seeking advice approached the doctor or nurse at the GP surgery and none sought advice from other sources such as pharmacists, NHS Direct or family and friends. Around 97% of children with eczema are treated in primary care (Emerson et al 1998).

Amongst those children who present for medical advice, the data from the RCGP Birmingham Research Unit Weekly Returns Service in Table 1 show the high prevalence of persons consulting with the condition and the high episode incidence (number of episodes, including new and return) for atopic eczema in children under one year old.

	Males				Females			
	<1	1 to 4	5 to 14	15-24	<1	1 to 4	5 to 14	15-24
Episode incidence	1973	516	98	43	2036	603	117	105
Prevalence	1406	774	203	89	1440	867	249	179

Table 1: Annual episode incidence and prevalence rates (persons consulting) per 10,000 population by age and gender for atopic eczema, 2006 (source: Birmingham RCGP Research Unit, Weekly Returns Service).

Although the literature suggests that atopic eczema is increasing (Williams et al 2008), overall age standardised prevalence rates for persons consulting as reported by the RCGP Birmingham Research Unit Weekly Returns Service show a downward trend (Table 2). Further analysis of this by age suggests a smaller change in the

age specific prevalence rates in young children than in the all-ages prevalence.

Between 10 and 12% of patients seen in specialist departments have eczema (Chapters 2 & 4 of this report and Benton et al 2008) but this percentage includes all types of eczema.

Year	2001	2002	2003	2004	2005	2006	2007
Prevalence (all ages)	216	194	210	192	161	162	158
Prevalence (<1 yr)	1567	1686	1403	1550	1558	1423	1487

Table 2: Age standardised prevalence rates (persons consulting) per 10,000 population for atopic eczema over the period 2001-2007 (source: RCGP Birmingham Research Unit Weekly Returns Service)

Impact of eczema on children and families

There are well validated tools readily available to measure the impact of atopic eczema on the child and the family (<http://www.dermatology.org.uk/quality/quality-dlqi.html>). These include the following:

- The Child Dermatology Life Quality Index (CDLQI)—this can be completed either by the child alone or with the parent and is available in a cartoon version.
- The Dermatitis Family Impact Questionnaire (DFIQ).
- Patient Oriented Eczema Measure (POEM).

Using these tools, the impact of atopic dermatitis on quality of life of the child and the family has been well documented. There have been studies looking at children attending specialist clinics (e.g. Lewis-Jones and Finlay 1995) and others looking at children with milder eczema being managed in community settings (e.g. Ben-Gashir et al 2004). The relationship between severity of eczema and negative impact on quality of life is confirmed across both generalist and specialist care.

The psychological impact of childhood eczema on children and their families is also well documented (Absolon et al 1997, Lewis-Jones 2006) with sleeplessness and its consequences leading to impaired psycho-social functioning of child and family. The impact on adults with eczema is less well documented, although a study from Sweden reviewing patients with long-standing hand eczema recognised a significant impact on sleep and leisure activities (Meding et al 2005). A recent study from Australia by Faught et al

(2007) looked at stress scores in the mothers of children with atopic eczema, 55% of whom were recruited from a hospital outpatient department and 45% recruited while their child was an inpatient for management of the eczema. Stress scores were higher than in mothers of unaffected children or in mothers of children with chronic medical problems such as insulin-dependent diabetes. In fact, the stress scores approximated to those found in mothers of children with severe physical and developmental problems.

Services available for children with eczema

The National Eczema Society (www.eczema.org) provides support for patients and carers through a range of resources, including a telephone helpline, website, information leaflets, a regular magazine and local support groups. In addition the society supports research into eczema and has developed a range of information resources for schools. Other local groups, such as the Nottingham Support Group for Parents of Children with Eczema (linked to the Nottingham Special Eczema clinic) have developed comprehensive services such as email alerts and 'ask the expert' sections, as well as downloadable information leaflets (<http://www.nottinghameczema.org.uk>). Parental education, as well as patient education, is recognised as important for this group of patients.

Typically, most people with eczema are managed in primary care settings by general practitioners and other members of the primary care team, such as health visitors. A recent review of the overall role of the health visitor (Department of Health 2007f) recommended core elements including promotion of health, prevention of ill health and the safe-guarding of children. In the additional areas of practice it was proposed that a primary care nursing service might be offered for children and their families. In the future, any services that health visitors provide for children will need to sit within this context. This may well make the provision of care for children with atopic eczema by health visitors more difficult, as it will not fit with one of the core roles.

As mentioned in Chapter 4, there are some community-based, nurse-led eczema clinics which have been shown to be effective when provided by specially trained dermatology nurses attached to specialist units (McGrath et al 2003, English et al 2004, McEvoy 2004). A systematic review of the literature in relation to nurse-led clinics in the management of childhood atopic eczema (Moore et al 2006) concluded that the management of eczema could be improved by providing adequate time for education and demonstration of treatments and that the literature

supports the role of nurse-led clinics in providing this service. Patients with more difficult eczema will be managed by specialist dermatology teams. Anyone setting up children's eczema services needs to be mindful of the national guidance on the required training of health care professionals working with children and the facilities necessary to offer 'child-friendly' services specified in the National Service Framework for children, young people and maternity services (Department of Health and Department for Education and Skills 2004). There is a consensus view that the specialist care of children with particularly troublesome eczema requires a multi-disciplinary approach involving paediatricians, dermatologists and suitably trained specialist dermatology nurses (Department of Health 2007b).

Treatments available and evidence of effectiveness of treatments

An overview of recent systematic reviews relating to atopic eczema can be found in NHS Evidence – skin disorders 2008 Annual Evidence Update on Atopic Eczema (www.library.nhs.uk/skin). Key practical points from the previous year's Annual Evidence Update are summarised in a review article by Williams and Grindlay (2008). The following are some of the conclusions from this review of systematic reviews:

- Avoidance of allergenic foods during pregnancy is not helpful in preventing eczema.
- There is no good evidence to use hydrolyzed formulae or soy formulae for preventing eczema.
- It is likely that established topical corticosteroids can be used just once daily and remain as effective, but with reduced costs and less risk of side-effects.
- Long-term safety data to date, although limited, suggest that topical tacrolimus and pimecrolimus are safe to use and have a useful role in patients failing to respond to topical steroids, especially on sites like the face.
- Wet wraps have a role to play in managing difficult eczema in order to induce remission, but not for mild eczema and not long-term.
- Ciclosporin is effective for inducing a remission in severe eczema and azathioprine is effective for longer-term maintenance treatment.
- Phototherapy, including narrowband ultraviolet B, is effective for chronic atopic eczema, and ultraviolet A1 may be useful for acute eczema.
- There is some evidence suggesting that educational support to families of people with eczema is helpful.

NICE guidance

The National Institute of Health and Clinical Evidence (NICE) published guidance for the management of atopic eczema in children from birth to the age of 12 years in 2007 (National Institute for Health and Clinical Excellence 2007). The document summarises the approach that should be used to assess, manage and provide support for children with atopic eczema and their families.

Measuring outcomes of clinical interventions

The range of readily available, validated tools that can assess the impact of atopic eczema on the quality of life of children and their families provides an opportunity to measure response to clinical interventions in day to day clinical practice. These tools include generic quality of life tools such as SF36, and dermatology specific ones, such as the Children's Dermatology Life Quality Index (CDLQI) and the Dermatitis Family Impact Questionnaire (DFIQ). Other outcome measures focus on symptoms (such as the Patient Oriented Eczema Measure, POEM) or the physical appearance of disease (such as the Eczema Activity Severity Score, EASI). At least twenty such named scales exist, yet a recent systematic review found that only three (SCORAD, EASI and POEM) had been sufficiently developed and performed adequately (Schmitt et al 2007). The patient-derived POEM score is used routinely for clinical monitoring in the Nottingham Special Eczema Clinic, it is a one page questionnaire composed of seven questions which takes parents less than one minute to fill in while waiting to be seen by the team, and it is free in the public domain at: <http://www.nottingham.ac.uk/dermatology/POEM.pdf>.

C. Other types of eczema, including contact dermatitis

Understanding the range of different types of dermatitis and eczema can be confusing for the non-specialist. By and large, in the UK, the term eczema is used to describe poorly demarcated skin inflammation with surface changes such as scaling or thickening arising from an endogenous process, as opposed to those caused by external agents, where the term contact dermatitis is used. Atopic eczema is by far the commonest endogenous eczema and that is why it is considered separately above. Other examples of endogenous eczema are pompholyx (blisters on the hands and feet), discoid, seborrhoeic, asteatotic and varicose eczema. So dermatitis is the term usually used to suggest an external factor, and contact dermatitis describes an inflammatory response occurring as a result of contact with external factors such as irritants

or specific allergens. This section considers contact dermatitis and other eczemas.

Prevalence and incidence

The RCGP Birmingham Research Unit Weekly Returns Unit data report a prevalence of 220 per 10,000 population in 2006 for contact dermatitis and other eczemas. The data show relatively high prevalence in the young; this suggests that reporting may not necessarily be accurate and that some cases of atopic eczema may be captured within these diagnostic headings (Table 3).

	All ages	<1	1-4	5-14	15-24	25-44	45-64	65-74	75+
Seborrhoeic dermatitis	40	87	37	28	38	37	39	57	52
Contact dermatitis and other eczemas	220	705	609	265	222	178	161	196	237

Table 3: Prevalence per 10,000 population of contact dermatitis and other eczemas from RCGP Birmingham Research Unit Weekly Returns Service (2006 data)

Specific issues relating to contact dermatitis

Reliable data on the overall prevalence and incidence of contact dermatitis in a non-workplace environment are difficult to find (Diepgen and Weisshaar 2007). However, there is evidence that contact dermatitis is significant, as it comprises about 80% of all occupational skin disease (Athavale et al 2007, Hussey et al 2008). There are two types of contact dermatitis, and the distinction is important as investigations and management will differ:

- Irritant contact dermatitis - this is much commoner than allergic contact dermatitis and is due to frequent exposure to irritants such as soaps and detergents, for example in hairdressers and health care professionals. Anybody exposed to enough irritants it is likely to develop irritant contact dermatitis, typically on the hands.
- Allergic contact dermatitis - here the individual develops a delayed hypersensitivity response to potential sensitising agents such as metals, perfumes, preservatives, or rubber. Only those people who are sensitised to that substance will develop a reaction, i.e. it is an idiosyncratic response.

Making a distinction between the two types of contact dermatitis can be difficult and requires specialist investigation using patch testing. This investigation requires specialist training and is provided by most consultant dermatologists in district general hospitals, with supra-specialist services providing regional patch

testing for more complex cases. In patch testing, a standard battery of allergens at non-irritant concentrations is applied to a patient's back using special reaction chambers within an adherent patch. These are then removed 48 hours later, and a reading of the results is usually done at 96 hours after application. A wide range of different allergen series is required for different suspected allergies. The skills needed for preparation and interpretation of the results require that this is an investigation that should be performed by specialists. Where allergen positivity is demonstrated, provided it is relevant to the clinical condition, then allergen avoidance is recommended and may lead to cure of the dermatitis. In contrast, the management of irritant contact dermatitis requires attention to skin care and the avoidance of potential external irritants, such as excessive soap and wet work, which can be difficult to achieve in work places that require very frequent hand washing, such as in nursing (Saary et al 2005).

The importance of contact dermatitis and occupational disability

The national occupational health surveillance schemes in the UK are run by the University of Manchester. Since 2002, the scheme has used the acronym THOR (The Health and Occupation Reporting network). Data from occupational physicians are collected via the Occupational Physicians Reporting Activity (OPRA) scheme, and specific data on occupational skin disease are gathered from specialist dermatologists through the EPIDERM scheme. In addition, data from general practitioners with an interest in occupational medicine are now collected via the THOR-GP scheme, which is particularly helpful as it captures information that does not rely on assessment by either an occupational physician or a consultant dermatologist, and so completes the picture (Hussey et al 2008). The information we have from these sources can be summarised as follows:

- In the cohort of cases reported via the THOR-GP returns, work-related skin disease was the third commonest problem after musculoskeletal and mental ill-health, accounting for 9.2% of total work-related diagnoses and 14.6% of work-related diagnoses leading to sickness certification.
- The THOR-GP data record 80% of work-related skin disease as contact dermatitis and document the most work-related skin conditions in those employed in hotel and catering. Data from EPIDERM and OPRA over an 11 year period between 1993 and 2004 indicate that around 80% of cases of occupational skin disease are due to contact dermatitis (Athavale 2007); this is the same figure as reported by the THOR data.

- Hand dermatitis is sometimes used as a surrogate marker of the prevalence of occupational contact dermatitis as 80% of people with the problem have hand dermatitis; the prevalence of hand dermatitis in Europe is between 6.7 and 10.6% (Belsito 2005).

Trends in disability claims and THOR-reported cases of occupational dermatitis are shown in Figure 1 (Health and Safety Executive 2009). These cases reflect those reported via the OPRA and EPIDERM schemes, not the THOR-GP scheme.

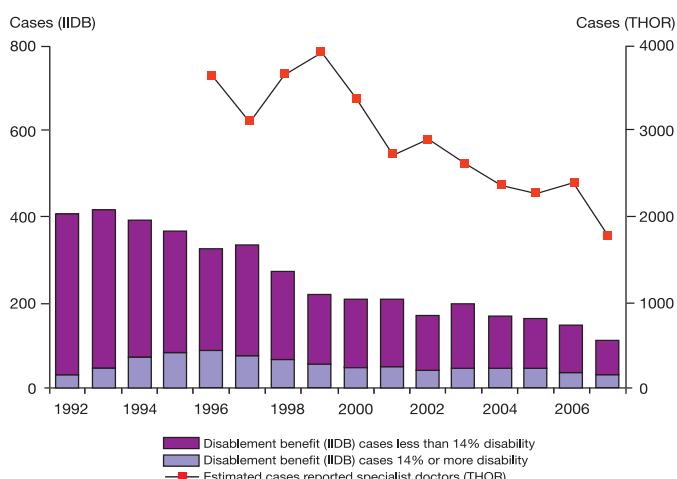


Figure 1: Trends in disablement benefit cases to those with occupational contact dermatitis and estimated cases reported by specialist doctors in THOR, 1992-2006.
(Health and Safety Executive 2009)

D. Psoriasis

What is psoriasis?

Psoriasis is a common chronic inflammatory disease of the skin arising from a complex interaction between multiple genes, immunological and systemic and environmental factors. It is characterised by well-demarcated scaly plaques which tend to affect the backs of the elbows, knees, lower back, scalp and nails. Psoriasis may also be associated with arthritis (psoriatic arthritis) which can occur in a number of forms.

Prevalence

The estimated prevalence of psoriasis, from a community-based study in Leicestershire in 1996, is 1.48% of the population (Nevitt and Hutchinson 1996). This study used a questionnaire sent to all patients registered with one general practice in addition to the practice disease register derived from consultation information. Prevalence studies using general practice consultation data alone are less reliable, as they exclude people with psoriasis who do not seek medical advice. This is likely to lead to an underestimate of prevalence. However, a similar prevalence figure of 1.5% was

reported in a later study using the General Practice Research Database (Gelfand et al 2005). In relation to these two studies, the following points can be made:

- The mean age of onset of psoriasis is around 33 years of age.
- Although most patients have mild psoriasis, according to Nevitt and Hutchinson (1996), 60% had been referred for specialist care at some point; of these, 50% had required second line treatment and 25% of patients of this group experienced periods of remission.
- Childhood psoriasis is uncommon, with a prevalence of 0.55% in under 10 year olds. Up until the age of 20, psoriasis is commoner in females than males (Gelfand et al 2005). The prevalence of psoriasis diminishes steadily after the age of 70.

Impact of psoriasis

Finlay (1997) reported that psoriasis had a greater impact on quality of life than hypertension or angina, and a subsequent study from the USA reported a similar impact for psoriasis as for angina or cancer (Rapp et al 1999). There have been several systematic reviews that consider the clinical, psychological and economic burden of psoriasis, and the important points are summarised below.

Clinical and economic burden

Psoriasis is debilitating and can interfere with work and day-to-day life because of painful cracks in the hands and feet. Associated joint disease may also become severe and disabling. Psychosocial impact due to the stigma associated with a visible skin disease is significant and often is not measured objectively. The clinical burden of psoriasis is significant and well documented. Only a few studies have documented the economic burden of psoriasis (e.g. Hazard et al 2006).

The psychosocial burden of psoriasis

Kimball et al (2005) carried out a systematic review of studies between 1993 and 2005 that considered the psychosocial burden of psoriasis. They concluded that social stigmatisation, high stress levels, physical limitations, depression, employment problems and other psychosocial co-morbidities experienced by patients with psoriasis cannot always be predicted by, and are often not directly proportional to, the severity of psoriasis as measured by body surface involvement or plaque severity. The authors concluded that measures of psychosocial morbidity should be included when assessing psoriasis severity and treatment efficacy.

Quality of life

Another systematic review by de Korte et al (2004) identified quality of life studies published between 1996 and 2000 in patients with psoriasis. From the 17 studies which met their inclusion criteria, they found that 'patients with psoriasis reported physical discomfort, impaired emotional functioning, a negative body and self-image, and limitations in daily activities, social contacts and (skin-exposing) activities, and work.' They also concluded that more severe psoriasis was associated with lower levels of quality of life.

Psychiatric morbidity in psoriasis

The psychological and emotional aspects of psoriasis were studied in a systematic review by Russo et al (2004), who reviewed publications between 1966 and 2002. Prevalence studies showed high rates of psychopathology amongst people with psoriasis. The commoner psychological conditions documented included poor self-esteem, anxiety, depression, sexual dysfunction and suicidal ideation.

Other areas of co-morbidity in psoriasis

In addition to psoriatic arthritis, there is increasing evidence of a link between psoriasis and other co-morbidities, such as cardiovascular disease and the so-called metabolic syndrome (Gottlieb et al 2008 a and b). The latter includes obesity, insulin resistance and dyslipidaemia. It is speculated that the link relates to the underlying chronic inflammatory nature of psoriasis and the increased amounts of inflammatory mediators, such as tumour necrosis factor-alpha, that are important in active disease. What is not yet clear is whether this increased risk of other co-morbidities is likely to occur in all individuals with psoriasis, or just in those with very active disease.

Services available for patients with psoriasis

Self-help

The Psoriasis Association (<http://www.psoriasis-association.org.uk>) provides support for patients and carers through a range of resources. These include a telephone helpline, website, information leaflets, a regular magazine, podcasts and local support groups. There are also specific resources produced for children and teenagers. Information about the type and number of enquiries the association receives is included in Chapter 2.

Primary care

Although psoriasis is relatively common, studies suggest that the condition represents only 1.7-5% of all general practitioner consultations for skin disease (Chapter 4). By contrast, 5-11% of specialist caseload relates to the management of patients with psoriasis, suggesting that when patients do present to the general practitioner, quite a few need referral for consideration of other treatments. This fits with the findings of the study by Nevitt and Hutchinson (1996) mentioned earlier, where 60% of patients with psoriasis had been referred for specialist assessment at some point.

While patients with psoriasis are sometimes cared for in nurse-led primary care clinics, there has been little research on these services for people with psoriasis. Kernick and colleagues published a study that considered the impact of a dermatology-trained practice nurse on the quality of life of primary care patients with eczema and psoriasis (Kernick et al 2000). The outcome of the nursing intervention for a group of 109 patients, which included some patients with psoriasis, was compared with a control group. There was some limited improvement in outcome measures in the intervention group compared with the placebo group but this did not reach statistical significance; some 20% of those receiving the intervention felt that they had received some benefit.

Secondary care

A recent audit of care for patients with psoriasis in the UK (Eedy et al 2008) provided the following information from the units that responded to the questionnaire:

- Most of the units (87/98) were unable to supply details about the number of attendances for psoriasis.
- Phototherapy services were available in over 90% of units and day treatment were available in over half.
- 21% had dedicated clinics for patients with psoriasis.
- 56% lacked a clinical psychology service willing to accept adult dermatology patients and 59% lacked psychological services for children.
- 55% had no systemic drug monitoring clinic.
- Phototherapy was run by dermatology nurses in 93% of the units and by physiotherapists in the remainder.
- Biologics for psoriasis were prescribed in 75% (73/97) of units, and in 88% of these (64/73) the BAD guidelines 2005 for the use of biologics were known to be followed.
- In 81% of units, a quality of life score was inadequately or never recorded in outpatient records, with an equivalent figure of 88% for

inpatient records. The Psoriasis Area and Severity Index (PASI) score was inadequately or never recorded in 79% of outpatient records and 82% of inpatient records.

Treatments available and evidence of effectiveness of treatments

Topical treatments

An evidenced-based review of topical treatments for psoriasis published in 2005 reviewed studies from 1987 to 2003 and showed evidence of effectiveness for topical steroids, vitamin D analogues and topical retinoids, although the latter are associated with more adverse effects (Afifi et al 2005). This review concluded that combination treatments using steroids and vitamin D analogues or topical retinoids were the most promising current treatments, with increased efficacy and reduced side effects compared to traditional treatments. However, traditional remedies such as tar and dithranol are still used in dermatology specialist units as part of day treatment regimes. There is limited evidence for the use of emollients and salicylic acid preparations (Naldy and Rzony 2009). A recent Cochrane systematic review of topical treatments for psoriasis included 131 randomised controlled trials involving 21,448 participants and concluded that topical corticosteroids performed as well as vitamin D analogues but with a lower incidence of local adverse effects (Mason et al 2009).

