



Evaluating the impact of a virtual nursing model on nurse-reported experiences and outcomes

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This presentation is supported by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) as part of the Telehealth Center of Excellence Award (U66RH31458) totaling \$4,250,000 with 100 percent funded by HRSA/HHS. The contents are those of the author(s) and do not necessarily represent the official views of, nor an endorsement, by HRSA/HHS, or the U.S. Government.

- Patient care is provided at 16 hospitals (includes owned or governing interest)
- Approximately 2,700 beds and four additional hospital locations in development
- Nearly 750 care locations situated in all regions of South Carolina.



Center for Telehealth at MUSC

- The Center for Telehealth has over 15 years of experience providing telehealth, offering over 100 unique telehealth services to over 280 sites across South Carolina.
- Care settings include over 45 hospitals, over 90 schools, and over 100 community clinics and other facilities.

Learning Objectives

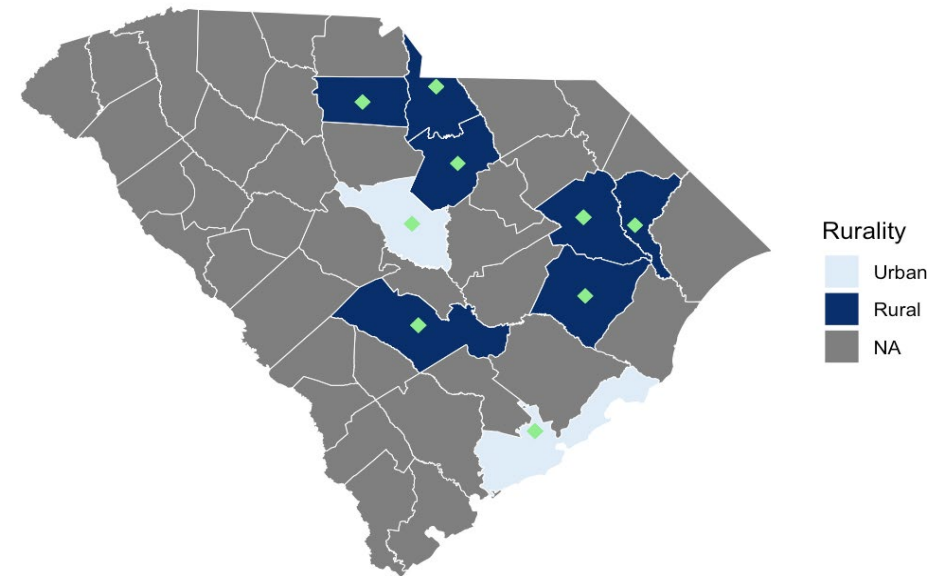
1. To evaluate the perceived value and attitudes towards this virtual nursing (VRN) model from nurses' perspectives
2. To consider system-level opportunities for VRN model refinement and next steps

- Systemic gaps in U.S. healthcare delivery have created workforce issues that impact patient outcomes and costs¹⁻³
- As a result, there is growing concern for an estimated deficit of 3.2 million healthcare workers by 2026 nationwide^{3,4}
 - In one state, 39% of surveyed nurses reported intentions of leaving their job within one-year, a trend compounded by a shrinking pipeline of new nurses and increasingly complex patient populations^{3,5}
- Prior research has focused on single-site implementation of VRN models in community-based hospitals, with scarce evidence on its systemwide integration⁶
 - Little understanding of provider-level outcomes or operational management of such programs

Background

- VRN programs are evolving
 - Innovative care delivery model to support retention and alleviate workload burden for bedside nurses
- SC has the **second-highest projected nursing shortage** nationwide, with a **projected shortage of 16.6%** in registered nurses by 2030⁷
- The state's population **surged by 14.8% from 2015-2025**⁸
 - Annual increase of 1.5% or approximately 80,000 new residents from 2024-2025
- This VRN model was **rapidly implemented in 32 units systemwide** in 2024

MUSC's Virtual Nursing Units By Rurality



*Green diamonds indicate VRN units.
Note: Some counties have > 1 VRN unit.*

Methods

- An internally developed, electronic survey was designed by an interdisciplinary operational and research team to evaluate bedside and virtual nurses' perceived value and attitudes towards the rapidly implemented VRN model
- Distributed from May to September 2025
- A total of 143 surveys, including 113 bedside nurses and 30 virtual nurses (17.3% and 69% response rates, respectively), were analyzed
- Descriptive statistics and rapid qualitative data analysis were conducted to comprehensively evaluate targeted outcomes

Results

- From January through June 2025, VRN provided support for **23,516** admissions, including **58,793 tasks**
- VRN supported **60.2% of total hospital admissions** in these units
 - Primarily supported admissions (65%), quality of care surveillance (18%), and discharges (17%)
 - **Often provided multiple types of care within one visit**
- Over the 6-month period, the amount of VRN support provided, assuming standard 2,080 work hours per FT/year and 80% productivity, would **require 10.2 full-time nurses**

