

BREAKOUT SESSION



12TH
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OF SOUTH CAROLINA

OCTOBER 28-30, 2024

Technology and Innovation Track:

Virtual Nursing

Tuesday, October 29
11:15 AM - 12:00 PM



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Virtual Nursing: The Paradigm Shift Begins...

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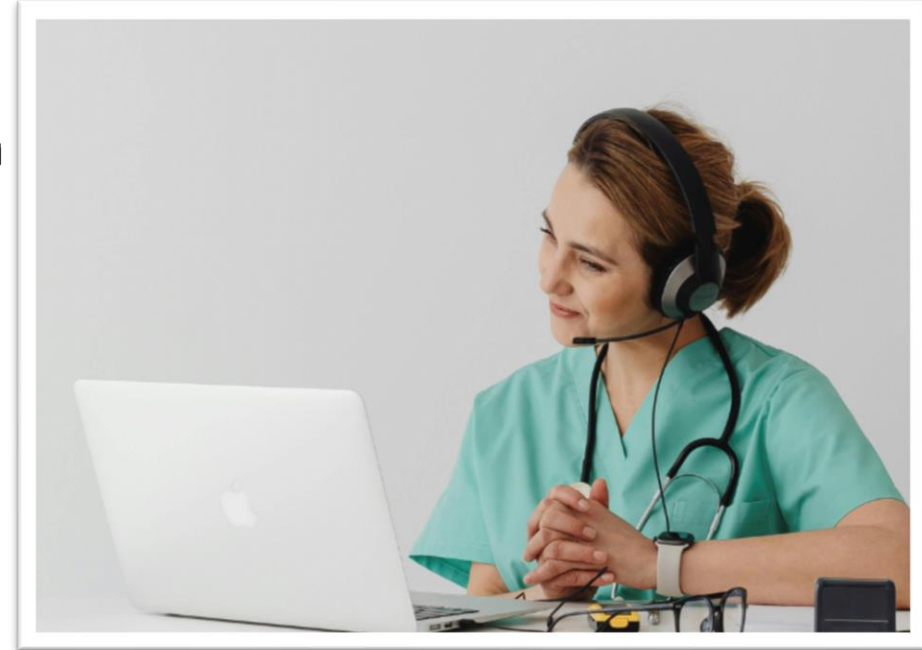
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MEDICAL TECHNOLOGY

What is Virtual Nursing?

- Overarching Goal / Value Statement:
 - Transform care in the hospital setting by addressing workforce challenges and improving quality of care.
 - Revolutionize bedside nursing through efficient collaboration in a *team nursing approach* with data-driven, goal-focused, and evidence-based practices.
- Service built to serve bedside nurses and patients remotely
- Focus on supporting the bedside nurse to spend more time in meaningful interactions with patients and families
- Remove burdensome and time consuming tasks from bedside staff that are readily done by a remote team member
 - Admission documentation, Discharge teaching, Care Plan documentation, etc.



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MEDICAL TECHNOLOGY

Why did we build a Virtual Nursing service?

- To improve Nursing Workforce Economics:
 - Decrease agency work
 - Decrease turnover / vacancy rate
 - Improve engagement indicators
 - Resources to do job, teamwork, culture of safety
 - Decrease labor cost per unit of service

