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making clinical data work

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PINCER quality improvement tool

The PINCER quality improvement tool allows GP practices to easily interrogate their clinical data and identify patients who are potentially at risk of harm through prescribing errors or inadequate drug monitoring.

Practices can quickly access lists of patients identified as having been prescribed drugs commonly and consistently associated with medication errors.

The latest version of the PINCER tool was updated to search solely for currently registered patients. This allows practices to identify trends in current contemporary data and provide up to date task lists.

The PINCER tool uses both the CHART and CHART Online software tools allowing practices to visualise patient care at different levels. CHART Online provides the ability for practices to benchmark themselves against others both locally and nationally.

This tool was developed in partnership with the PINCER trial team at the University of Nottingham. The results of the trial, published in The Lancet (February 2012), showed that the PINCER intervention is an effective method for reducing a range of clinically important and commonly made medication errors in primary care.

Topics covered by the PINCER tool

Patients with a history of peptic ulcer who have been prescribed a non-selective non-steroidal anti-inflammatory drug (NSAID) without coprescription of a proton-pump inhibitor (PPI)

Helps to reduce harm in patients who are the subject of prescribing errors in eight specific topic areas

Patients 75+ years prescribed an angiotensin converting enzyme (ACE) inhibitor or a loop diuretic long-term who have not had a computer-recorded renal function and electrolytes check in the previous 15 months

Patients with a history of asthma who have been prescribed a beta blocker

Can reduce unnecessary costs by avoiding inappropriate treatment and hospital admissions that can occur as a consequence of prescribing errors

Women with a past medical history of venous or arterial thrombosis who have been prescribed combined hormonal contraceptives (CHC)

Patients receiving methotrexate for at least three months who have not had a recorded full blood count (FBC) or liver function test (LFT) within the previous three months

Supports practices in implementing the National Institute for Health Care Excellence (NICE) 'Medicines Optimisation Clinical Guidelines' published in March 2015

Provides multi-dimensional data from patient to practice, and local and national levels

Patients receiving warfarin for at least three months who have not had a recorded check of their international normalised ratio (INR) within the previous 12 weeks

Patients receiving amiodarone for at least six months who have not had a thyroid function test (TFT) within the previous six months

Identifies patients who have not received the necessary monitoring or investigations associated with the use of specific drugs, within the recommended timescales

Links to NHS Outcomes Framework domain 5 Patient Safety

Patients receiving lithium for at least three months who have not had a recorded check of their lithium concentrations in the previous three months

Identifies at-risk patients in need of medication review

Benefits of the PINCER tool

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PINCER tool - CHART summary sheets

CHART provides practices with instant visual snapshots of their clinical data. The PINCER quality improvement tool examines eight specific topic areas, all of which come with a CHART summary sheet and a corresponding aggregated view in CHART Online.

Example views from CHART and CHART Online are shown below for patients with a history of peptic ulcer who have been prescribed an NSAID with co-prescription of a PPI.

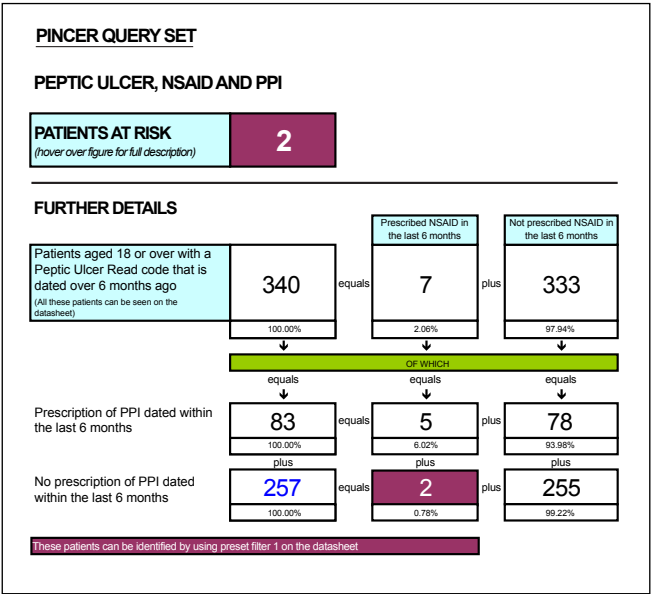


CHART summary sheet example view

Provides a detailed breakdown of practice results showing how the number of at-risk patients has been calculated. Detailed patient lists can then be accessed using the datasheet view within CHART.

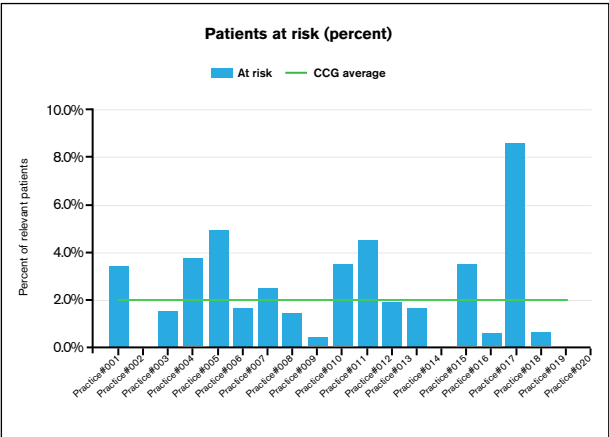


CHART Online example view

Provides an aggregated view of each topic area allowing practices to benchmark themselves against other practices locally and nationally.

Four key actions following use of the PINCER quality improvement tool

Identify patients at risk from prescribing/monitoring errors

The summary sheet shows the number of patients at risk according to the criteria for a specific query. The datasheet view identifies those patients summarised in the summary view and gives specific items such as dates and codes. In the NSAID example this includes peptic ulcer diagnosis and NSAID/PPI prescribing within the specified time frames.

Use pre-loaded filters and patient lists to identify patients potentially at risk and discuss the feedback.

Decide on the corrective action to be taken in terms of:

- the patients identified as being at risk
- reducing the risk of future occurrence of this type of error

Invite patients for review

In patients with a past history affecting prescribing, it may be necessary to invite them for a prescription review with the aim of correcting the medication error. For example, for the NSAID query by:

- stopping the NSAID
- adding a proton pump inhibitor (PPI)
- using a COX-2 inhibitor, while recognising concerns about these drugs in relation to cardiovascular risk

Review practice systems

To reduce the risk of future occurrence of this type of error, it may be necessary to make changes to systems within the practice such as:

- running searches to identify all patients with a history of peptic ulcer, ensuring that diagnoses are clearly visible on the patient record
- adding a screen message advising avoidance of particular drugs
- checking that information has been coded correctly on the clinical system and correcting any coding errors
- re-educating prescribers regarding correct treatment protocol
- ensuring that any functionality in the practice IT system is activated to provide appropriate warnings for all prescribers
- encouraging prescribers to take heed of contraindication messages