

Implementation of a Virtual Nursing Program in an Adult Acute Care Medical-Surgical Unit

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Pandemic-Driven Innovation

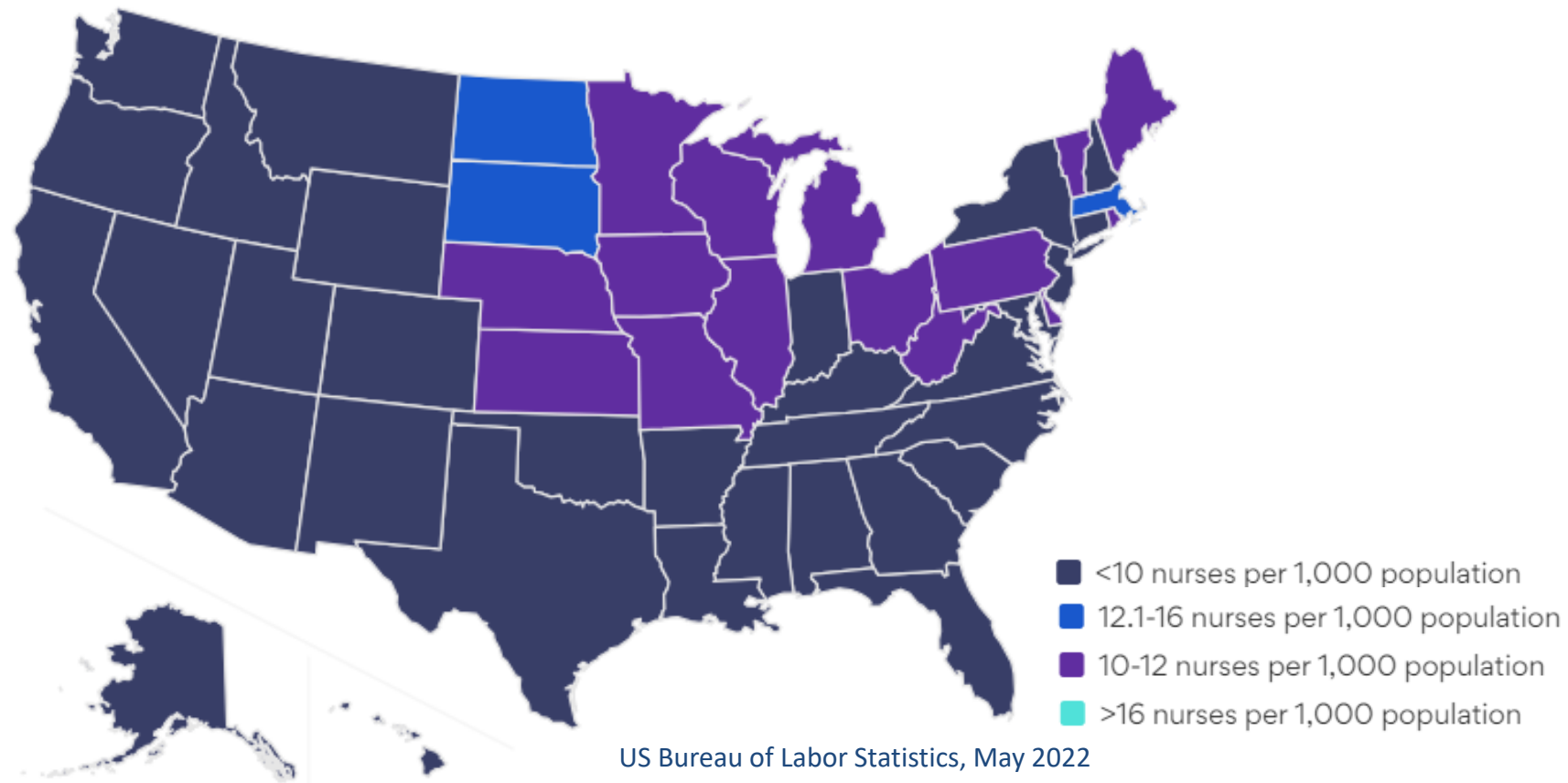
During the COVID-19 pandemic, a national survey found that almost two-thirds of nurses (62%) reported experiencing burnout related to strain on healthcare staffing. (American Nurses Association, 2020)

Though high levels of demand were already affecting nurses and other health workers, the pandemic greatly accelerated the need for innovative solutions to alleviate burnout and other workplace hazards.

Objective: Increase nurse staffing via the introduction of a Virtual RN to reduce the workload of the bedside nurse.



