Single and Safe Intervention for MEDication administration (SaSI-MEDs): The development and evaluation of an intervention to de-implement unnecessary double-checking of medicines in hospital

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Background: Medication errors are one of the most ubiquitous patient safety problems in healthcare. While most errors result in no harm, some 66 million are 'potentially clinically significant' at a substantial cost to patients and the NHS. Independent double-checking (DC) of medicines is a commonly used strategy in hospitals to reduce errors. A systematic review found that DC did not reduce medication related harm. Other studies have found that independent DC is rare and that often, nurses do the checks together. DC, whether performed independently or not, takes up a large amount of time. Also, DC can harm patients by delaying the administration of critical medicines. Across the NHS, nurses are spending large amounts of time DC medicines, assuming that this will reduce medication errors, when there is no evidence for this.

Objectives: We will develop and test an intervention to support a safe single-check of medicines.The aim of this research will be to determine if reducing DC of medicines reduces costs without increasing patient harm.

Methods: A 5-year NIHR programme grant (began January 2025) comprising five work packages: WP1a) Qualitative work exploring the barriers and enablers to reducing DC. WP1b) Co-producing an intervention for safely single-checking medicines. WP2) Focused observations of DC to understand how it is conducted in practice, how much it costs and the prevalence of medication errors during DC. WP3) A feasibility study to determine if and how the intervention can be delivered in practice. WP4) A cluster waitlist trial and cost-effectiveness evaluation.WP5) NHS staff, patients and policy makers will be involved throughout this programme through research activities involving Patient and Staff Advisory Groups.

Results: We will design our research to identify and address any potential exacerbations of inequality as certain staff groups may experience greater anxiety at the prospect of stopping DC e.g. for newly qualified or internationally trained nurses and those from ethnic minority backgrounds who experience greater disciplinary action following incidents.

Conclusion: We hope to determine whether stopping DC of medicines saves money without increasing patient harm. We seek to deliver impact in three areas: changing medicines policy and medication administration practice and to develop methods for developing more efficient processes for DC medicines that are safer for patients.

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This 5-year NIHR Programme Grant will explore if stopping double-checking of medicines saves money without increasing patient harm

Medication errors are a major patient safety concern, with an estimated 237 million occurring annually in England. Over half occur at the point of administration, where double-checking by two nurses is a common prevention strategy. Despite its widespread use, there is a lack of evidence demonstrating that double-checking reliably reduces errors or harm, yet it consumes substantial nurse **time**, causes **interruptions**, and **delays critical medications**. In the context of workforce pressures, this potentially low-value practice may divert resources, making its evaluation and possible de-implementation a priority.

Five work packages will be conducted to develop and test an intervention to support a safe single-check of medicines.

WP1a & WP1b

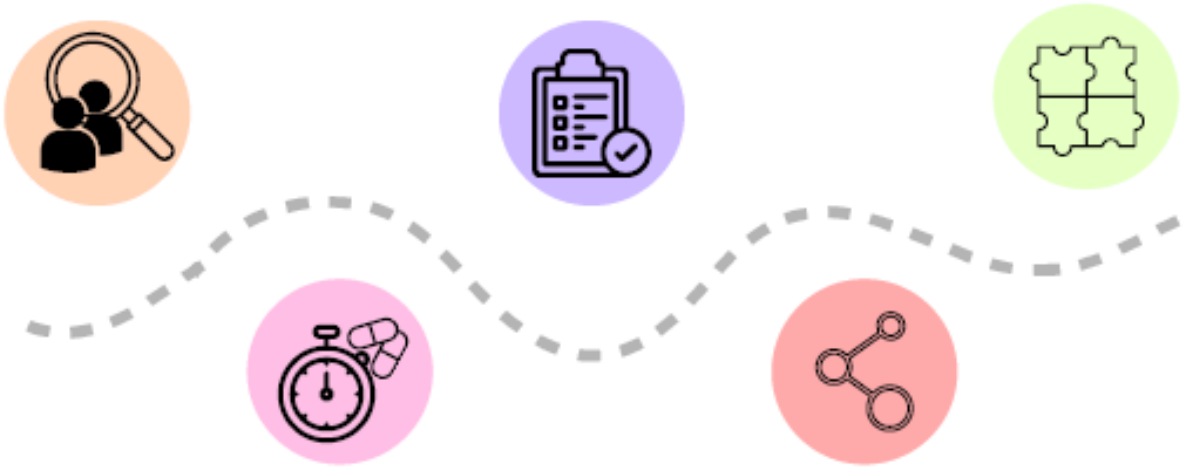
Qualitative study exploring the barriers and enablers to reducing double-checking. The findings will be used to co-produce an intervention for safely single-checking medicines.

WP2

Focused observations of double-checking to understand how it is conducted in practice, how much it costs and the prevalence of medication errors.

WP3

A feasibility study to determine if and how the intervention can be delivered in practice.



WP4

A cluster waitlist trial and cost-effectiveness evaluation

WP5

Stakeholders will be involved throughout the research including input from NHS staff, patients and policy makers.

This research aims to identify and address any potential exacerbations of inequality as certain staff groups may experience **greater anxiety** at the prospect of stopping double-checking e.g. for newly qualified or internationally trained nurses and those from ethnic minority backgrounds who experience **greater disciplinary action** following incidents.

Additionally, nurses may **adopt alternative strategies** to double-checking, e.g. checking with patients, which may be omitted if patients cannot speak English, lack capacity or have learning disabilities. This may exacerbate health inequalities.

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