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PRIMIS

Making clinical data work

PRIMIS is a recognised centre of excellence in the field of primary care health informatics based within the School of Medicine at the University of Nottingham.

Through our collaborations and shared learning with academia, healthcare, industry and charities over the past 20 years we have amassed an unrivalled local, national and global reach and reputation.

Our mission is to improve patient care, safety and outcomes through the intelligent use of primary care data.

Quality Improvement

PRIMIS has been at the forefront of national data quality improvement initiatives in primary care for over twenty years.

Helping to improve patient care, safety and outcomes through the intelligent use of GP clinical information system data and bespoke training programmes.

Whilst there are many fundamental practices to improve quality within primary care, we recognise that a one size fits all approach won't deliver the benefits and improvements needed. At PRIMIS our expertise means that we can provide flexible, tailored methodologies to suit a variety of contexts.

Just a few examples of how PRIMIS has supported or led quality improvement initiatives:

- for over 15 years we supported a network of data quality facilitators through training and consultancy advice, covering all primary care organisations in England, and enabling skills development in the use of electronic health records. This led to improved quality of the data held in the patient records, including the development and implementation of data quality indicators used in 97% of general practices in England
- delivery and ongoing end user support of the GRASP suite of tools to over 3,500 GP practices, providing actionable insights and QI support helping to improve the detection and management of long-term conditions
- reducing medication error through the delivery of the PINCER Intervention, including the training of over 2,500 health care professionals in QI methodology

How we can provide support:

- give expert advice on developing learning health systems, harnessing the power to drive improvement from within
- deliver training in facilitation skills, change management and root cause analysis, as well as in understanding primary care data and getting the best use from the tools that we provide
- transform raw data from GP clinical information systems into actionable insights, generating and enabling learning from data
- build bespoke quality improvement tools that measure outcomes and analyse performance from which teams can design, implement and reassess service improvements
- tap into the benefits that data analysis and comparison can offer by delivering facilities that enable the comparison of data across different localities and levels
- act as an experienced intermediary, providing expert guidance and consultancy on accessing and using primary care data
- advise and lead on the scale and spread of quality improvement initiatives

QI

Data Specifications

PRIMIS data specifications support patient data collection, reporting, and messaging activities across the healthcare service.

Our data specifications are a series of linked documentation consisting of clinical code lists and programming rules that define the requirements and parameters of the data activity.

Preparation of a data specification involves advanced knowledge of the terminologies used across the healthcare sector, as well as the context in which clinical data is coded and the IT systems used. PRIMIS data specifications are curated by health care professionals and terminologists and are subject to rigorous in-house and in-practice testing protocols.

Just a few examples of how PRIMIS data specifications have supported activities involving the use of patient data:

- since 2005 PRIMIS has authored data specifications in support of the national vaccination uptake monitoring programme, including 'flu, Covid-19, childhood immunisations among others. This includes validation of the approach adopted by the GP system suppliers prior to submission of their national data returns to the UKHSA
- maintenance and development of national SNOMED CT RefSets (NHS England)
- development, management, and distribution of data specifications in support of national quality improvement activities, including the PINCER intervention and CVD Prevent (NHS England)
- refinement of code lists to support the earlier identification of motor neurone disease (MND Association)
- development of targeted alerts for deployment by one of the UK's largest supplier of clinical decision support software

DS

Research and Evaluation

PRIMIS supports researchers to realise the benefits of using primary care data.

Primary care electronic health records provide a rich source of data for undertaking high quality research studies. Our team has years of experience in working with primary care researchers, helping to find better treatments and to improve patient outcomes.

A comprehensive approach to minimise the burden on GP practices.