Systemic treatments

The comprehensive Health Technology Appraisal (HTA) systematic review by Griffiths et al (2000) reviewed the evidence for a range of treatments for severe psoriasis. The authors found reliable randomised controlled trial (RCT) evidence for ciclosporin, retinoids, phototherapy and photochemotherapy, fumarates, and topical vitamin D analogues/topical steroids with phototherapy or photochemotherapy. Methotrexate, which is widely used by dermatologists and considered to be a good, effective treatment for psoriasis in clinical practice, lacks formal evidence of efficacy, probably because the treatment was introduced before RCTs were established practice (Griffiths et al 2000). A more recent systematic review by Schmitt et al (2008) looked at the newer second line treatments (see below); they concluded that there was good evidence for some of the newer biological agents compared with traditional second line treatments and that there was variation between the efficacy of the different biological therapies. The authors questioned

the validity of the current guidance suggesting that these new treatments be reserved for when all other treatments have failed.

The biological agents

Since the major HTA systematic review by Griffiths et al (2000), a range of biological therapies has become available for the treatment of severe psoriasis. The agents are usually administered by injection once or twice weekly. In view of the high cost of these drugs, funding in England and Wales is determined by guidance published by the National Institute for Health and Clinical and Excellence (NICE). Evaluations and guidance for etanercept and efaluzimab were the first to be published by NICE in 2006, followed by infliximab and adalimumab in 2008. Efalizumab has since been withdrawn due to concerns about a rare but potentially serious side effect called progressive multifocal leucoencephalopathy. These biological therapies are available for NHS patients with psoriasis who have failed, are intolerant of and/or have contraindications to standard systemic therapies, such as ciclosporin, methotrexate and PUVA (psoralen and long-wave ultraviolet radiation A). To qualify for treatment, NICE has defined clear, objective criteria in relation to severity of disease (using the Psoriasis Area Severity Index or PASI) and impact on quality of life (using the Dermatology Life Quality Index or DLQI). There is good evidence for the effectiveness of these agents after 12–18 weeks of treatment, but not all patients respond and long-term safety data are currently lacking (Brimhall et al 2008, Reich et al 2008, Schmitt et al 2008). There is a large literature about comparative efficacy that is outwith the remit of this report, but is considered in detail in the 2008 Annual Evidence Update on Psoriasis produced by NHS Evidence – skin disorders. Key points are summarised in a review by Brown et al (2009).

E. Acne

Prevalence, incidence and trends

Acne vulgaris is common, affecting almost all teenagers to some degree. In the 2005 study of 1,500 people by the Proprietary Association of Great Britain (see Chapter 2), the overall prevalence of acne/spots was 12%, with 38% of those affected being male and 62% female. Of the 15–24 year olds in the study, 41% had acne/spots. A UK study of 317 teenagers aged 14–16 years found a prevalence of examined acne of 50%, and 11% of these were considered to have moderate to severe acne disease (Smithard et al 2001). The same study reported that participants with acne, particularly girls, had greater

levels of emotional and behavioural difficulties than those without acne.

Separate annual prevalence data for acne vulgaris from the Birmingham RCGP Research Unit Weekly Returns Service for England and Wales were first published using data for 2005, as part of the (then) NLH Skin Disorders Specialist Library's 2007 National Knowledge Week on acne vulgaris. The overall annual prevalence per 10,000 patients consulting was 115, with more women consulting (144 per 10,000) than men (84 per 10,000). The data for prevalence by age and gender are shown in Table 4. As expected, prevalence was greater in the 15-24 years age group, but it can also be seen that the prevalence was as high in women over 25 years old as in the under 15 year olds.

<1		1-4		5-14		15-24		25-44		45-64		65-74		>75	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
6	13	2	2	89	170	456	550	48	183	8	18	2	2	1	3

Table 4: Annual prevalence per 10,000 (patients consulting) for acne vulgaris and variants, 2005, by age and gender, from RCGP Birmingham Research Unit

Data from specialist dermatology units show that between 5-9% of all referrals relate to acne vulgaris (see Chapter 4 and Benton et al 2008). Assuming a total of around 700,000 people are referred for specialist dermatology outpatient assessment each year in England, then an estimated 35,000 to 70,000 patients are referred for specialist care for acne each year.

Treatments available and evidence of effectiveness of treatments

There are many 'myths' about the role of a range of factors such as diet, face-washing and sunlight, in the exacerbation of acne. These issues were reviewed in a systematic review published in 2005 (Magin et al 2005). The authors concluded that there was a lack of good evidence about whether these factors have any impact on acne. A randomised controlled trial from Australia published in 2007 found that a low glycaemic diet might confer some benefit but that further studies are needed (Smith et al 2007).

A comprehensive systematic review of treatments for acne vulgaris was published in 2004 (Haider and Shaw 2004). This considered the effectiveness of standard acne treatments, reviewing evidence from 29 randomised, double blind studies. The authors commented on a lack of standardisation in grading of severity and outcome measures. Despite this, they concluded that there was good evidence for the effectiveness of topical retinoids, topical anti-

microbials, oral antibiotics, hormonal therapy and oral isotretinoin, with high response rates in all groups. They also concluded that more than one treatment is often needed concurrently, and that the best response is seen when treatment is individualised. More recently, a systematic review has examined the role of so-called 'optical treatments' (Haedersdal et al 2008), including lasers, broad spectrum light sources and photodynamic therapy. The authors concluded that there was some evidence of limited short-term benefit, but the evidence to date did not justify the use of these treatments as first line options.

A recent Cochrane review has considered the evidence of effectiveness of combined oral contraceptive pills (COC) in the management of acne (Awojolu et al 2009). In the placebo controlled trials the three COCs considered conferred some benefit, but comparisons between different pills showed no important differences. The authors concluded that in those women with acne who required birth control, COCs could be used to try to treat the acne.

Oral isotretinoin has revolutionised the management of moderate to severe acne since its introduction in the USA in 1982. A meta-analysis of trials on the effectiveness of oral isotretinoin confirmed a high response rate of 84-87% after an average total treatment time of four months (Wessels et al 1999a). Relapse rate was 21% and appeared to be dose-dependent, with higher doses being more effective. A subsequent report by the same group considered the cost-benefit of prescribing oral isotretinoin rather than long-term low dose antibiotics for patients with moderate to severe acne (Wessels et al 1999b). It was concluded that the cost of treating this group of patients with acne was significantly reduced in the long term if oral isotretinoin was prescribed rather than repeated courses of oral antibiotics.

There are specific issues relating to isotretinoin prescribing in the UK, where the Medicines and Healthcare Products Regulatory Agency (MHRA) makes clear that oral isotretinoin must only be prescribed in a 'consultant-led team'. Their advice is that the drug should be issued under a consultant dermatologist's name and dispensed from a hospital-based pharmacy. Isotretinoin is a teratogen, so a pregnancy prevention programme was introduced in 2005 to be implemented by all those involved in the prescribing of the drug. Concerns have also been raised about a possible link between isotretinoin, depression and suicide, based on some high profile suicide cases and a tendency for some patients who develop depressive symptoms to improve after stopping the drug and worsen after restarting. A systematic review by Marqueling and Zane (2005) identified nine relevant studies and was unable to demonstrate a causal link between suicide and

depression and isotretinoin therapy using the evidence available. However, they did comment on the limitations of many of the studies. The guidance for Dermatologists in the UK from the MHRA is that the possible link should be discussed with patients and some assessment of mental well-being should be performed at each consultation. Caution and support from a psychiatrist is advised in prescribing this treatment for patients with a past history of mental illness.

Management of acne scarring

Scarring and keloid formation are possible sequelae of acne, especially in nodulo-cystic acne. A range of laser treatments has been used for the management of acne scarring. A Cochrane systematic review in 2001 concluded that even though the available studies of laser resurfacing for acne scarring were poor, there was some evidence to suggest that the treatment was effective (Jordan et al 2001). There was little evidence at that time of which type of laser worked best for which type of scarring. More recent studies have considered the type of laser and the method of use (Woo et al 2004) but there remain difficulties or reluctance in performing good controlled studies.

Services available for patients with acne - who and where, and are they effective?

The Acne Support Group provided support to patients with acne until 2007, when it became financially unsustainable and was disbanded. No new group has since been established. Information remains available from a range of sources, often provided by pharmaceutical companies.

An interesting study by Hassan and Yates (2007) carried out semi-structured interviews with 38 patients aged between 16 and 30 years attending a specialist acne clinic, to try to understand better their illness experience. Self-help strategies were common before seeking medical help. Many patients delayed seeking medical treatment for a range of reasons, including the belief that their condition would be considered trivial, that there was no available treatment, and that they would grow out of the problem. Many participants felt that their general practitioner did not take them seriously and had received prolonged courses of treatment without benefit before referral. The authors commented that these points are important when considering service delivery, as an altered awareness and understanding of available treatments could increase referrals but could also improve adherence to treatment.

As noted earlier, isotretinoin is only prescribed in specialist dermatology departments and is effective. Any change in the threshold for the prescribing of isotretinoin towards less severe forms of acne is likely to lead to an increase in referrals to specialist dermatology services.

Unfortunately for patients, access to NHS-funded treatment for acne scarring is often difficult to obtain and most Primary Care Trusts do not pay for such procedures on the NHS. This problem is not helped by a lack of high quality evidence-based studies for this type of treatment.

F. Skin cancer: overview

Type of skin cancer

Skin cancer is the commonest type of cancer in human beings (Martinez and Otley 2001). Skin cancers can be divided into two main types: melanoma and non-melanoma skin cancers. Non-melanoma skin cancers are principally basal cell carcinoma (BCC) or squamous cell carcinoma (SCC), although there are also other, rarer types such as cutaneous T-cell lymphoma.

In the following section, national policy and guidance on skin cancer services in general will be considered, before moving on to issues specific to the main skin cancer types. The recognised link between the development of skin cancer and exposure to sunlight is also described.

National guidance on skin cancers

In 2006 the National Institute for Health and Clinical Excellence (NICE) published its guidance *Improving outcomes for people with skin tumours including melanoma* (National Institute for Health and Clinical Excellence 2006). This guidance relates to people treated in NHS settings in England and Wales and makes recommendations, based on the available evidence, about models of care and provision of services. The expectation is that the recommendations will be uniformly implemented so that similar standards of care are provided around the country. More recently, in November 2008, the Department of Health published *Manual for skin cancer services 2008: skin measures* (Department of Health 2008c). This document includes the measures against which providers of care for people with skin cancer will be measured, in the process of so-called 'peer review'. These measures apply to all providers of health care, including Primary Care Trusts where they are delivering community cancer services. The 2006 NICE skin cancer guidance sets out the following principles:

- Cancer networks, which are already established for other cancers, should establish agreed care pathways

for people with skin cancer based on two levels of multidisciplinary teams (MDT): the local MDT and the specialist MDT.

- The membership and roles and responsibilities of the two types of MDT are clearly defined.
- Diagnosed, precancerous skin lesions, such as actinic keratoses, can either be treated by the general practitioner or referred for specialist treatment.
- Low-risk basal cell carcinomas can be treated in community settings by suitably trained general practitioners with a special interest in dermatology.
- Suspicious skin lesions should be referred to a doctor trained to diagnose and treat skin cancer; it is expected that this will be in a consultant-led dermatology service.
- Patients and carers should have access to high quality information.
- There should be better data collection, particularly related to non-melanoma skin cancer.
- There should be more research.

All Party Parliamentary Group on Skin (APPGS) report on skin cancer

Recently, the All Party Parliamentary Group on Skin (APPGS) published a report entitled *Skin cancer-improving prevention, treatment and care* (All Party Parliamentary Group on Skin 2008). As with other APPGS reports, oral and written evidence was taken from a wide range of people, including experts, patients and providers of skin cancer services. Based on this evidence, the report made a range of recommendations, with an emphasis on prevention by better-funded skin cancer awareness campaigns, tougher rules about sun bed use, and better co-ordination in the commissioning and delivery of skin cancer diagnosis and management services. The report expressed concern about the lack of a well-coordinated, effective, national skin cancer prevention programme in the UK.

Skin lesion diagnostic services

Meeting the national standards outlined above and the national targets for cancer diagnosis and treatment times (Chapter 3) requires timely access to clinicians who are able to make the correct diagnosis of skin lesions, both benign and malignant. Models of care to support this are described in Chapter 5. The general emphasis, from a range of official publications about service delivery models, is on ensuring rapid access to skin lesion diagnostic services, where appropriate management can be agreed within the context of national guidance

and locally-agreed priority frameworks (NHS Modernisation Agency 2005, Department of Health 2007b, NHS Primary Care Contracting 2008, All Party Parliamentary Group on Skin 2008).

Cost of treating skin cancer

Some studies have tried to assess the cost to the NHS of treating skin cancer using published data on skin cancer activity and unit costs. The cost in England in 2002 was estimated at £71 million, 4% of the total NHS cancer spend, for the 20% of all cases of cancer that skin cancer represents (Bosanquet and Sikora 2004, Morris et al 2005). This total figure is likely to be a significant underestimate in light of the difficulty in capturing activity data from non-melanoma skin cancer. The authors of these papers commented that efficient curative surgery carried out on an outpatient basis probably keeps the cost of treating so many patients to a minimum, with few patients requiring expensive inpatient care.

(a) Melanoma

Most of the following information on melanoma is taken from a recent review article in the BMJ which summarises key recent developments in treatment and management (Bataille and de Vries 2008).

Incidence of melanoma

Despite an increase in incidence of melanoma over the last 25 years, melanoma remains a relatively uncommon tumour. The age standardised crude incidence rate in the UK in 2005 was 15.9 per 100,000 population, with a total of 9,583 new cases reported, of which 5,213 were in women and 4,370 in men. Melanoma is the sixth commonest cancer in women and the seventh commonest in men. In terms of age of presentation, melanoma is the second most common cancer (excluding non-melanoma skin cancer) presenting in the 20-39 year old age group. One third of cases present in those under 50. Melanoma is very rare in children. The mean age at presentation is 55 years, although different types of melanoma typically present at different ages. A Scottish study looking at melanoma incidence between 1991 and 1995 showed that incidence rates were twice as high in the most affluent compared with deprived populations, at 13.6 versus 7.4 per 100,000 population. Further information is available from the Scottish Cancer Registration scheme (ISD Cancer Information Programme 2009). The highest incidence rates are in the south west of England, with higher than average rates also seen in Northern Ireland, Scotland and much of the south of England. The period

1975-2005 has witnessed a greater increase in incidence than for any other common cancer, with a five-fold increase in males (from 2.5 to 13.2 per 10,000 population) and a three-fold increase in females (from 3.9 to 14.4 per 10,000 population) in the UK. These figures need to be interpreted with caution, as they may well be inflated by the reporting of very early lesions, which have a relatively low likelihood of spread and therefore little impact on mortality. A wide range of information on this subject is available on the UK skin cancer incidence statistics web page of Cancer Research UK (Cancer Research UK 2009b).

Mortality from melanoma

Mortality rates from melanoma are relatively high, with 1,852 deaths reported in 2006 in the UK, and it is calculated that, on average, about 20 years of life is lost for each person dying from melanoma. Age standardised mortality rates in the UK have risen from around 1.2 per 100,000 population in the 1970s to 3.1 per 100,000 population in 2006, although the increase levelled off in the 1990s. Survival rates are better in women than men and this is probably related to the greater number of thinner tumours diagnosed early in women than in men (Cancer Research UK 2009a).

Risk factors and prevention of melanoma

The link between sun exposure and melanoma is more complicated than for non-melanoma skin cancer. The most significant risk factor is the number of melanocytic naevi (or moles), and there is a clear link between the atypical mole syndrome (which affects 2% of the population) and an increased risk of melanoma. Red hair, freckles, acute exposure to sunshine in childhood and severe sunburn are all considered relevant risk factors. Incidence is 10-20 times lower in non-whites. There are increasing concerns about the use of sun beds in contributing to an increased risk of melanoma (Autier 2005, International Agency for Research on Cancer (IARC) Working Group on artificial ultraviolet (UV) light and skin cancer 2005). The same group has recently classified UV-emitting tanning devices as carciogenic to humans (El Ghissassi et al.).

Primary prevention of melanoma

Skin cancer health education programmes began in the 1980s in Australia and were aimed at reducing people's exposure to the sun. Such programmes have now been adopted in other countries and some commentators believe that the downturn in incidence of melanoma in certain countries is related to these initiatives. Others point to the evidence that a reduction in incidence

occurred in countries without this type of approach. The point is also made that the lag time between changing behaviour and the reduction in incidence is too short (Bataille and de Vries 2008). Overall there seems to be no convincing evidence that health education campaigns aimed at reducing people's exposure to the sun have resulted in a reduction in the incidence of malignant melanoma. Although there has been a downturn in the incidence of melanoma in some parts of the world, the link between this and sun avoidance campaigns remains unclear (Bataille and de Vries 2008, Whiteman et al 2008).

Secondary prevention of melanoma

Melanoma is a readily visible tumour and so lends itself well to secondary prevention, i.e. rapid detection and treatment. However, as the tumour is relatively uncommon, screening is unlikely to be particularly effective, as the yield of cases will be low. There is evidence to support specialist screening by a dermatologist in patients with multiple atypical melanocytic naevi or a family history of melanoma and/or multiple cancers. The emphasis in the literature seems to be on balancing the need for the general public to be aware of what to look out for when checking their moles, whilst avoiding excessive patient anxiety and the removal of too many benign lesions (Bataille and de Vries 2008).

Services available, care pathways and treatments

The services that should be available for the diagnosis and management of people with melanoma in England and Wales are described in the NICE guidance *Improving outcomes for people with skin tumours including melanoma* (National Institute for Health and Clinical Evidence 2006). Important points are as follows:

- All patients with suspected melanoma should be referred to a skin cancer specialist, usually a dermatologist, who is a member of the local skin cancer multidisciplinary team (MDT).
- Patients with melanoma should be discussed at the relevant skin cancer MDT (local or specialist, depending on the staging of the melanoma), and a management plan agreed.
- The role of the histopathologist is crucial to ensure accurate diagnosis of melanoma, as the histological features are essential for staging and are the clearest prognostic indicators; double reporting of melanomas is advocated.

- Patients should have access to support from a suitably trained clinical nurse specialist and be provided with accurate written information to support their needs.
- The general practitioner should be rapidly informed of the clinical diagnosis, management plan and follow-up arrangements.

The time frame within which NHS care for melanomas in England should be delivered is defined by the cancer diagnosis and treatment targets described in Chapter 3.

Treatments available for melanoma and evidence of effectiveness of treatments

The mainstay of treatment for melanoma remains early diagnosis and surgical excision (Bataille and de Vries 2008). Primary excision with a 2 mm margin of skin is recommended followed by wide local excision (which has been shown to reduce local recurrence). The decision about the extent of further surgery is made on the basis of histopathological characteristics, including the Breslow thickness (which measures the histological thickness of the tumour) and staging of the tumour. There is nationally agreed guidance with regards to the width of excision margins according to different thicknesses of melanoma (Thirwell and Nathan 2008). Debate exists about the role of sentinel lymph node biopsy in the management of melanoma. This procedure, which evaluates whether there is microscopic spread of melanoma to the locally draining lymphatics, does not appear to have proven benefit in improving clinical outcomes but may provide some important prognostic information. The latter however is subject to controversy, and by and large the procedure is used as a research tool and in patients being recruited to clinical trials. Whilst there are some adjuvant treatments available for metastatic melanoma, such as interferon, the evidence to date indicates that none are sufficiently efficacious to be recommended as routine therapy. The treatment of metastatic melanoma is disappointing and several large trials assessing a variety of approaches are ongoing.

(b) Non-melanoma skin cancer

The majority of skin cancers (97%) are either basal cell carcinomas (BCCs) or squamous cell carcinomas (SCCs). BCCs are the commonest malignant growth in humans and occur most commonly on sunlight exposed sites. BCCs are locally malignant and invasive and can cause extensive local tissue destruction if left to progress. As a general rule, SCC is more aggressive than BCC, being more likely to enlarge rapidly and with the potential to metastasise (spread around the body).

Incidence of non-melanoma skin cancer

Whilst over 76,000 new non-melanoma skin cancers (NMSC) were registered in the UK in 2005 (Cancer Research UK 2009b), this is likely to be an underestimate of the true incidence of the problem, as registration of BCCs is not compulsory. A study that reported on trends in NMSC in South Wales between 1988 and 1998 (Holme et al 2000) provides useful information on the likely UK incidence. The following important points can be made from this study:

- The number of patients presenting with NMSC (i.e. the incidence) increased from 174 to 265 per 100,000 population per annum between 1988 and 1998.
- There was a 66% increase in incidence of BCC and a 16% increase in SCC over the ten year period.
- The overall ratio of incidence of BCC:SCC was 5:1, although this showed a variation with age, the ratio being 9:1 in 50-69 year olds and 2:1 in the over 85s.
- Incidence was particularly high in the elderly, with 1,364 per 100,000 population per annum in the over 85s and higher rates in men than women in this age group.
- The data described number of patients, not number of lesions, and excluded recurrent tumours, so the figures underestimate the clinical activity required to manage NMSC.
- Data capture was incomplete, as some NMSC may have been treated using cryotherapy in general practice settings.
- Extrapolation based on the 1998 data suggested the following number of new patients presenting with NMSC each year at a national level: 6,000 in Wales, 9,000 in Scotland and 100,000 in England.
- Whilst the authors thought the increased incidence of NMSC might be related to increased sun exposure, they commented that it might also have something to do with increased awareness as a result of health promotion initiatives.

