

NIHR Greater Manchester PSTRC

Plain English Publication Summary

Publication: [Evaluation of a pharmacist-led actionable audit and feedback intervention for improving medication safety in UK primary care: An interrupted time series analysis](#)

Publication details (Vancouver format)

Peek N, Gude WT, Keers RN, Williams R, Kontopantelis E, Jeffries M, Phipps DL, Brown B, Avery AJ, Ashcroft DM. Evaluation of a pharmacist-led actionable audit and feedback intervention for improving medication safety in UK primary care: An interrupted time series analysis. PLoS Med. 2020 Oct 13;17(10):e1003286. doi: 10.1371/journal.pmed.1003286.

What are the most important findings/conclusions in this paper? Why are they important?

We have developed a new pharmacist-led, digital intervention called SMASH (Safety Medication dASHboard). The intervention is unique because it can provide near real-time feedback to prescribers as it updates every evening. We found that it reduced rates of hazardous prescribing by more than 40 per cent, 12 months after it had been introduced to 43 GP practices in Salford.

What did you do?

SMASH consists of:

1. Training clinical pharmacists to deliver the intervention
2. A web-based dashboard providing feedback on prescribing that has taken place
3. Pharmacists performing medication reviews, and making changes to reduce hazards, or advising GPs on doing so.

SMASH was implemented in 43 general practices covering a population of 235,595 people in Salford, Greater Manchester, UK. All practices started receiving the intervention between 18 April 2016 and 26 September 2017. Practices were then followed for 12 months and rates of hazardous prescribing were analysed.

Why did you conduct this research?

Prescribing and medication are one of the biggest causes of patient safety incidents, and the third WHO Global Patient Safety Challenge is focussed on Medication without Harm. The SMASH intervention addresses this. The SMASH intervention builds on the principles of PINCER, an intervention developed by The University of Nottingham and The University of Manchester, and supported by the GM PSTRC. SMASH uses a set of 13 prescribing safety indicators which are used in PINCER. An example of a prescribing safety indicator is the prescription of an oral non-steroidal anti-inflammatory drug (NSAID), without also prescribing an ulcer healing drug, to a patient aged over 65.

What was known before your paper was published?

Electronic audit and feedback interventions can reduce the rates of hazardous prescribing and inadequate blood test monitoring in general practice. When based on a single piece of feedback, such as in PINCER, the effect of these interventions tends to reduce over time. We therefore wanted to evaluate whether SMASH, which provides continuous patient-level feedback, would provide a longer lasting increase in effectiveness.

What is next? What is the potential impact of the work in this paper? What will change as a result of this paper (or the study it describes)?

PINCER has been rolled out by Academic Health Science Networks (AHSNs) to 40% of general practices in England as part of a co-ordinated approach to reduce medication errors in primary care by the national AHSN Network. Due to the success of SMASH in Salford, Health Innovation Manchester, the organisation responsible for accelerating proven innovation into Greater Manchester's health and social care services, and part of the AHSN Network, is currently working to roll it out across Greater Manchester.

Does this paper link in to a particular study / project? If so, please summarise the study and explain how this paper has improved understanding, or will move the study forward.

The paper links to an ongoing GM PSTRC project to improve the safety of medication prescribing in primary care using electronic audit and feedback tools. This paper builds on previous published SMASH papers by describing the evaluation of the intervention in Salford. There is also a [project webpage for SMASH](#).