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Understanding the implementation and adoption of a technological intervention to improve medication safety in primary care: a realist evaluation

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What was known before your paper was published?

Over a billion prescription items are issued each year in the UK. It is known that there are risks associated with the prescribing of medicines in primary care and that for some patients this can lead to an adverse drug event (ADE). An estimated 9-12% of hospital admissions are caused by ADEs. Using information technology (IT), such as electronic medicines optimisation systems, can be used by doctors, pharmacists and healthcare managers to gain easier access to prescribing data. This can allow clinicians to make assessments about the quality and safety of prescribing and for changes to be made to ensure medicines are prescribed more safely. However the introduction of such IT systems has previously encountered difficulties. It has been acknowledged that the introduction of IT systems in to healthcare settings needs to consider the people who will be using the technology, the ways people work and the context in which the technology is used.

What did you do?

We talked to members of a clinical commissioning group in the South of England and looked at the use of an IT system designed to support medicines safety in primary care. This web based system securely extracted patient data from general practice records. We talked to GPs, general practice managers, pharmacists and patients, in interviews and focus groups, to explore their experiences of working with the IT system and what they felt were the benefits and drawbacks of it. We used a “realist evaluation” perspective which seeks to explain the ways an intervention might work (in this case the IT system), for whom and under what circumstances.

What did you find?

Using the IT system could lead to a number of improved patient safety outcomes, when the system was used effectively. Patients at risk of adverse drug events could be reviewed and changes made to their medication. However, using the IT system effectively depended upon how different healthcare professionals used the system, the flow of information between different healthcare professionals, and how different ways of working were developed to make best use of the system. The use of the IT system was undermined by people thinking that they lacked ownership, by restricted access and by a poor knowledge and awareness of its benefits.

What insights/knowledge did you add?

The use of an electronic medicines optimisation IT system may improve medication safety in primary care settings by identifying those patients at risk of an adverse drug event. To fully realise the potential benefits for medication safety there needs to be more usage of this or other similar IT systems across primary care and by a wider range of stakeholders. Engaging with all potential stakeholders and users prior to implementation of such IT systems might allay perceptions that the system is owned by the CCG and increase knowledge of the potential benefits, therefore leading to increased use of these types of IT systems in primary care.