- Overall, **nurses had a mean of 13.22 (SD=13.4) years of experience**
- Virtual nurses had a mean of **8.1 (SD=4.4) months of VRN experience**
- Most nurses reported **benefits of VRN model** are:
 - A team-based approach to care (63%)
 - Time saved, particularly related to admission documentation (61%) and more time to spend on rounding (54%)
- Nearly two-thirds (61%) of nurses reported being **“very satisfied” with the VRN program**
- 87% of bedside nurses said it slightly or significantly **decreased workload**

Fig. 1: Benefits of the Virtual Nursing Program

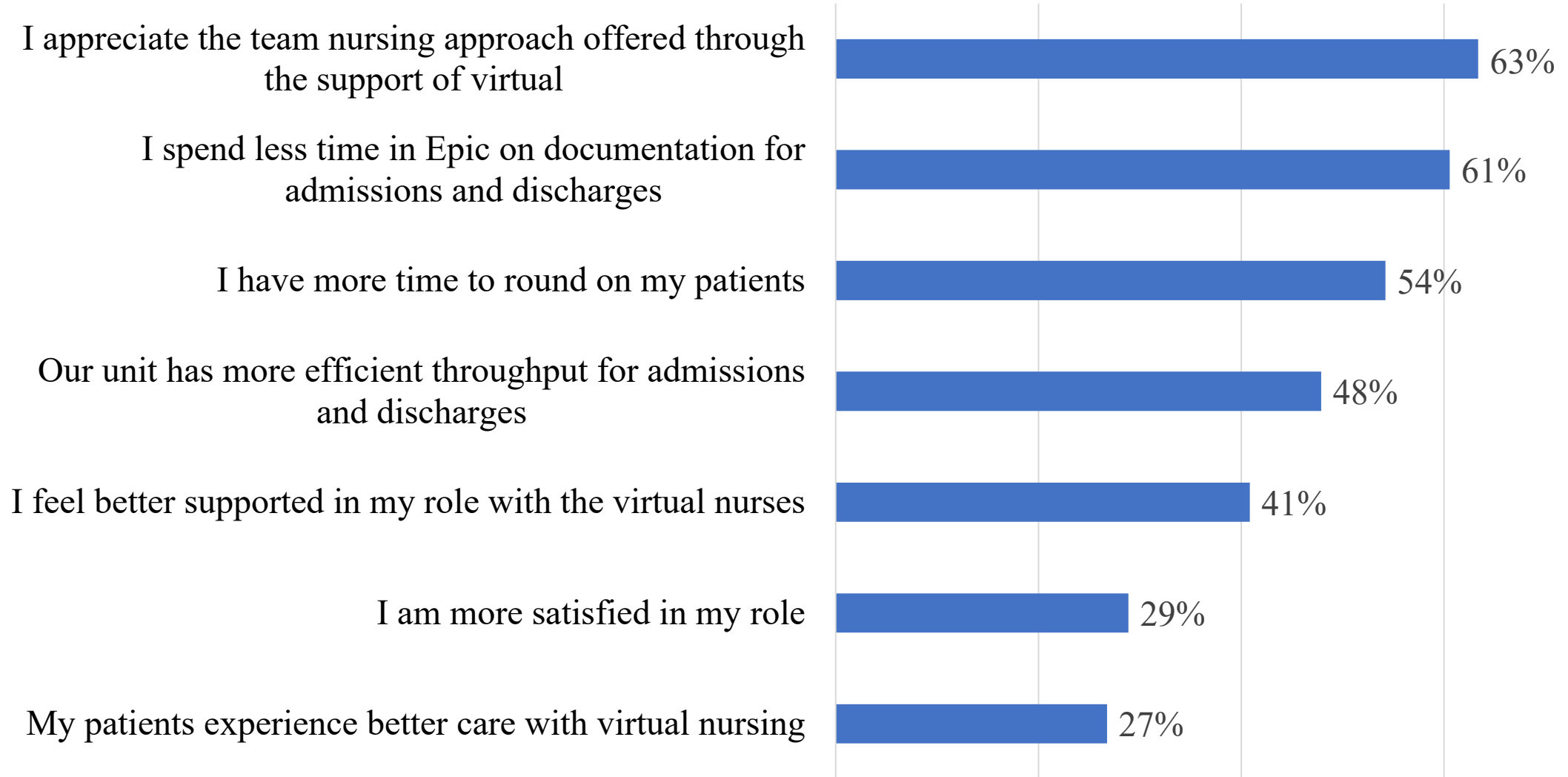
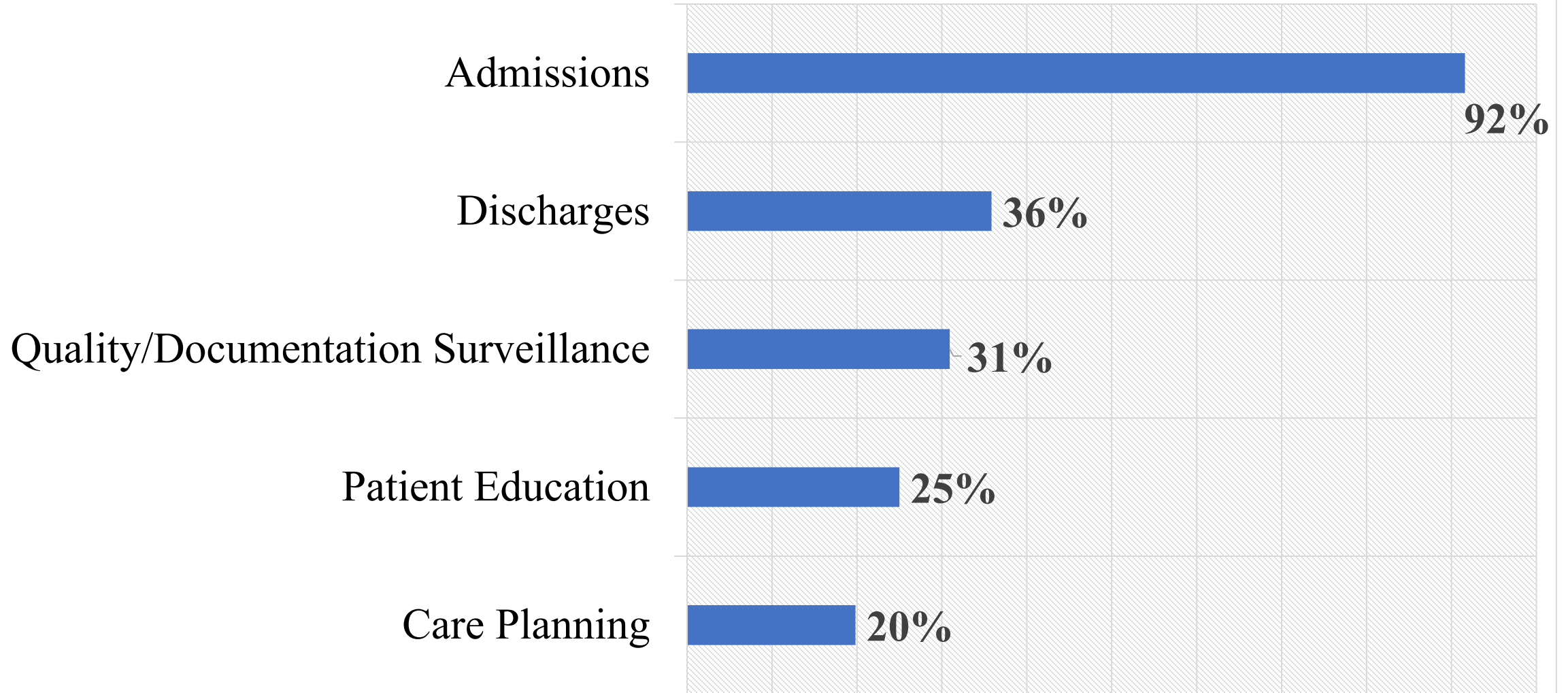


