



Texas ANIA Conference

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 Medical City Healthcare



Presenters:



Leslie Lowery, MSN, RN, NI-BC

Director of Clinical Informatics
Medical City Dallas & Medical City Children's Hospital



Nicole Menefee, MSN, RN, NI-BC

Clinical Informatics Analyst
Medical City Dallas & Medical City Children's Hospital





Virtual Nurse Program: Implementation and Learnings





Conflict of Interest/Affiliations

- No COI
- Employed by HCA
- No payment OR funding received

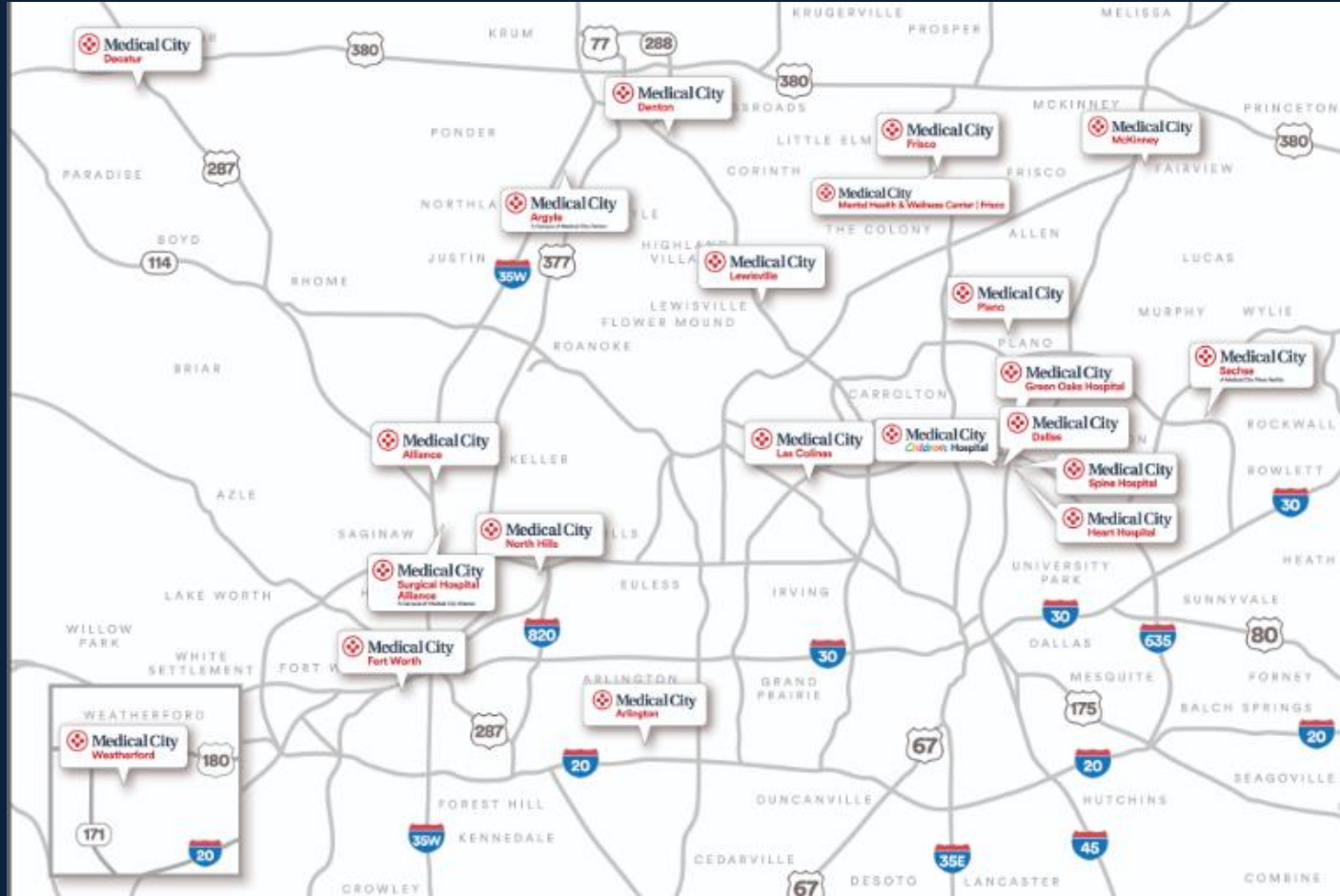


Objectives

- Describe current and projected state of the nursing force
- Define Virtual Nurse (vRN)
- Describe scope of vRN program and implementation plan
- Review results and impact since initial go-live



Medical City Healthcare



- 21 hospitals in North Texas
 - Ten Magnet® designations by the American Nurses Credentialing
 - 4 accredited Comprehensive Stroke Centers
 - 11 trauma centers

**External forces are
reducing nursing impact**

Background

- According to a [Health Workforce Analysis](#) published by the Health Resources and Services Administration (HRSA) in November 2022, federal authorities project a shortage of 78,610 full-time RNs in 2025 and a shortage of 63,720 full-time RNs in 2030.
- In March 2022, the American Nurses Foundation and the American Nurses Association released the results of its [COVID-19 Impact Assessment Survey](#), which found that 52% of nurses are considering leaving their current position due primarily to insufficient staffing, work negatively affecting health and well-being, and inability to deliver quality care. In addition, 60% of acute care nurses report feeling burnt out, and 75% report feeling stressed, frustrated, and exhausted.
- Registered Nurses are one of the largest segments of the U.S. workforce with projected growth by 5% from 2021 to 2031. This growth is attributed to the emphasis on preventative care, increasing rates of chronic conditions, and the demand for healthcare services by the baby-boom population.
- In March 2023, the International Council of Nurses (ICN) released a report calling for the worldwide shortage of nurses to be treated as a global health emergency. The report, titled [Recover to Rebuild: Investing in the Nursing Workforce for Health System Effectiveness](#), details the impact that the pandemic had on the world's nursing workforce, nurse burnout, and access to care. The authors call for protecting and investing in nurses as key to health system recovery.