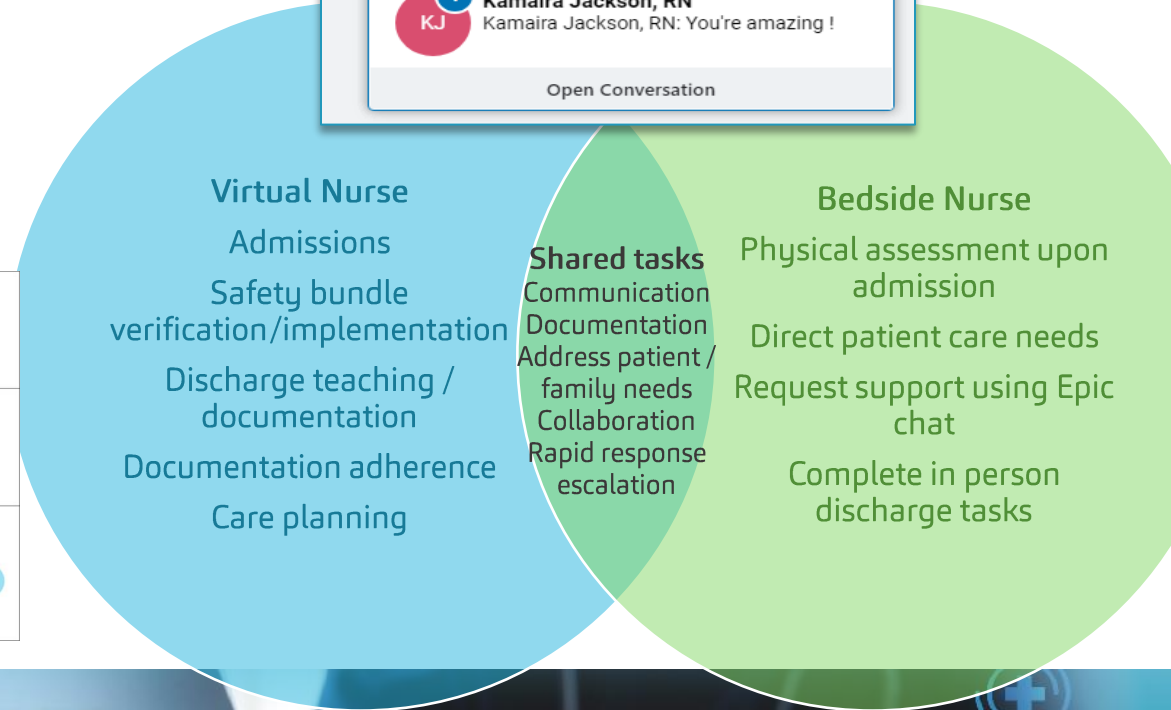
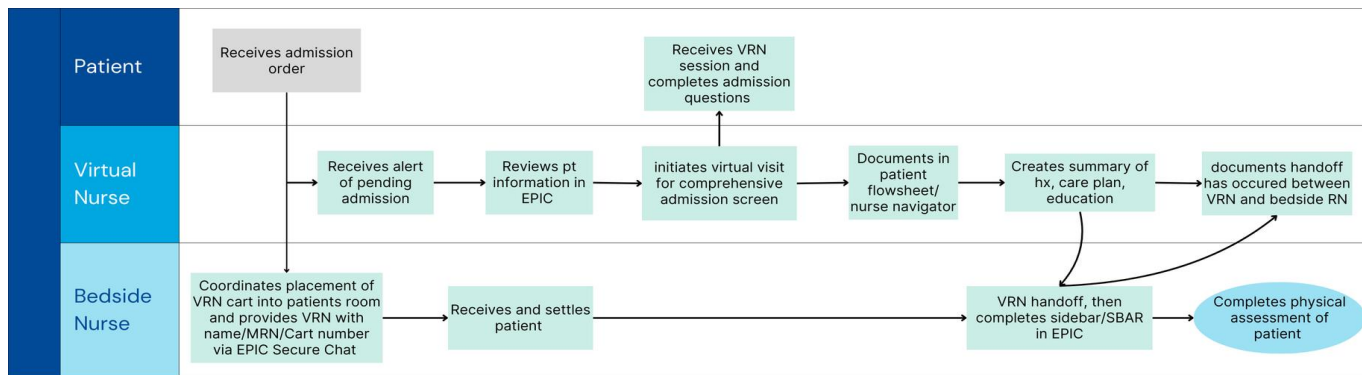
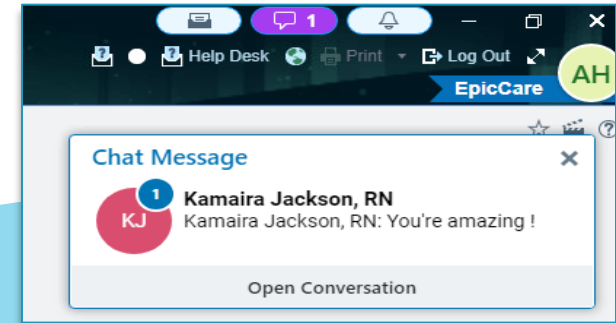


- To improve quality of care in the hospital setting:
 - Decrease hospital acquired condition rates
 - CLABSI, CAUTI, HAPI
 - Improve patient throughput
 - Timeliness of discharge
 - Improve HCAHPS results
 - Nursing / communication specific domains



How does Virtual Nursing work?