Nurse Staffing: A National Crisis



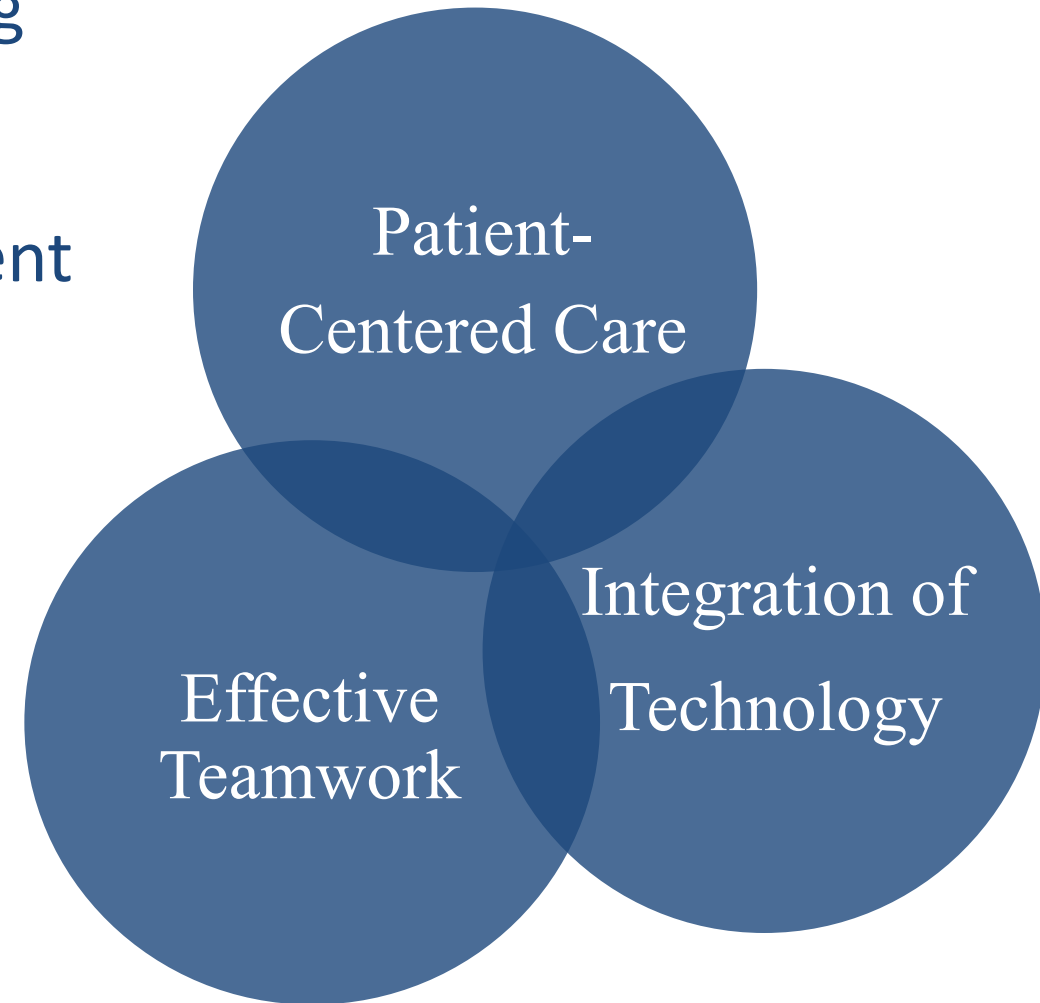
Nurse Staffing Crisis: Mississippi

- Mississippi hospitals are experiencing record-high nurse staffing shortages
 - Vacancy, turnover, separations, and hiring of contract/agency/travel workers are at an all-time high (Mississippi Hospital Association)
- As a result, nurses are experiencing **burnout** at a high rate.

Higher nurse staffing is associated with better patient outcomes, shorter hospital stays, and reduced mortality rates.



The institutional **Vision** for a Virtual Nursing Program is to augment nurse staffing to reduce workplace stress and increase retention of bedside nurses for better patient outcomes.



Potential of Virtual Nursing Program:

Facilitating teamwork, enhancing patient-centered care

Goal: Reduce Bedside Nurse's Workload

- Facilitation of patient care coordination with continuous updates to interdisciplinary teams.
- Accurate, timely documentation of admission, discharges and pain reassessment

Goal: Increase Patient's Safety

- Address patient needs promptly.
- Perform of frequent rounding to minimize the occurrence of a harmful event.

Goal: Improve Communication with Patient

- Patients receive a detailed discharge education process to ensure complete understanding.
- Patient given the opportunity to ask questions regarding their care.

Pilot Program

Virtual nursing was implemented in a small unit at UMMC on March 20, 2023.