Virtual Care Technology

Opportunities



Nursing department productivity exceeds 110% & requires additional resources with innovative models of care



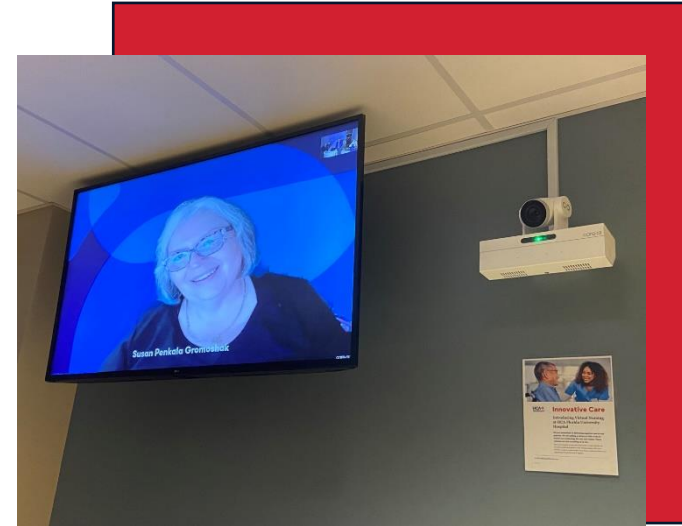
Recruitment & retention challenges in Med Surg & PCU level of care

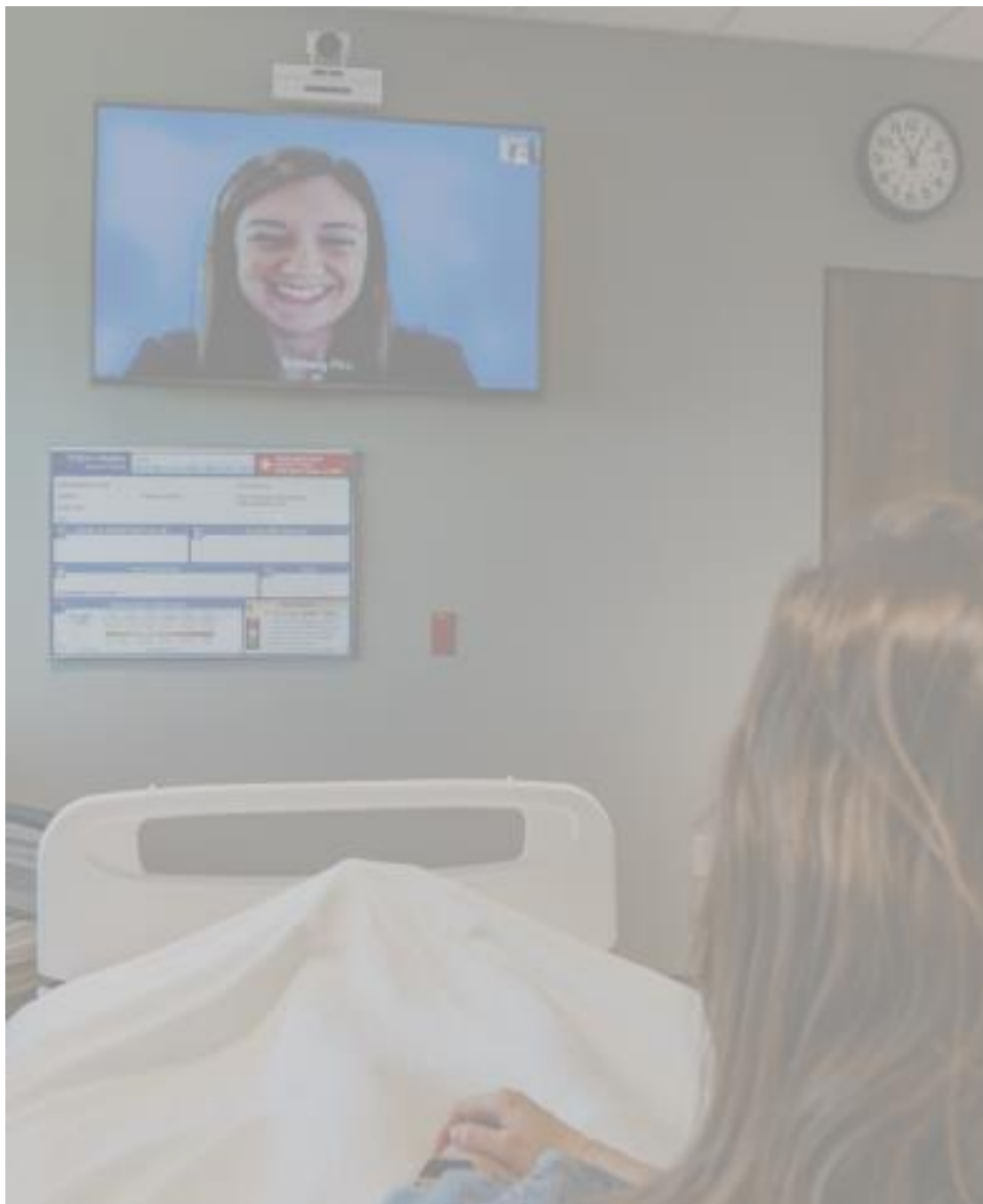


Nurses are consumed with administrative tasks, not always working at top of license



Opportunity to further **modernize & standardize technology** in the patient room.





Virtual Care

The first effort into standardized Virtual Care by bringing HCA Healthcare RNs into hospital rooms through patients' television to conduct **various nursing tasks, primarily the Admission History/Med Rec & Discharge Teachings.**

This approach allows tasks to be handled in a thoughtful & timely manner, while also allowing our **bedside nurses to focus on bedside care & operate at the top of their license.**

Patients are provided a seamless experience that returns their TV to its previous channel, or back off, at the completion of the interaction.

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Virtual Care Goals



Results From Beta Testing

HCA Florida University

Patient Experience

- Press Ganey: Staff Work Together +25%
- CAHPS: Nurse Explains +5%
- CAHPS: Understood Meds +15%

Safety

- Adverse Drug Events –25%

Mission Hospital

Quality Documentation

- First Point of Contact (FPOC) form completion rate increased from baseline 48% to 90%



Medical City Dallas



Medical City Dallas is an award-winning hospital recognized for our leading-edge medical facilities and commitment to excellence in patient care. Located in Dallas, Texas, our medical network consists of more than 1,500 physicians, many of whom are world-renowned experts in their fields. Our hospitals specialize in caring for children, women and adults, as well as the heart and spine.

Implementation Planning

What is vRN?