Another, more recent study from Northern Ireland using data collected from the Northern Ireland Cancer Registry has shown lower incidence rates of NMSC. For BCC, this study found age-adjusted incidence rates of 104 and 71 per 100,000 population for males and females respectively in 2002 (Hoey et al 2007). As expected, SCC was less common, with age-adjusted incidence rates of 46 and 23 per 100,000 population for males and females respectively in the same year. The authors reported a 62% increase in the number of skin cancer specimens (including melanoma) processed by histopathology laboratories in the 12 year period 1993

to 2004, and a 20% increase in the number of patients with skin cancer. Furthermore, it has been suggested that actual skin cancer workload is underestimated by about 30% by counting patients at first diagnosis of skin cancer only, rather than counting the number of tumours treated (Lucke et al 1997, McLoone et al 2003).

Trends in incidence of BCC from a UK primary care database population cohort study (Bath-Hextall et al 2007a) showed an incidence of 153.9 per 100,000 person years with a 3% year on year increase between 1996 and 2003. These data suggest 53,000 new cases of BCC in the UK each year.

Mirroring the apparent increases in the UK, there is a continuing rise in the incidence of BCC worldwide, although the evidence is less clear cut for SCC, the incidence of which may have plateaued (Harris et al 2001).

Risk factors and prevention of non-melanoma skin cancer

Age, skin type and amount of exposure to ultraviolet radiation are the key risk factors for NMSC. There are a number of other clinical situations that lead to patients having a predisposition to developing NMSC, the most important of these being as follows:

- People with so-called precursor lesions such as Bowen's disease and actinic keratoses - probably about 4-6% of Bowen's disease transforms to SCC (Eedy 2000) and for actinic keratoses transformation rates to SCC of 0.025 to 20% are reported (Alam and Ratner 2001).
- Patients with a past history of NMSC - the risk of developing a second SCC within three years of having one is about 18%, and the risk of developing a second BCC within three years of having a BCC (or SCC) is about 44% (Marcil and Stern 2000).
- Patients with long-term immunosuppression or altered immunity - particularly following renal transplant, where a 500-fold increased risk of NMSC has been reported (Harteveldt et al 1990).
- Certain rare inherited skin conditions - including xeroderma pigmentosum, albinism, and basal cell naevus syndrome (Gorlin's syndrome).
- People treated using psoralen and ultraviolet A (PUVA) - this treatment has been widely used for psoriasis since 1974, and a 100-fold increased risk of SCC within ten years of stopping treatment has been reported in people having more than 337 treatments (Stern et al 1998).

Mortality from non-melanoma skin cancer

There were 534 deaths from NMSC in 2005 in the UK (Cancer Research UK 2009a). Overall deaths are three times higher for melanoma even though the incidence of

melanoma is very much lower than for NMSC. BCCs very rarely metastasise but SCCs do, and mortality from NMSC is usually as a result of metastatic spread from SCC.

Care pathways

Recommended models of care for the management of patients with NMSC in England and Wales are described in the NICE guidance *Improving outcomes for people with skin tumours including melanoma* (National Institute for Health and Clinical Evidence 2006). This set out care pathways for patients with NMSC and implementation is currently underway. It is expected that all suspected SCCs will be referred to a specialist dermatology service where management will take place within the context of the local skin cancer multi-disciplinary team. BCCs can be removed either by the specialist dermatology team or, for low risk BCCs, by suitably trained GPwSIs in community cancer clinics. The model set out in the NICE guidance is shown in Chapter 5.

Treatments available for non-melanoma skin cancer and evidence of effectiveness of treatments

Basal cell carcinoma (BCC)

A variety of treatment options are available for BCC, including surgery, radiotherapy, cryotherapy, photodynamic therapy (PDT) and imiquimod cream. A recent Cochrane Review of interventions for BCC concluded that, even though the tumour is very common, good research comparing the different treatments was lacking (Bath-Hextall et al 2007b). After reviewing the available evidence that included 27 randomised controlled trials, the authors concluded that surgery and radiotherapy appeared to be the most effective treatments. The best results in terms of lowest tumour recurrence and good cosmetic outcome were obtained with excisional surgery. While cosmetic outcome for PDT was good, failure rates were higher than for surgery, particularly for nodular BCCs and longer-term follow-up data were needed. Although cryotherapy was potentially less expensive and more convenient than surgery or radiotherapy, cure rates were not as good, particularly for larger lesions. Although early studies of imiquimod cream for superficial BCCs were promising, there was not enough evidence yet to make recommendations for use.

Squamous cell carcinoma (SCC)

Treatment of SCC is usually surgical, although radiotherapy is sometimes used. There are national guidelines available that describe recommendations for care dependent on the type, size and location of the

tumour and the stage of disease (Motley et al 2002).

G. Infective skin disorders, excluding viral warts and molluscum contagiosum

This section discusses skin infections. Two common viral skin infections, viral warts and molluscum contagiosum are then considered separately.

Prevalence and incidence

The commonest reason that people are seen in primary care is for the diagnosis and management of skin infections. Table 5 shows the types of skin infections encountered in primary care along with relevant statistics for 2006 from the RCGP Birmingham Research Unit. The commonest skin infections are bacterial. Note that viral exanthema and common childhood infectious diseases such as chicken pox are not included in the table as they are considered outside the remit of this report, which focuses on the specialty of dermatology.

	Prevalence	Episode incidence	Consultation rates
Cellulitis/abscess, not finger or toe	118	105	200
Dermatophytosis	148	132	209
Impetigo	77	73	97
Skin and subcutaneous tissue, localised infection	74	71	96
Herpes zoster	43	33	65
Cellulitis/abscess, finger or toe	45	41	57
Carbuncle, furuncle	36	36	54
Herpes simplex	37	27	43
Pediculosis, phthirus	15	12	16
Dermatomycosis, other	13	12	15
Scabies	11	11	14
Acute lymphadenitis	4	3	5

Table 5: Data on skin infections in primary care expressed per 10,000 population, 2006. From RCGP Birmingham Research Unit Weekly Returns Service.

Trends

Data from the RCGP Birmingham Research Unit show some interesting trends in certain skin infections which are worth mentioning. The reported incidence of scabies has fallen, after a peak in 2000. Headlice are now less commonly reported as presenting in primary

care. There has also been a gradual reduction in the amount of reported bacterial skin infections between 1999 and 2005.

Bacterial skin infections and antibiotic prescribing

There has been an interesting recent study looking at trends in bacterial skin infections and antibacterial prescribing (Fleming et al 2007). This study, based on the RCGP Birmingham Research Unit Weekly Returns Service (WRS) data, documents an increase in the prescribing of flucloxacillin capsules, an antibiotic regularly used for this problem, between 1999 and 2005, despite a gradual decrease in reported bacterial skin infections over the same period. Prescriptions for topical antibacterial agents and flucloxacillin syrup were unchanged. The authors concluded that whilst there is good evidence that general practitioners have limited their prescribing for conditions such as respiratory infections, they have not done so for skin infections.

H. Non-genital viral warts

What are viral warts?

This section considers viral warts which represent an infection of epidermal cells by the human papilloma virus (HPV). The virus leads to cell proliferation in the outer layers of the skin and the development of the typical 'warty' appearance. There are over a hundred strains of HPV and the appearance of the wart will be determined by the location of the infection and the infecting strain. Hands and feet are most commonly affected. Genital warts are not discussed here and molluscum contagiosum is considered separately.

Prevalence, incidence & risk factors

There are no very recent studies of the prevalence and incidence of non-genital warts. It was estimated in the Incidence figures from the fourth National Morbidity Survey (1991–92) that almost 2 million people in England and Wales per year saw their general practitioner at that time about non-genital viral warts (Royal College of General Practitioners 1995). However, the overall episode incidence in England and Wales using the RCGP Birmingham Research Unit WRS data for 2006 was 129 per 10,000 population (this figure includes molluscum contagiosum), suggesting that there are now about 0.8 million people per year in England and Wales presenting to their general practitioner with a new episode of a viral wart. It may be that this reflects a change to self-treatment for warts rather than a reduction in incidence, as discussed further below.

A relatively old study of British children observed a prevalence of 12% in 4-6 year olds, 3.9% at 11 years old, and 4.9% at 16 years old (Williams et al 1993). Of those found to have warts at the age of 11, 93% had no warts at the age of 16. Reduced prevalence was seen in families with only one child, in ethnic groups other than white European, in people living in the south of Britain, and in children having a father with a non-manual occupation. The 2006 annual episode incidence figures by age from the RCGP Birmingham Research Unit WRS are in Table 6 and show peak episode incidence in the 5-14 age group.

Warts on the hands are commoner in occupations such as abattoir workers, retail butchers and engineering fitters. Viral warts are recognised as a complication of long-term immunosuppression, with rates as high as 90% documented in patients five years after renal transplantation (Luk and Tang 2007).

	Males				Females			
	<1	1 to 4	5 to 14	15-24	<1	1 to 4	5 to 14	15-24
Incidence per 10,000 population	5	83	287	129	5	107	333	167

Table 6: Annual episode incidence per 10,000 population by age for all viral warts, 2006 (from Birmingham RCGP Research Unit, Weekly Returns Service).

Treatments available and effectiveness of treatment

Studies of effectiveness of treatments for warts need to be put in the context of cohort studies suggesting that spontaneous resolution is common, with one study showing that about two thirds of cases resolve without treatment within in two years (Massing and Epstein 1963). Other studies have shown that about 30% of people given placebo treatments have no warts after about 10 weeks (Gibbs and Harvey 2006).

For a condition that is so common, there is a real lack of good randomised controlled trials to study effectiveness of treatments for non-genital viral warts. The available evidence, based on a Cochrane systematic review (Gibbs and Harvey 2006) and subsequent studies are summarised below:

- Topical salicylic acid increases the rate of complete wart clearance compared with placebo.
- Although cryotherapy may be as effective as topical salicylic acid, studies have been small and have given inconclusive results.
- Photodynamic therapy increases the number of warts cured compared with placebo and may be more effective than cryotherapy, but causes pain and discomfort.

- Dinitrochlorobenzene used as contact immunotherapy increases wart clearance compared with placebo, but can cause inflammation.
- Studies of the use of intralesional bleomycin give conflicting results about efficacy when compared with placebo.
- The evidence for cimetidine, formaldehyde, glutaraldehyde, homeopathy, occlusive treatment with duct tape, pulsed dye laser, surgery, and oral zinc sulphate is lacking as there are few high quality studies.

For many people with warts, awaiting spontaneous resolution may be appropriate. However, there is a cohort of patients where active treatment will be appropriate. These include immunosuppressed patients where warts may be extensive, disfiguring and symptomatic and also patients with widespread warts that affect their occupation and social interaction. In light of this, and the occasional problems of misdiagnosis that sometimes arises with warts, low-priority frameworks do not usually suggest that viral warts be excluded from NHS services.

Cost-effectiveness of treatment

Helpful information is available from a recent NHS Health Technology Assessment which considered the cost-effectiveness of salicylic acid and cryotherapy for cutaneous warts (Thomas et al 2006). This study used data from the Cochrane systematic review of treatments for viral warts (Gibbs and Harvey 2006) and also collected information from patients who had recently visited their general practitioner surgery for the treatment of viral warts. The following are the main findings:

- Over half of patients reported using over-the-counter (OTC) treatments before attending the general practitioner surgery, with the commonest preparation used being salicylic acid.
- Doctor-provided cryotherapy services were an expensive option to treat warts in primary care.
- General practitioner-prescribed salicylic acid and nurse-led cryotherapy clinics were more cost-effective but were still expensive when compared with self-treatment.
- Further studies of OTC cryotherapy and duct tape needed to be conducted.

Thomas et al (2006) concluded that as most warts resolve spontaneously, a shift towards self-treatment was justified and a public awareness campaign to support this would be useful. The apparent reduction in annual episode incidence between the 1991-92 National Morbidity Survey and the 2006 RCGP

Birmingham Research Unit WRS data described above suggests that this may already have occurred to some extent over the last 20 years, as these data capture primary care consultations and the difference could represent more people self-treating instead of visiting their general practitioner. About £17 million was spent on OTC wart preparations in 2007 in the UK, representing 4.7% of all OTC skin treatment sales (data from the Proprietary Association of Great Britain); see Chapter 2 for further information. Despite new wart treatment preparations becoming available over the last few years, this proportion has remained largely unchanged over the last five years, despite an increase in actual spend on OTC wart treatment products over the same period.

I. Molluscum contagiosum

Incidence

Molluscum contagiosum is a viral skin infection caused by a human-specific poxvirus. The condition has its maximum incidence in pre-school children, with 90% of cases occurring in those under 15 years of age. Most lesions resolve spontaneously over time. The cumulative estimated incidence in under 15 year olds is around 17% and an average GP practice of around 10,000 patients will usually see around 24 new cases per year (Pannell et al 2005). Annual episode incidence by age for molluscum contagiosum in primary care is shown in Table 7.

Age	Males				Females			
	<1	1 to 4	5 to 14	15-24	<1	1 to 4	5 to 14	15-24
Incidence per 10,000 population	32	172	95	4	24	155	107	7

Table 7: Annual episode incidence per 10,000 population by age for molluscum contagiosum, 2006 (from Birmingham RCGP Research Unit, Weekly Returns Service)

Treatment

A Cochrane review of interventions for cutaneous molluscum contagiosum included five randomised controlled trials and was unable to find evidence of any particular treatment as being effective for the condition (van der Wouden et al 2006). The authors commented that as many of the commonly available treatments have not been adequately evaluated and most lesions resolve within months without leaving scars, the condition should be left to resolve spontaneously until treatment methods have been better evaluated.

J. Wounds and lymphovascular services, including leg ulcers

Chronic wounds are managed by a variety of health care professionals. The specialism of tissue viability, which is predominantly nurse-led, has evolved over the last twenty years. Some tissue viability services include the whole range of skin integrity services, including leg ulcers, but others do not. Most tissue viability nursing services have historically been based in acute hospitals and the importance of developing tissue viability skills in community services has only been recognised more recently. Some dermatologists are involved in wound care/tissue viability; in particular, venous leg ulcers are often considered as being in the remit of specialist dermatology departments. However, this is not always the case and vascular surgeons may take a lead in some health communities. Lymphoedema and leg ulcers often occur together and the speciality of lymphovascular medicine brings together these clinical problems. Multidisciplinary lymphovascular services, involving specialist nurses and dermatologists, are not widely available and non-cancer related lymphoedema services are often poorly developed and accorded low priority. Leg ulceration and chronic lymphoedema predispose to the development of cellulitis. The beneficial input of dermatology teams in the diagnosis and management of cellulitis in reducing hospital admissions is discussed in an earlier chapter (page 69).

Wound care

The cost to the NHS of providing care for chronic wounds is high. The prescription costs for wound care dressings alone was about £100 million in 2006/07 (National Prescribing Centre 2008). Two recent systematic reviews have highlighted the fact that evidence of efficacy for many of the available dressings is lacking (Chaby et al 2007, Palfreyman et al 2007), although these reviews did identify evidence supporting the use of certain of the modern wound care products. A summary of the two systematic reviews concluded that wound dressings should be chosen based on 'maximising effectiveness, minimising risk, minimising cost, and patient choice'. The authors also recommended that local health communities should work together to agree local wound care formularies so that consistency of prescribing and cost effectiveness can be assured (National Prescribing Centre 2008).

Leg ulcers: prevalence and incidence

The definition of a leg ulcer is generally taken to be a loss of skin on the leg or foot that takes more than six weeks to heal. By far the commonest cause of leg ulcers

is occurrence secondary to chronic venous disease (45-60% of cases), although other causes include arterial insufficiency (10-20% of cases), diabetes (15-25% of cases) and rheumatoid arthritis (Mekkes et al 2003). Overall prevalence of leg ulcers is around 15 to 30 per 10,000 population, but increases with age to about 200 per 10,000 in the over 80s (Callam et al 1985). A recent study has shown that chronic leg ulceration is often associated with poor socio-economic status and social isolation, but it is not clear whether this is cause or effect (Moffatt et al 2006). Information on prevalence and incidence of leg ulcers is becoming increasingly difficult to capture as services for this cohort of patients are provided by practice nurses (mobile younger patients usually), community nursing services (the housebound and elderly), and community leg ulcer clinics. Primary Care Trusts are also able to commission leg ulcer services from other providers. Data from the Royal College of General Practitioners Weekly Returns Service suggests a prevalence of chronic skin ulcer of 27 per 10,000 population (Royal College of General Practitioners 2006a) for England and Wales. The episode incidence is 21 per 10,000 and the consultation rate, unsurprisingly, is high at 129 per 10,000, indicating a consultation rate of 6.1 per patient per year for this group. Data obtained from the West Hertfordshire District Nursing Service (covering a population of around 500,000) for the 12 months to the end of March 2008 recorded 269 new referrals, an episode incidence of around 5.4 per 10,000 (Reynolds personal written communication 2009).

Treatment of venous leg ulcers

A recent Cochrane systematic review (O'Meara et al 2009) concluded that there is good evidence that compression bandaging increases healing rates for venous leg ulcers and that multi-component systems seem to be more effective than single layer systems. Another systematic review and meta-analysis of dressings used for venous leg ulcers (Palfreyman et al 2007) concluded that improved venous leg ulcer healing rates were not linked to any particular type of dressing and that simple low-adherent dressings were as effective as hydrocolloid dressings.

Models of care for people with leg ulcers

Two reports in the late 1990s expressed concern that despite areas of good practice in the management of people with leg ulcers in the community, there was wide variation in the standard of care (NHS Centre for Reviews and Dissemination 1997, Audit Commission 1999). These reports highlighted the fact that these differences in practice resulted in unnecessary suffering

for patients and additional costs to the NHS. Several initiatives, including the development of specialist community leg ulcer clinics, were established around this time to try and improve standards of care, optimise healing rates and prevent recurrence. A small review of community clinics versus traditional home visits for the management of leg ulcers looked at the evidence for each model of care (Thurlby and Griffiths 2002) and reached the following conclusions:

- Community leg ulcer clinics could provide cost-effective treatment.
- There was a lack of strong evidence to advocate dedicated community clinics, provided that nurses working in community settings were properly trained and had access to necessary resources.
- However, the reverse was also true: there was no evidence to support models of home visits by community nurses as being better than community clinics.

Practice nurses are theoretically well placed to manage mobile patients with leg ulcers, but a study published in 2000 reported that about one third of practice nurses are not really interested in managing this group of patients (Schofield et al 2000). This study also found that appointments allocated for the assessment and management of patients were too short (10-15 minutes) and that around half of the practice nurses had not received any formal training in the assessment or management of patients with leg ulcers. The introduction of the Quality and Outcomes Framework in general practice (QuOF) makes it less likely that practice nurses will develop skills in this area, as leg ulcers are not part of this framework.

The Royal College of Nursing has published guidelines for the nursing management of patients with venous leg ulcers (Royal College of Nursing 2006). The guidance emphasises the following points:

- Models of care for people with leg ulcers should be integrated and interdisciplinary.
- All those health care professionals involved in assessing and managing patients with leg ulcers should be suitably trained in the skills required for effective leg ulcer management.
- Training and education and ongoing professional development of those involved in the care of this patient group is crucial.

Services for people with leg ulcers should be developed in this context, with clear care pathways linking community nursing services to specialist dermatology, vascular surgery and plastic surgery services as appropriate.

CHAPTER 7: CONCLUSIONS AND RECOMMENDATIONS

This chapter tries to synthesise key points that have emerged from this report, supplemented with some further information that may be of particular relevance to commissioners of health care. The chapter is divided into two parts. The first summarises available knowledge in the context of the commissioning cycle for developing services for people with skin conditions (Figure 1). The knowledge summary is further divided into those areas where the evidence is fairly clear and those areas where significant uncertainty exists. In the second part, a series of recommendations are made in relation to the evidence presented in the first part of this chapter and throughout the report. We have kept the summary of evidence separate from the task of suggesting recommendations, as other readers may draw different recommendations from the authors on how this dermatology Health Care Needs Assessment and its findings can be applied to improving the care of people with skin disorders.

What is this chapter about?