- Close collaboration and communication between bedside RN and virtual RN
- Bedside RN requests support for specific tasks like admissions and discharges
- Virtual RN reviews EMR for quality and documentation adherence and completes missing elements

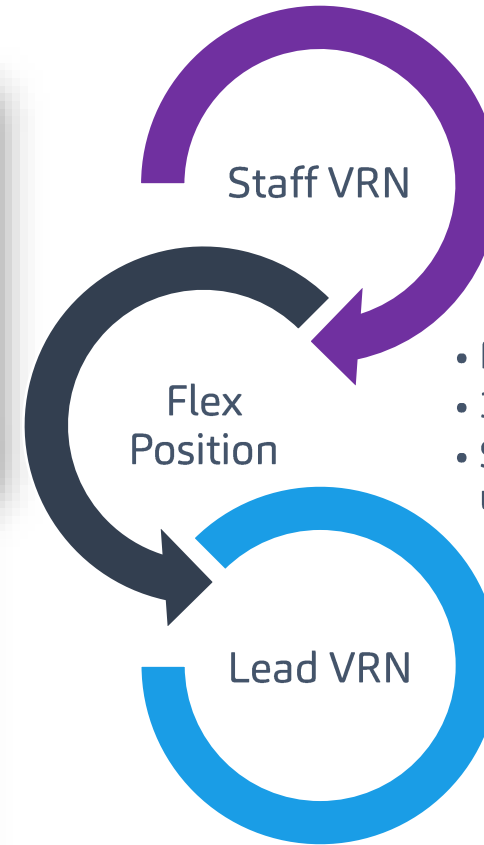


How does Virtual Nursing work?

Team nursing model:

- Ratio of 1VRN : 20-30 monitored beds
 - Admissions, discharges, education
 - Lab review, rapid response escalation, documentation assistance, quality review and support
 - Requests and standard work tasks are completed using a queue (VRNs are not assigned to specific patients)

MRN	PATIENT NAME	DATE OF BIRTH	PROVIDER	CARE CENTER	APPOINTMENT TIME	TIV	WAIT TIME	STATUS	CHAT
7894561237	John Doe	7894561237	David Lin	SCHOOLS	1:00PM	0 Mins	0 Mins	JOIN	○
4567894567	Mary Smith	4567894567	GENERIC	SCHOOLS	1:15PM	0 Mins	0 Mins	JOIN	○
4567894577	Abraham Cole	4567894577	Jessica Cox	SCHOOLS	12:30PM	2 Mins	1 Min	IN PROGRESS	○
7539517894	Lesley Lory	7539517894	David Lin	SCHOOLS	1:00PM	0 Mins	0 Mins	NOT READY	○
65498778984	Peter Parker	65498778984	Jessica Cox	SCHOOLS	11:00AM	25 Mins	12 Mins	COMPLETED	○
7539874544	Maira Schitt	7539874544	David Lin	SCHOOLS	10:00AM	18 Mins	4 Mins	COMPLETED	○



- 12- hour shift
 - Avg 7-10 patient interactions/ shift
 - Quality, Documentation tasks
 - Serves all units/hospitals
-
- PRN Peak hours
 - 3- hour shift
 - Serves all units/hospitals
-
- 12-hour shift
 - Determines staffing assignments
 - Task Delegation
 - Staff Communication



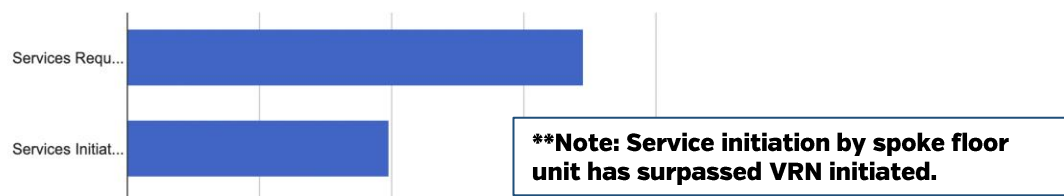
What are the Virtual Nursing outcomes at MUSC?

