

Publication: [Understanding the causes of intravenous medication administration errors in hospitals: a qualitative critical incident study](#)

**Publication details (Vancouver format)**

Keers RN, Williams SD, Cooke J, Ashcroft DM. Understanding the causes of intravenous medication administration errors in hospitals: a qualitative critical incident study. *BMJ Open* 2015;5:e005948. doi: 10.1136/bmjopen-2014-005948

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

Errors in the preparation and administration of medicines given to patients intravenously (into the veins) are caused in a number of different ways or 'reasons', and each error may be caused by more than one of these reasons.

Reasons include:

- Challenges related to the nurses themselves (for example, their experience and confidence),
- The hospital ward (for example, being interrupted or having a high workload),
- The equipment nurses use (for example, medicines which look or sound alike),
- The patients being looked after (for example, if they are very ill),
- The procedures nurses follow (for example, how staff 'check' their work)
- The other people they work with (for example, communication in the team).

It is important to know about these challenges, because new ideas to improve the safety of intravenous administration of medication will need to consider a number of challenges at the same time in order to produce solutions that work.

**What did you do?**

Researchers interviewed 20 nurses working in NHS hospitals who had been involved in an error whilst preparing or giving one or more medications to a patient in the past, and asked them about what was going on around them at the time of the error, and why they think the error happened. Researchers then organised the information using a model to improve understanding of why the errors occurred and the challenges involved.

**Why did you conduct this research?**

It is known that errors in the preparation and administration of medications intravenously are common, and can cause patients to suffer serious harm. Unlike medications that can be given by mouth, those given into the vein cannot be easily removed so it is important to try and avoid errors wherever possible. Before this study was published, interviews with nurses had not been used in any detailed investigations into what causes these errors in NHS hospitals.

**What was known before your paper was published?**

Previously, some studies had been carried out where researchers looked at reports of errors written by hospital staff, or watched nurses as they worked and had brief conversations with them on the ward to learn more about these errors and why they happened. However, these studies did not provide much detail about what the nurse was thinking when they made the error, or what was happening around them at the time. This meant that we knew some of the main challenges which caused nurses to make errors, but we didn't fully understand how they caused errors to happen, or how more than one reason might have led to a single error.

**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)?**

We hope that other researchers and healthcare workers will use the results of our study to help them find new ways to make the injection of medications into the vein safer in future. We believe that knowing what causes an error to happen will allow us to build new ways of working to try and prevent errors in future. We feel that looking at the way nurses work together and the way they think about and carry out their work on the ward is an important focus for future research and understanding.

**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.**

N/A