



Yale
NewHaven
Health

Implementing a Virtual Care Model Program

NENIC Trends Conference

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Disclosures

The following speaker has no relevant financial relationships to disclose:

Leslie Hutchins

Learning Objectives

Identify 1 strategic design feature of a Virtual Care Model program to address healthcare challenges:

- Nursing retention
- Nursing satisfaction
- Premium labor costs

Describe 1-2 impacts of Virtual Care Model on patient care

- Patient satisfaction
- Quality measures
- Patient throughput

Identify 1-2 value drivers and business justification for expanding Virtual Care Model programs

- Improved clinical outcomes
- Return on investment

Agenda

1. Getting Started:

- Technology
- Virtual Nurse
- Setting the Foundation

2. Virtual Care Infrastructure:

- Strategy & Vision
- Business Plan and Value Drivers
- Committee Structure/Governance

3. Workflow Operations:

- Day in the Life with the Virtual Care Model
- Staffing & Communication
- Implementation Playbook

4. Metrics & Next Steps:

- Outcomes
- Future Vision
- Lessons Learned

5. Questions/Discussion

MISSION, VISION AND VALUES

MISSION

Yale New Haven Health is committed to innovation and excellence in patient care, teaching, research and service to our communities.



VISION

Yale New Haven Health enhances the lives of the people we serve by providing access to high value, patient-centered care in collaboration with those who share our values.

VALUES

- Patient-Centered** – Putting patients and families first
- Respect** – Valuing all people
- Compassion** – Being empathetic
- Integrity** – Doing the right thing
- Accountability** – Being responsible and taking action