Key **UTILIZATION** takeaways to date (as of 10.10.24):

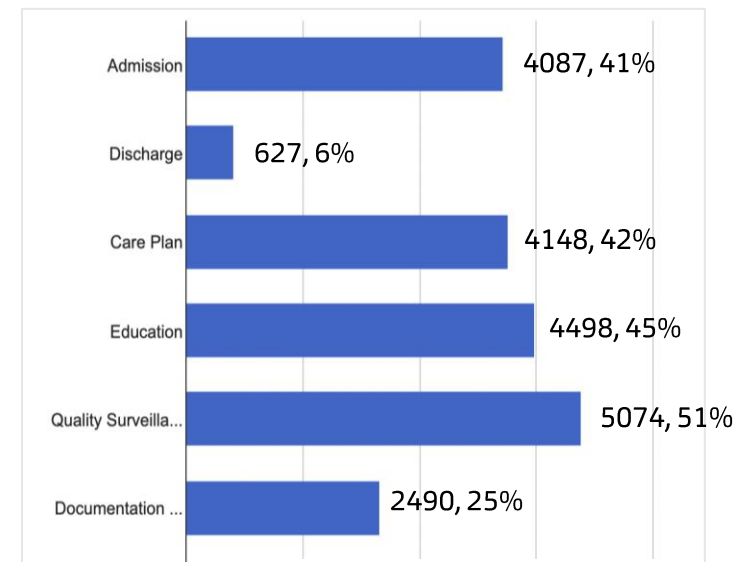
- **6,521 patients** served across **10 hospitals**
- **20,924 service units** have been completed [**~3.2 service units per patient**]
- Service unit types: admission, discharge, care plan, education, quality surveillance, documentation compliance
- **Quality surveillance, education, and care planning service units** are most prevalent, followed by admissions

22% of VRN service units required video [4,569 / 20,924] to complete the task

Counts/frequency: Services Requested by Spoke Floor Unit (4317, 66.6%), Services Initiated by VRN (2475, 38.2%), Services Initiated by Spoke ED (0, 0.0%)



Service Unit Prevalence



n = total number of service unit
% = % forms with service unit represented



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MEDICAL TECHNOLOGY

What are the Virtual Nursing outcomes at MUSC?

Metrics	Target	Actual
Nursing Workforce Economics: Reduce <i>Bedside RN time in EMR</i>	10% reduction	Lancaster 9.1% reduction Chester 13.3% reduction
Quality: Patient Experience <i>Courtesy of person admitting</i> <i>Communication with nurses</i>	5% improvement	Lancaster 8.9% improvement Lancaster 1.0% improvement Chester 4.5% improvement Chester 9.7% improvement
Quality: Improve unit level throughput <i>Timeliness of discharge</i> (<i><3 hours order to DO</i>)	10% improvement from baseline	Lancaster 24% improvement Chester 51% improvement
<p>77 days given back to bedside team in face-to-face interactions</p> <p>16 min/nurse/shift given back to bedside team in EMR time</p>		



What are the Virtual Nursing outcomes at MUSC?

Positive trends in all units where VRN is deployed [only exception is LAN, VRN is not deployed for discharge support]

Admission
Press Ganey:

Question	Location & Go Live	FY 23	FY 24	Trend	Jan	Feb	March	April	May	June	July
Courtesy of person admitting	Lancaster (10/23)	53.0%	61.9%	↑							
	Chester (10/23)	61.1%	65.6%	↑							
	CHS – Main (2/24)	61.2%	69.1%	↑							
	Orangeburg (3/24)	N/A	4 mo.		33.3%	30.0%	50.0%	54.5%	53.3%	57.1%	42.9%

Discharge
Information
HCAHPS:

During your hospital stay, did hospital staff talk with you about whether you would have the help you needed when you left the hospital? (y/n)	Lancaster (10/23)	80.8%	76.1%	↓*
	Chester (10/23)	69.2%	79.7%	↑
	CHS – Main (2/24)	78.3%	81.3%	↑
	Orangeburg (3/24)	N/A	70.5%	N/A
During your hospital stay, did you get information in writing about what symptoms or health problems to look out for after you left the hospital? (y/n)	Lancaster (10/23)	84.0%	80.5%	↓*
	Chester (10/23)	76.9%	79.5%	↑
	CHS – Main (2/24)	66.3%	87.5%	↑
	Orangeburg (3/24)	N/A	81.3%	N/A

* LM6 not using VRN discharge support r/t onsite discharge RN

Communication
w/ Nurses
HCAHPS:

During this hospital stay, how often did nurses explain things in a way you could understand?	Lancaster (10/23)	64.9%	65.5%	↑
	Chester (10/23)	66.4%	70.4%	↑
	CHS – Main (2/24)	75.0%	74.1%	↑
	Orangeburg (3/24)	N/A	66.3%	N/A
During the hospital stay, how often did nurses listen carefully to you?	Lancaster (10/23)	66.4%	66.2%	=
	Chester (10/23)	66.1%	76.8%	↑
	CHS – Main (2/24)	73.1%	77.6%	↑
	Orangeburg (3/24)	N/A	68.3%	↑
During this hospital stay, how often did nurses treat you with courtesy and respect?	Lancaster (10/23)	79.2%	81.1%	↑
	Chester (10/23)	82.4%	83.8%	↑
	CHS – Main (2/24)	78.8%	79.3%	↑
	Orangeburg (3/24)	N/A	84.0%	N/A

What are the Virtual Nursing outcomes at MUSC?

