

# An Assessment of Nursing Interruptions on Inpatients Units

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## INTRODUCTION

It has been supported that interruptions contribute to medical errors, decrease efficiency, and increase hospital expenses. Interruptions can include but are not limited to: system failure, phone calls, pages, coworker requests, equipment failure, patient status change, patient family questions and requests, and face to face communication with other staff members.

- On average, a nurse is interrupted 7 times every hour, which tallies to 48.2 interruptions for an 8 hour shift. More often than not these interruptions are avoidable<sup>1</sup>.
- 43% of medication errors are attributed to workplace distractions that force nurses to multitask<sup>2</sup>.
- Clinical errors have a significant effect on the patient, contributing to 44,000-98,000 hospital deaths yearly<sup>3</sup> and costing between \$17- \$29 billion in expenses<sup>4</sup>.
- Existing literature suggests that interruptions comprise 22% of a nurse's work time<sup>5</sup>.

Based on the data collected from this study, we were able to inform current nursing quality improvements projects and will suggest techniques to reduce the frequencies of interruptions and the resulting impact on clinical care.

## MATERIALS & METHODS

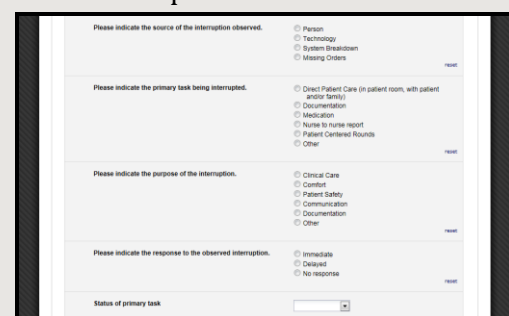
- Two Medical Surgical units identified for participation
  - ✓ Wilmington(4N) and Christiana (5D)
- 2 trained observers (IJ & NA)
- Shadowing hours consisted of 4 hour intervals
  - ✓ 7am to 11pm Monday through Friday
- Data Collection included:
  - ✓ Source of interruption
  - ✓ Primary task being interrupted
  - ✓ Response to interruption
  - ✓ Duration of interruption
  - ✓ Status of primary task

Summary Statistics	
Description	N (%), n=35
Unit	
Christiana (5D)	18 (51%)
Wilmington (4N)	17 (49%)
Shift (time)	
7am-11am	8 (23%)
11am-3pm	10 (29%)
3pm-7pm	9 (26%)
7pm-11pm	8 (23%)
Shift (day)	
Monday	7 (20%)
Tuesday	6 (17%)
Wednesday	8 (23%)
Thursday	6 (17%)
Friday	7 (20%)