Yale New Haven Health Our Healthcare System & Vision for Future



Bridgeport Hospital



Greenwich Hospital



Lawrence + Memorial Hospital



Westley Hospital

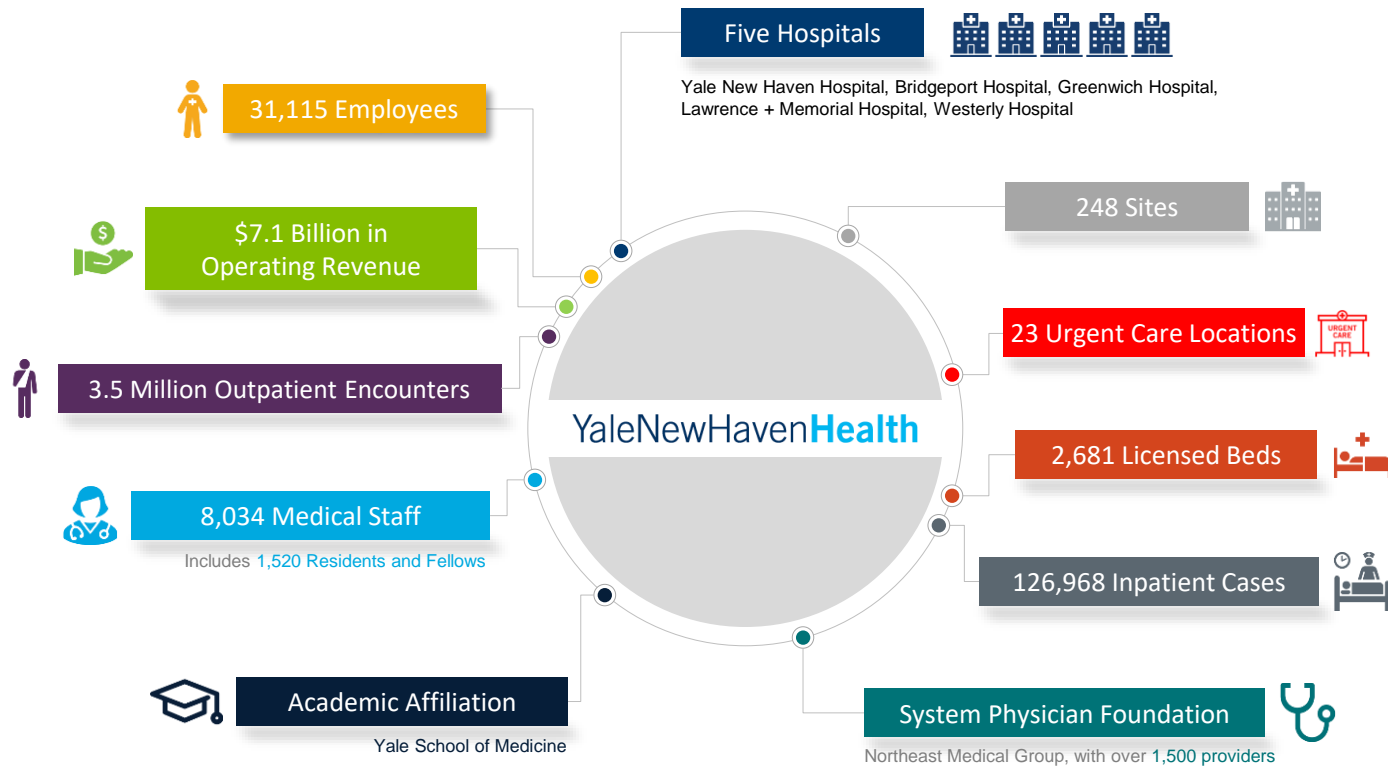


Yale New Haven Hospital

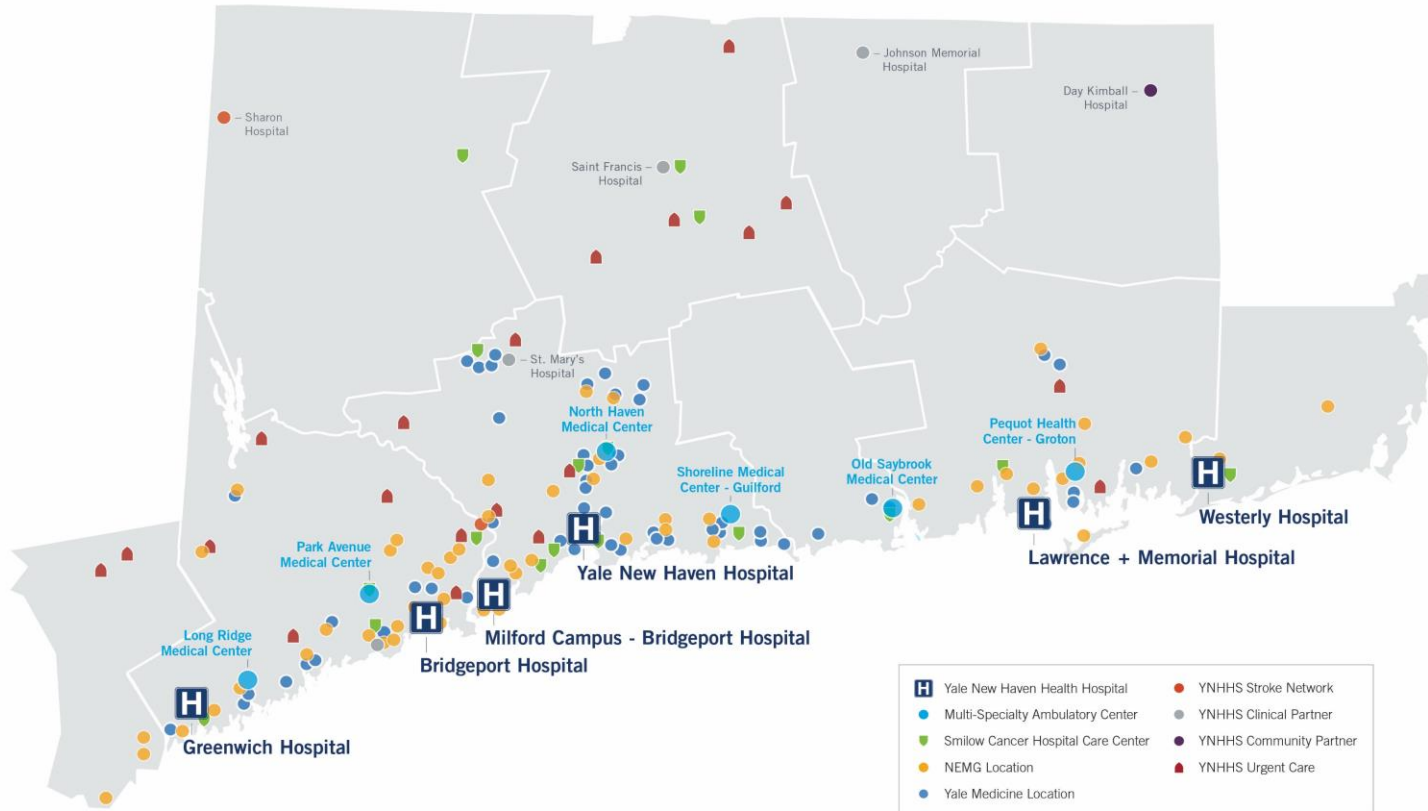


Northeast Medical Group

Yale New Haven Health / Snapshot (FY 2024)