**Experienced
nurses
providing
real-time
patient care
through video
conferencing**

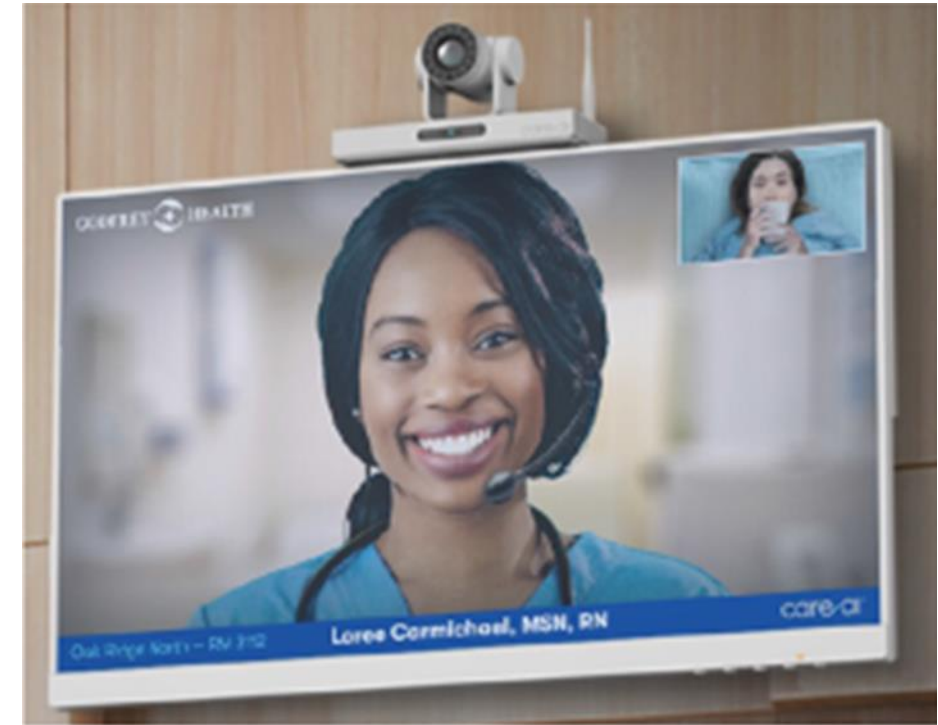


Pre-Work

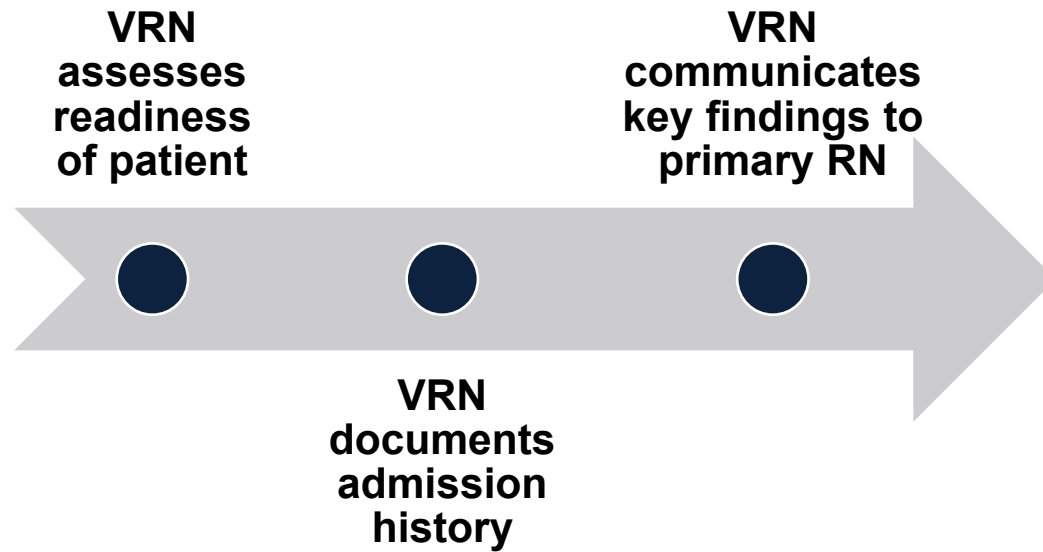
- Process mapping current workflow and future state
 - Virtual nurses visited facility in-person
 - Included end-users
- Defining the scope
- Installation of equipment
 - 315 cameras installed
 - New 55 inch TVs in some areas
- Reassuring staff regarding concerns surrounding the new technology

Scope

- Vendor: Care.AI
- Units: Adult Med/Surg, PCU, Orthopedics, Transplant, Neurology, Oncology, Telemetry
 - 16 units in total
- vRN Staffed Hours
 - Monday – Friday 8 AM – 10 PM
 - Saturday & Sunday 10 AM – 8 PM
- Tasks
 - Admission: History, Home Medication List, Preferred Pharmacy, Vaccine Screening, 1st Point of Contact
 - Discharge: Discharge Instructions, Discharge Medication List, Education Sheets



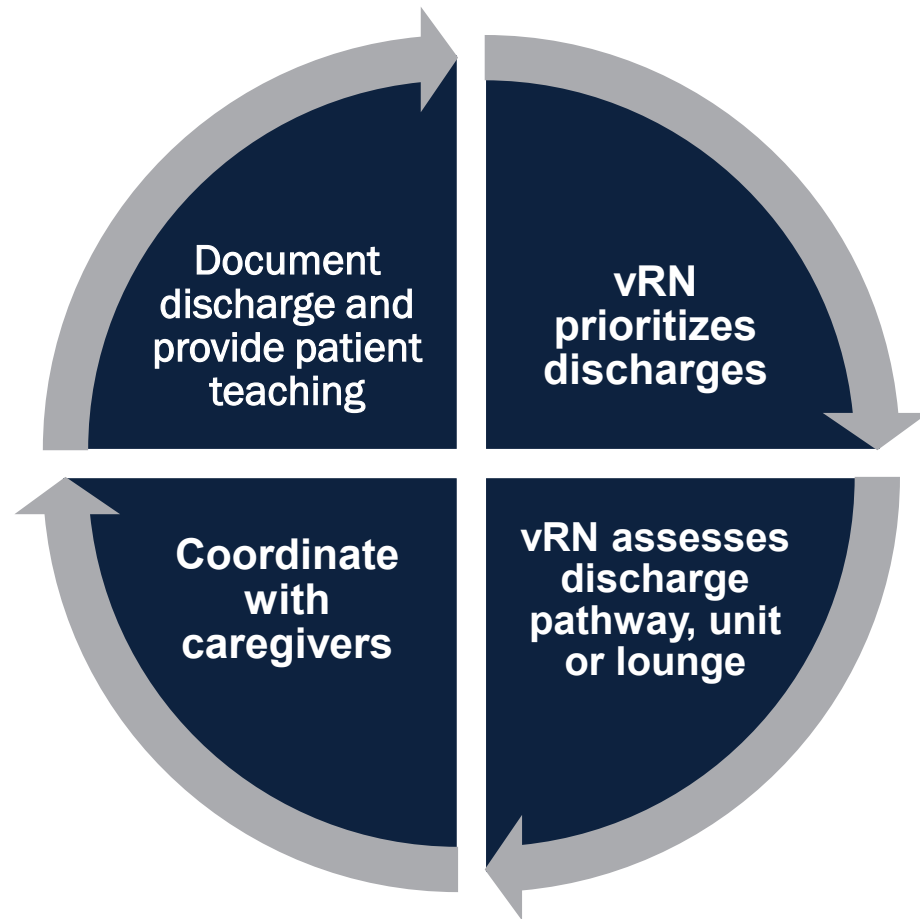
Admission History Workflow



Guiding Principles

- vRN will assume responsibility to complete admission history
- Exclusion criteria: hard of hearing, confused, declined.
- vRN sends text message on secure texting platform as handoff to primary RN
 - Report key findings
 - Closes the loop on vRN admission process
- VRN gives uninterrupted time to complete admission history and perform a thorough medication reconciliation