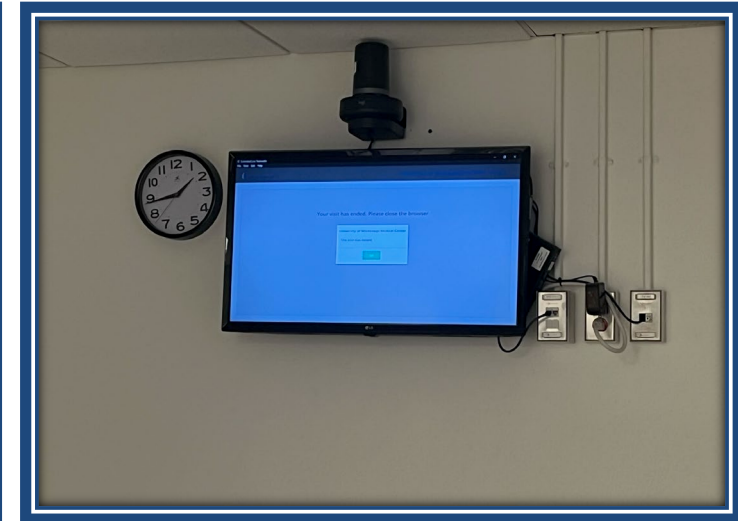
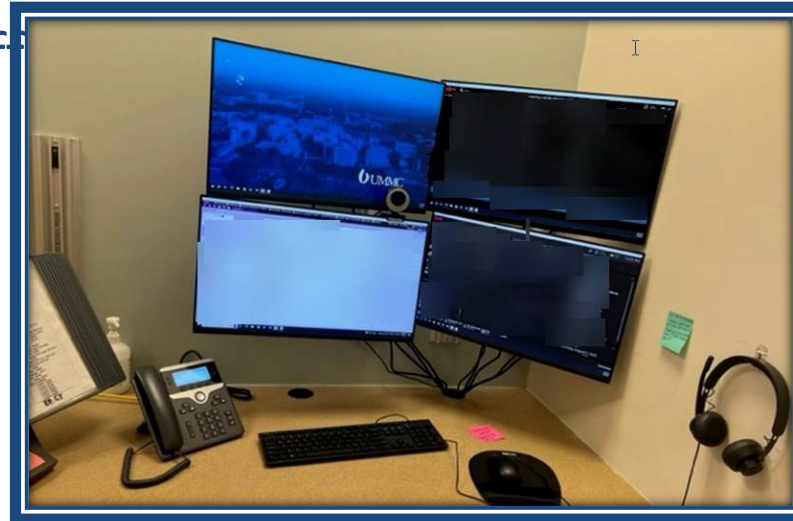
- 6 West: 14-bed unit
- Adult acute care patients

Virtual RN Staffing Structure

- Created an on-floor “bunker” staffed by a virtual nurse
- 9am – 9pm, 7 days/wk

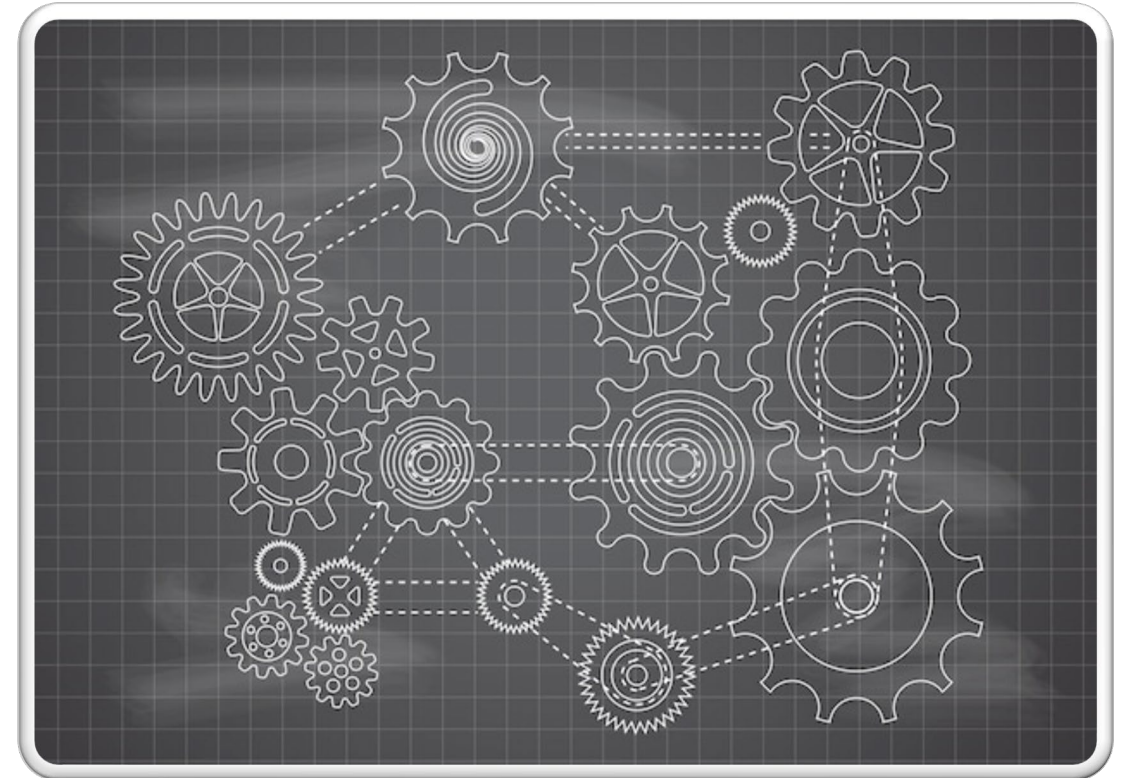
Technology:

