

This study will explore the landscape of intravenous medication infusion practices and errors in English hospitals and how smart pumps may relate to the prevalence of medication administration errors” Blandford et al (2016).

Abstract:

INTRODUCTION: Intravenous medication is essential for many hospital inpatients. However, providing intravenous therapy is complex and errors are common. ‘Smart pumps’ incorporating dose error reduction software have been widely advocated to reduce error. However, little is known about their effect on patient safety, how they are used or their likely impact. This study will explore the landscape of intravenous medication infusion practices and errors in English hospitals and how smart pumps may relate to the prevalence of medication administration errors.

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METHODS AND ANALYSIS: This is a mixed-methods study involving an observational quantitative point prevalence study to determine the frequency and types of errors that occur in the infusion of intravenous medication, and qualitative interviews with hospital staff to better understand infusion practices and the contexts in which errors occur. The study will involve 5 clinical areas (critical care, general medicine, general surgery, paediatrics and oncology), across 14 purposively sampled acute hospitals and 2 paediatric hospitals to cover a range of intravenous infusion practices. Data collectors will compare each infusion running at the time of data collection against the patient’s medication orders to identify any discrepancies. The potential clinical importance of errors will be assessed. Quantitative data will be analysed descriptively; interviews will be analysed using thematic analysis.

ETHICS AND DISSEMINATION: Ethical approval has been obtained from an NHS Research Ethics Committee (14/SC/0290); local approvals will be sought from each participating organisation. Findings will be published in peer-reviewed journals and presented at

conferences for academic and health professional audiences. Results will also be fed back to participating organisations to inform local policy, training and procurement. Aggregated findings will inform the debate on costs and benefits of the NHS investing in smart pump technology, and what other changes may need to be made to ensure effectiveness of such an investment.

Full Text

Reference:

Blandford, A., Furniss, D., Lyons, I., Chumbley, G., Iacovides, I., Wei, L., Cox, A., Mayer, A., Schnock, K., Bates, D.W., Dykes, P.C., Bell, H. and Dean Franklin, B. (2016) Exploring the Current Landscape of Intravenous Infusion Practices and Errors (ECLIPSE): protocol for a mixed-methods observational study. *BMJ Open*. 6(3), p.e009777.

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