Discharge Workflow



Guiding Principles

- Team effort
- Critical communication pathways to ensure timely discharges
- Timeliness of discharge paperwork to patient will ensure discharge throughput improvement
- Inclusion criteria: Discharging to home/self-care with no discharge parameters
- vRN gives uninterrupted time with patient reviewing discharge teaching and medication review

Goals: Improve patient throughput, Reduce Documentation Burden for Primary RN and Improve Quality of Documentation, Increase staff satisfaction, Increase patient satisfaction in education and understanding of medications

Education and Training Methods

Workflow Overview (In Scope Unit Staff)

- 6 week training phase
- Learning Management System Course
 - Virtual Care Program: Introduction to Virtual Nursing
- Roaming In-services
- Flyers
 - Roles and responsibilities
 - Scripting on introduction of virtual nurse to patient
 - vRN escalation criteria
 - Admission history handoff to primary RN

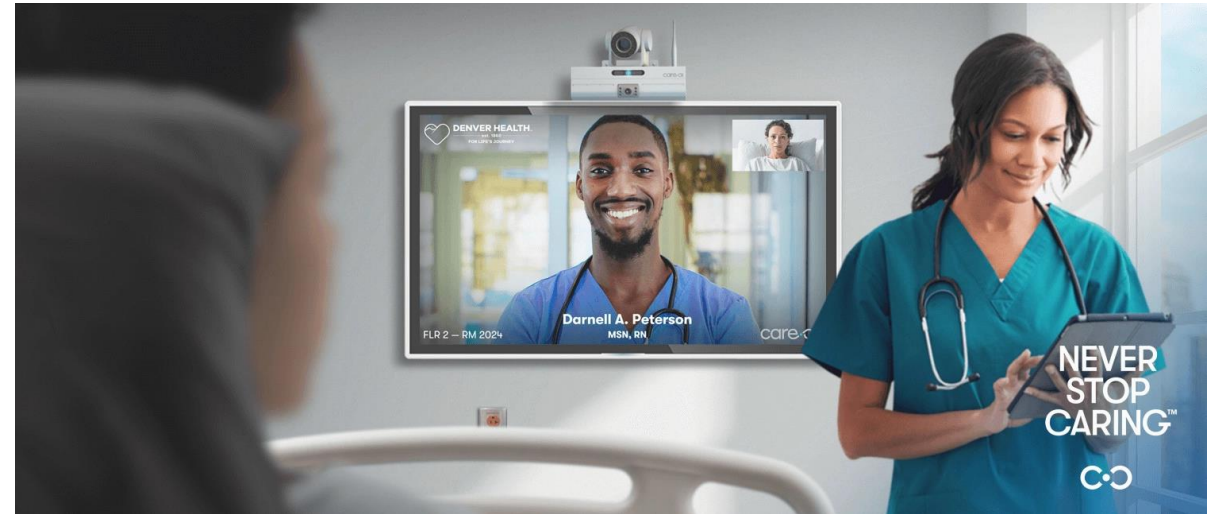
Program Overview (All Other Staff)

- Learning Management System Course
 - Virtual Care Program: Introduction to Virtual Nursing for awareness
- Flyers
 - Scripting on introduction of virtual nurse to patient

Virtual Registered Nurse Department

Activities:

- Hiring
- Orientation
- Training
- Staffing Plans



Virtual Nurse Workflow

- VRN monitor admission and discharge orders for units in scope.
- Bed Management Tool is used for communication to nurse, discharge lounge, and patient placement team for discharge education completion.
- VRN utilize secure texting platform to communicate with direct care staff for patient needs during admission and discharges.



Execution and Go-Live Plan

Go-Live November 2023

- Selected to do a staggered go-live to accommodate operations and patient flow.
- Validation and UAT completed as equipment was installed.
- Established a command center for issue management and support

Go-Live



Results

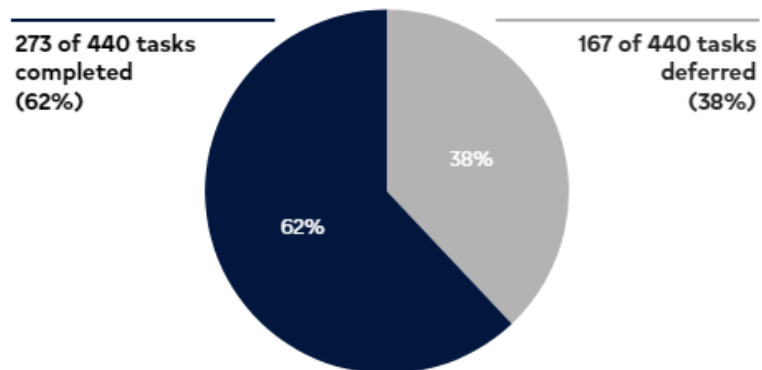
First 7 Days



vRN Task Completion

62% of all tasks were completed by vRNs at **Medical City Dallas** between 11/14/23 and 11/21/23