- In every patient room
 - Pan/Tilt/Zoom Camera and monitor, speakers
 - iPad with MyChart Bedside (education, satisfaction questionnaire)
- In Virtual Nurse Bunker
 - Secure chat integrated with EPIC platform
 - 4 screens: Hyperspace, Focused Patient, Video Call, Epic Monitor



Roles and Responsibilities of Virtual RN

- Admissions
 - Review of patient data
 - All required documentation not requiring a physical assessment
- Discharge
 - Patient education
 - Collaboration with coordinated care, discharge disposition
- Rounding
 - Identification of need for intervention or activity (i.e. entertainment, position/gown/linen change)
 - Safety checks
 - Pain reassessment



Analysis of Virtual Nursing Pilot

Patient Characteristics in 6 west during the study period (11/20/2022- 07/19/2023).

	Patient with VN (n = 221)	Patient without VN (n = 195)
Age at admission, yr, mean (SD)	54.5 (17.9)	55.36 (17.8)
Female, no. (%)	104 (47.1)	86 (44.1)
Race, no. (%)		
White or Caucasian	89 (40.3)	76 (39.0)
Black or African American	123 (55.7)	113 (58.0)
Others	9 (4.1)	6 (3.1)
Rural, no. (%)	74 (33.5)	69 (35.4)

Volume at 6 West and 2 West during study period (11/20/2022- 07/19/2023).

	6 West	2 West
11/20/2022 – 03/19/2023		
Number of patients/number of in-unit stay	187/234	231/270
Number of patients, per bed	13.4	17.8
Number of In-unit stay, per bed	16.7	20.8
03/20/2023 – 07/19/2023		
Number of patients/number of in-unit stay	221/262	235/279
Number of patients, per bed	15.8	18.1
Number of In-unit stay, per bed	18.7	21.5

Measurable reduction in bedside nurse workload

Admissions

The average time of bedside nurses completing the admission navigator is **38 minutes**.

VS

The average time of a virtual nurse completing the entire admission process is **23 minutes**.

55 total hours
saved

Time saved (so far)
for bedside nurses

Discharges

The average time of the bedside nurse going through the AVS for discharge is **31 minutes**.

