

# Shared digital NHS prescribing record could avoid nearly 1 million annual drug errors

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Implementing a single shared digital prescribing record across the NHS in England could avoid nearly 1 million drug errors every year, stopping up to 16,000 fewer patients from being harmed and saving up to 22 lives every year, suggests a modeling study published online in *BMJ Quality & Safety*.

The figures, which are based on the assumption that such a system could reduce [medication errors](#) by at least 10%, and by as much as 50%, could also save millions for the NHS, say the researchers.

Previously published research suggests that drug errors cost the NHS £98 million every year, consuming over 180,000 bed days, and contributing to around 1,700 deaths.

A major nationwide initiative is currently under way across NHS health and [social care](#) to enable different information systems to share data digitally, often referred to as system interoperability, explain the researchers.

But as yet, there's no evidence to show what impact this would have on [patient safety](#), so, at the behest of NHS England, the researchers set out to estimate the current extent and consequences of drug errors associated with [information transfer](#) within the NHS in England, and how effective system interoperability might be in reducing them.

In the absence of routinely collected data on drug errors in the NHS, the researchers drew on published evidence and third party expertise to estimate the annual prevalence, associated patient harm, and NHS costs of undetected drug errors as patients transition through care.

The researchers focused on errors that are most likely to occur when someone has to manually transfer [prescription information](#): omitted medicines; extra and duplicated medicines; wrong dose, frequency,

timing, or formulation; and medicines intended for immediate/short term use but prescribed for long term use instead.

The care transition points studied were: [hospital admission](#) from primary care; [hospital discharge](#) into [primary care](#); transfer from one hospital to another for inpatient or outpatient care; and transfers between departments/clinics within the same hospital.

Associated hospital admission and inpatient treatment, length of hospital stay, and death were used to reflect patient harms, as these were the only objective measures of harm that could be estimated from the available data.

National data sources for England were used to estimate costs, which were reported for the cost year 2020-21.

The total annual number of undetected drug errors was estimated to affect around 1.8 million prescription items at transitions of care in hospitals in England.

Of these, over half (52%) happened when patients were admitted to hospital, and 44% when they were discharged; 3% occurred during transfers from one hospital to another; and 1% occurred during transfers within the same hospital.

These errors were estimated to affect around 380,000 episodes of patient care, resulting in avoidable harms to 31,500 patients, 36,500 additional bed days at a cost of around £17.8 million to the NHS, and more than 40 deaths.

Based on these figures, the researchers estimated that for every 10% reduction in the number of drug errors during transitions of care, there would be at least 3,000 fewer episodes of associated patient harm and at

least 3500 fewer bed days needed, saving the NHS nearly £1.8 million, and 4 lives every year.

And if the implementation of a single shared digital prescription record halved the number of these errors, there could be around 1 million fewer drug errors during transitions of care, up to 16,000 fewer people experiencing associated harms, and more than 20 lives saved every year, estimate the researchers.

The researchers acknowledge that they had to make various assumptions in their calculations, given that there's little data on drug errors and their consequences, and couldn't include key care transitions, such as to and from care homes and mental health facilities.

But given this, their figures are likely to be underestimates, they suggest, and conclude that "an interoperable prescription information system has the potential to substantially reduce transition medication error prevalence, associated harm, and health care costs."

There are likely to be other benefits too, including health care professional time saved, improved patient experience and care quality, quicker discharge, and enhanced medicines optimization across organizations, they say.

"The widespread adoption and active use of interoperable systems across the NHS will be pivotal to realizing the benefits of interoperability and a key step towards the ultimate aim of having one patient-centered consolidated medication record, to which there will be fully interoperable access," they add.

**More information:** Estimating the impact on patient safety of enabling the digital transfer of patients' prescription information in the English NHS, *BMJ Quality & Safety* (2024). [DOI:](#)

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