38% of all tasks were deferred by vRNs



All

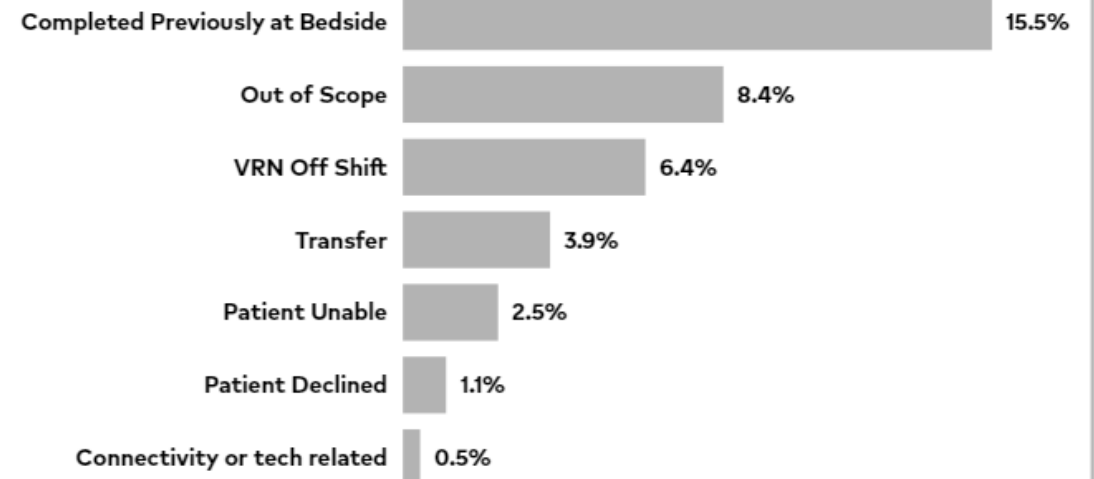
11/14/2023

11/21/2023

filter deferral reasons



Deferral reasons for all tasks



Percent of tasks

First 7 Days



Tasks by Day

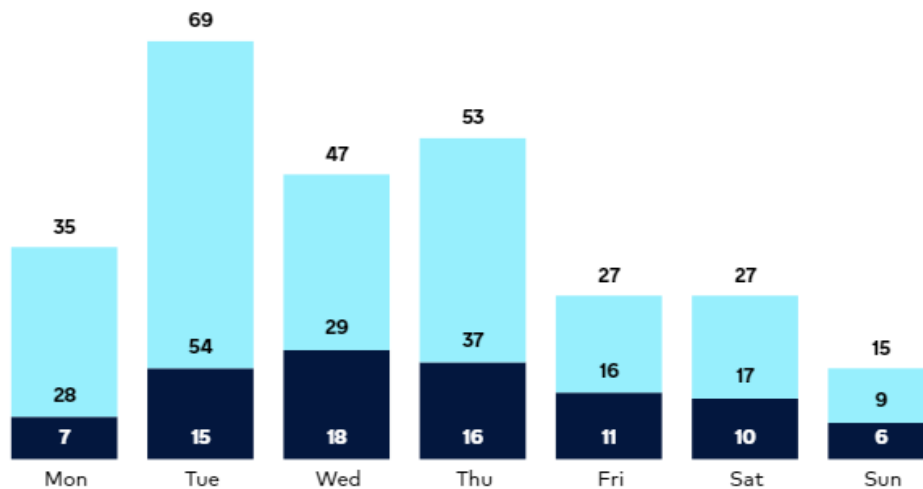
11/14/2023

11/21/2023

273 tasks were completed at Medical City Dallas between 11/14/23 and 11/21/23

190 admissions

83 discharges



Calls by Hour

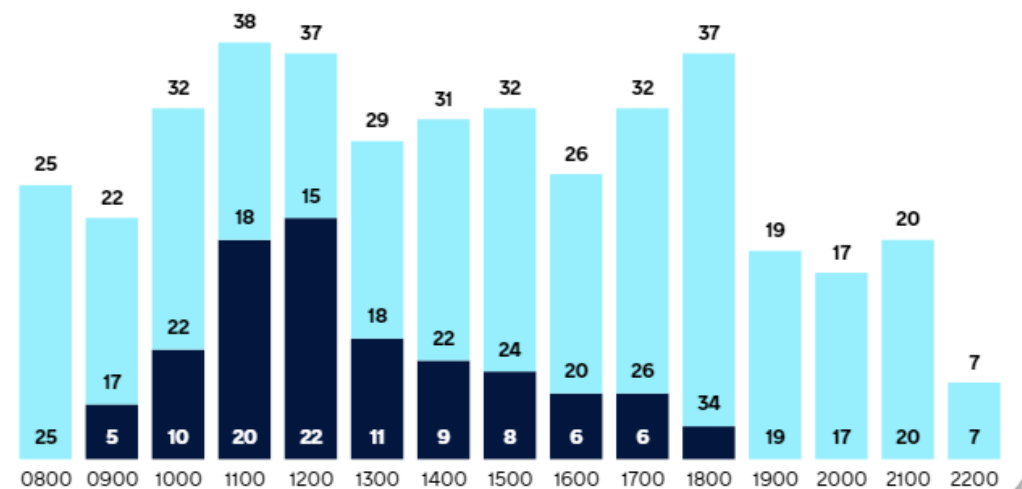
11/14/2023

11/21/2023

404 calls were completed at Medical City Dallas between 11/14/23 and 11/21/23

304 admissions

100 discharges



Six Months Later

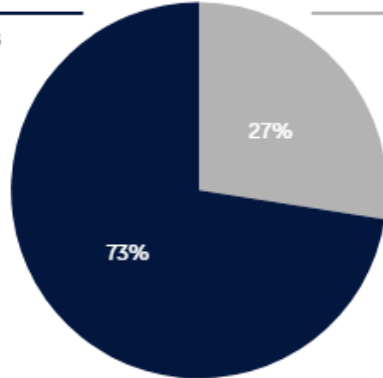


vRN Task Completion

73% of all tasks were completed by vRNs at Medical City Dallas between 5/21/24 and 5/28/24

27% of all tasks were deferred by vRNs

359 of 495 tasks completed (73%)



136 of 495 tasks deferred (27%)