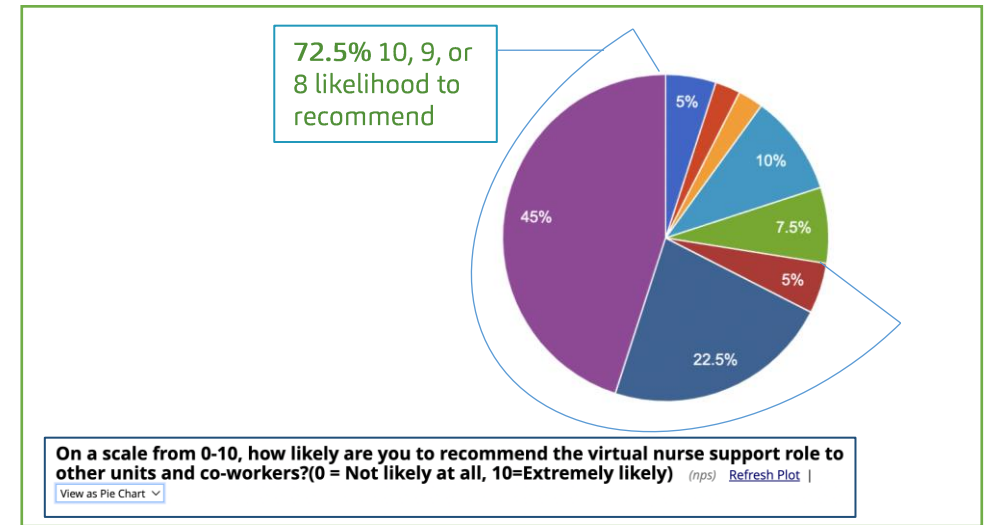
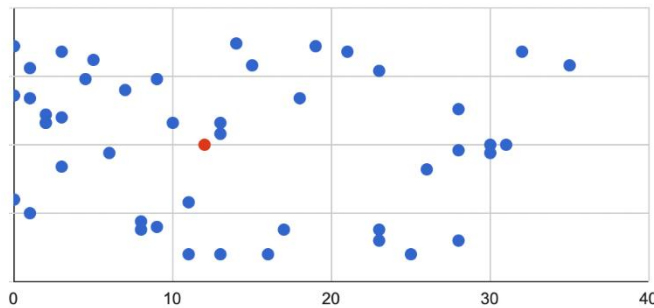
Bedside nurse feedback [3+ months post-implementation]

- Virtual nursing **admission support** is helpful: **72.3%** agree / strongly agree
- Virtual nursing **improves throughput** on my unit: **65%** agree / strongly agree
- Virtual nursing support **improves patient safety** on my unit: **63%** agree / strongly agree
- Virtual nursing helps me spend more **meaningful time** with patients: **67%** agree / strongly agree

Total Count (N)	Missing*	Unique	Min	Max	Mean	StDev	Sum	Percentile						
								0.05	0.10	0.25	0.50 Median	0.75	0.90	0.95
46	2 (4.2%)	28	0	35	13.64	10.64	627.50	0.250	1	3.38	12	23	29	30.75

Lowest values: 0, 0, 0, 1, 1

Highest values: 30, 30, 31, 32, 35



Virtual Nursing: The Paradigm Shift Begins...

What's next?

- Fixed, in-room device exploration and budgeting
- Artificial intelligence integration to gain efficiencies and further reduce documentation burden
- Comprehensive ROI analysis and contribution model

Key takeaways:

- Inpatient nursing leadership faces growing challenges with retention, engagement, and quality of care
- Virtual nursing is a feasible method to address nursing workforce challenges while improving quality
- Task-based interventions paired with quality and documentation adherence monitoring is a well-received phase 1 approach to virtual nursing which shows improvements in key metrics in 4-6 months
- Further expansion to hospital system scale will require intentionality with the VRN role, collaborative nursing approach, and outcome measures

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Questions?

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