Interruptions Defined

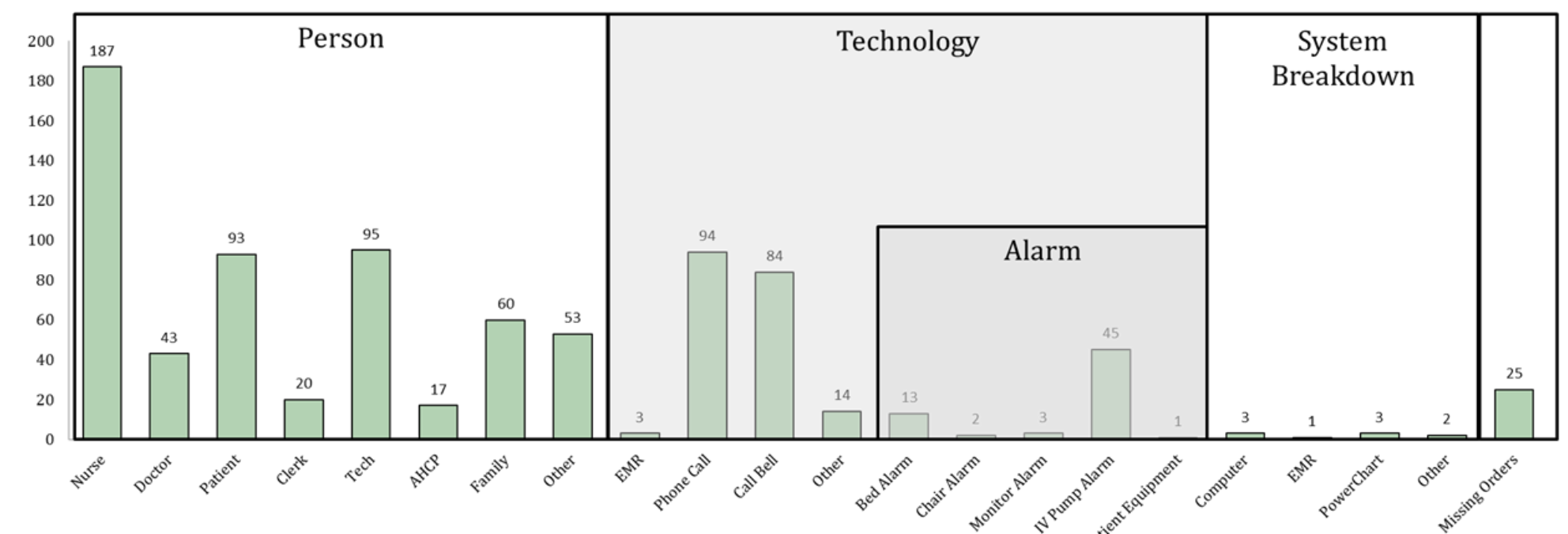
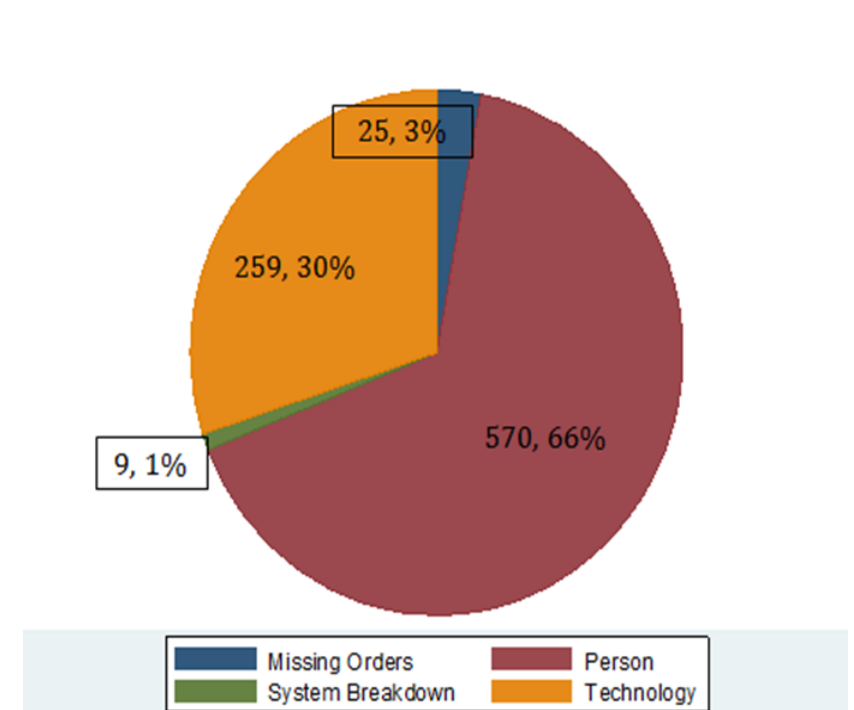
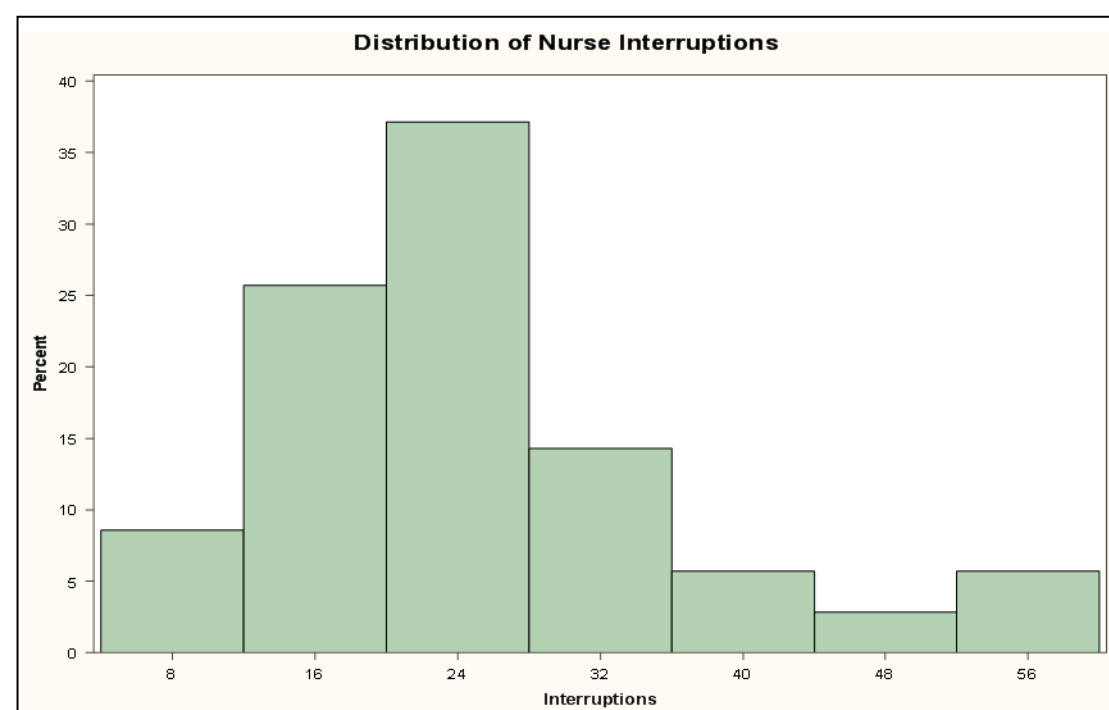
**Interruptions:**  
*Situations in which the nurse ceased an initial task to attend to an external stimulus.*