All



5/21/2024



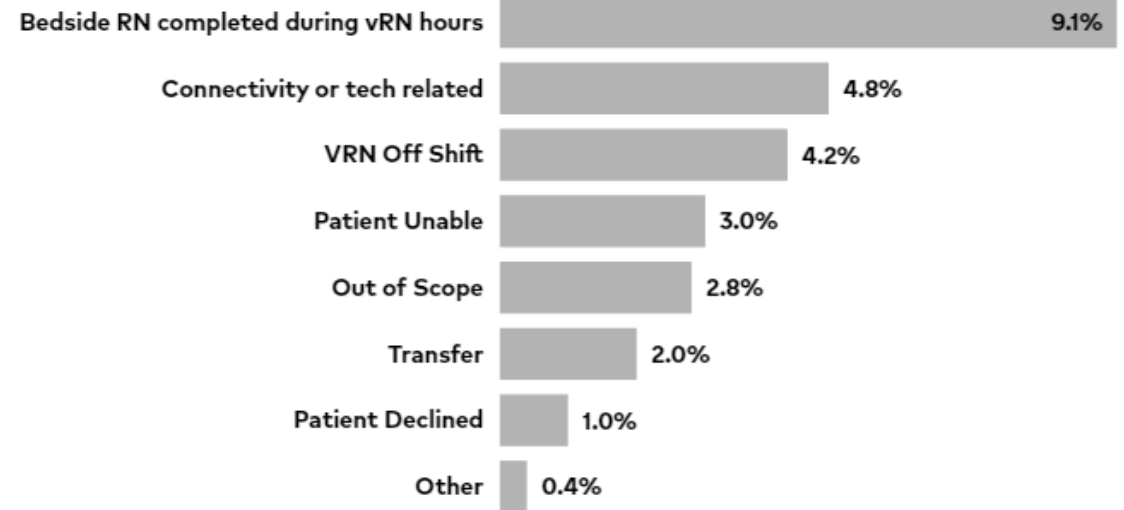
5/28/2024



filter deferral reasons



Deferral reasons for all tasks

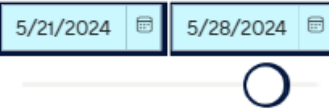


Percent of tasks

Six Months Later

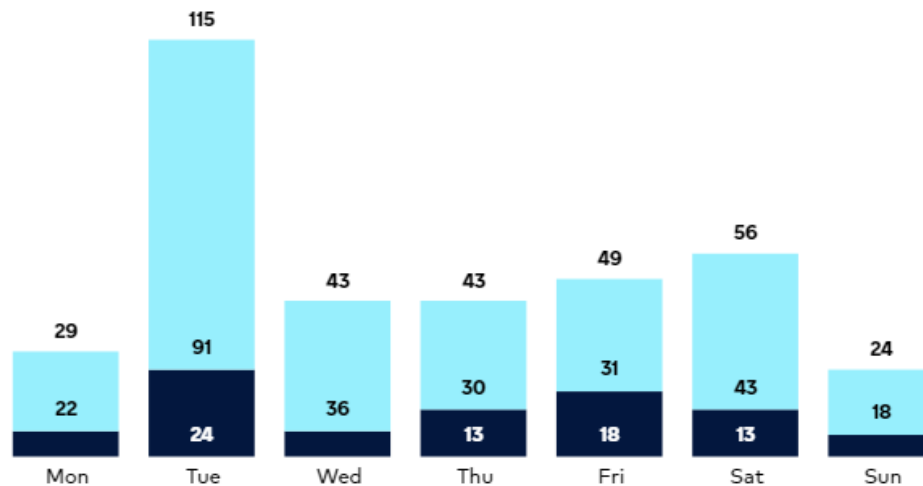


Tasks by Day

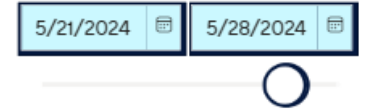


359 tasks were completed at Medical City Dallas between 5/21/24 and 5/28/24

271 admissions ● **88** discharges ●

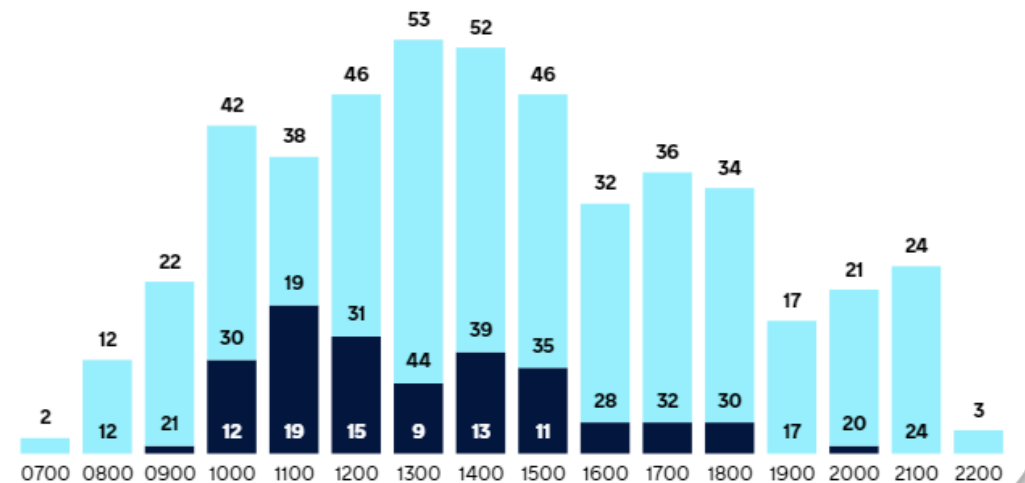


Calls by Hour



480 calls were completed at Medical City Dallas between 5/21/24 and 5/28/24

387 admissions ● **93** discharges ●



Voice of Our Nurses

Staff Feedback:

"We love the virtual nurses, they are helpful"

"I like them a lot, they are really quick"

"All my discharged patients got out really fast, it is very nice!"

"DO NOT LET THEM GO!!"

"Virtual nurses are really helpful to us"

"I love them"

"They are very helpful, especially with admissions"

Patient Feedback:

"It's a modern way to check on pt. It was cool!"

"It was great. Everything was perfect."

"It was neat. She could see us, we could see her."

Nursing Leader Feedback:

"The virtual nurses have become a part of the Medical City Dallas team. They are partners in care and help us efficiently move patients through transitions in care. I was initially concerned the virtual nurse would slow our throughput processes but they have only enhanced our processes and team."

Survey Questions



What is your role?

How much of an impact was the virtual nurse to your daily routine?

(1 = significantly worse, 2 = slightly worse, 3 = no improvement, 4 = some improvement, 5 = significant improvement)

What aspects of the experience would you like to see improved or changed?

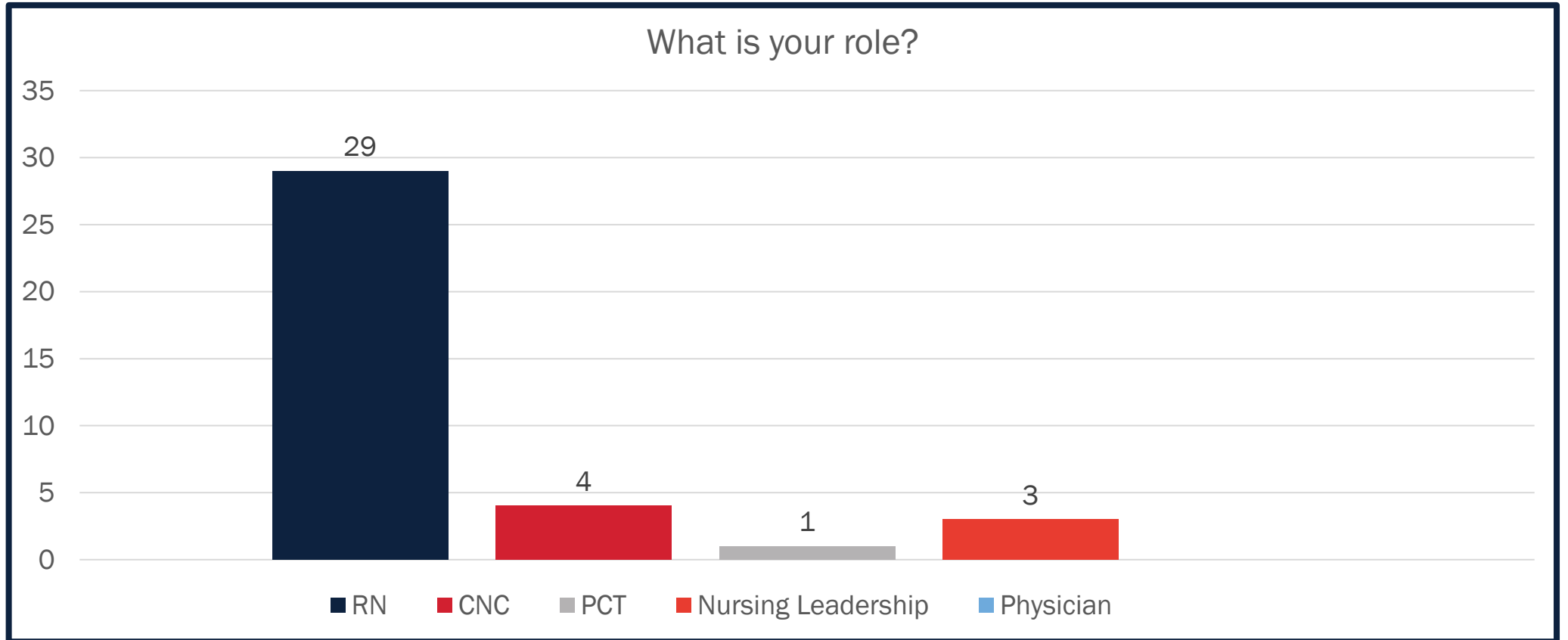
What additional opportunities exist for the virtual nurse to help you regain some of your time?