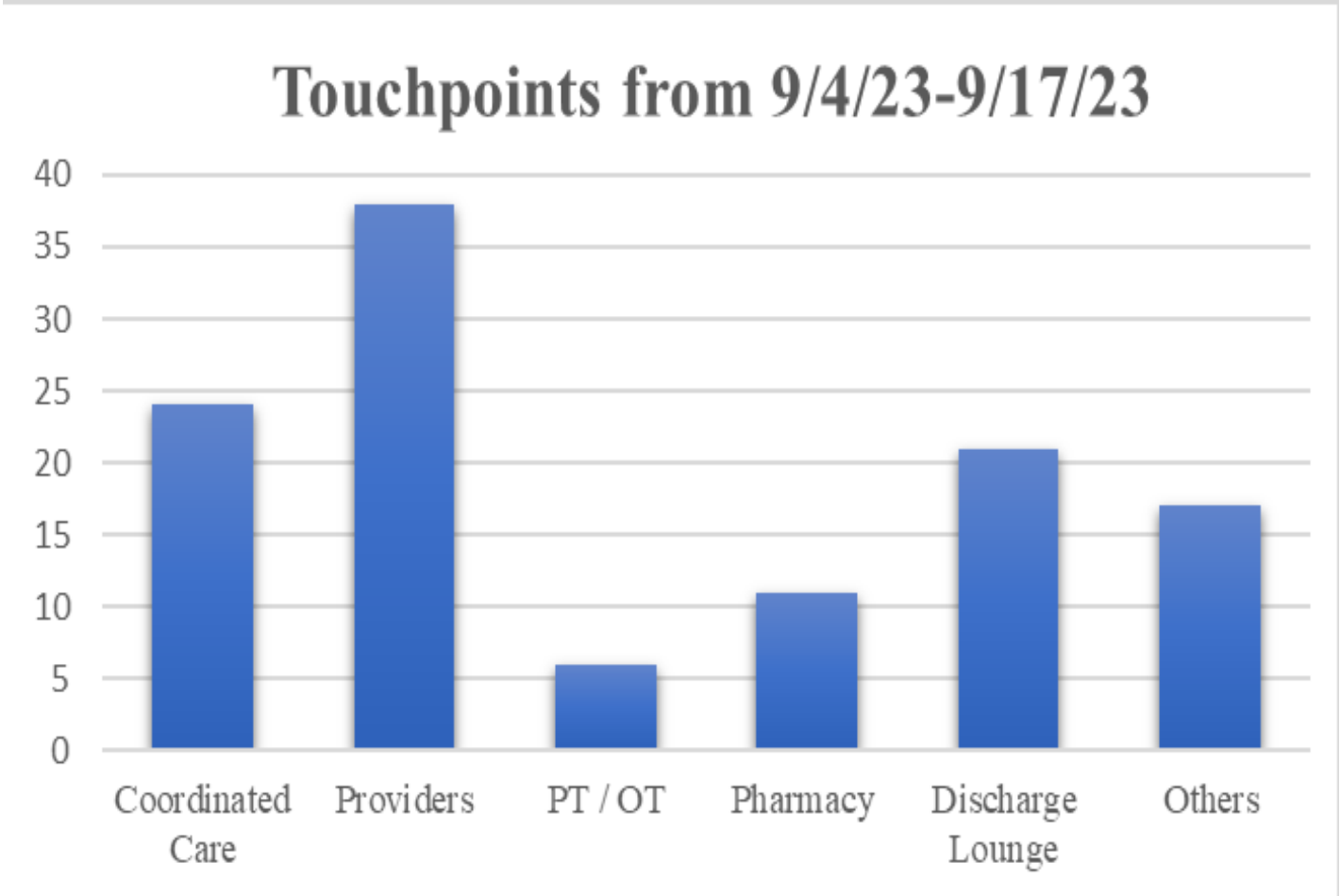
VS

The average time of a virtual nurse providing thorough education for discharge is **13 minutes**.

