

Validating ieMR Time Stamps for Use in ED Patient Flow Research: Confirming the Basics of the Integrated Electronic Medical Record (ieMR)

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Introduction

Through a quantitative analysis, accuracy of discharge times on the ieMR has been reported to evaluate bottlenecks in patient flow

Objective

To evaluate the accuracy of reported discharge times on the ieMR through a quantitative audit

Method

- Quantitative study
- 120 hours observation in the ED
- Collecting: actual and reported discharge times, medical reference number

323 confidential samples were collected over 15 x 8-hour shifts in the ED

Mean discrepancy in discharge times was +5 minutes, aligning with initial projections

Cumulative missed time average 14.5 hours per day (173 patients per day x 5 minute discrepancy)

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|--------------------------|----------|--------------------------------|---------------------|----------------------|
| Medical reference number | 12345678 | Calculation | Time (second) | Time (minutes) |
| Arrival time | 01:23 | Average (±SD) | 348 seconds ± 686.8 | 5 minutes 48 seconds |
| Actual discharge time | 10:11 | Average without negative (±SD) | 452 seconds ± 685.2 | 7 minutes 32 seconds |
| ieMR reported discharge | 10:15 | Median | 180 seconds | 3 minutes |
| Difference | 00:04 | Mode | 120 seconds | 2 minutes |
| Patient number | 1 | Minimum Value | -1140 seconds | 19 minutes |
| | | Maximum Value | 6660 seconds | 111 minutes |
| | | Range | 7800 seconds | 130 minutes |

In 47 instances there was a negative result, where a patient was prematurely discharged on the ieMR

What do the findings mean for ED clinicians?

- **Understand:** poor reporting of patient discharge can leads to bottlenecks
- **Recognise:** bottlenecks in patient flow can result in morbidity and mortality
- **Value:** the emergency department needs to flow appropriately, otherwise factors such as ambulance ramping and crowded waiting rooms can be extremely problematic and affect staff and patients

References: (Abir et al., 2019), (Jarvis, 2016)