- Bringing together key information from all the other chapters
- Linking available evidence about service delivery to the commissioning cycle
- Highlighting areas where the evidence is good
- Drawing attention to areas where evidence is lacking
- Making recommendations for services for people with skin disease in the future

PART 1: LINKING THE EVIDENCE TO THE COMMISSIONING CYCLE

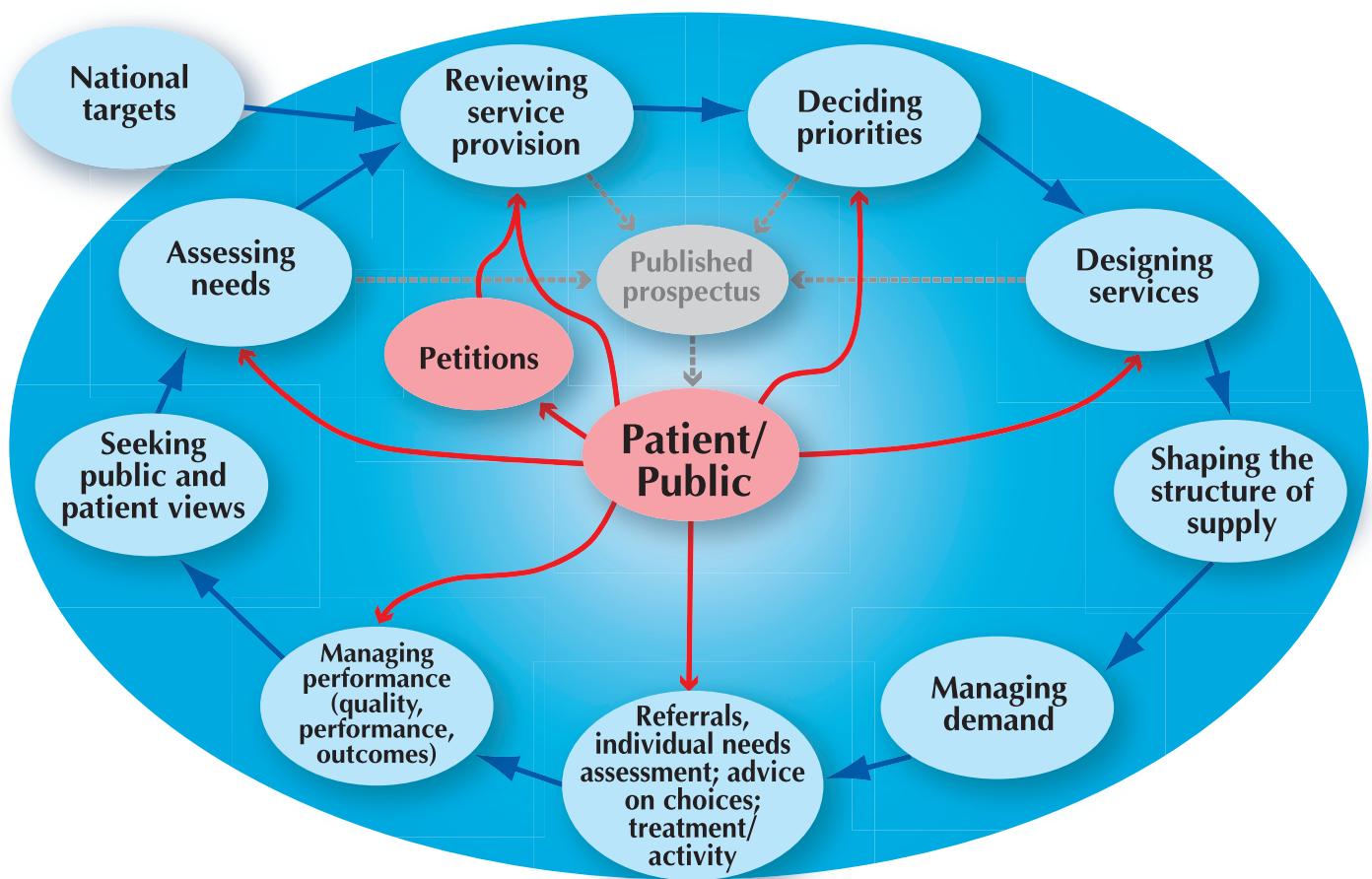
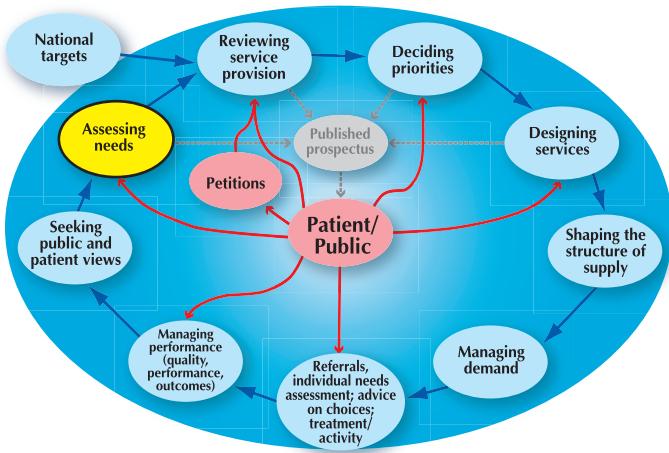


Figure 1: The commissioning cycle (from: Health reform in England: update and commissioning framework: annex - the commissioning framework Department of Health 2006a)

1. Assessing needs

The evidence summarised below is mostly derived from the more detailed discussion of assessing needs in Chapter 2.



Where is the evidence reasonably clear?

Self-reported skin disease:

- Self reported skin disease is very common with more than 50% of people reporting a skin condition in the preceding 12 months.
- However, just a minority of these people with a skin condition (14%) seek the advice of a health care professional for their condition.

Examined skin disease:

- There have been no new studies of examined skin diseases in the UK since the study in 1976 which suggested that 22.5-33% of people have a treatable skin disease at any time; most recent European studies indicate that these estimates should still hold true today.

Generalist/primary care:

- The annual prevalence of skin disease in patients presenting to generalist (primary care) health professionals in England and Wales in 2006 is around 24% (using 2006 figures).
- Most of these patients (93.9%) are **not** referred to NHS dermatologists.
- Skin disease is common in all age groups with the number of persons consulting in a year varying between 17% in 25-44 year olds and 28% in the over 75s.
- Children (<14 years of age) comprise about 21% of all persons consulting with skin disease; this age group represents 19% of the population (Office for National Statistics 2001).

- While previously published data suggested that skin conditions were the third commonest reason for a patient to consult their general practitioner with a new problem, these underestimated the true episode incidence of skin disease by 34% as they did not include skin tumours and many skin infections; if the excluded conditions are included then **skin disease is actually the commonest reason for people to present to their general practitioner with a new episode of disease**.

- 21% of the caseload seen by nurses working in NHS walk-in-centres relates to skin disease.

Specialist care:

- Of the people presenting to generalists with a skin condition, about 0.75 million or 6.1% were referred for specialist advice in England in 2007. Most are referred to NHS specialists but about 70,000 patients are seen in the private sector (some 8% of all specialist referrals).
- About 5% of all specialist outpatient activity in England relates to dermatology clinics.

Specific issues relating to casemix:

- Skin infections are the commonest problem presenting to general practitioners.
- Skin lesions and chronic inflammatory dermatoses such as eczema and psoriasis form the biggest group seen by specialists.
- 40-50% of specialist activity now relates to the diagnosis and management of skin lesions; this figure is higher in parts of the UK where skin cancer is commoner, such as the south coast.
- In children under the age of 1 year, atopic eczema is very common, with an episode incidence of about 2,000 per 10,000 population (England and Wales) and a life time prevalence of around 20% in 3-11 year olds.
- Psoriasis probably affects about 1.5% of the population and, although many people have mild disease, there are patients with very significant disease who require regular care from specialist dermatology teams.
- Acne is common in 14-16 year olds with a prevalence in this group of around 50% (11% with moderate to severe acne); around 4-5% of 15-24 year olds consult with their general practitioner about their acne each year.
- Non-melanoma skin cancer in the UK is estimated to affect about 265 per 100,000 population increasing to a rate of 1365 per 100,000 in those over the age of 85.

- Melanoma incidence is 15.9 per 100,000 (UK data for 2005).
- Leg ulcers are common, with overall UK incidence of around 1.5-3 per 1,000. They are much commoner in the elderly (20 per 1,000 in the 80 plus age group).

Impact on quality of life, morbidity and mortality:

- There is good evidence that skin disease can have a substantial negative impact on quality of life.
- For some conditions, such as psoriasis, this impact can be the same as having cancer.
- Many patients with skin disease treated in primary care have as much impairment on their quality of life as patients seen in specialist settings.
- Although there is a downward trend in claims for disablement benefits due to occupational dermatitis, work-related skin disease continues to be a problem.
- Patients are still admitted to hospital with skin disease, although the available data are unreliable as they include a range of day case activity.
- There were nearly 4,000 deaths from skin disease in 2005, with 1,817 of these due to malignant melanoma (nearly twice as many as cervical cancer).
- Even though most skin diseases are not life-threatening, the combination of high disease prevalence and morbidity creates a large burden of disease in absolute terms.
- In the public's view, concern about skin appearance is just as important, if not more important, than disability and loss of function.

What are the areas of uncertainty?

Although we have striven to provide as accurate a picture as possible about the epidemiology of skin disease, there are significant remaining problems with data capture, some of which are listed below:

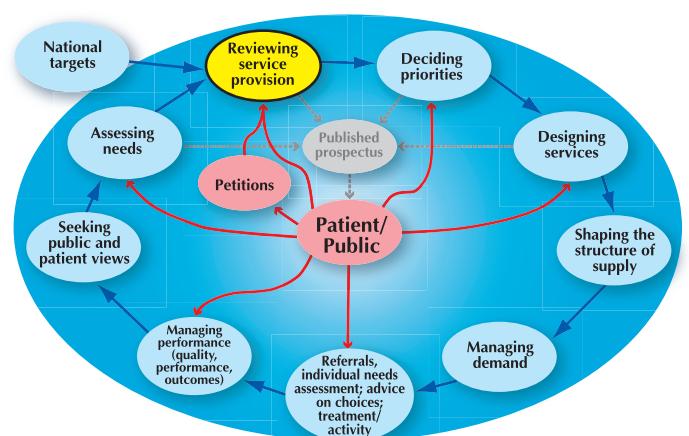
- The information captured by the RCGP Birmingham Research Unit Weekly Returns Service about case-mix relies on accuracy of diagnosis by the clinician working in the primary care setting; although these data can give reliable information about total activity, the diagnostic information may be unreliable (for example, possible over-diagnosis of tinea corporis which may actually be eczema).
- Most coding systems use the skin disease chapter headings in ICD9 or ICD10 to collect and report data; this is unsatisfactory as it **significantly under-reports** activity on skin diseases. This is because the skin disease chapter headings exclude all skin tumours (benign and malignant) and a range of

common skin infections including viral warts, herpes simplex, herpes zoster and dermatophyte infections which comprise a large part of the caseload in dermatology.

- Diagnostic information about specialist activity is lacking as there is no national requirement to collect or report on this.
- Despite the large amount of clinical activity related to the diagnosis and management of non-melanoma skin cancer, accurate information about prevalence and incidence is not readily available from cancer registries.

2. Reviewing service provision: who should deliver the service?

This summary of the evidence of the effectiveness of a range of services for people with skin conditions is mainly derived from Chapters 4 and 5 of this report. Models of care and the organisation of services are considered later under *Designing services: how should services be organised?*. Inevitably, there is some overlap between these two sections.



Where is the evidence reasonably clear?

Self-care:

- Services to support self-care for patients with skin conditions include patient support organisations, which are charitable institutions who rely on donations from individuals and pharmaceutical companies.
- Although evidence of effectiveness of self-help organisations is not available, their role is valued by patients and health care professionals.

Generalist/primary care:

- Patients usually value the convenience of being assessed and treated by their local primary care team, particularly when this enables care to be provided in convenient, close to home locations.

- There is some limited evidence that training primary care nurses to provide dermatology services may benefit patients.
- There are some studies of general practitioner skin surgery which suggest that standards of skin surgery performed by general practitioners need to improve if general practitioners are to continue to offer this service, especially in relation to skin cancer.
- There is some evidence that general practitioners lack skills in the diagnosis of skin lesions.

Intermediate and specialist services:

- There is evidence that dermatologists have good diagnostic skills in relation to skin lesions.
- There is evidence that specialist nurse services linked to specialist dermatology teams are effective.
- There is some evidence that dermatology general practitioner with a special interest (GPwSI) services are effective but economic evaluation suggests they may be more expensive than consultant-led services.
- There is evidence that many GPwSIs have previously not met accreditation guidance, an issue which is being addressed through new frameworks.
- Despite a large amount of care being provided in outpatient settings, there remains a need for inpatient services for patients with recalcitrant or life-threatening skin diseases.
- There is evidence that admissions for cellulitis could be reduced with early intervention from dermatologists.
- There is evidence that as the complexity of specialist dermatology services increases, attempts to reduce follow-up activity are likely to be unsuccessful.
- There are some patients with common skin conditions that are difficult to manage and others with a range of rare skin conditions, for whom supra-specialist services bring together multi-disciplinary expert teams and there is evidence that these services work well for such patients.

What are the areas of uncertainty?

There is a range of areas where specific research is needed about the effectiveness of services, including traditional well-established models of care. Some studies of nurse services and GPwSI services have been published already, and hopefully these and other services will continue to be evaluated when new ways of delivering care are implemented. The following list summarises key areas of uncertainty:

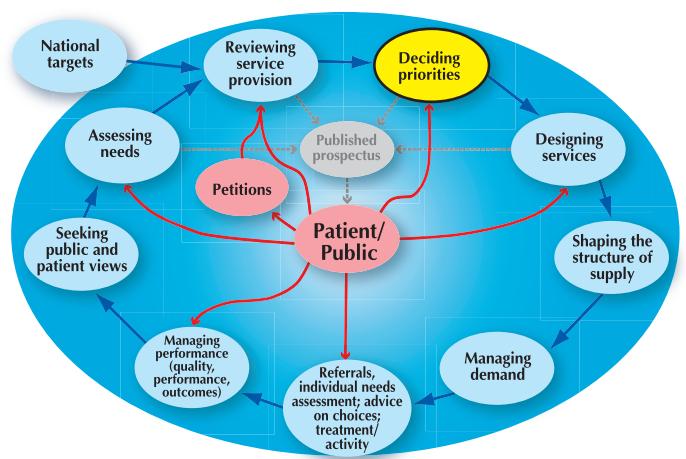
- Experience of the Expert Patient Programme in the

UK for patients with skin disease is very limited. The programme could benefit some patients such as those with the atypical mole syndrome, but the generic nature of the programme to date has meant that patients with skin disease are not represented in the published studies.

- There is a real dearth of information about services provided for people with skin disease in primary care despite the fact that this is the location where most patients with skin problems are seen. In particular, good studies of the effectiveness of generalist services provided by nurses or general practitioners for people with inflammatory skin conditions are not available.
- Good evidence that pharmacists are effective in providing appropriate guidance and management for people with skin conditions is lacking.
- There are other health care professionals, such as podiatrists, physician's assistants and non-registered staff such as health care assistants that are (or could be) involved in offering dermatology services, but to date there is little understanding or evidence of how they might contribute to models of care.
- To date there is no published evidence of the effectiveness of the private mole clinics that are becoming widely available to the general public.
- Although there is quite a lot of research on skin cancer services, good studies of the effectiveness of specialist services provided by consultant dermatologists for people with inflammatory skin conditions are needed.

3. Deciding priorities

In a health care system such as the NHS, which provides care free at the point of delivery, resources are inevitably limited. Purchasers work within a relatively fixed budget, and so priority setting is a reality that has



to draw an arbitrary line on who can and cannot access and benefit from NHS care. Such boundaries will be particularly important for some patients with skin disease where the distinction between need (e.g. a mole that may be malignant) and demand (e.g. a mole on the end of the nose that affects self-esteem) is sometimes difficult to disentangle.

Where is the evidence reasonably clear?

Areas of national policy and guidance that are currently 'must-dos' for those designing services include the implementation of guidance published by the National Institute for Health and Clinical Excellence (NICE) in England and Wales and the following documents are some of the important ones that relate to dermatology:

- *Improving outcomes for people with skin tumours including melanoma: the manual.*
- *Management of atopic eczema in children from birth up to the age of 12 years.*
- *The management of pressure ulcers in primary and secondary care.*
- Various technology appraisals relating to biological therapies for psoriasis.

There are important access targets in England for commissioners and providers to respond to which include the following:

- No longer than 18 weeks between referral by the general practitioner and first definitive treatment of the condition for which the patient is referred to the specialist.
- A range of targets relating to the diagnosis and treatment of cancer (e.g. 2 week wait, and 31 and 62 day targets).

When making decisions about priority setting in respect of treatments and interventions for the management of skin conditions, there is a range of available reliable sources of evidence-based information.

Areas of uncertainty: low priority frameworks

In many parts of England there are so called 'low-priority frameworks' or restricted-referral lists (Tan et al 2007) that preclude NHS funding for a range of procedures, some examples of which are listed in Table 1. Approval for a procedure will sometimes be agreed after consideration by an 'Exceptional Cases' panel. However, there is variation in respect of what is considered a low priority treatment.

A clear example of variation in provision of care is the

Procedures not funded	Examples of possible exceptions
Dermabrasion for acne scarring	
Botulinum toxin injections for axillary hyperhidrosis	Maceration of the skin, failure of topical treatments
Male pattern baldness	
Scar revision	Interfering with function
Tattoo removal	May be considered if as a result of trauma 'rape tattoo'
Laser treatments for cosmetic purposes including facial hair removal (even with an underlying endocrine cause such as polycystic ovarian syndrome), or laser resurfacing for skin conditions causing scarring	Laser can be used for port wine stains on face only or on a regularly exposed surface
Benign pigmented moles, comedones, corn/callous, lipoma, milia, molluscum contagiosum, sebaceous cysts, seborrhoeic keratosis/ basal cell papillomas, skin tags, viral warts, spider naevus, xanthelasma, neurofibromata, hemangiomas with exception of port wine stains	Removal of benign minor dermatological lesion if there is a suspicion of malignancy or obstruction of orifice or vision or functional limitation Removal of moderate to large lesion which causes disfigurement, following prior approval Removal of lesion for clinical indications including itching, bleeding, pain, inflammation, recurrent trauma

Table 1: Examples of low priority conditions where treatment may not be available for patients

difference in availability of botulinum toxin treatment for primary axillary hyperhidrosis (excessive armpit sweating). There is a good evidence base for the effectiveness of this treatment and studies confirm an improvement in quality of life following treatment for patients with severe focal axillary hyperhidrosis. Despite this a search of Primary Care Trust (PCT) websites in 2009 (Mansoor 2009, personal written communication) identified that, of 14 PCTs where information about the availability of botulinum toxin treatment was readily available, six indicated that the service was considered low priority and therefore not available, four gave clear medical reasons for when the treatment could be offered and four indicated that patients should be referred for the treatment (one indicating that it was the treatment of choice).

The following points can be made regarding variations in provision of care:

- Inequity of access for some services and treatments in different geographical locations is already occurring; it is likely to become more widespread in the future.
- Information is not always readily available for patients about what services will or will not be funded.

- Some dermatology departments have responded to the development of low priority frameworks by offering these services to patients on a 'self pay' basis to generate income for the local NHS department (Baxter et al 2007).
- In the absence of guidance from the Department of Health about the boundaries of funded healthcare, there is an urgent need for patient and public involvement in decisions about priority settings.
- The evidence base should be carefully considered as part of the decision-making process and in a spirit of openness and transparency, such information should be made available to all those in the local health community.

4. Designing services: how should services be organised?

This section summarises the evidence for the organisation of services and models of care (reviewed in Chapters 3 and 5). Since 1997 the redesign of dermatology services in England has, to a large extent, been influenced by central government policy. This has created a fair amount of clarity about service configuration based on direction from the centre, particularly in England. Such direction is not necessarily based on evidence of effectiveness and this is an important point to make. Policy decisions are often implemented without formal evaluation. These issues are less relevant in other parts of the UK (Scotland and Wales), where the model of contestability and the market place has not been established and the health care systems are increasingly different (Greer 2008). Other factors that have influenced the development of new models of care are new technologies and treatments, changing roles and responsibilities of health care professionals, referral management schemes and Managed Clinical Networks. There has been some evaluation of these areas as summarised below.

Where is there clear guidance and evidence?

Political drivers and national guidance:

- There is a new emphasis on the involvement of patients and the public in the development of 'patient centred' services.
- It is expected that patients in England will receive care as close to home as is appropriate but without compromising quality of care (Department of Health 2006b).
- The Department of Health has published a range of documents that provide some evidence to support the commissioning of quality care close to home (Department of Health 2007c,d,e), with emphasis on training, competency-based assessment and accreditation.
- Despite a relative lack of formal evaluation of models of care for patients with skin disease, consensus models have been developed by national stakeholder groups in the context of the political drivers and are published in a range of readily available national publications highlighted in Chapter 5 of this report.
- With regard to the national policy direction of shifting care from hospital to community settings, there is some evidence that relocation of specialists to primary care settings and joint working improves access to care and maintains quality, but little evidence of any reduction in outpatient activity and costs (Roland et al 2006 and 2007).
- All services in England need to be designed to meet the nationally published access times for time from referral to first definitive treatment, and for the diagnosis and management of skin cancer.
- Models and standards of care for people with skin cancer and suspected skin cancer are clearly articulated in the NICE guidance covering this topic (National Institute of Health and Clinical Excellence 2006) and implementation of this guidance will be measured against published standards (Department of Health 2008b) through peer review.
- Waiting times for specialist dermatology services have fallen dramatically over the last ten years and centrally imposed Department of Health targets in England for access to care appear to be being met; however, evidence suggests that as waiting times for specialist care reduce, referral rates increase.

Changing roles:

- The development of practitioners with a specialist interest (PwSIs) is expected to support the

implementation of the 'care closer to home' policy, although commissioners are expected to look at a range of ways to support such a model of care (Department of Health 2007c).

- There is evidence that improvement of local access to services for a whole health community requires the establishment of many general practitioner with a special interest (GPwSI) clinics.
- GPwSIs services probably improve access and patient satisfaction but may increase costs and may not be the most cost effective way of increasing overall capacity of specialist services (Roland 2005).
- There is some evidence that GPwSI services result in an increase in specialist referrals.
- There is good evidence that suitably trained specialist dermatology nurses, working as part of specialist dermatology teams, can provide a range of services in acute and community settings for people with skin disease, including care for children with eczema, adults with psoriasis and skin surgery (Chapter 4).
- There is some evidence that the group of clinicians now known as Speciality and Associate Specialist (SAS) doctors (formerly known as Non Consultant Career Grade doctors) would be prepared to work in new models of care including the delivery of community dermatology services (Schofield et al 2005a).

