

What is PINCER?

PINCER is a proven **pharmacist-led IT-based intervention** to reduce **clinically important medication errors** in primary care. The intervention comprises three core elements:

1. Conducting searches on GP clinical systems to identify patients at risk from common and important prescribing errors
2. Pharmacists (trained in the PINCER approach) working with general practices to develop an action plan to correct and prevent potentially hazardous prescribing
3. Pharmacists (and pharmacy technicians) working with and supporting general practice staff to implement the action plan

What is the PINCER Tool?

PRIMIS (Primary Care Information Services) and the University of Nottingham PINCER Team have developed a **PINCER tool**. This tool is an extension of the PRIMIS CHART (Care and Health Analysis in Real Time) Query Library and contains the PINCER prescribing safety indicators.

The aim of the tool is to identify at-risk patients so that corrective action can be taken to reduce hazardous prescribing. Using the tool, it is possible for practices to view their results in relation to other practices within their CCG and see improvements over time.

Why is there a need for PINCER?

Prescribing errors in general practice are an important and expensive preventable cause of safety incidents, morbidity, hospitalisations and even deaths.

A DH commissioned report on the prevalence and cost of medication errors recently reported that an estimated 66 million potentially clinically significant errors occur per year, 71% of which are in primary care: <http://www.eepru.org.uk/prevalence-and-economic-burden-of-medication-errors-in-the-nhs-in-england-2/>

Serious errors affect one in 550 prescription items (Avery et al. *British Journal of General Practice* 2013; DOI:10.3399/bjgp13X670679) while hazardous prescribing in general practice contributes to around 1 in 25 hospital admissions.

How does PINCER differ to other audit tools?

Although PINCER indicators are embedded in other CDS and audit tools, we know that:

- Clinical system alerts are **often over-ridden by GPs** and that it is likely that some patients will “slip through the net”
- As demonstrated in the PINCER trial, it is the addition of **dedicated pharmacist support** to help resolve the problems identified and improve systems to avoid future errors, that significantly reduces rates of clinically important and commonly made prescribing errors in primary care
- The PINCER tool provides **comparative data on** numbers of at risk patients at a practice, CCG and national level

What is the evidence for PINCER?



The effectiveness of the PINCER intervention was shown in a cluster-randomised trial which was published in the Lancet: [https://www.thelancet.com/pdfs/journals/lancet/PIIS0140-6736\(11\)61817-5.pdf](https://www.thelancet.com/pdfs/journals/lancet/PIIS0140-6736(11)61817-5.pdf)

The trial compared two groups of general practices (a ‘simple feedback’ group n=36 and a PINCER group n=36) using the same prescribing indicator searches. The ‘simple feedback’ group were provided with details of patients identified by the searches, and evidence-based summaries for each of the indicators. The PINCER group was given similar information, but in addition a pharmacist was assigned to each practice to provide educational outreach regarding the indicators and practical support to tackle the prescribing safety concerns raised by the indicators.

The trial clearly demonstrated that at 6-months follow-up, hazardous prescribing was significantly lower in the PINCER group than the “Simple Feedback” group and that the intervention was likely to be cost-effective.

Clinical impact of PINCER

- PINCER supported by NICE in ‘Medicines Optimisation Clinical Guideline’ published 04/03/15 and available at: <http://www.nice.org.uk/guidance/ng5/evidence>.
- PINCER implemented and evaluated in **370 practices across the east Midlands** (12 CCGs) between Sept 2015 and Apr 2017:
 - ❖ **21,617** cases of potentially hazardous prescribing identified
 - ❖ Statistically significant reductions in hazardous prescribing demonstrated
 - ❖ Over **10,500 patients** received an active intervention to make their medication safer
- Since 2013, the PINCER Tool has been accessed by **>2,400 practices** across **198 CCGs (30% of all practices in England)** including:
 - ❖ Wessex AHSN
 - ❖ Greater Manchester AHSN
 - ❖ Northern Ireland
 - ❖ Newcastle Gateshead CCG
- PINCER selected for **national adoption and spread** across **all 15 Academic Health Sciences Networks in England** during 2018-2020 that will benefit millions of patients throughout the country.