

Submission Id: 3750

Title

Evaluating a large-scale rollout of a pharmacist-led information technology intervention (PINCER) in English general practice

Priority 1 (Research Category)

Prescribing and pharmacotherapeutics

Presenters

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Abstract

Context:We previously reported the effectiveness and cost-effectiveness of a pharmacist-led information technology intervention (PINCER) at reducing hazardous prescribing. The PINCER intervention searches GP clinical systems to identify patients at risk of hazardous prescribing, identified by 11 prescribing safety indicators, and with pharmacist support the practice acts to correct the prescribing to minimise future risk.

Objective:To evaluate the effectiveness of PINCER when widely implemented in general practices on the prevalence of patient exposure to hazardous prescribing and also on the incidence of serious harm in patients at risk of hazardous prescribing.

Study Design and Analysis:The PINCER intervention was rolled out in 370 general practices using a non-randomised multicentre incomplete stepped-wedge study design whereby the intervention was introduced to successive groups of general practices between Sept 2015 and Apr 2017. Data was extracted from 115 of these practices between Feb 2013 and Aug 2019. We used the indicators to identify potentially hazardous prescribing and collected data over a maximum of 16 quarterly time periods around the times of implementation. Modelling of each hazardous prescribing indicator and serious harm outcome, and composite indicators utilised a mixed model approach, with logistic mixed models for the quarterly event numbers with the appropriate denominator.

Setting or Dataset:Data extracted directly from GP systems.

Population Studied:Practices who had implemented PINCER in the East Midlands, England.

Intervention/Instrument:PINCER.

Outcome Measures: The proportion of patients in each practice and quarter exposed to at least one type of hazardous prescribing, identified using the prescribing safety indicators, and the proportion of patients with serious harm.

Results: The PINCER intervention was associated with a decrease in the rate of hazardous prescribing at 6 months, 12 months and 24 months post-intervention. A reduction in deaths and all cause hospitalisation were observed post intervention. However, a less clear association between the PINCER intervention and serious harm outcomes (identified within primary care data) were observed. Detailed results will be presented.

Conclusions: We demonstrate the real-world effectiveness of the PINCER intervention in reducing exposure to potentially hazardous medication when rolled out at scale in UK general practices, where the reductions were sustained for up to 24 months.