

NIHR Greater Manchester PSTRC

Plain English Publication Summary

Publication: [Predicting dispensing errors in community pharmacies: An application of the Systematic Human Error Reduction and Prediction Approach \(SHERPA\)](#)

Publication details (Vancouver format)

Ashour A, Phipps DL, Ashcroft DM. Predicting dispensing errors in community pharmacies: An application of the Systematic Human Error Reduction and Prediction Approach (SHERPA) PLOS ONE. 2022;17(1):e0261672.

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

There are two important findings from this study. Firstly, it highlighted the areas in the dispensing process where errors are most likely, according to the SHERPA analysis. These are:

1. Tasks surrounding the production of medication labels.
2. Completing the final checks of medicines.

The most common type of error that could occur within the dispensing process was missing a check within the tasks.

Secondly, the study showed that tools from the 'human factors' discipline of research could be used in community pharmacies to identify potential errors, and ultimately improve patient safety.

What did you do?

In this investigation, we used something called 'qualitative research methods', which include focus group discussions and observations. We combined those methods with a framework that is used to show potential errors in tasks, which is called the Systematic Human Error Reduction and Prediction Approach, or SHERPA for short.

We started by observing pharmacists at their workplaces to understand how they, and their staff, dispense medicines, from the point they receive the prescription from patients or their representatives, to the point the medicines are checked and ready to be handed to, or delivered to, patients. This allowed us to map all the sub-tasks involved in making this happen.

Then we asked pharmacists, in a focus group setting, to discuss these sub-tasks and assign them to different categories based on a list provided within the SHERPA tool. Examples of these categories included action, communication or checks. A number of errors were suggested in each category and participants discussed the likelihood of them occurring in practice, and the consequences if they did occur.

Why did you conduct this research?

Errors are a critical issue in the dispensing process within pharmacies, with latest reports estimating that 5% of patients are exposed to preventable harm during their medical care.

There have been a number of pharmacy investigations analysing past incidents during the dispensing process. But not many studies have attempted to investigate potential incidents during future dispensing. This is the first study to use the SHERPA framework to predict errors that could occur during dispensing.

What was known before your paper was published?

Previous studies have found that the dispensing process is a complex task that involves multiple individuals in the pharmacy and there are various actions required in order to complete it.

'Prospective risk analysis methods' (looking at potential future risks) have been used in other high-risk industries, such as the handling of large machinery, and other areas within healthcare. This paper is the first example of applying this type of prospective risk analysis (a SHERPA approach) to the task of dispensing medicines in order to:

- Provide insights on potential errors
- Suggest changes to how things are done to tackle the potential errors before they occur.

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)?

This study suggested solutions that could prevent potential errors from occurring. But these solutions remain at the ideas stage, so future studies will need to explore how they can be used in practice to avoid errors within community pharmacy.

The study provided insights into the parts of the dispensing process that may lead to a wider range of errors than others. This knowledge will be important during pharmacy discussions about task allocation, especially when involving other members of the pharmacy team.

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.

This study used a Hierarchical Task Analysis (HTA) in order to carry out the prospective risk analysis. A previous study done by the same group of researchers applied HTA to the task of dispensing. However, in that study the main objectives were to identify the differences in how pharmacy staff think tasks were completed compared to how the tasks were completed in reality. The findings of that study can be found at:

<https://doi.org/10.1016/j.apergo.2021.103372>