New technology:

- Although the use of teledermatology seems attractive, evidence to date suggests that implementation in every day models of care has largely been unsuccessful and costly, except for serving remote areas.
- There is some evidence that the use of 'store and forward' digital images with referral for the triage of skin lesions is effective.

Referral from generalist to specialist services:

Referral from specialist to generalist services is an important area to consider when designing services, in order to ensure that people are seen by the right person in the right place, first time.

- In the UK the NHS currently requires the general practitioner to act as the gate-keeper to specialist dermatology services.
- There is some evidence that clinically-led guideline development can improve the quality of referrals from generalists to specialists; however this improvement is not sustained without regular ongoing clinical input and regular reinforcement to

primary care clinicians (Hill et al 2000, Griffiths et al 2006).

- Some so-called 'referral management services' (RMS) have been introduced to count referrals, ensure that they are appropriate and ensure that they are directed to the correct service; national guidance has stressed the importance of clinical input into such services (Department of Health 2006a).
- A range of intermediate dermatology services (Clinical Assessment and Treatment Services, Clinical Assessment Services, Integrated Clinical Assessment and Treatment Services, Tier 2 services) has been established in some parts of England, to offer services for patients with non-urgent, less serious skin problems.
- Specialist commissioning frameworks in England exist to ensure that services can be commissioned for people with complex and difficult skin problems requiring regional/supra-specialist or national services.

Other areas of importance:

- There is documented evidence that patients are commonly referred for a specialist opinion to establish a diagnosis, particularly with skin lesions. The *NHS Modernisation Agency Action on Dermatology* programme highlighted the need to recognise that there is often a so-called 'diagnostic bottleneck' which gets in the way of patients accessing diagnostic services in a timely fashion; this is also true for people with undiagnosed inflammatory skin conditions. It is important to recognise the effect of this bottleneck when designing services, particularly for the assessment and management of skin lesions.
- There is good evidence of the effective implementation of a managed clinical network for people requiring phototherapy for skin disease in Scotland (Photonet), which delivers standardised high quality care across the country.

What are the areas of uncertainty?

Despite national stakeholder consensus views about good models of care, which are based on the limited available evidence, it is not clear in England whether it will be possible to design and implement financially stable and viable services for people with skin disease. Most of the uncertainty relates to whether the widely published national guidance, which stresses the importance of integrated services across health communities, can be implemented within the new NHS market place. Whilst it is hoped that the development of

Payment by Results (PbR), Foundation Hospitals, patient 'Choice', and competition between providers (contestability) will provide opportunities for clinicians to provide different, new or additional services, there are documented concerns about whether such ideals will be possible (Department of Health 2007b). The following factors are relevant to this debate:

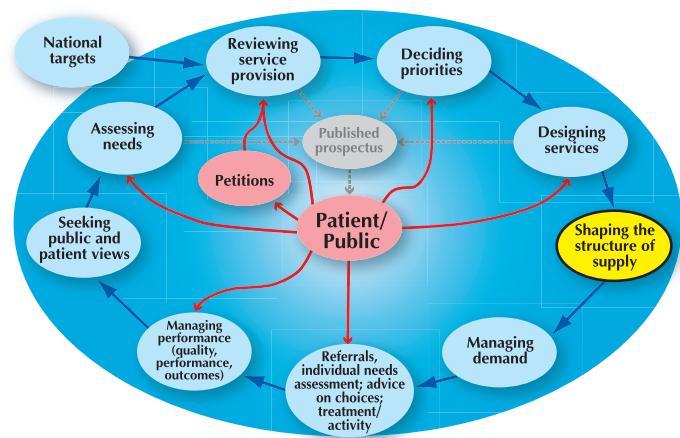
- To date, whilst Payment by Results (PbR) and Tariff have the potential to ensure that the money follows the patient, there are concerns about 'creaming off' or 'cherry-picking' of straightforward cases by private providers leading to potential destabilisation of specialist services; the removal of dermatology from the national tariff has not to date addressed this issue and there remain inconsistencies of pricing.
- Primary care commissioning groups in some parts of the country are closely linked to primary care provider organisations, leading to conflicts of interest when new community services are being established and there are calls for bids to deliver the service (Moore 2007b).
- The 'any willing provider' contracting framework leads to uncertainties in terms of volume, activity and income for those bidding to deliver services; this contracting framework is unlikely to lead to the development of high volume, innovative, quality intermediate or community services - where staff recruitment and retention requires some guarantee of activity and related income.
- Referral management services (RMS) are currently widely interpreted as demand management services.
- There is little published evidence about the benefits of referral management systems to date (Davies and Elwyn 2006); the Department of Health in England has given clear guidance about the need for RMS to be of benefit to patient care and to not create delays (Department of Health 2006a).
- There has been little or no formal published evaluation of intermediate dermatology services; the early evidence from one study suggests that for such services to be effective, specialist triage of referrals is crucial to be sure that patients are directed to appropriate services in a timely fashion (Schofield et al 2009).
- There are undoubtedly challenges to the implementation of the *NICE Improving Outcomes Guidance for people with skin cancer* (National Institute for Health and Clinical Excellence 2006), with many general practitioners reporting in the popular medical press that they believe that the new guidance is too prescriptive and, if followed, will swamp specialist departments. There is no published evidence to support this and indeed one study

counteracts this view, indicating that the impact will be manageable (Anthony et al 2009).

- The specific targets in the 2006 White paper *Our health, our care, our say* (Department of Health 2006b) relating to new and follow-up caseload are likely to be non-achievable in the context of national clinical guidance and the increasing complexity of casemix that specialist dermatologists are likely to manage in the future.
- Specialist commissioning of services for people with rare and complex skin diseases provides opportunities to ensure that this group of patients is well catered for, but requires careful implementation across professional and geographical boundaries and should not be prejudiced by financial flows.

5. Shape the supply

'Shaping the supply' as described in *Health reform in England: update and commissioning framework annex* (Department of Health 2006a) describes the importance of contracting arrangements between providers and commissioners. However in *Implementing care closer to home: Convenient quality care for patients Part 2: Step-by-step guide to commissioning services using practitioners with special interests (PwSIs)* (Department of Health 2007c) 'shaping the supply' emphasises the importance of ensuring the competence of key practitioners in delivering care. This section therefore summarises the important points regarding the evidence relating to the knowledge, skills, training and accreditation of those involved in providing care for people with skin conditions, as discussed more fully in Chapter 4. Overall, there appears to a major gap in linking patient needs to the training of those delivering services and providing care.



Where is the evidence reasonably clear?

Patient groups and access to information

- Patients and their families value the resource provided by patient groups.

- Increasingly people seek information by searching on the internet but the quality of information available is very variable.
- There is some evidence that the use of the internet to provide virtual patient support groups may give additional support to patients with psoriasis (Idriss et al 2009).

Pharmacists:

- Patients seek help from pharmacists as their first point of call about a range of minor skin conditions and the sale of over-the-counter (OTC) skin treatment products is high. Training of pharmacists in the management of common skin problems is very limited.
- Opportunities exist for pharmacists to extend their skills to provide more specialised services for people with skin disease by performing medicines use review and prescribing intervention (MUR) but dermatology training programmes are not yet in place.
- Some pharmacists are independent and supplementary prescribers and they are able to prescribe widely for patients with skin disease, but they receive little or no training in the management of skin disorders.
- Plans for the development of the pharmacists with a special interest (PhwSI) in the management of people with skin conditions are well advanced (Department of Health 2009a); it is expected that the PhwSI will work as part of a local specialist service and will be accredited to meet the needs of the service provided.

Medical and nursing training:

- Until recently undergraduate medical training in dermatology was not a compulsory part of the curriculum; steps are in place to try and improve things (All Party Parliamentary Group on Skin 1998, and 2004, Burge et al 2002) but unfortunately there is a generation of medical graduates who have had limited or no training in the diagnosis and management of skin disease.
- Pre-registration nurse training has no compulsory dermatology component and most student nurses will not learn about the management of skin disease other than by chance.
- There are a few post-qualification courses for nurses to develop their dermatological knowledge and some courses which engage in multi-professional education with different professional groups learning together.

General practitioners:

- Despite the high prevalence of people consulting with skin problems, training of general practitioners in the diagnosis and management of skin disorders is very limited (All Party Parliamentary Group on Skin 1998 and 2004).
- New training requirements, including a new curriculum, have recently been implemented for general practitioners in the UK by the Royal College of General Practitioners (2005); as part of this a range of curriculum documents covering different disease areas, including skin, have been developed.
- Whilst the new RCGP curriculum document entitled *Skin problems* is a welcome development setting out a required knowledge base for general practitioners in training relating to skin symptoms and common skin conditions, it could be improved further by tightening the link between curriculum content and the problems presenting in primary care (see Appendix 8 for suggestions).
- It is not clear how this specific area of the new general practitioner curriculum will be delivered and learning outcomes assessed. The emphasis is on the role of the general practitioner/trainer as having enough training and experience of dermatology to support the education of general practitioner special registrars.
- Although workplace based assessment (WPBA) tools are being used for areas of the general practitioner curriculum (<http://www.rcgp-curriculum.org.uk/nmrcgp/wpba.aspx>) the RCGP make clear that it is not expected that every area of the curriculum will be covered through WPBA.
- There are good data showing that skin conditions in children (0-14 years), particularly atopic eczema, are very common; however in the list of the knowledge base required to meet the requirements for the *Care of children and young people*, the RCGP curriculum statement makes reference only to viral exanthemas and not other areas of skin disease.
- There remains no obligatory requirement for formal training in dermatology during the three year general practitioner specialty registrar training period (Royal College of General Practitioners 2005), although innovative posts with exposure to relevant sub-specialities such as dermatology are recommended.
- Despite good intentions, it would appear therefore that there remain no formal requirements for either postgraduate training or assessment of learning outcomes against the curriculum that relate to skin problems.

- There is also currently no requirement for qualified general practitioners to undertake any formal continuing professional development in dermatology although many will identify this as a need through the appraisal process.
- To date there has been no requirement within the general practitioner curriculum or in continuing professional development for general practitioners to demonstrate ongoing competency in skin surgery procedures; steps have been taken to address this through the GPwSI accreditation document (Department of Health 2007e) where competency-based assessment standards are described for all general practitioners performing skin surgery.

Practice nurses, nurse practitioners and physicians assistants:

- There is no formal training requirement for practice nurses or nurse practitioners to be trained in the assessment and care of people who present with skin conditions.
- The physician's assistant curriculum contains a section on skin disorders.
- Like pharmacists, some practice nurses and nurse practitioners are independent or supplementary prescribers, many have had little or no training in skin conditions and treatments.

General practitioners with a special interest (GPwSIs):

- Early studies of GPwSIs suggested that many were not accredited and were not adequately trained or experienced (Schofield et al 2005b).
- National guidance for the training and accreditation of GPwSIs (Department of Health 2007d,e) should raise standards, but uptake and implementation of the frameworks is slow with little evidence that the 2009 deadline for GPwSI accreditation will be met (Taylor 2009 personal written communication).
- There is also national guidance for the provision of community cancer services for GPwSIs and for skin surgery services which should facilitate the implementation of the provision of high quality care close to home (Department of Health 2007e).

Specialist dermatology teams;

- To be accepted on to the specialist register as a consultant dermatologist requires completion of a lengthy agreed training programme, supported by regular assessment of knowledge and skills using a range of competency-based assessment tools; experience is gained in specialist settings.

- Consultant dermatologists are a scarce resource and despite an expansion in consultant numbers there remain far fewer dermatologists in the UK than all other European countries (except the Republic of Ireland).
- Staff and Associate Specialist (SAS) doctors (previously known as Non Consultant Career Grade doctors or NCCGs) have a range of skills and experience and provide a large amount of clinical care, particularly in district general hospital dermatology departments.
- A study in 2005 reported that 75% of NCCGs are involved in teaching and research and that 72% would be interested in a new role working across acute/community primary/secondary care settings (Schofield et al 2005a).
- The level and knowledge of dermatology nurses working in specialist dermatology teams is variable and grading and job titles are muddled; it is hoped that the new Knowledge and Skills Framework (KSF) will go some way to sorting this out.

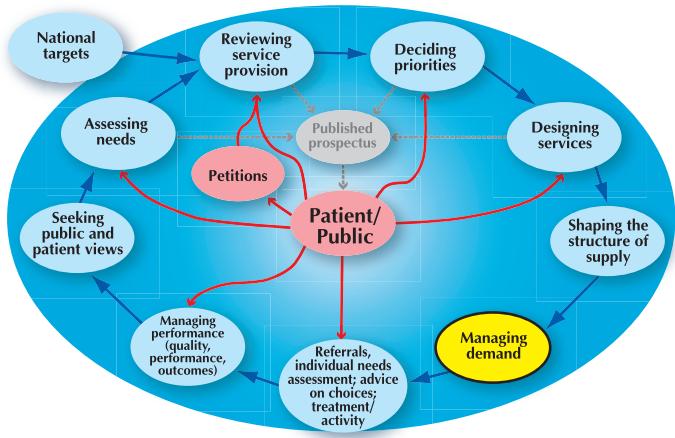
What are the areas of uncertainty?

- The main area of uncertainty is whether changes in medical undergraduate training and the new Royal College of General Practitioner (RCGP) curriculum for specialist training in general practice will improve the level and knowledge of skills of general practitioners.
- Currently, there is about the same number of male and female dermatology consultants but this will change because of the predominance of female trainees (75%); this may have an impact on service delivery.

6. Managing the demand

Where is the evidence is reasonably clear?

- The general practitioner remains the gate-keeper to the delivery of specialist dermatology services, although some supra-specialist services accept only referrals from specialists.
- Resources are finite and services have to be designed and delivered within that context.
- Priority setting, as outlined previously, will be necessary to delineate the boundary between what constitutes reasonable need and demand.



What are the areas of uncertainty?

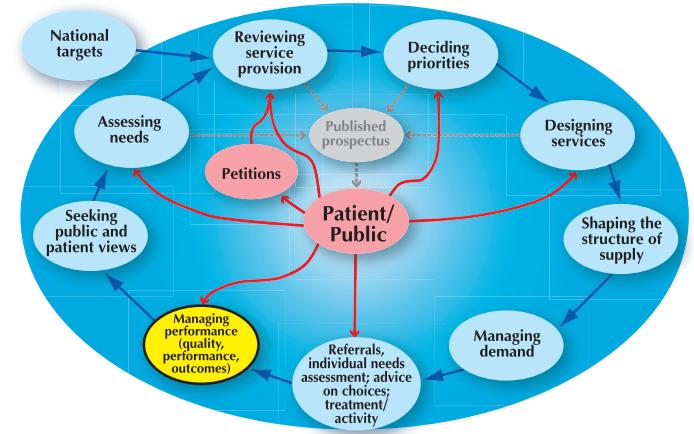
The boundary between need and demand is difficult to define for skin disease. If need is defined as the ability to benefit from health care (Williams 1997a) then the spectrum of skin problems that could be treated is huge, as this definition can extend to include a wide range of conditions that some members of society might deem as 'cosmetic' problems. Some definitions of need are straightforward, as in the use of isotretinoin for nodulocystic acne and biological therapies for severe recalcitrant psoriasis. However, in a society where the skin is considered an organ of communication, some individuals will consider the excision of benign skin lesions which are a cosmetic nuisance as appropriate and this creates potential additional need. Defining the boundaries is difficult but inevitable and necessary with a 'one pot spent well' pragmatic approach required. Such rationing should be based on best evidence and also be made explicit, and preferably consistent, across all NHS providers and regions.

7. Managing performance

Performance management covers various issues when commissioning services, including ensuring value for money. Before assessing value for money, it is important to measure the broader outcomes of any service provided in terms of quality. Commissioners will increasingly be expected to evaluate services in the context of the three facets of quality which include effectiveness, safety and patient experience. There are a range of outcomes that can be measured including the following:

- The overall patient experience in terms of process, timely access to care and facilities.
- Measurement against outcomes as defined by national targets and national guidance documents such as from the National Institute for Health and Clinical Excellence.
- The use of dermatology specific quality of life measures.

- Assessment of the competency of clinicians delivering the service against national guidance and accreditation frameworks.



Where is the evidence reasonably clear?

- There is a range of national access targets against which to measure performance.
- NICE guidance on skin cancer, eczema in children and biological treatments for psoriasis provides clear frameworks against which to measure good clinical practice.
- There are various validated dermatology quality of life measures to measure the outcome of clinical interventions across a range of skin diseases, particularly for acne, eczema and psoriasis (Appendix 9 lists a few).
- Currently specialists do not regularly use quality of life measures to evaluate effectiveness of clinical care (Eedy et al 2008), although there is good evidence that the use of such tools gives a clearer impact of the skin condition on a patients quality of life and good evidence that their use can influence management decisions when used in clinical settings.
- From April 2009 a range of Patient Reported Outcome Measures (PROMs) will be collected centrally via Primary Care Trusts (PCTs) for some surgical conditions, including hip and knee replacement, but as yet there are no plans for these measures to be required in dermatology.

What are the areas of uncertainty?

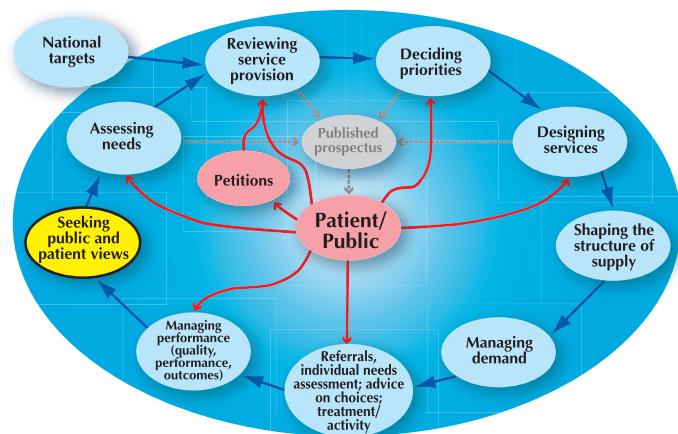
- Although PROMs for people with skin disease are not currently in use, they would be relatively straightforward to develop and could be used across generalist and specialist care.
- Some clinical areas such as general practice and radiology are evaluating processes for the accreditation of services; as standards are already

described for a quality dermatology specialist service, implementation of this idea should be considered.

8. Seeking patient and public views

What is reasonably certain?

- The NHS reform agenda for England requires patients and the public to be involved in decisions about deciding priorities and shaping services.
- There is a requirement for PCTs to take note of public and patients views and response to them.
- Guidance for commissioners (NHS Primary Care Contracting 2008) makes clear the process that should be followed to involve patients and the public and references the appropriate statutory guidance in relation to the consultation processes required if services are to be redesigned.



- It is hoped that Local Involvement Networks (LINKs) will ensure that the public voice is heard and influence the way that health and social care services are delivered (Department of Health 2008d).
- LINKs are expected to find out what people want and monitor local services; it is hoped that most LINKs services will be in place by the end of 2008.
- The patient support organisations, the Skin Care Campaign and the All Party Parliamentary Group on Skin are well informed about the needs of patients and the public and are well placed to provide useful information to help shape services.

What are the areas of uncertainty?

There is uncertainty about whether it will be possible to engage people in the issues around service provision and, in particular, the difficult issues of priority setting. Previous experience of patient and public engagement has been patchy to date.

PART 2: RECOMMENDATIONS FOR CLINICAL PRACTICE, RESEARCH AND ORGANISATION OF CARE

This section considers the evidence contained in this Health Care Needs Assessment as a whole and makes tentative recommendations about ways in which anyone with a skin condition might best have their care delivered. Some consideration is given to the prevention of skin disease using a public health approach but emphasis is placed on translating the documented evidence into recommendations on a range of initiatives and models of care which might work within the constraints of current NHS reforms.

The public health approach: preventing skin disease and promoting skin health

Whilst the prevention of all skin disease might be desirable, skin disease prevention is very much in its infancy due to lack of knowledge of causative factors and difficulty in implementing potentially effective preventative measures. With regard to those skin diseases that present regularly to primary care health care professionals, some important lessons emerge:

- Although the incidence of malignant melanoma may well have plateaued in women there is a lack of clear evidence that this is as a result of skin cancer prevention programmes.
- The link between repeated exposure to ultraviolet light and skin cancer (particularly non-melanoma skin cancer) and the influence of predisposing factors such as skin type is persuasive. Sensible advice to the general population about this link is entirely appropriate, although it will be many years before this leads to a reduction in skin cancer incidence because of the long latency between ultraviolet light exposure and subsequent skin cancer.
- There is no clear evidence that skin cancer screening programmes are cost effective, although secondary prevention by the identification and monitoring of high risk individuals is probably worthwhile.
- Leg ulcers are common and it is likely that early diagnosis and intervention is cost-effective; certainly recurrence rates can be reduced with sensible aftercare management involving either ongoing compression therapy from stockings or vascular assessment and treatment.
- Despite a range of new studies, there is no clear evidence yet that atopic eczema can be prevented to a significant degree.
- The prevalence of psoriasis and acne is likely to

remain unchanged; societal expectations may, however, lower the threshold at which patients seek advice and treatment for such conditions.

- There is evidence that improvements in the workplace environment may have reduced the amount of contact dermatitis.
- Promoting skin health is an emerging concept. The British Association of Dermatologists changed its logo recently to include 'Healthy Skin for All'.

