

**Palarum Sock Study**  
**Data Summary Report**  
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This report contains data cleaning steps, descriptive summary tables, and outcome results for the Palarum Sock Study data. Two data sources were used for this study – data from Ohio State University Wexner Medical Center and data collected by Palarum.

## Palarum Data

### Primary dataset

- 732 entries with multiple enrollment and unenrollment dates (technical error)
- 569 patients after data cleaning multiple entries by limiting data to first enrollment and last unenrollment
- Variables included – floor, unit, enrollment date, unenrollment date. From these we calculated length of stay.

Variable	Level	Total (n=569)
OSU unit	Missing	3 (1%)
	10 East	127 (22%)
	10 South	108 (19%)
	8 East	64 (11%)
	8 South	102 (18%)
	9 East	81 (14%)
	9 South	84 (15%)
Length of Stay (Days)	Median [IQR] (min, max)	2 [1, 3.9] (0, 127.2)

### Secondary dataset

- 4,999 reported stands, 0 falls
- Variables included – event type, start date, stop date, room, unit, bed, seconds. We used the fall data for the primary outcome of estimating the fall rate and the length of each stand event to summarize the average time of stands.

## Ohio State Data

### Admission Data

- 895 entries with multiple admission times, locations and diagnoses
- 585 patients after limiting to first entry per patient
- Variables included – admission time, department, room, diagnosis, date, date of birth height, weight. From these we calculated age and BMI. Unit, department, and room information were not useful – these were not from 8, 9, or 10 East and South which was inclusion criteria.

Variable	Level	Total (n=585)
BMI	Mean (SD) (min, max)	missing=29 30.8 (8) (14.9, 59.7)
Age	Mean (SD) (min, max)	59.5 (16.8) (18.1, 102.6)

#### Falls Data

- 1,097 entries of “History of Falling” – repeated entries recorded on admission and every 8 hours
- 585 after reducing to first entry

Variable	Level	Total (n=585)
History of Falls	NULL	21 (4%)
	No	428 (73%)
	Yes	136 (23%)

#### Data discrepancies

- There were 58 patients in the OSU data that were not included in the Palarum data
- There were 48 patients in the Palarum data that were not included in the OSU data
- Total of 521 common patients between the 2 datasets

#### Study Objectives

- To determine if the fall rate (as measured by falls per 1000 patient days) for patients designated “high fall risk” decreases with the use of the intervention (Patient is Up fall prevention technology [PUP]) when compared to historical NDNQI data for the prior 12 months (“Benchmark Data”) from nursing units where the intervention is being undertaken.
  - We ran a one-sided one-sample test for Poisson means using fall events (0 falls) and length of stay (2211.6 days) to estimate the fall rate
  - Results are presented as the fall rate and the corresponding one-sided 90% confidence interval which provides an upper bound for the fall rate.
    - 0 falls (Upper bound 1.04) per 1000 days
  - This fall rate was lower than the historical rate of 4 falls per 1000 days
- To reduce the incidence of false alerts, <5%. Our goal is a high reliability notification system.
  - No data collected for this
- To provide positive alert reliability of 95%. Our goal is to reduce alert fatigue with nurses. To determine number of alerts sent out; what is the frequency of these patient safety events (i.e.), fall risk patient up, out of bed, unassisted
  - No data collected for this
- To gather compliance data and response times from alert to caregiver response.

- Stand Time captured in seconds

Variable	Level	Total (n=4999)
Stand (seconds)	Median (IQR) (min, max)	24.0 (5.0, 64.0) (1.0, 593.0)