How do you plan to utilize that additional time during your shift, considering question 3?

Would you recommend expanding the virtual nurse program?

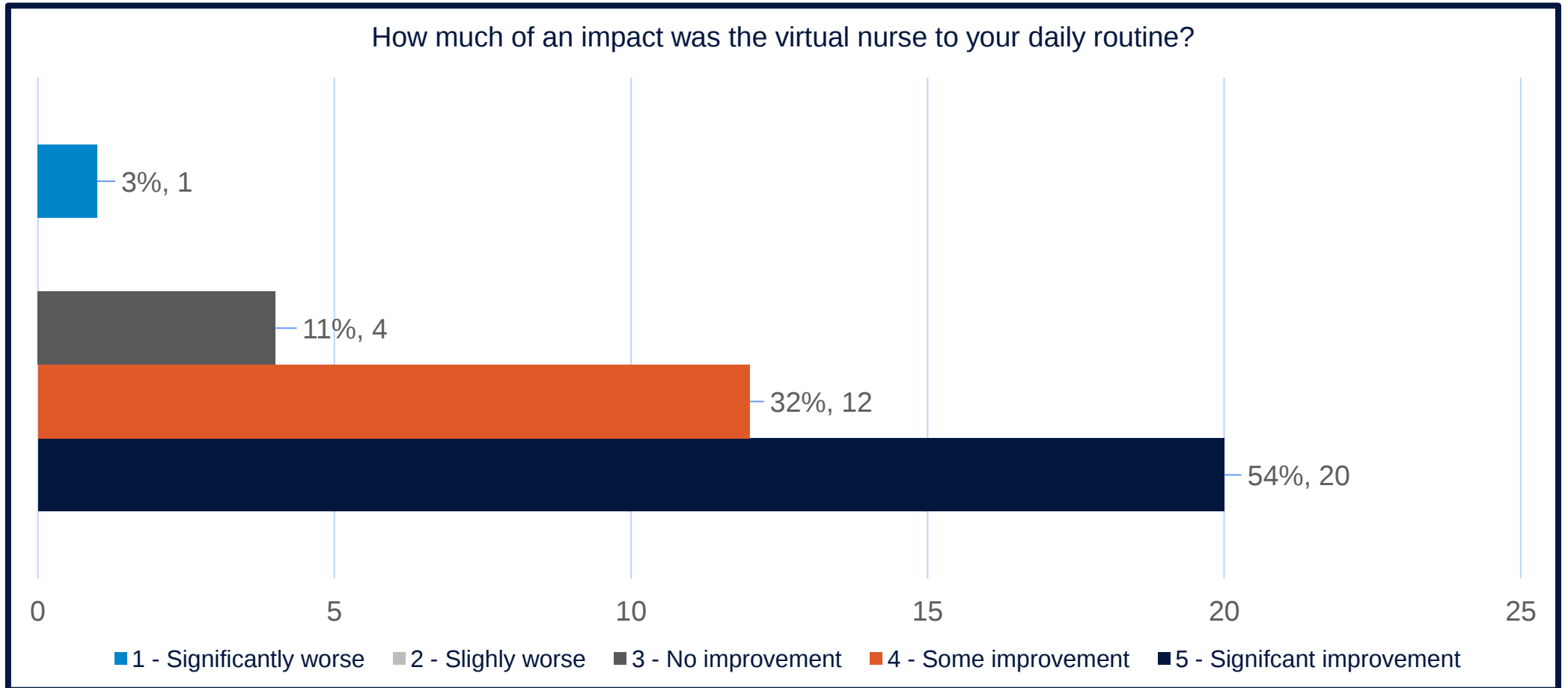
(Yes, No, Too soon to tell)

Question 1: What is your role?