Availability of reliable information for the public and patients

There are a range of sources of information about skin problems including family, friends, newspapers, internet sites and patient organisations. The quality of information is variable and ranges from unreliable and inaccurate to patient-centred and well written. One size does not fit all in this respect and information needs differ; in particular it should not be assumed that everyone has access to the internet. There are excellent validated tools available (discussed in Chapter 4) to facilitate the development of high quality patient information resources but disappointingly these are not widely used even by the professional organisations such as the British Association of Dermatologists.

Recommendation 1:

- **High quality information should be available to patients with skin problems using a range of resources tailored to different needs. There needs to be a debate about who is best placed to ensure that such high quality information can be developed, using recognised and validated tools, and made accessible to all those who need it.**
- **The important role of the patient organisations should be acknowledged and consideration given to ways in which their survival and independence can be assured.**

Education and training of health care professionals—moving from the obelisk to the pyramid

Patients with skin disease (and their carers) need to feel confident that, whoever manages their problem, the required knowledge, skills and competency to deliver the care has been demonstrated.

This document has collected the following information which is crucial to ensuring that education and training programmes are designed and implemented to provide health care professionals with the skills and

competencies appropriate to their caseload:

- Information about the prevalence and incidence of skin conditions;
- An understanding of which skin conditions are seen most commonly in particular settings and why patients are referred for specialist care;
- A knowledge of the training, skills and knowledge of the health care professionals involved in patient care and the limitations of *current* training programmes.

The above knowledge can be used to facilitate the design of education, training programmes and assessment tools to ensure that people are cared for by people with the relevant skills to deliver the required care. Supervised practice and ongoing continual professional development through workplace learning and 'on the job' training needs to be recognised as essential in the delivery of high quality care.

The evidence presented demonstrates that there is an 'inverse training law' operating in dermatology: where the need is greatest, with skin problems being one of the commonest problems seen in primary care, the degree of training is least. The current position is shown schematically by the obelisk represented in Figure 2. A small number of highly trained specialists see 6.1% of all patients presenting with skin problems each year whilst the remaining 93.9% are seen by health care professionals who, through no fault of their own, have had very limited training in the diagnosis and management of skin problems.

The link between the amount and complexity of skin disease and current levels of training and knowledge

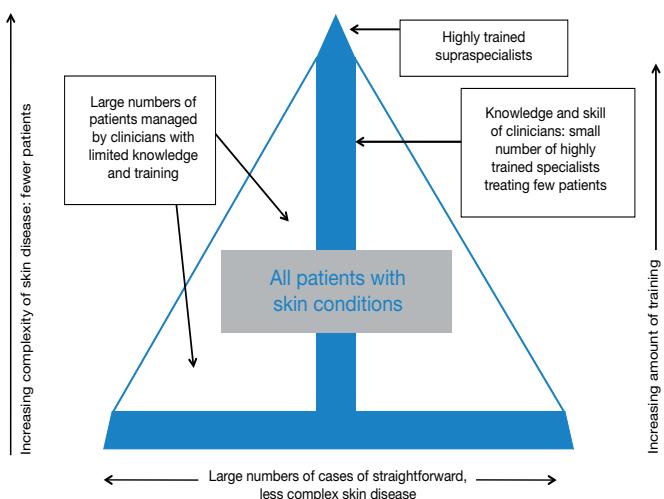


Figure 2: The current situation demonstrating the 'inverse training law' obelisk

There is a need to move towards a more pyramidal service structure that encompasses several layers of different professionals with varying degrees of knowledge and skills to match population needs more appropriately (Figure 3).

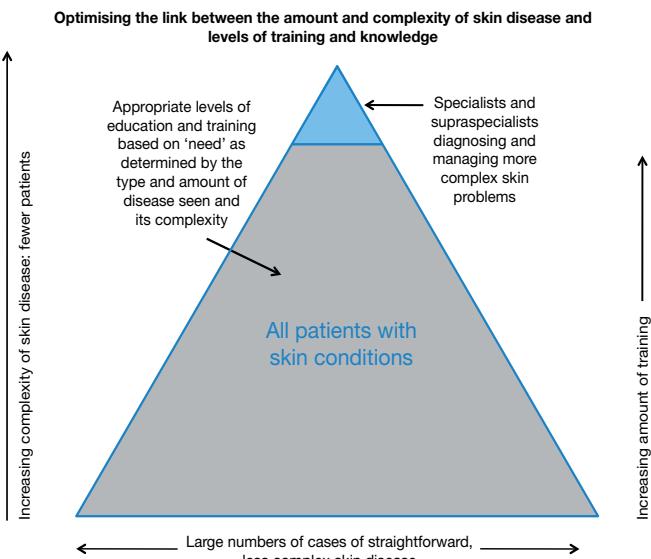


Figure 3: The pyramidal approach to linking training to complexity of disease

Using the evidence presented in earlier chapters (particularly Chapter 2), some potential solutions are described based on the fundamental principle that the education and training of health care professionals should reflect the needs of the population being cared for. The prevalence and incidence data in the different settings are crucial to identifying the educational needs of those delivering the care in that setting. Possible examples are set out below.

Self-care/self-management

In 1997 when the first dermatology Health Care Needs Assessment was published, it was recognised that the vast majority of people with skin disease self-medicate or seek the advice of the community pharmacist before seeking medical advice, and a recommendation was made that community pharmacists should form an important part of any new model of care. A more recent study (Proprietary Association of Great Britain Readers Digest 2005) has confirmed that self-medication of skin disease remains common and the last ten years have seen an expansion in the market for over-the-counter (OTC) market for products for skin treatment and a shift of a wide range of prescription-only products to OTC sale. Community pharmacists are therefore in an ideal position to give appropriate early advice on skin conditions to the public. In spite of these factors and the emphasis on self-care, the Expert Patient Programme and the role of extended practitioners advocated as key to a modern NHS, there continues to be a lack of evaluation of the potential role for pharmacists in supporting people with skin conditions. There continues to be limited training of pharmacists at both undergraduate and postgraduate levels in the management of common minor skin conditions.

Recommendation 2:

Community pharmacists need training in the management of minor skin problems in order to be able to provide better information for people who self treat with minor skin complaints; they also need clear guidance about when to refer patients on to other services. Robust frameworks for ongoing continuing education need to be established and implemented.

There are frameworks which would enable pharmacists to conduct Medicines Usage Reviews (MURs) for patients with skin disease and some pharmacists are independent or supplementary prescribers. In future, pharmacists are being encouraged to develop the role of the pharmacist with a special interest in skin conditions (PhwSI).

Recommendation 3:

Training programmes with clear learning outcomes and, where necessary, accreditation are needed for pharmacists wishing to develop a particular interest in people with skin problems and these need to be linked to ongoing continuing professional development programmes and joined up to local dermatology services.

General practitioners

Skin conditions are the commonest reason that people present to the general practitioner with a new problem, with around 24% of the population in a year consulting their general practitioner with a skin problem. This estimate does not include other infectious diseases that present with skin rashes, such as chicken pox. Skin disease is therefore as common, if not commoner, than musculo-skeletal problems, respiratory diseases and mental health problems. However, there is a wide body of evidence that undergraduate and post graduate medical training in dermatology is inadequate. The new general practitioner training curriculum provides an opportunity to design teaching and training tailored to the common conditions presenting and the data published in this document should facilitate this. Despite recent exciting changes to general practitioner training, there remains no obligatory requirement for a general practitioner to have completed any dermatology training or to have been assessed against the learning outcomes of the skin problems curriculum. The very limited undergraduate dermatology medical training is unsatisfactory for patients. The curriculum relating to the care of children and young people makes no reference to atopic eczema in the required knowledge base for specialist registrars.

Recommendation 4:

- **With 24% of the population experiencing a skin problem requiring medical intervention each year it is essential that undergraduate medical training in dermatology is improved.**
- **The information contained in this report about prevalence and incidence of skin conditions seen in primary care could usefully provide the basis to design a general practitioner specialist registrar curriculum that reflects the case mix presenting to general practitioners.**
- **Common skin conditions seen in childhood such as atopic eczema need to be included in the knowledge base of the general practitioner curriculum relating to children and young people.**
- **The need for all general practitioners to have training and assessment of knowledge in diagnosis and management of skin disease should be reviewed in the light of the overwhelming data of high prevalence of skin disease.**

Nurses

Nurses are not required to have any formal training in skin problems, even though many go on to develop roles when they encounter people with skin problems as part of their day to day practice. Training is particularly important for nurse practitioners, because 25% of their casemix may relate to skin problems. nurse prescribers, who are able to prescribe most of the products listed in the BNF, have limited training and education in the use of dermatology treatments.

Recommendation 5:

All pre-qualification nurses should receive an educational programme that includes information about common skin conditions. Post-qualification nurse training should be tailored so that nurses (whatever the clinical setting and amount of specialism) develop the appropriate, relevant, knowledge and skills to be able to manage those patients with skin conditions that they regularly encounter in day to day clinical practice. Relevant teaching and assessment programmes should be consolidated/developed to meet this need.

Specialist dermatology services

The training programme for consultant dermatologists is well established and includes a detailed curriculum covering the areas required to deliver a specialist dermatology service. There are robust assessment tools within the training programme that assess competency.

Consultant dermatologists, for the most part, have limited experience of what goes on in primary care as they train in hospitals. With the shift of services into community settings, training programmes will need to be modified to take account of this different way of working. The development of extended role practitioners may change the clinical experience that the dermatologist in training will receive and training programmes will need to adapt accordingly. Other doctors working with the specialist team include Speciality and Associate Specialist (SAS) doctors and general practitioners with a special interest (GPwSIs). SAS doctors have recently negotiated a new contract and it is not clear how the will influence recruitment and retention of this group of doctors who are, for the most part, experienced clinicians with experience in teaching and with an interest in working in new models of care (Schofield et al 2005a, Horn 2009 personal written communication). There is a sound accreditation framework for GPwSIs (which requires implementation) and some evidence of effectiveness of these services. nurses working in specialist dermatology departments have a mixture of titles and gradings and varying levels of knowledge and skill; formal knowledge and skills frameworks are needed to make sure that the right nurse with appropriate skills cares for the right patient group.

Recommendation 6:

- **Consultant dermatologist training will need to be flexible and reflect the way services are changing in relation to population needs.**
- **Dermatology specialist nurse roles need clarification using the knowledge and skills framework (KSF).**
- **Accreditation frameworks for general practitioners with a special interest in dermatology should be implemented. The role of these clinicians in teaching and training other primary care health care professionals should be emphasised.**
- **Opportunities to develop the role of experienced Speciality and Associate Specialist (SAS) doctors in the teaching and up-skilling of primary care health care professionals should be considered.**

Measurement of patient outcomes and accreditation of services

There is a range of excellent UK developed validated tools for assessing the impact of skin disease on the lives of patients and their families. Some are generic such as the Dermatology Life Quality Index and some are disease specific such as the Patient Oriented Eczema Measure (POEM) for childhood eczema. These are well publicised and widely used in the context

of research studies and the evaluation of patients requiring treatment with biological therapies. They are not used regularly in clinical practice and regular measurement of clinical outcomes following therapeutic interventions does not occur in day to day clinical practice in either generalist or specialist settings. The tools are simple and easy to use and there is no reason why their use should not be introduced as part of the ongoing management of people receiving treatment for skin disease and developed into Patient Reported Outcome Measures (PROMs).

Agreed standards exist for the services that should be provided in specialist dermatology units but availability of information about the range and quality of services provided by different units is not available. Indeed collecting data about what happens in specialist units is difficult.

Recommendation 7:

- Dermatology quality of life tools should be introduced into regular clinical practice to measure the effectiveness of interventions; they should be developed into Patient Related Outcome Measures so that patients, providers and commissioners have access to validated measures of clinical outcomes.**
- A process of accreditation of specialist dermatology units should be developed.**

Recommendations for future research

Throughout this report, we have emphasised the limitations of current data and the need to provide better evidence on the effectiveness of services delivered by different providers. Although we have made at least 30 recommendations for further information that needs to be gathered by rigorous research, we close this report by limiting ourselves to our choice of five top research priorities in the knowledge that other readers might have different priorities.

1. There is a need for a large up-to-date survey of the prevalence of skin diseases in the general population that includes information on disease severity, quality of life, and use of services.
2. Research is needed to develop better systems for data capture about people with skin problems at all levels of the NHS care pathway.
3. Research is needed to evaluate the potential future health gain of various health care professionals delivering dermatological care in different service models. Areas that are important but relatively underexplored include community pharmacists, general practitioners and Speciality and Associate Specialist (SAS) grade doctors.

4. Research is needed to identify how and when to train generalists best in diagnosing and managing the common skin conditions that they currently see.
5. New models of care should be implemented within an evaluative framework such as action research and should include the evaluation of ways to ensure that care pathways are configured through the patient's eyes.

Models of care

Different models of care are possible, and three will be considered further here: the status quo, a move towards a model of office-based dermatology and a specialist-led integrated outreach service.

The status quo

The current model of care works well for some, but not for others. This is because of a lack of training and education of those involved in the care of most of the people with skin conditions described earlier in the chapter and depicted by the obelisk in Figure 2. In the current model a small number of highly trained specialists see a small minority of all patients presenting with skin problems each year, whilst most are seen by health care professionals who, through no fault of their own, have had very limited training in the diagnosis and management of skin problems.

The current model of care could work if the following occurred:

- An intensive training programme for community pharmacists and a change in general practitioner and nurse training to make it linked to the documented 'need';
- Experienced clinical input into the referral management process to make sure that wherever possible the right person is seen in the right place at the right time;
- The expansion of outreach specialist nurse clinics for the management of patients with pre-diagnosed conditions such as atopic eczema, psoriasis, acne and nurse-led leg ulcer services.

The drawbacks to this approach are as follows:

- Implementing training programmes for nurses and pharmacists and altering the general practitioner curriculum will take time and will take several years to make a significant difference in patient care across the country.
- Redesigning consultant dermatologist work plans to free up time to provide the education and training

needed will take time and be difficult to deliver; sessions would need to be backfilled in order to continue to provide the specialist clinical service.

- The current financially-driven market in the NHS in England is making consultants reluctant to teach and train as they are concerned about a loss of referral activity and consequent financial flows. The collaboration required to develop these models may not sit well with the competitive market of the new NHS in England.

A move towards a model of office-based dermatology

The UK system of healthcare is underpinned by patients registering with a general practitioner. The general practitioner then provides care for a range of conditions within his or her expertise and refers patients for specialist assessment as necessary. The general practitioner is the gate-keeper to specialist services. This model of care means that, unless people are prepared to pay for a private consultation, the only access to NHS specialist services is when the general practitioner considers that a second opinion is necessary. This system differs from some countries in continental Europe where there is open access to specialist clinics. Other countries such as France have a mixture of primary care services and office dermatology. Whilst patients may feel that there are advantages to the office-based model of dermatology, as it ensures access to a highly trained specialist whatever the skin condition, there are actually some serious drawbacks:

- This model would require a huge expansion in consultant numbers; with currently around 400 consultants seeing about 800,000 patients per year (about 2,000 patients per consultant per year) there would need to be 6,000 dermatologists to see the 12 million people who are currently seen by general practitioners in primary care with skin disease.
- The model is not entirely appropriate as it involves specialists with additional training managing a range of relatively minor skin conditions, some of which are self-limiting.
- There is an inevitable fragmentation of patient care with this system where patients are often seen by a range of specialists but no-one accepts overall responsibility for the patient.
- The system undermines the unique role of the general practitioner as the generalist, able to 'sort the wood from the trees' and only seek advice from a specialist when it is really needed.
- Any expansion of the consultant grade requires

expansion of training programmes and creates an additional burden on departments that are often already overstretched meeting training needs.

A specialist-led integrated outreach service

This model takes the current model of care and, using the evidence provided in this document, builds on the following;

- What has been shown to work well;
- What needs changing and making better;
- An understanding of what skin conditions occur where;
- The importance of getting the diagnosis right;
- The recognition that there will be local solutions for local problems and that one size does not fit all;
- An appreciation of the knowledge and skills of those involved in delivering the care.

There are a range of key components to developing this model:

- Self-care and self-management services to be improved by making high quality patient information available, developing the knowledge and skills of community pharmacists and ensuring that patient support organisations can continue to perform their role.
- Modification of general practitioner and nursing curricula to match the health care needs of people with skin problems, and formal recognition of the necessity for formal teaching of the key disease areas and their management.
- A specialist service led by consultant dermatologists skilled in the diagnosis of skin problems and the management of complex dermatological diseases, who would lead on the provision of diagnostic and management services for people with skin cancer across the health community, with a core role in the skin cancer MDT.
- Consultant dermatologists to provide clinical leadership and direction for the service and ensure that a full range of services is provided.
- Triage of patients referred to the service performed by experienced clinicians working within the dermatology team to facilitate the 'right person, right place, first time' approach.
- Speciality and Associate Specialists (SAS) doctors working with consultant dermatologists in the specialist dermatology centre and providing community specialist outreach services (usually

Associate Specialists) involved in the diagnosis and management of the more straightforward skin conditions; supported by outreach dermatology specialist nurses.

- Outreach community specialist dermatology nurses delivering care for patients with pre-diagnosed skin diseases such as psoriasis, eczema, leg ulcers and acne.
- GPwSIs in dermatology, where available and suitably accredited, working as part of the team, taking referrals from colleagues and seeing patients in community settings and receiving ongoing training and support from either the outreach SAS-led dermatology services or the consultant dermatologist.
- All the members of the community team to deliver teaching and training to primary care generalist health care professionals, in particular general practitioners in training.
- A rapid access skin lesion diagnostic service (which may have digital image with referral as part of the model) provided by a suitably trained expert; this will reduce inappropriate and unnecessary surgery and ensure rapid access to care for patients with skin cancer.
- Specialist services to be accredited and Patient Reported Outcome Measures (PROMs) to be part of every day clinical practice to measure outcomes across generalist and specialist care as appropriate.

Perhaps the most fundamental issue in the relation to models of care is to see things through patient's eyes, rather than be constrained by the set of often invisible rules that may be designed around healthcare professionals (Rogers et al 2008). Patients need access to services in a range of ways including internet, phone, email as well as the usual face-to-face consultation with generalist and specialist. A shift of attitude is needed to think of demand as finite and predictable and supply as needing to be flexible and manageable. Such elements are already part of some dermatology patient pathways as a result of staff and patients working together and 'walking through' a patient's journey.

Another final point worth emphasising is that dermatology services, like any other aspect of healthcare in the NHS, is part of a complex adaptive system (Smethurst and Williams 2002) that can work well if given a few clear pointers and is then allowed to 'settle down' without constant political interference from a rapid succession of a large number of central political reforms, which are sometimes conflicting. There is already some hope that future emphasis will be placed on providing the tools to make things work, rather than more reform.

Two Department of Health guidance sources including *Transforming Community Services Quality Framework: guidance for community services* and *Transforming community services: ambition, action, achievement* (Department of Health 2009 d and e) provide a range of practical tools to help support NHS practitioners and clinical leaders in transforming services locally. The guides provide local staff with the information and tools they might like to use to modernise and improve services in their community. At least four of the six themes developed (health, well-being and reducing inequalities, acute care closer to home, people with long-term conditions and services for children, young people and families) are highly relevant to dermatology. The generic themes in these Department of Health publications include many that are emphasised in this Health Care Needs Assessment. These include the following: an emphasis on assessing and understanding the health care needs of the community, designing models of care around the patient, providing relevant and timely information to patients and carers, the importance of a well trained workforce, the need for evidence-based practice in relation to delivery of models of care and the importance of measuring clinical outcomes. The challenge now is to link these widely accepted generic principles to the already published speciality-specific recommendations (NHS Primary Care Contracting 2008) and to the evidence presented in this document, in order to move closer towards providing equity of access to high quality care for all people with skin conditions.

Appendices

Appendix 1

ICD 9 codes relating to skin diseases

Diseases that commonly have cutaneous manifestations are included.