Fig. 2: Beneficial Uses of Virtual Nursing



Exemplar Quotes

Bedside Nurses (*n* = 114)

“This program has **restored my faith in bedside nursing.**”

“**We have all needed the "extra nurse,"** and this is the first organization I've worked for that took steps to reduce our documentation requirements. PLEASE DO NOT TAKE THIS AWAY!!!”

“I feel nursing has come a long way and virtual nursing takes a **huge work load off the nurses.**”

“Having the virtual nurse **helped me to be able to take care of my other patients** while they are getting detailed information.”

This is the “**first organization I’ve worked with that took steps to reduce [workload burden]**”

Virtual Nurses (*n* = 30)

“This program has allowed me to **stay in the field that I love** and continue to care for patients in a unique setting.”

“VRNs are **able to fill in the gap and give the patient uninterrupted time** during the interview. VRNs are able to listen to one patient at a time. The patient does not feel rushed during the admission process.”

“Virtual nursing together as a team with bedside nursing rocks and is the future :-)”

Implications for Policy & Practice

- Our findings illustrate the need to evaluate the system-level impact of VRN on a myriad of **quality, workforce, and financial metrics**
 - **Embedded within operational analyses of time spent on activities and other metrics**
- **Ongoing efforts** may consider:
 - Prioritizing the VRN queue to measure specific outcomes (e.g., timeliness of discharge)
 - Examine the impact of VRN support on nursing workload
 - Evaluate the cost-effectiveness of VRN in improving nursing-sensitive quality measures and throughput
 - Evaluate return on investment related to improved nursing retention and reduced turnover

Conclusions

- VRN programs were largely developed for operational and workforce support
- While these programs effectively offset time-consuming tasks and are evolving nationally, **metrics are needed to manage VRN teams and increase healthcare efficiency**
- This evaluation serves as a baseline **to guide modifiable operational factors based on nurses' perspectives** of this VRN model for strategic expansion and intentional adaptations to achieve more robust patient-, provider-, and system-level outcomes
- By intentionally adapting the model to address unit-specific workflows, this VRN model **demonstrates potential to move beyond a supplemental tool to become an alleviating mechanism for the national nursing workforce shortage**, while maintaining high care quality and patient experience

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