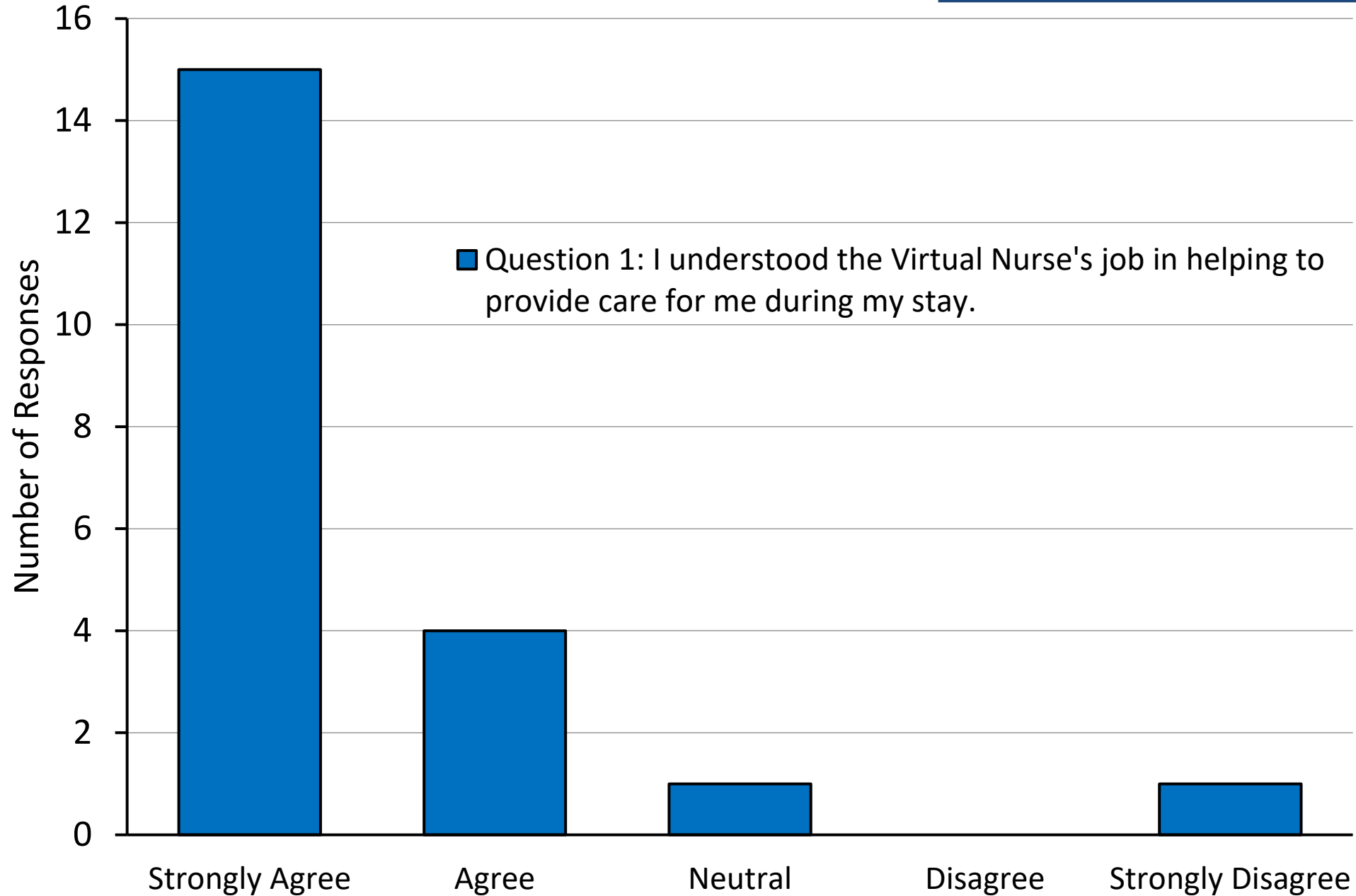
67 total hours
saved

Effective communication

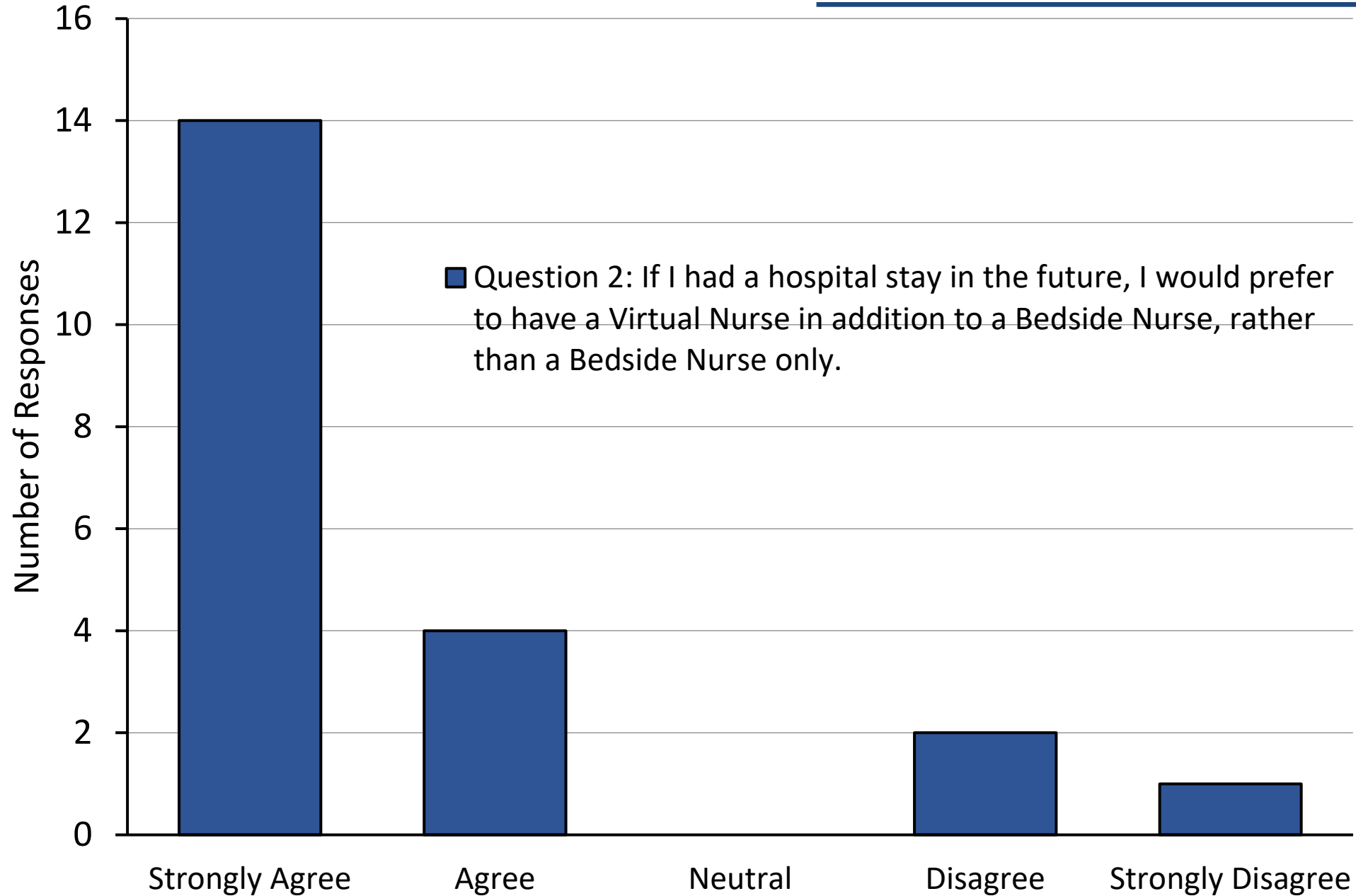
Virtual nurses facilitate communication with each patient's interdisciplinary team.