Chapter I: Infectious and parasitic disease

- 017 Tuberculosis of other organs
- 122 Anthrax
- 130 Leprosy
- 031 Diseases due to other mycobacteria
- 034 Streptococcal sore throat and scarlatina
- 035 Erysipelas
- 053 Herpes zoster
- 054 Herpes simplex
- 078.1 Viral warts
- 057 Other viral exanthemas
- 091 Erysipeloid
- 102 Yaws
- 103 Pinta
- 104 Other spirochaetal infection
- 110 Dermatophytosis
- 111 Dermatomycosis, other and unspecified
- 112 Candidiasis
- 114 Coccidiomycosis
- 115 Histoplasmosis
- 117 Other mycoses
- 118 Opportunistic mycoses
- 128 Other and unspecified helminthiasis
- 132 Pediculosis (lice) and phthirus infection
- 133 Acariasis (scabies)
- 134 Other infestation
- 135 Sarcoidosis
- 137 Late effects of tuberculosis

Chapter II: Neoplasms

- 172 Malignant melanoma of the skin
- 173 Other malignant neoplasms of the skin
- 174.0 Paget's disease of the breast
- 202.1 Mycosis fungoides
- 202.2 Sezary's disease
- 216 Benign neoplasm of the skin
- 232 Carcinoma in situ of skin

Chapter III: Endocrine, nutritional and metabolic diseases and immunity disorders

- 277.8 Histiocytosis X

Chapter IV: Diseases of blood and blood forming organs

- 287 Purpura and other haemorrhagic conditions

Chapter V: Mental disorders

- 300.2 Parasitophobia
- 306.3 Psychogenic pruritus

Chapter VI: Diseases of the nervous system and sense organs

- 380 Disorders of external ear

Chapter VII: Diseases of the circulatory system

- 446 Polyarteritis nodosa and allied conditions
- 448 Diseases of capillaries
- 451 Phlebitis and thrombophlebitis
- 457 Non-infective disorders of lymphatic channels

Chapter X: Disorders of the genitourinary system

- 607.8 Balanitis xerotica

Chapter XI: Complications of pregnancy, childbirth and the puerperium

- 646.8 Herpes gestationis, chloasma, pruritus gravidarum

Chapter XII: Diseases of the skin and subcutaneous tissue

Infection of skin and subcutaneous tissue

- 680 Carbuncle and furuncle
- 681 Cellulitis and abscess of finger and toe
- 682 Other cellulitis and abscess
- 683 Acute lymphadenitis
- 684 Impetigo
- 685 Pilonidal cyst
- 686 Other local infections of skin and subcutaneous tissue

Other inflammatory conditions of skin and subcutaneous tissue

- 690 Erythemasquamous dermatosis
- 691 Atopic dermatitis and other related conditions
- 692 Contact dermatitis and other eczema
- 693 Dermatitis due to taken internally substances
- 694 Bullous dermatoses
- 695 Erythematous conditions
- 696 Psoriasis and similar disorders
- 697 Lichen planus
- 698 Pruritus and related conditions

Other diseases of skin and subcutaneous tissue

- 700 Corns and callosities
- 701 Other hypertrophic and atrophic conditions of the skin
- 702 Other dermatoses
- 703 Diseases of the nail
- 704 Diseases of hair and hair follicles
- 705 Disorders of sweat glands
- 706 Disorders of sebaceous glands (acne vulgaris 706.1)
- 707 Chronic ulcer of the skin
- 708 Urticaria
- 709 Other disorders of skin and subcutaneous tissue

Chapter XIV: Congenital anomalies

- 757 Congenital anomalies of the integument

Chapter XV: Certain conditions originating in the perinatal period

- 778 Conditions involving the integument and temperature regulation of foetus and newborn

Chapter XVI: Symptoms, common signs and ill-defined conditions

- 782 Symptoms involving skin and other integumentary tissue

Chapter XVII: Injury and poisoning

- 995.1 Angioneurotic oedema
- 995.2 Unspecified adverse effect of drug, medicament and biological

Appendix 2

ICD 10 codes relating to skin diseases

Diseases of the skin and subcutaneous tissues are coded as L00 to L99. The codes are grouped as follows:

L00-L08	Infections of the skin and subcutaneous tissues
L10-L14	Bullous disorders
L20-L30	Dermatitis and eczema
L40-L45	Papulosquamous disorders
L50-L51	Urticaria and erythema
L55-L59	Radiation-related disorders
L60-L70	Disorders of skin appendages
L80-L99	Other disorders of skin and subcutaneous tissues

Important exclusions from L00-L99 include:

- Malignant neoplasms (malignant melanoma of the skin C43, other malignant neoplasms of the skin C44)
- Carcinoma in situ D04 (excluding melanoma in situ)
- Benign neoplasms of the skin (melanocytic naevi D22, other benign skin neoplasms D23)
- Certain skin infections such as erysipelas A46, herpes simplex B00 (non-genital), molluscum B08.1, mycoses B35-49, infestations such as scabies B85-89 and viral warts B07.

Appendix 3

Examples of Health Resource Groups (HRGs) relevant to dermatology

HRG code	HRG name
JC01A	Major Multiple Skin Procedures with Major CC
JC01B	Major Multiple Skin Procedures with Intermediate CC
JC01C	Major Multiple Skin Procedures without CC
JC02A	Major Skin Procedures category 2 with Major CC
JC02B	Major Skin Procedures category 2 with Intermediate CC
JC02C	Major Skin Procedures category 2 without CC
JC03A	Major Skin Procedures category 1 with Major CC
JC03B	Major Skin Procedures category 1 with Intermediate CC
JC03C	Major Skin Procedures category 1 without CC
JC04A	Intermediate Skin Procedures with Major CC
JC04B	Intermediate Skin Procedures with Intermediate CC
JC04C	Intermediate Skin Procedures without CC
JC05A	Minor Skin Procedures category 3 with Major CC
JC05B	Minor Skin Procedures category 3 with Intermediate CC
JC05C	Minor Skin Procedures category 3 without CC
JC06A	Minor Skin Procedures category 2 with Major CC
JC06B	Minor Skin Procedures category 2 with Intermediate CC
JC06C	Minor Skin Procedures category 2 without CC
JC07Z	Minor Skin Procedures category 1
JC09Z	Patch Tests
JC10Z	Investigative procedures 2
JC12Z	Urticaria tests
JC14Z	Skin Therapies level 2
JC15Z	Skin Therapies level 3
JC16Z	Skin Therapies level 4
JC17Z	Skin Therapies level 5
JC18Z	Electrical and other invasive therapy 2
JC20Z	Electrical and other invasive therapy 3
JC27Z	Nursing Procedures & Dressings 1
JD01A	Major Skin disorders category 2 with Major CC
JD01B	Major Skin disorders category 2 with Intermediate CC
JD01C	Major Skin disorders category 2 without CC
JD02A	Major Skin disorders category 1 with Major CC
JD02B	Major Skin disorders category 1 with Intermediate CC
JD02C	Major Skin disorders category 1 without CC
JD03A	Intermediate Skin disorders with Major CC
JD03B	Intermediate Skin disorders with Intermediate CC
JD03C	Intermediate Skin disorders without CC
JD04A	Minor Skin disorders category 3 with Major CC
JD04B	Minor Skin disorders category 3 with Intermediate CC
JD04C	Minor Skin disorders category 3 without CC
JD05A	Minor Skin disorders category 2 with Major CC
JD05B	Minor Skin disorders category 2 with Intermediate CC
JD05C	Minor Skin disorders category 2 without CC
JD06A	Minor Skin disorders category 1 with CC
JD06B	Minor Skin disorders category 1 without CC

Further information available from: http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_094091 (Accessed 1st September 2009)

Appendix 4

The US Health and Nutrition Examination Survey (NHANES) (Johnson & Roberts 1978).

This text is reproduced in full from the 1997 Health Care Needs Assessment (Williams 1997a).

'This study was conducted on a representative population sample of 20,749 persons aged one to 74 years from 65 primary sampling units throughout the US during 1971-74 and included a detailed structured skin examination by 101 dermatologists. Clinical findings were backed by laboratory investigations such as mycology culture and skin biopsy where possible. The following indicate that significant skin pathology is common.

- Nearly one-third (312.4 per 1000 population) had one or more significant skin conditions which was considered by a dermatologist to be worthy of evaluation by a physician at least once.
- The prevalence of significant skin pathology increased rapidly with age from 143.2 per 1000 children aged 1-5 years to 362 per 1000 youths aged 1-17 years and to 365.2 per 1000 young adults aged 18-24 years, due primarily to the increase in acne at puberty.
- After a slight decline at age 25-34 years the prevalence of skin pathology again increases steadily reflecting the increase in chronic diseases such as psoriasis, vitiligo, malignant and benign tumours, actinic and seborrhoeic keratoses.
- In this study significant skin pathology was slightly commoner in males.
- An additional 12.5% of the population were deemed to have a skin condition that was clinically inactive at the time of examination.

Minor degrees of skin disease or abnormalities were also recorded by the dermatologists for each disease group. There was a considerable mismatch between what the dermatologists considered to be represent medical need and the population's concerns.

- Nearly one-third (31%) of persons with significant skin pathology diagnosed by the dermatologists expressed concern about these specific skin conditions, whereas nearly 18% of those who complained about their skin condition were not considered as serious by the dermatologists.

The following findings were found in relation to disability and handicap.

- Skin conditions were reported to limit activity in 10.5 per 1000 of the population aged 1-74 years, or 9% of those persons with such skin conditions.
- About 10% of those persons with skin complaints considered the condition to be a handicap to their employment or housework and 1% considered themselves severely handicapped.
- About one-third (33%) of those persons with skin conditions indicated that the condition(s) was a handicap in their social relations.
- The dermatological examiner rated more than two-thirds of those persons with skin complaints as disfigured to some extent from the condition and about one-fifth of those were rated as moderately or severely disfigured.
- More than half of those persons with skin complaints reported some overall discomfort from the condition such as itching or burning.
- An estimated 62.8 per 1000 US population (or 56% of those with skin complaints) indicated that the conditions were

recurrent, with 49% active in the preceding seven to 12 months.

The following outlines findings for sub-optimal care.

- Only one-fifth of those with significant skin pathology were considered by the dermatologist to be receiving optimal care.
- Of the remaining 81% who were not receiving optimal care nearly all (94%) could, in the judgement of the survey dermatologists, be improved with more expert care (84% in pre-school children to 96% among the elderly).
- Nearly one-fourth (23.9%) of adults aged 18-74 years of age with significant skin pathology indicated that their condition might have been caused or worsened by occupational exposure.

The following information was found on medical advice.

- About one-half of the US population aged 1-74 years of age with skin complaints had not sought medical advice for the problem.
- Males were more likely than females to not seek medical advice (56 compared with 44% respectively).
- Nearly 15% were given inadequate medical advice in the view of the dermatologists in those who received medical advice.
- About 6% did not co-operate with the doctors they had consulted.

To minimize examiner variability in this study the 101 dermatologist examiners underwent a training period and findings were recorded on a structured form. Even so there was considerable variation between those dermatologists in the degree to which they recorded banal lesions such as freckles and normal variations. Age-adjusted prevalence rates of significant skin pathology ranged from zero to 90.4% according to the examiner, the average being 31.2%. The range in the proportion expressing complaints about skin conditions to the examiner was from 0-70.8%, the average being 11.4%. The study is therefore limited by the wide variation in what the 101 dermatologist examiners considered as need and physicians' views might have changed since the early 1970s. Given the predominantly private care system in the US, it is also possible that US dermatologists had a lower threshold than UK dermatologists for what skin conditions might benefit from medical intervention. Nevertheless the study provides us with the most detailed account of skin pathology and its relation to disability and health seeking behaviour to date.'

Appendix 5

Reports from the All Party Parliamentary Group on Skin (APPGS)

An investigation into the Adequacy of Service Provision and Treatments for Patients with Skin Diseases (March 1997)

Enquiry into the Training of Healthcare Professionals who come into contact with Skin Diseases (July 1998)

Enquiry into Fraudulent Practice in the Treatment of Skin Disease (December 1999)

Enquiry into Skin Diseases in Elderly People (November 2000)

Enquiry into Primary Care Dermatology Services (April 2002)

Enquiry into the Treatment, Management and Prevention of Skin Cancer (January 2003)

Enquiry into the Impact of Skin Diseases on People's Lives (July 2003)

Dermatological Training for Health Professionals (August 2004)

Enquiry into the Adequacy and Equity of Dermatology Services in the United Kingdom (March 2006)

Enquiry into Practice-Based Commissioning of Services for People with Skin Conditions (May 2008)

Skin Cancer – Improving Prevention, Treatment and Care (November 2008)

Appendix 6

*Patient groups (members of the Skin Care Campaign are marked *)*

Albinism Fellowship

Alkaptonuria Society

Allergy UK*

Alopecia Awareness*

Alopecia UK

Birthmark Support Group (The)

British Allergy Foundation*

British Association for Hidradenitis Suppurativa*

British Red Cross (cosmetic camouflage)

Bullous Pemphigoid Support Group*

Cancer Research

Caring Matters Now (Congenital Melanocytic Naevus)

Changing Faces*

Community Hygiene Concern

Congenital Melanocytic Naevus Support Group*

Darier's Disease Support Group*

DebRA (Epidermolysis Bullosa Support)*

Ectodermal dysplasis*

Ehlers-Danlos Support Group*

Epiderm Ltd (camouflage cosmetics)

Erythema Nodosum Support Group

Gorlin Syndrome Group*

Hairline International*

Headline Hats (for women with hair loss)

Henoch Schonlein Purpura Support Group

Herpes Viruses Association*

HITS UK (Hypomelanosis of Ito Syndrome) Family Support Network*

Hyperhidrosis Support Group*

Ichthyosis Support Group*

Let's Face It (for facially disfigured)

Lindsay Leg Club Foundation

Lupus Patients Understanding & Support

LUPUS UK*

Lymphoedema Support Network*

National Eczema Society*

National Lichen Sclerosus Support Group*

PAPAA - Psoriasis and Psoriatic Arthritis Alliance*

Pemphigus Vulgaris Network*

Pinderfields Burns Club

PiXiE - Pseudoxanthoma Elasticum (PXE) Support Group*

Psoriasis Association*

Psoriasis Help *

RAFT (The Restoration of Appearance and Function Trust)*

Raynaud's and Scleroderma Association*

Shingles Support Society*

Scar Information Service

Scleroderma Society*

Skcin - The Karen Clifford Skin Cancer Charity*

Skin Camouflage Network

SkinCell International Forum

Telangiectasia Self Help Group

The 'Lee Spark' NF Foundation

The Neurofibromatosis Association

Thomas Blake & Company

Tissue Viability Society*

Tuberous Sclerosis Association*

UK Trichotillomania Support Web Site

Vascular Birthmarks Foundation

Vitiligo Society*

Vulval Pain Society

Wessex Cancer Trust MARC's Line*

Whitefinger.co.uk

Xeroderma Pigmentosum Support Group*

Appendix 7

Patient information websites

British Association of Dermatologists www.bad.org.uk	The British Association of Dermatologists (BAD) is the central professional association of practising UK dermatologists. The web site has patient information sheets about skin diseases, as well as general information about the skin, dermatology in the UK, and current issues in skin disease.
DermNet NZ www.dermnetnz.org/	DermNet NZ is a web site from the New Zealand Dermatological Society that provides detailed information for patients on skin conditions and their treatment. It also includes information on cosmetic treatments.
Dermatology.co.uk www.dermatology.co.uk	This is an independent website providing an educational resource for skin conditions and their treatment to patients, the public and health care professionals.
NHS Choices www.nhs.uk/Conditions/Pages/bodysmap.aspx	The NHS Choices Health A-Z presents information aimed at the general public on the symptoms, causes, diagnosis, treatment, complications and prevention of medical conditions. It also provides links to selected resources for further information.
Patient UK www.patient.co.uk/showdoc/680/	A series of patient information leaflets produced by Patient UK designed to be easily readable and understandable by people who are not healthcare professionals. These leaflets provide an overview of the condition, advice on self-management, information on treatment options, and details of relevant patient support groups.
Skin Care Campaign www.skincarecampaign.org	The Skin Care Campaign is the umbrella body providing a collective voice for all skin conditions. Together, the SCC and its member organisations work to improve the quality of life for anyone with a skin condition. The website contains information about and contact details for all its members.

Information is also available from many of the patient support organisations:

Alopecia Awareness	www.alopecia-awareness.org.uk/
British Red Cross (cosmetic camouflage)	www.redcross.org.uk/standard.asp?id=89410
British Association for Hidradenitis Suppurativa	www.ba-hs.org.uk/
Cancerbackup	www.cancerbackup.org.uk/Home
Cancer Research	www.cancerresearchuk.org
Congenital Melanocytic Naevus support group	http://caringmattersnow.co.uk/
Changing Faces	www.changingfaces.org.uk/Home
Epidermolysis bullosa	www.debra.org.uk/
Ectodermal dysplasia	www.ectodermaldysplasia.org/
Ehlers Danlos syndrome	www.ehlers-danlos.org/
Gorlin syndrome group	www.gorlingroup.org/
Hairline International	www.hairlineinternational.co.uk/
Herpes Viruses Association and Shingles Support Society	www.herpes.org.uk/
Hyperhidrosis Support group	www.hyperhidrosisuk.org/
Ichthyosis Support Group	www.ichthyosis.org.uk/
Lupus UK	www.lupusuk.org.uk/
Lymphoedema Support Network	www.lymphoedema.org/lsn/
National Eczema Society	www.eczema.org/
National Lichen Sclerosus Support Group	www.lichensclerosus.org/
The Neurofibromatosis Association	www.nfauk.org/
Nottingham Support Group for Carers of Children with Eczema	http://nottinghameczema.org.uk/index.html
Pemphigus Vulgaris Network	www.pemphigus.org.uk/
Pseudoxanthoma Elasticum Support Group (PIXIE)	www.pxe.org.uk/
Psoriasis Association	www.psoriasis-association.org.uk/
Psoriatic Arthropathy Alliance	www.psoriasis-uk.org/
Psoriasis Help	www.psoriasis-help.org.uk/
Raynaud's & Scleroderma Association	www.raynauds.org.uk
Scleroderma Society	www.sclerodermasociety.co.uk/newsite/index.php
Tissue Viability Society	www.tvs.org.uk/
Tuberous Sclerosis Association	www.tuberous-sclerosis.org/
Verity (Polycystic ovary syndrome)	www.verity-pcos.org.uk/
Vitiligo Society	www.vitiligosociety.org.uk/
Vulval Pain Society	www.vulvalpainsociety.org/
Wessex Cancer Trust's Marc's Line,	www.wessexcancer.org/
Xeroderma Pigmentosum Support Group	www.xpsupportgroup.org.uk/

Appendix 8

Royal College of General Practitioners (RCGP) Curriculum statement 15.10 Skin Problems (2007)

The curriculum document entitled 'Skin Problems' is one in a series of curriculum statements produced by the RCGP for general practitioners in training. It describes the rationale for the curriculum statement and the learning outcomes. It also includes information about further reading and a section entitled 'promoting learning about skin problems'. Within the section entitled 'Learning Outcomes' are details of the required knowledge base and this is reproduced below.

The knowledge base

Symptoms:

Key issues in the diagnosis of skin problems will be eliciting the appropriate signs and symptoms and subsequent investigation and/or referral of people presenting with:

- Rashes
- Hair loss
- A disorder of their nails
- Itch (also known as pruritus)
- Pigmented skin lesions
- Signs of infection of the skin
- Bruising or purpura
- Lumps in and under the skin
- Photosensitivity and the red face

Common and/or important skin conditions:

- Eczema
- Psoriasis
- Generalised pruritus
- Urticaria and vasculitis
- Acne and rosacea
- Infections (bacterial, viral, fungal)
- Infestations including scabies and head lice
- Leg ulcers and lymphoedema
- Skin tumours (benign and malignant)
- Disorders of hair and nails
- Drug eruptions
- Other less common conditions such as the bullous disorders, lichen planus, vitiligo, photosensitivity, pemphigus, pemphigoid, discoid lupus, granuloma annulare and lichen sclerosus

Investigations:

- Ability to take specimens for mycology from skin, hair and nail
- Basic interpretation of histology reports
- Skin biopsy

Treatment:

- Those commonly used in primary care (including an awareness of appropriate quantities and how to prescribe them)
- Principles of protective care (sun care, occupational health and hand care)
- An awareness of specialised treatments, such as retinoids, ciclosporin, phototherapy and methotrexate
- The indications for, and the skills to perform, curettage, cauterity and cryosurgery

Emergency care:

- Acute treatment of people presenting with skin problems or symptoms thought to be due to skin problems and appropriate referral if necessary. Including:
 - Angioedema and anaphylaxis
 - Meningococcal sepsis

- o Disseminated herpes simplex
- o Erythroderma
- o Pustular psoriasis
- o Severe nodulo-cystic acne
- o Toxic epidermal necrolysis
- o Stevens-Johnson syndrome
- o Necrotising fasciitis

- accident protection
- Immunisation
- Avoiding smoking, avoiding the use of volatile substances and other drugs, and minimising alcohol intake
- Reducing the risk of teenagers getting pregnant or acquiring sexually transmitted infections

Prevention:

This will involve the following risk factors:

- Sun exposure
- Fixed factors: family history and genetics
- Occupation and care of the hands

Genetics:

Describe how genetic factors influence the inheritance of common diseases such as psoriasis and atopic eczema.

Royal College of General Practitioners (RCGP) Curriculum statement 8 Care of Children and Young people (2007)

This document states 'The care of children and young people is not a 'special interest' but is a central foundation of UK general practice'.

The knowledge base contained within the learning outcomes is as follows;

Knowledge base

Symptoms:

- Vomiting, fever, drowsiness, developmental delay, infantile colic, 'failure to thrive' and growth disorders, behavioural problems.

Common and/or important conditions:

- Neonatal problems: birthmarks, feeding problems, heart murmur, sticky eye, jaundice
- Constipation, abdominal pain (acute and recurrent)
- Pyrexia, febrile convulsions
- Cough/dyspnoea, wheezing including respiratory infections, bronchiolitis
- Otitis media
- Sensory deficit especially deafness
- Gastroenteritis
- Viral exanthems
- Urinary tract infection
- Meningitis
- Epilepsy
- Chronic disease: asthma, diabetes, arthritis, learning disability
- Child abuse, deprivation
- Mental health problems such as attention deficit hyperactivity disorder, depression, eating disorders, substance misuse and self-harm, autistic spectrum disorder and related conditions
- Psychological problems: enuresis, encopresis, bullying, school refusal, behaviour problems including tantrums
- Child and young person development (physical and psychological)

Prevention:

Areas where healthy choices make a big difference in children's and young people's lives including:

- Prenatal diagnosis
- Breastfeeding
- Health diet and exercise for children and young people
- Social and emotional wellbeing
- Keeping children and young people safe; child protection,

Appendix 9

Examples of validated Dermatology Quality of Life (QoL) tools

Examples of three questionnaires are shown below:

- The Dermatology Life Quality Index
- The Children's Dermatology Life Quality Index
- The Cardiff Acne Disability Index

Copies of these and other questionnaires, and further information about their use, is available from
<http://www.dermatology.org.uk/quality/quality-life.html>.