Just a few examples of how PRIMIS has supported data-enabled research:

- supporting the evaluation and implementation of the FAMCAT2 algorithm designed to identify people with familial hypercholesterolaemia and leading on its implementation across the UK (the University of Nottingham)
- developing, refining, and evaluating code lists for the earlier identification of people with MND (MND Association and the University of Sheffield)
- implementing algorithms to identify suitable participants for a clinical trial to establish whether deprescribing common drugs that lower blood pressure is safe or effective (OPTIMISE 2 Trial, the University of Oxford)
- developing and evaluating decision-support systems for the deintensification of potentially inappropriate medications in older frail people with type 2 diabetes (D-Med Study, Leicester Diabetes Centre)
- development, validation and real time refinement of criteria and digital tools used in primary care to aid hospital referral decisions in the event of surge during a pandemic (FLU-CAT Study, the University of Liverpool)
- collection of data from GP practices across the East Midlands to evaluate the effectiveness of the scale and spread of the PINCER medication safety intervention (the University of Nottingham)
- led on the national rollout of the PINCER medication safety intervention to over 40% of GP practices in England (the University of Nottingham)

How we can provide support:

- provide advice on feasibility, study design and methodology
- collect real-time coded data from GP practices
- data linkage with other health-related datasets
- code list development
- tools to support practice and patient recruitment strategies
- provision of targeted alerts to support opportunistic interventions
- provide advice on the scale and spread of the outputs of research into everyday practice
- advise on the use of analytical tools as medical devices
- bespoke studies conducted by in-house PRIMIS experts

R&E

Analytical Tools

PRIMIS analytical tools can be used for undertaking quality improvement, service planning and high-quality research studies.

Our analytical tools process raw data from GP system searches that can be used for:

- case finding activities
- generating actionable insights
- applying eligibility criteria for patient recruitment to research studies

Reporting interfaces within our analytical tools transform individual patient data into dashboards and summaries of key patient outcomes, promoting a more proactive and coordinated approach to patient care.

Complex algorithms can be implemented within our analytical tools for case finding purposes or to highlight patients suitable for recruitment to clinical trials.

Just a few examples of how PRIMIS analytical tools can support data-enabled decision-making:

- implementing the MODY (maturity onset diabetes of the young) probability calculator to improve diabetes classification in primary care (DePICtion study, University of Exeter)
- implementing algorithms to identify suitable participants for a clinical trial to establish whether deprescribing common drugs that lower blood pressure is safe and effective in older people (OPTIMISE2 Trial, University of Oxford)
- improving adherence to anti-osteoporosis medication (Bone Health Project, Health Innovation Oxford & Thames Valley)
- development of the FAMCAT2 Tool, designed to support the evaluation and implementation of the FAMCAT2 algorithm for proactively identifying patients with the highest probability of having familial hypercholesterolaemia, and its registration as a medical device (University of Nottingham)

How we can provide support:

- act as a trusted source of high-quality data specifications:
 - produced in a machine-readable format to allow for importation into other tools for comparison, reporting and analytical purposes
 - setting out the logical rules for implementation
 - documenting the purpose of each variable
 - providing an unambiguous description of the intended group of patients
- provide advice on the availability of data from GP clinical information systems and the frequency with which individual codes are applied, as well as factors impacting on data quality
- work collaboratively with you on the scope and approach of the data specification
- provide advice on whether nationally published code sets already exist
- conversion of code lists from one terminology to another
- provide advice on applying code lists developed in research databases in a real-world GP practice environment
- validation of data specifications once implemented
- licencing of data specifications to national suppliers of GP IT systems and clinical decision support software

How we can provide support:

- advise on the availability of high-quality actionable data from GP clinical information systems
- development of code lists and GP system searches to generate the raw data to be post-processed by an analytical tool
- development of analytical tooling to suit your exact needs and requirements (providing summaries at patient, GP practice, PCN, locality or national levels)
- design of reporting interfaces that anticipate what GP practices need to respond to and ensuring that the interface has elements that are easy to access, understand and use
- establishing whether risk-prediction calculators and algorithms developed in research databases can be replicated in real-world GP clinical information systems
- supporting scale and spread of risk-prediction calculators and algorithms to GP practices
- deployment of tooling to GP practices (on a restricted or unrestricted basis)
- advice on the use of analytical tools as medical devices

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To discuss requirements and find out more, please do not hesitate to contact PRIMIS at:

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View our website at:

<https://primis.link/PRIMIS>

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