REDCap Data Collection Tool



## RESULTS

**35 SHIFTS 863 INTERRUPTIONS LOGGED 140 HOURS**



Purpose of Interruption	Frequency
<b>Clinical Care</b>	360 (42%)
<b>Comfort</b>	143 (17%)
<b>Communication</b>	
Member of the Health team	188 (22%)
Patient	13 (2%)
Family/Support Person	22 (3%)
<b>Documentation</b>	26 (3%)
<b>Patient Safety</b>	46 (6%)
<b>Other</b>	60 (7%)

Primary Task Interrupted	Frequency
<b>Documentation</b>	463 (54%)
<b>Direct Patient Care</b>	156 (18%)
<b>Medication</b>	
Administration	77 (9%)
Preparation	89 (10%)
<b>Nurse to Nurse Report</b>	43 (5%)
<b>Patient Centered Rounds</b>	20 (2%)
<b>Other</b>	13 (2%)

~25

**Interruptions**  
per 4 hour shift

80.1

**Minutes of**  
interruptions  
per 4 hour shift

34%

**Time spent**  
addressing  
interruptions

## LIMITATIONS

- Potential observer effect.
- Duration of shadowing shift (4 hours) versus actual shift (anywhere from 8-12 hours). Additionally, although we shadowed a substantial amount of nurses, our study may be subject to inconsistencies due to the length of observation time.
- The rate of admission and discharge of patients during a observation period affect the nurse to patient ratio which may have an effect on the rate of interruption, impacting our data.

## CLINICAL IMPLICATIONS

Nurses spend between 16 and 34 percent of their time dealing with interruptions and most of the documented interruptions took place during the 3pm-7pm shift.

Documentation (463, 54%) is the most commonly interrupted task. Medication preparation and administration (166, 20%) was the next most commonly interrupted task. These tasks are interrupted by clinical care or communication with another member of the health care team.

- Interruptions during documentation can be reduced by making the patient assessment chart accessible through the computer and allow nurses to record their notations, reducing time spent on nurse to nurse report.

There is significant concern regarding the interruption of medication preparation and administration.

- One recommendation is the use of signage to form a “no distraction zone” while administering or preparing medication. “No distraction zone” units have observed a reduction in adverse events.

### Future Directions

- Distinguish between positive and negative interruptions.
- It is important to mention that 687 of 863 (80%) interruptions were handled by the nurse. A system of collaborative work should be established between Registered Nurses and Patient Care Technicians to productively and efficiently care for the patient.

## ACKNOWLEDGEMENTS

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References. 1. Johnson KD et al. Causes and occurrences of interruptions during ED triage. J Emerg Nurs. Sept. 2014; 40(5):434-9. 2. Brixey et al. Interruptions in workflow for RNs in a level one trauma center. Proc AMIA Symp. 2005:86-90. 3. Kohn LT. To Err Is Human: Building a Safer Health System. Washington, DC: National Academy Press; 1999. 4. Corrigan, Janet M. “To Err Is Human: Building A Safer Health System.” Institute of Medicine: Nov. 1999. 5. Trbovich P et al. Interruptions during the Delivery of High-Risk Medications. JONA. 2010; 40(5).