The Children's Dermatology Life Quality Index (© M.S. Lewis-Jones, A.Y. Finlay 1993) is reproduced with the kind permission of Dr Sue Lewis-Jones.

The Cardiff Acne Disability Index and the Dermatology Life Quality Index (© A.Y. Finlay, G.K. Khan 1999) are reproduced with the kind permission of Dr Andrew Finlay.

CHILDREN'S DERMATOLOGY LIFE QUALITY INDEX												
Hospital No: Name: Age: Address:	Diagnosis:	CDLQI SCORE: <input type="text"/>										
The aim of this questionnaire is to measure how much your skin problem has affected you OVER THE LAST WEEK. Please tick 4 one box for each question.												
<p>1. Over the last week, how itchy, sore, painful or stinging has your skin been?</p> <table style="margin-left: auto; margin-right: auto;"> <tr><td>Very much <input type="checkbox"/></td><td>Quite a lot <input type="checkbox"/></td></tr> <tr><td>A lot <input type="checkbox"/></td><td>A little <input type="checkbox"/></td></tr> <tr><td>Not at all <input type="checkbox"/></td><td></td></tr> </table>			Very much <input type="checkbox"/>	Quite a lot <input type="checkbox"/>	A lot <input type="checkbox"/>	A little <input type="checkbox"/>	Not at all <input type="checkbox"/>					
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<p>2. Over the last week, how embarrassed or self conscious, upset or sad have you been because of your skin?</p> <table style="margin-left: auto; margin-right: auto;"> <tr><td>Very much <input type="checkbox"/></td><td>Quite a lot <input type="checkbox"/></td></tr> <tr><td>Quite a lot <input type="checkbox"/></td><td>A little <input type="checkbox"/></td></tr> <tr><td>Only a little <input type="checkbox"/></td><td>Not at all <input type="checkbox"/></td></tr> </table>			Very much <input type="checkbox"/>	Quite a lot <input type="checkbox"/>	Quite a lot <input type="checkbox"/>	A little <input type="checkbox"/>	Only a little <input type="checkbox"/>	Not at all <input type="checkbox"/>				
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<p>3. Over the last week, how much has your skin affected your friendships?</p> <table style="margin-left: auto; margin-right: auto;"> <tr><td>Very much <input type="checkbox"/></td><td>Quite a lot <input type="checkbox"/></td></tr> <tr><td>Quite a lot <input type="checkbox"/></td><td>A little <input type="checkbox"/></td></tr> <tr><td>Only a little <input type="checkbox"/></td><td>Not at all <input type="checkbox"/></td></tr> </table>			Very much <input type="checkbox"/>	Quite a lot <input type="checkbox"/>	Quite a lot <input type="checkbox"/>	A little <input type="checkbox"/>	Only a little <input type="checkbox"/>	Not at all <input type="checkbox"/>				
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<p>4. Over the last week, how much have you changed or worn different or special clothes/shoes because of your skin?</p> <table style="margin-left: auto; margin-right: auto;"> <tr><td>Very much <input type="checkbox"/></td><td>Quite a lot <input type="checkbox"/></td></tr> <tr><td>Quite a lot <input type="checkbox"/></td><td>A little <input type="checkbox"/></td></tr> <tr><td>Only a little <input type="checkbox"/></td><td>Not at all <input type="checkbox"/></td></tr> </table>			Very much <input type="checkbox"/>	Quite a lot <input type="checkbox"/>	Quite a lot <input type="checkbox"/>	A little <input type="checkbox"/>	Only a little <input type="checkbox"/>	Not at all <input type="checkbox"/>				
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<p>5. Over the last week, how much has your skin trouble affected going out, playing, or doing hobbies?</p> <table style="margin-left: auto; margin-right: auto;"> <tr><td>Very much <input type="checkbox"/></td><td>Quite a lot <input type="checkbox"/></td></tr> <tr><td>Quite a lot <input type="checkbox"/></td><td>A little <input type="checkbox"/></td></tr> <tr><td>Only a little <input type="checkbox"/></td><td>Not at all <input type="checkbox"/></td></tr> </table>			Very much <input type="checkbox"/>	Quite a lot <input type="checkbox"/>	Quite a lot <input type="checkbox"/>	A little <input type="checkbox"/>	Only a little <input type="checkbox"/>	Not at all <input type="checkbox"/>				
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<p>6. Over the last week, how much have you avoided swimming or other sports because of your skin trouble?</p> <table style="margin-left: auto; margin-right: auto;"> <tr><td>Very much <input type="checkbox"/></td><td>Quite a lot <input type="checkbox"/></td></tr> <tr><td>Quite a lot <input type="checkbox"/></td><td>A little <input type="checkbox"/></td></tr> <tr><td>Only a little <input type="checkbox"/></td><td>Not at all <input type="checkbox"/></td></tr> </table>			Very much <input type="checkbox"/>	Quite a lot <input type="checkbox"/>	Quite a lot <input type="checkbox"/>	A little <input type="checkbox"/>	Only a little <input type="checkbox"/>	Not at all <input type="checkbox"/>				
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<p>7. Last week, was it last week, how much did school time? If school time: Over the last week, how much did your skin problem affect your school work?</p> <p>OR</p> <p>Was it holiday time?  If holiday time: How much over the last week, has your skin problem interfered with your enjoyment of the holiday?</p> <table style="margin-left: auto; margin-right: auto;"> <tr><td>Prevented school <input type="checkbox"/></td><td>Very much <input type="checkbox"/></td></tr> <tr><td>Quite a lot <input type="checkbox"/></td><td>Quite a lot <input type="checkbox"/></td></tr> <tr><td>A lot <input type="checkbox"/></td><td>A lot <input type="checkbox"/></td></tr> <tr><td>Only a little <input type="checkbox"/></td><td>Only a little <input type="checkbox"/></td></tr> <tr><td>Not at all <input type="checkbox"/></td><td>Not at all <input type="checkbox"/></td></tr> </table>			Prevented school <input type="checkbox"/>	Very much <input type="checkbox"/>	Quite a lot <input type="checkbox"/>	Quite a lot <input type="checkbox"/>	A lot <input type="checkbox"/>	A lot <input type="checkbox"/>	Only a little <input type="checkbox"/>	Only a little <input type="checkbox"/>	Not at all <input type="checkbox"/>	Not at all <input type="checkbox"/>
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<p>8. Over the last week, how much trouble have you had because of your skin with other people calling you names, teasing, bullying, asking questions or avoiding you?</p> <table style="margin-left: auto; margin-right: auto;"> <tr><td>Very much <input type="checkbox"/></td><td>Quite a lot <input type="checkbox"/></td></tr> <tr><td>Quite a lot <input type="checkbox"/></td><td>A lot <input type="checkbox"/></td></tr> <tr><td>A lot <input type="checkbox"/></td><td>Only a little <input type="checkbox"/></td></tr> <tr><td>Only a little <input type="checkbox"/></td><td>Not at all <input type="checkbox"/></td></tr> </table>			Very much <input type="checkbox"/>	Quite a lot <input type="checkbox"/>	Quite a lot <input type="checkbox"/>	A lot <input type="checkbox"/>	A lot <input type="checkbox"/>	Only a little <input type="checkbox"/>	Only a little <input type="checkbox"/>	Not at all <input type="checkbox"/>		
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<p>9. Over the last week, how much has your sleep been affected by your skin problem?</p> <table style="margin-left: auto; margin-right: auto;"> <tr><td>Very much <input type="checkbox"/></td><td>Quite a lot <input type="checkbox"/></td></tr> <tr><td>Quite a lot <input type="checkbox"/></td><td>A lot <input type="checkbox"/></td></tr> <tr><td>A lot <input type="checkbox"/></td><td>Only a little <input type="checkbox"/></td></tr> <tr><td>Only a little <input type="checkbox"/></td><td>Not at all <input type="checkbox"/></td></tr> </table>			Very much <input type="checkbox"/>	Quite a lot <input type="checkbox"/>	Quite a lot <input type="checkbox"/>	A lot <input type="checkbox"/>	A lot <input type="checkbox"/>	Only a little <input type="checkbox"/>	Only a little <input type="checkbox"/>	Not at all <input type="checkbox"/>		
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<p>10. Over the last week, how much of a problem has the treatment for your skin been?</p> <table style="margin-left: auto; margin-right: auto;"> <tr><td>Very much <input type="checkbox"/></td><td>Quite a lot <input type="checkbox"/></td></tr> <tr><td>Quite a lot <input type="checkbox"/></td><td>A lot <input type="checkbox"/></td></tr> <tr><td>A lot <input type="checkbox"/></td><td>Only a little <input type="checkbox"/></td></tr> <tr><td>Only a little <input type="checkbox"/></td><td>Not at all <input type="checkbox"/></td></tr> </table>			Very much <input type="checkbox"/>	Quite a lot <input type="checkbox"/>	Quite a lot <input type="checkbox"/>	A lot <input type="checkbox"/>	A lot <input type="checkbox"/>	Only a little <input type="checkbox"/>	Only a little <input type="checkbox"/>	Not at all <input type="checkbox"/>		
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Please check that you have answered EVERY question. Thank you.												

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DERMATOLOGY LIFE QUALITY INDEX												
Hospital No: Name: Address:	Date: Diagnosis:	DLQI <input type="text"/>										
The aim of this questionnaire is to measure how much your skin problem has affected your life OVER THE LAST WEEK. Please tick → one box for each question.												
<p>1. Over the last week, how itchy, sore, painful or stinging has your skin been?</p> <table style="margin-left: auto; margin-right: auto;"> <tr><td>Very much <input type="checkbox"/></td><td>Not relevant <input type="checkbox"/></td></tr> <tr><td>A lot <input type="checkbox"/></td><td></td></tr> <tr><td>A little <input type="checkbox"/></td><td></td></tr> <tr><td>Not at all <input type="checkbox"/></td><td></td></tr> </table>			Very much <input type="checkbox"/>	Not relevant <input type="checkbox"/>	A lot <input type="checkbox"/>		A little <input type="checkbox"/>		Not at all <input type="checkbox"/>			
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<p>2. Over the last week, how embarrassed or self conscious have you been because of your skin?</p> <table style="margin-left: auto; margin-right: auto;"> <tr><td>Very much <input type="checkbox"/></td><td>Not relevant <input type="checkbox"/></td></tr> <tr><td>A lot <input type="checkbox"/></td><td></td></tr> <tr><td>A little <input type="checkbox"/></td><td></td></tr> <tr><td>Not at all <input type="checkbox"/></td><td></td></tr> </table>			Very much <input type="checkbox"/>	Not relevant <input type="checkbox"/>	A lot <input type="checkbox"/>		A little <input type="checkbox"/>		Not at all <input type="checkbox"/>			
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<p>3. Over the last week, how much has your skin interfered with you going shopping or looking after your home or garden?</p> <table style="margin-left: auto; margin-right: auto;"> <tr><td>Very much <input type="checkbox"/></td><td>Not relevant <input type="checkbox"/></td></tr> <tr><td>A lot <input type="checkbox"/></td><td></td></tr> <tr><td>A little <input type="checkbox"/></td><td></td></tr> <tr><td>Not at all <input type="checkbox"/></td><td></td></tr> </table>			Very much <input type="checkbox"/>	Not relevant <input type="checkbox"/>	A lot <input type="checkbox"/>		A little <input type="checkbox"/>		Not at all <input type="checkbox"/>			
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<p>4. Over the last week, how much has your skin influenced the clothes you wear?</p> <table style="margin-left: auto; margin-right: auto;"> <tr><td>Very much <input type="checkbox"/></td><td>Not relevant <input type="checkbox"/></td></tr> <tr><td>A lot <input type="checkbox"/></td><td></td></tr> <tr><td>A little <input type="checkbox"/></td><td></td></tr> <tr><td>Not at all <input type="checkbox"/></td><td></td></tr> </table>			Very much <input type="checkbox"/>	Not relevant <input type="checkbox"/>	A lot <input type="checkbox"/>		A little <input type="checkbox"/>		Not at all <input type="checkbox"/>			
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<p>5. Over the last week, how much has your skin affected any social or leisure activities?</p> <table style="margin-left: auto; margin-right: auto;"> <tr><td>Very much <input type="checkbox"/></td><td>Not relevant <input type="checkbox"/></td></tr> <tr><td>A lot <input type="checkbox"/></td><td></td></tr> <tr><td>A little <input type="checkbox"/></td><td></td></tr> <tr><td>Not at all <input type="checkbox"/></td><td></td></tr> </table>			Very much <input type="checkbox"/>	Not relevant <input type="checkbox"/>	A lot <input type="checkbox"/>		A little <input type="checkbox"/>		Not at all <input type="checkbox"/>			
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<p>6. Over the last week, how much has your skin made it difficult for you to do any sport?</p> <table style="margin-left: auto; margin-right: auto;"> <tr><td>Very much <input type="checkbox"/></td><td>Not relevant <input type="checkbox"/></td></tr> <tr><td>A lot <input type="checkbox"/></td><td></td></tr> <tr><td>A little <input type="checkbox"/></td><td></td></tr> <tr><td>Not at all <input type="checkbox"/></td><td></td></tr> </table>			Very much <input type="checkbox"/>	Not relevant <input type="checkbox"/>	A lot <input type="checkbox"/>		A little <input type="checkbox"/>		Not at all <input type="checkbox"/>			
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<p>7. Over the last week, has your skin prevented you from working or studying?</p> <p>If "No", over the last week how much has your skin been a problem at work or studying?</p> <table style="margin-left: auto; margin-right: auto;"> <tr><td>Yes <input type="checkbox"/></td><td>Not relevant <input type="checkbox"/></td></tr> <tr><td>No <input type="checkbox"/></td><td></td></tr> </table> <table style="margin-left: auto; margin-right: auto;"> <tr><td>A lot <input type="checkbox"/></td><td></td></tr> <tr><td>A little <input type="checkbox"/></td><td></td></tr> <tr><td>Not at all <input type="checkbox"/></td><td></td></tr> </table>			Yes <input type="checkbox"/>	Not relevant <input type="checkbox"/>	No <input type="checkbox"/>		A lot <input type="checkbox"/>		A little <input type="checkbox"/>		Not at all <input type="checkbox"/>	
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<p>8. Over the last week, how much has your skin created problems with your partner or any of your close friends or relatives?</p> <table style="margin-left: auto; margin-right: auto;"> <tr><td>Very much <input type="checkbox"/></td><td>Not relevant <input type="checkbox"/></td></tr> <tr><td>A lot <input type="checkbox"/></td><td></td></tr> <tr><td>A little <input type="checkbox"/></td><td></td></tr> <tr><td>Not at all <input type="checkbox"/></td><td></td></tr> </table>			Very much <input type="checkbox"/>	Not relevant <input type="checkbox"/>	A lot <input type="checkbox"/>		A little <input type="checkbox"/>		Not at all <input type="checkbox"/>			
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<p>9. Over the last week, how much has your skin caused any sexual difficulties?</p> <table style="margin-left: auto; margin-right: auto;"> <tr><td>Very much <input type="checkbox"/></td><td>Not relevant <input type="checkbox"/></td></tr> <tr><td>A lot <input type="checkbox"/></td><td></td></tr> <tr><td>A little <input type="checkbox"/></td><td></td></tr> <tr><td>Not at all <input type="checkbox"/></td><td></td></tr> </table>			Very much <input type="checkbox"/>	Not relevant <input type="checkbox"/>	A lot <input type="checkbox"/>		A little <input type="checkbox"/>		Not at all <input type="checkbox"/>			
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A little <input type="checkbox"/>												
Not at all <input type="checkbox"/>												
<p>10. Over the last week, how much of a problem has the treatment for your skin been, for example by making your home messy, or by taking up time?</p> <table style="margin-left: auto; margin-right: auto;"> <tr><td>Very much <input type="checkbox"/></td><td>Not relevant <input type="checkbox"/></td></tr> <tr><td>A lot <input type="checkbox"/></td><td></td></tr> <tr><td>A little <input type="checkbox"/></td><td></td></tr> <tr><td>Not at all <input type="checkbox"/></td><td></td></tr> </table>			Very much <input type="checkbox"/>	Not relevant <input type="checkbox"/>	A lot <input type="checkbox"/>		A little <input type="checkbox"/>		Not at all <input type="checkbox"/>			
Very much <input type="checkbox"/>	Not relevant <input type="checkbox"/>											
A lot <input type="checkbox"/>												
A little <input type="checkbox"/>												
Not at all <input type="checkbox"/>												
Please check that you have answered EVERY question. Thank you.												

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The Cardiff Acne Disability Index										
<p>1. As a result of having acne, during the last month have you been aggressive, frustrated or embarrassed?</p> <table style="margin-left: auto; margin-right: auto;"> <tr><td>(a) Very much indeed <input type="checkbox"/></td><td></td></tr> <tr><td>(b) A lot <input type="checkbox"/></td><td></td></tr> <tr><td>(c) A little <input type="checkbox"/></td><td></td></tr> <tr><td>(d) Not at all <input type="checkbox"/></td><td></td></tr> </table>			(a) Very much indeed <input type="checkbox"/>		(b) A lot <input type="checkbox"/>		(c) A little <input type="checkbox"/>		(d) Not at all <input type="checkbox"/>	
(a) Very much indeed <input type="checkbox"/>										
(b) A lot <input type="checkbox"/>										
(c) A little <input type="checkbox"/>										
(d) Not at all <input type="checkbox"/>										
<p>2. Do you think that having acne during the last month interfered with your daily social life, social events or relationships with members of the opposite sex?</p> <table style="margin-left: auto; margin-right: auto;"> <tr><td>(a) Severely, affecting all activities <input type="checkbox"/></td><td></td></tr> <tr><td>(b) Moderately, in most activities <input type="checkbox"/></td><td></td></tr> <tr><td>(c) Occasionally or in only some activities <input type="checkbox"/></td><td></td></tr> <tr><td>(d) Not at all <input type="checkbox"/></td><td></td></tr> </table>			(a) Severely, affecting all activities <input type="checkbox"/>		(b) Moderately, in most activities <input type="checkbox"/>		(c) Occasionally or in only some activities <input type="checkbox"/>		(d) Not at all <input type="checkbox"/>	
(a) Severely, affecting all activities <input type="checkbox"/>										
(b) Moderately, in most activities <input type="checkbox"/>										
(c) Occasionally or in only some activities <input type="checkbox"/>										
(d) Not at all <input type="checkbox"/>										
<p>3. During the last month have you avoided public changing facilities or wearing swimming costumes because of your acne?</p> <table style="margin-left: auto; margin-right: auto;"> <tr><td>(a) All of the time <input type="checkbox"/></td><td></td></tr> <tr><td>(b) Most of the time <input type="checkbox"/></td><td></td></tr> <tr><td>(c) Occasionally <input type="checkbox"/></td><td></td></tr> <tr><td>(d) Not at all <input type="checkbox"/></td><td></td></tr> </table>			(a) All of the time <input type="checkbox"/>		(b) Most of the time <input type="checkbox"/>		(c) Occasionally <input type="checkbox"/>		(d) Not at all <input type="checkbox"/>	
(a) All of the time <input type="checkbox"/>										
(b) Most of the time <input type="checkbox"/>										
(c) Occasionally <input type="checkbox"/>										
(d) Not at all <input type="checkbox"/>										
<p>4. How would you describe your feelings about the appearance of your skin over the last month?</p> <table style="margin-left: auto; margin-right: auto;"> <tr><td>(a) Very depressed and miserable <input type="checkbox"/></td><td></td></tr> <tr><td>(b) Usually concerned <input type="checkbox"/></td><td></td></tr> <tr><td>(c) Occasionally concerned <input type="checkbox"/></td><td></td></tr> <tr><td>(d) Not bothered <input type="checkbox"/></td><td></td></tr> </table>			(a) Very depressed and miserable <input type="checkbox"/>		(b) Usually concerned <input type="checkbox"/>		(c) Occasionally concerned <input type="checkbox"/>		(d) Not bothered <input type="checkbox"/>	
(a) Very depressed and miserable <input type="checkbox"/>										
(b) Usually concerned <input type="checkbox"/>										
(c) Occasionally concerned <input type="checkbox"/>										
(d) Not bothered <input type="checkbox"/>										
<p>5. Please indicate how bad you think your acne is now:</p> <table style="margin-left: auto; margin-right: auto;"> <tr><td>(a) The worst it could possibly be <input type="checkbox"/></td><td></td></tr> <tr><td>(b) A major problem <input type="checkbox"/></td><td></td></tr> <tr><td>(c) A minor problem <input type="checkbox"/></td><td></td></tr> <tr><td>(d) Not a problem <input type="checkbox"/></td><td></td></tr> </table>			(a) The worst it could possibly be <input type="checkbox"/>		(b) A major problem <input type="checkbox"/>		(c) A minor problem <input type="checkbox"/>		(d) Not a problem <input type="checkbox"/>	
(a) The worst it could possibly be <input type="checkbox"/>										
(b) A major problem <input type="checkbox"/>										
(c) A minor problem <input type="checkbox"/>										
(d) Not a problem <input type="checkbox"/>										

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SKIN CONDITIONS IN THE UK: a Health Care Needs Assessment

This Health Care Needs Assessment looks at the epidemiology of skin disease in the UK and describes the resultant health care needs. It then considers the services and models of care delivery that are necessary to meet these needs against the background of central government policy, and makes specific recommendations. The report will be of interest to commissioners, policy makers and all who are involved in the delivery of care for skin conditions.

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