

# Patients' Bedside or Drug Trolleys: Where to Keep Paper Medication Administration Records?

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## Abstract

A point estimate study was conducted at a general teaching hospital in Britain that measured the availability of patients' paper medication administration records (also known as MARs or drug charts) in five surgical and two medical units. The five surgical units kept MARs at patients' bedside, whereas each of the two medical units kept all MARs at two designated drug trolleys. MARs were readily available 76% (84 of 111 patients) of the time in the surgical units, compared to 94% (45 of 48 patients) of the time in the medical units. The difference in availability was statistically significant ( $p < 0.01$ ). The results suggested that hospitals should keep paper MARs at a designated area rather than patients' bedside. This setup would reduce the time needed to locate MARs, and hence make the work of doctors, nurses, and pharmacists more efficient.

**Keywords:** Nursing; Drug chart; Medication administration; Prescription; Medication error; Medication administration record; Hospital

## Introduction

For at least the last 50 years, keeping paper medication administration records (also known as MARs or drug charts) at patients' bedside appears to be the norm in British hospitals [1,2]. However, some wards may opt to keep all MARs at a designated area, such as drug trolleys, nursing stations, or treatment rooms. This setup facilitates drug preparation by nurses, who seldom prepare drugs at patients' bedside. This also prevents MARs being misplaced and patients reading their own medication records [3].

## Methods

In February 2017, a point estimate study was conducted at the Royal Lancaster Infirmary, a general teaching hospital in Britain. The study measured the availability of patients' paper MARs in five surgical and two medical units. The study obtained approval from the hospital audit department. The five surgical units kept MARs at patients' bedside, whereas each of the two medical units kept all MARs at two designated drug trolleys. This hospital did not use electronic prescribing at the time of the study. Data were collected about the same time each day (16:00 to 17:30), but not during the drug rounds. Because there was no prior study data for calculation of sample size, all patients were included in the study to ensure adequate statistical power. Statistical analyses were performed using the software GraphPad Prism version 4.00 for Windows (GraphPad Software, San Diego, California, USA). Statistical significance was determined using two-sided Fisher's exact test and defined a priori as  $p < 0.05$ .

## Results and Discussion

The study included all of the 159 patients in five surgical and two medical units. MARs were readily available 76% (84 of 111 patients) of

the time in the surgical units, compared to 94% (45 of 48 patients) of the time in the medical units. The difference in availability was statistically significant ( $p < 0.01$ ). This study is limited by its small sample size and single-centred design. A potential confounder was the different work process in the surgical and medical units. However, the results suggested that hospitals should keep paper MARs at a designated area rather than patients' bedside. This setup would reduce the time needed to locate MARs, and hence make the work of doctors, nurses, and pharmacists more efficient. When hospitals fully implement electronic prescribing, we may no longer have problems of searching for MARs [4,5]. Until then, we should make every effort to make paper MARs easily accessible, and not prone to being misplaced. Other advantages of electronic prescribing includes preventing errors in medication reconciliation and adverse drug reaction documentation, which frequently happen in hospitals [6,7].

## Conclusion

It can be concluded that, this study is another piece of evidence that supports full implementation of electronic prescribing in all hospitals.

## Conflict of Interest

The author declared no other relationships or activities that could appear to have influenced the submitted work.

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