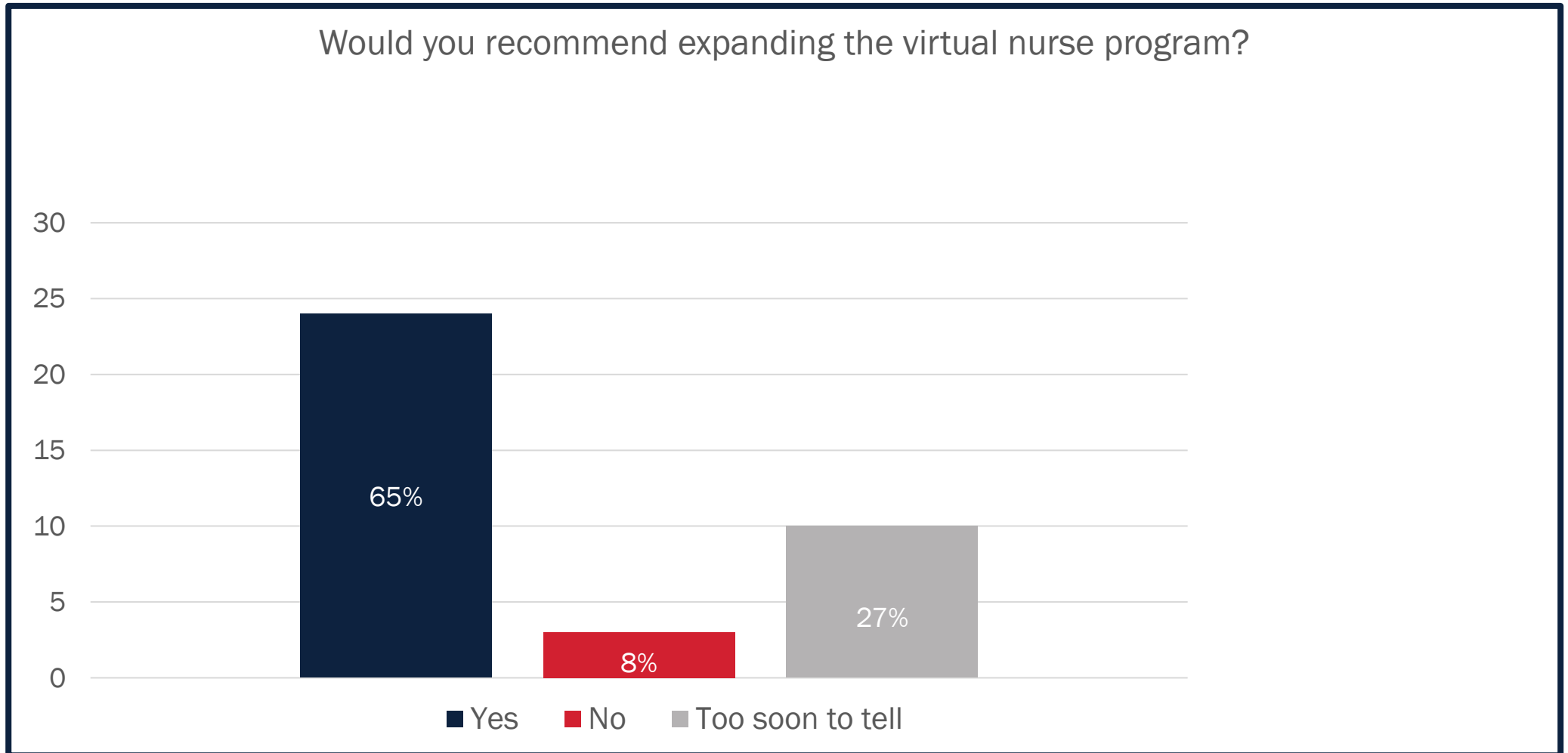
MCD – 37 Responses

Question 2: Impact of VRN to daily routine



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Question 6: Should the VRN program expand?



Virtual Nursing

Data Guide

Category	Metric	Unit
Productive Index	Productive Index = Target Manhours/Staffed Manhours	Ratio
Employee Engagement	RN Engagement Index	Index Value
Patient Experience	HCAHPS Staffed Worked Together, Nurses Explain, and Understood Meds	Rolling 3 Month % Top Box Scores
Patient Discharges	Patients Discharged by 11AM and 1PM	%
ED Patients Held	% ED Patients Held	%
Adverse Drug Events	Number of ADEs/Number of Discharges	Rate per 1,000 Patient Discharges

Metric Summary					
Facility	Metric	Baseline Value	Current Value	Change	Notes
HCA Florida University	Productivity*	105%	99%	6%	1 of 2 units in scope
	RN Engagement	81	71	10	
	Patient Engagement	See Appendix for Details		↑	
	Discharged by 1PM [†]	-	43.0%	-	
	ER Patients Held	61.3%	51.8%	9.5%	
	Adverse Drug Events	3.75	0.79	2.96	
Mission	Productivity*	103%	110%	7%	2 of 18 units in scope
	RN Engagement	56	62	6	
	Patient Engagement	See Appendix for Details		↓	
	Discharged by 1PM	64.1%	69.0%	4.9%	
	ER Patients Held	84.2%	83.2%	1.0%	
	Adverse Drug Events	4.03	1.69	2.34	
TriStar Skyline	Productivity*	114%	114%	0%	
	RN Engagement [‡]	91	-	-	
	Patient Engagement	See Appendix for Details		↑	
	Discharged by 1PM	32.1%	44.5%	12.4%	
	ER Patients Held	75.5%	79.8%	4.3%	
	Adverse Drug Events	1.82	1.25	0.57	
Trident (includes Summerville)	Productivity*	113%	108%	5%	
	RN Engagement [‡]	63	-	-	
	Patient Engagement	See Appendix for Details		↑	
	Discharged by 1PM	58.2%	55.2%	3.0%	
	ER Patients Held	81.9%	87.5%	5.6%	
	Adverse Drug Events	4.03	3.40	0.63	
Medical City Dallas	Productivity*	107%	106%	1%	Implementation still in progress on 3 units
	RN Engagement [‡]	77	-	-	
	Patient Engagement	See Appendix for Details		↑	
	Discharged by 1PM	59.3%	60.6%	1.3%	
	ER Patients Held	69.3%	68.0%	1.3%	
	Adverse Drug Events	2.27	0.80	1.47	

- Improvement in 3/3 questions
- Improvement in 2/3 questions
- Decrease in 2/3 questions
- Decrease in 3/3 questions

*Productivity index was adjusted to allocate vRNs to the facilities in the post-implementation period.

[†]No data was available for the baseline period.

[‡]Most recent survey (October 2023) is assigned to the baseline value due to no survey having occurred in the post-implementation period when data was pulled.

Current State Results

Decreased Adverse Drug Events per 1000 Patients

Care.ai Pre: 3.11, Post: 1.80
Enterprise: 2.44
Results are statistically significant



**Patient
Outcomes
Improvement**



**RN Turnover
Improvement**

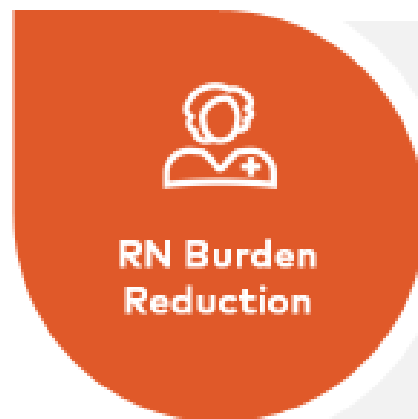
Improved RN Turnover

R12 RN External TO improved
from 26.2% to 21.1% YoY
at Virtual Care sites with solution in place
>6mos, M/S & PCU only

Improved Patient Engagement Scores in 3/3 questions overall



**Patient
Experience
Improvement**



**RN Burden
Reduction**

Returned Nursing Care Hours to the Bedside

6 / 6 Care.ai facilities
18K+ hours returned to bedside nurses.

Opportunity to move M/S & PCU Prod Index
from 105.1% to 103.8% through FTE
allocation
Expenses currently allocated as Contract Services

As of May 2024. Additional data details and sources in appendix.

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Lessons Learned

- Reminder to staff policy for admission paperwork is 24 hours
- Additional Use Cases: Interpretation and Family Conferences
- vRNs needed for more hours! Hours extended to 0600-0200 7 days/week



Virtual Nurse Pilots Summary

15 Total Proof of Concept Sites

8 Total Care.ai Sites

In-room Care.ai Sites

53% of Inpatient Acute Beds

908 Wall Mount Devices

Care.ai Sitter Sites

22 Mobile Carts

Care.ai Cart Sites

68% of Inpatient Acute Beds

18 Mobile Carts

ER Coverage (Inpatient Holds)

Teladoc Cart Sites (MidAmerica Proof of Concept)

60% of Inpatient Acute Beds

23 Mobile Carts

ER Coverage (Inpatient Holds)

NOTE: Admission Coverage primary focus, has led to 20% improvement in ER Adm LOS

Additional Workstreams in Support of Pilot Efforts

Case Management
(6/18 FL University)

Inpatient Holds in
Emergency Department

CT&I

Self-Funded Cart Implementation
(CWT, 2 sites live)

2nd Sitter Cart Pilot
(Southern Hills 5/28)

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References

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Contact Us



Leslie Lowery, MSN NI-BC
Director of Clinical Informatics
Leslie.Lowery@medicalcityhealth.com

Nicole Menefee, MSN NI-BC
Clinical Informatics Analyst
Nicole.Menefee@hcahealthcare.com



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