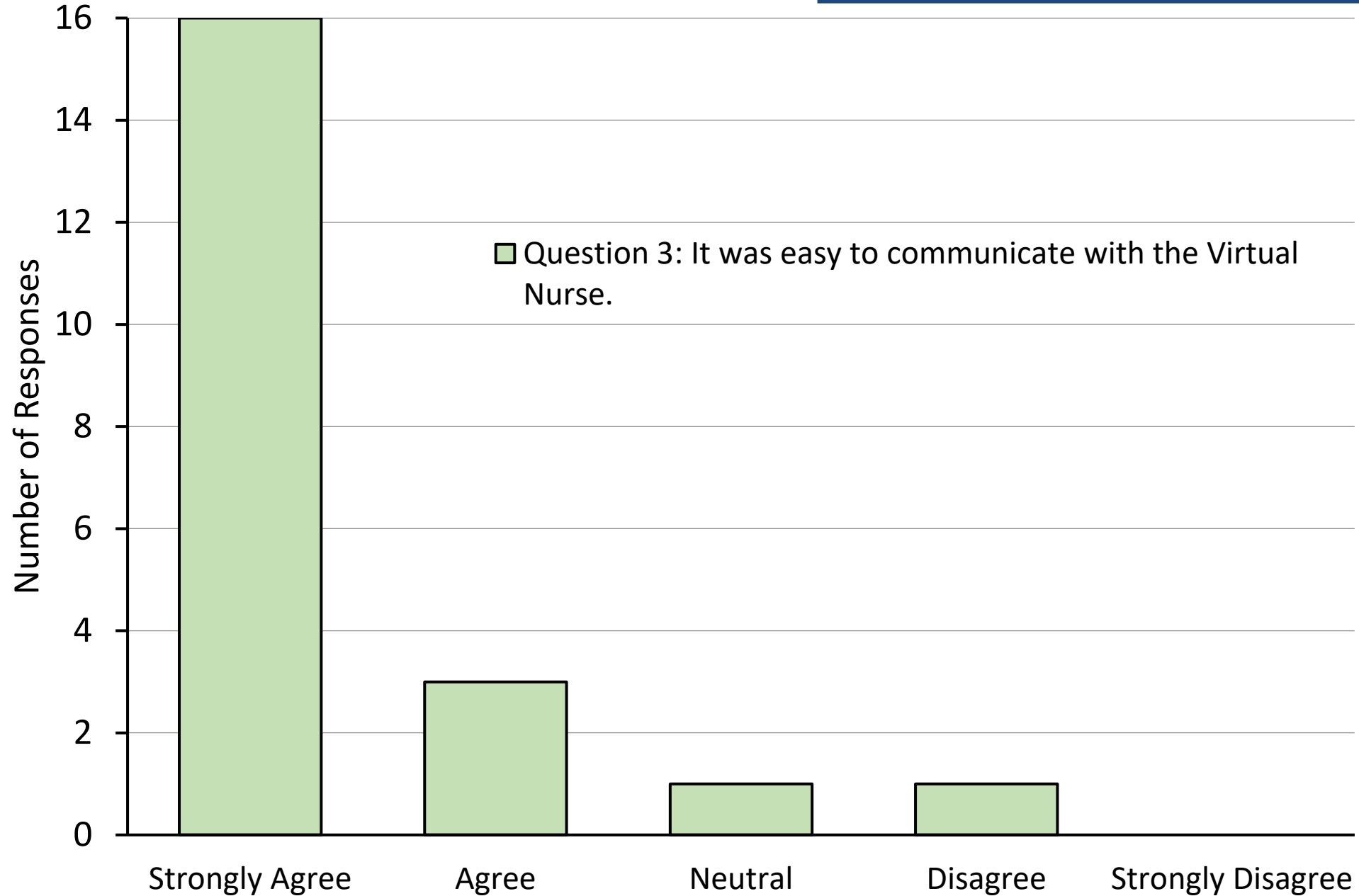
Patient Satisfaction



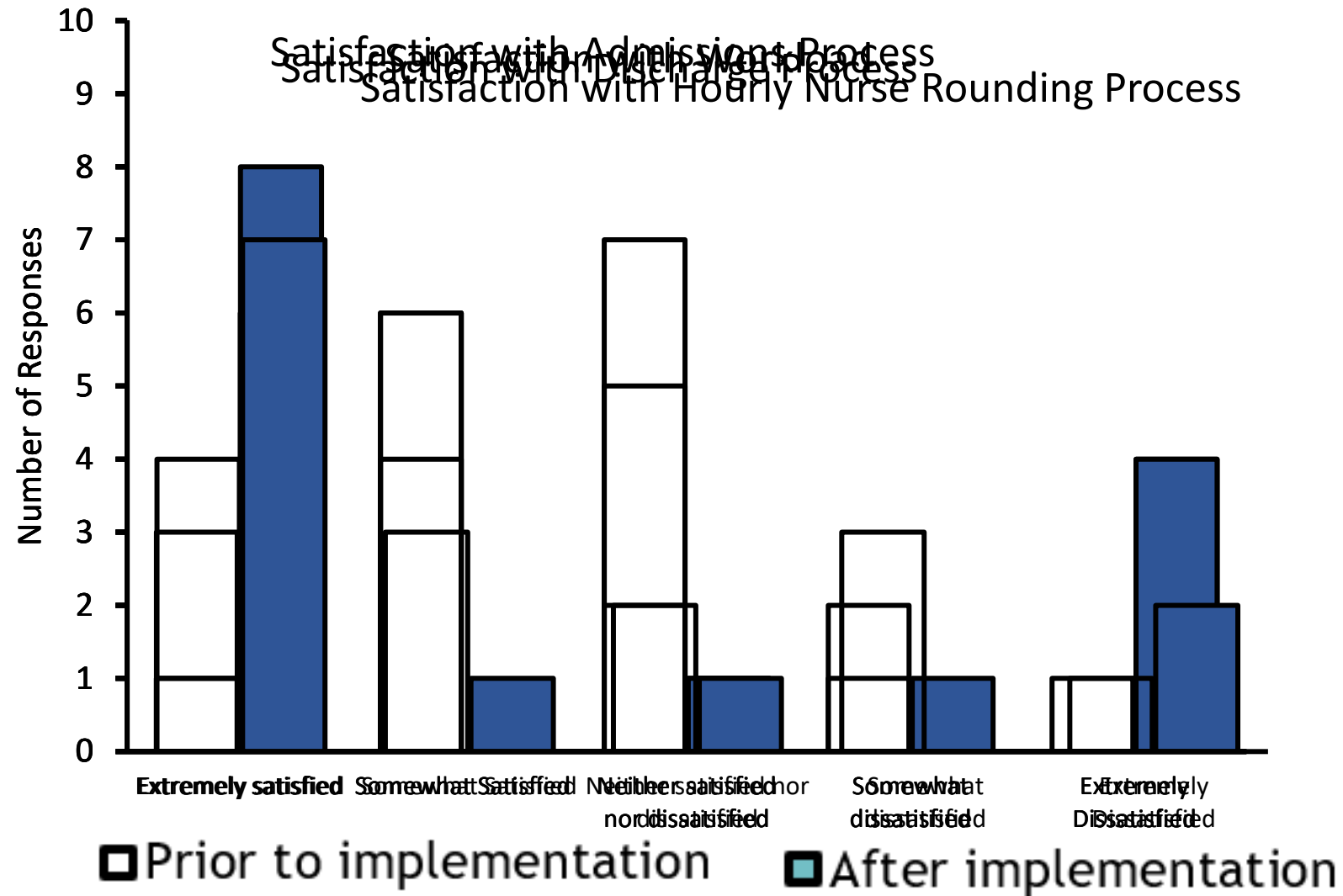
Patient Satisfaction



Patient Satisfaction



Staff Satisfaction



Future Directions

- Expand program
 - Implement on larger units
 - 24h coverage
- Additional layers
 - Human-Technology integration for harm reduction:
 - Upgrades to visual equipment
 - “Virtual Sitting:” uses night vision camera to alert the Virtual RN of continuous movement to facilitate an early response before falls occur.
 - Technology to detect deterioration or sepsis and alert Virtual RN care team.

Thank You!

6 West Leadership and Staff

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