YNHHS / Throughout Our Communities

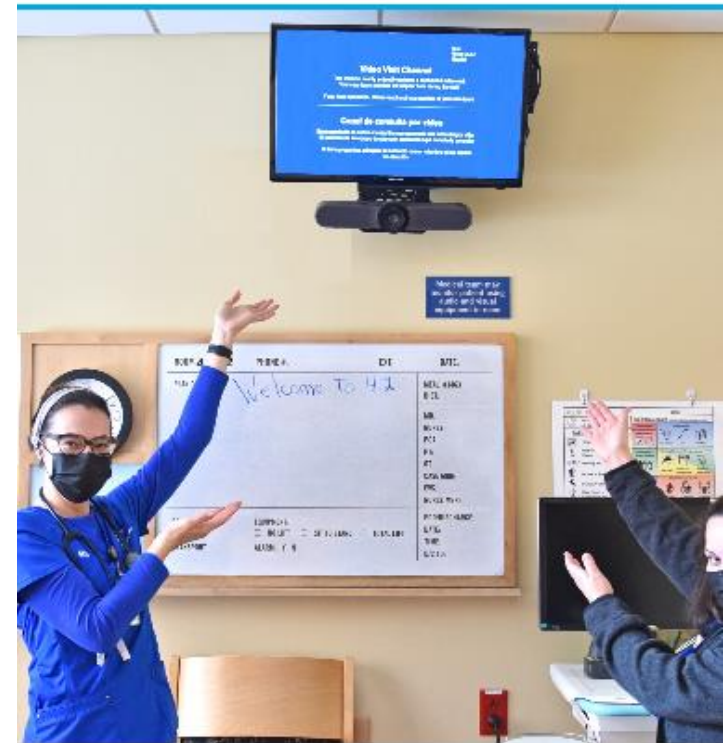


Employer of Choice & Provider of Choice



Getting Started (Proof of Concept)

- Decision made to take advantage of technology and workflows utilized during the pandemic.
- At 3 of our 5 campuses, an audio-visual solution was deployed during the pandemic that allowed for the clinical team and family to interact with the patient via the patient's tv.
- Virtual Care team partnered with Hospital Nurse Leaders
- Spoke with and assessed other health systems who already initiated a virtual care model
- Took a thoughtful approach when determining the first Virtual Nurse Candidate(s): knowledge/experience, interaction with patients, staff, and technology



Getting Started (Proof of Concept)

Determine the Initial Scope

- Partner with Nurse Leaders and Staff
- 1 RN for 2 Med/Surg Units (1:50 ratio)
- Support Admission and Discharges



Determine Virtual Nurse support schedule

- 7am-7pm
- Ideally 7 days a week but started with 1 RN Monday—Friday
- Communication of the Virtual Nurse's schedule and Unit Partnership is Critical

Getting Started – Initial Lessons

Ensuring bedside teams have confidence in the workflows, that the Virtual Nurse is part of the care team and is used effectively:

- Virtual Nurse outreach
- Requires oversight of nurse manager in first few weeks
- Establish communication process

Initial Outcomes on the units with a Virtual Nurse:

- Patient Satisfaction increased
- Nursing team satisfaction
- Technology limitations recognized: Need Omnichannel Solution for multiple workflows and use cases

Today was a particularly busy day with 11 discharges and 2 admissions. The Virtual Nurse was able to assist us with the discharges and admissions. We would not have gotten through the day as smoothly if it were not for our Virtual Nurse. We love having the Virtual Nurse.



Pilot Unit Charge Nurse

I am thankful for the Virtual Nurse and her ability to spend time to talk and listen to me. Please keep this program going.



Patient

Getting Started – Initial Lessons



Staffing

- Quickly realized that virtual nursing coverage needs to be comprehensive
- Expanded coverage of 1 virtual nurse/4 days per week to the current model (7days/week, 7am—7pm)



Metrics

- Established key targets for metrics to evaluate the success of the Virtual Nurse Implementation
- Determine the stakeholders for the metric accountability



Governance

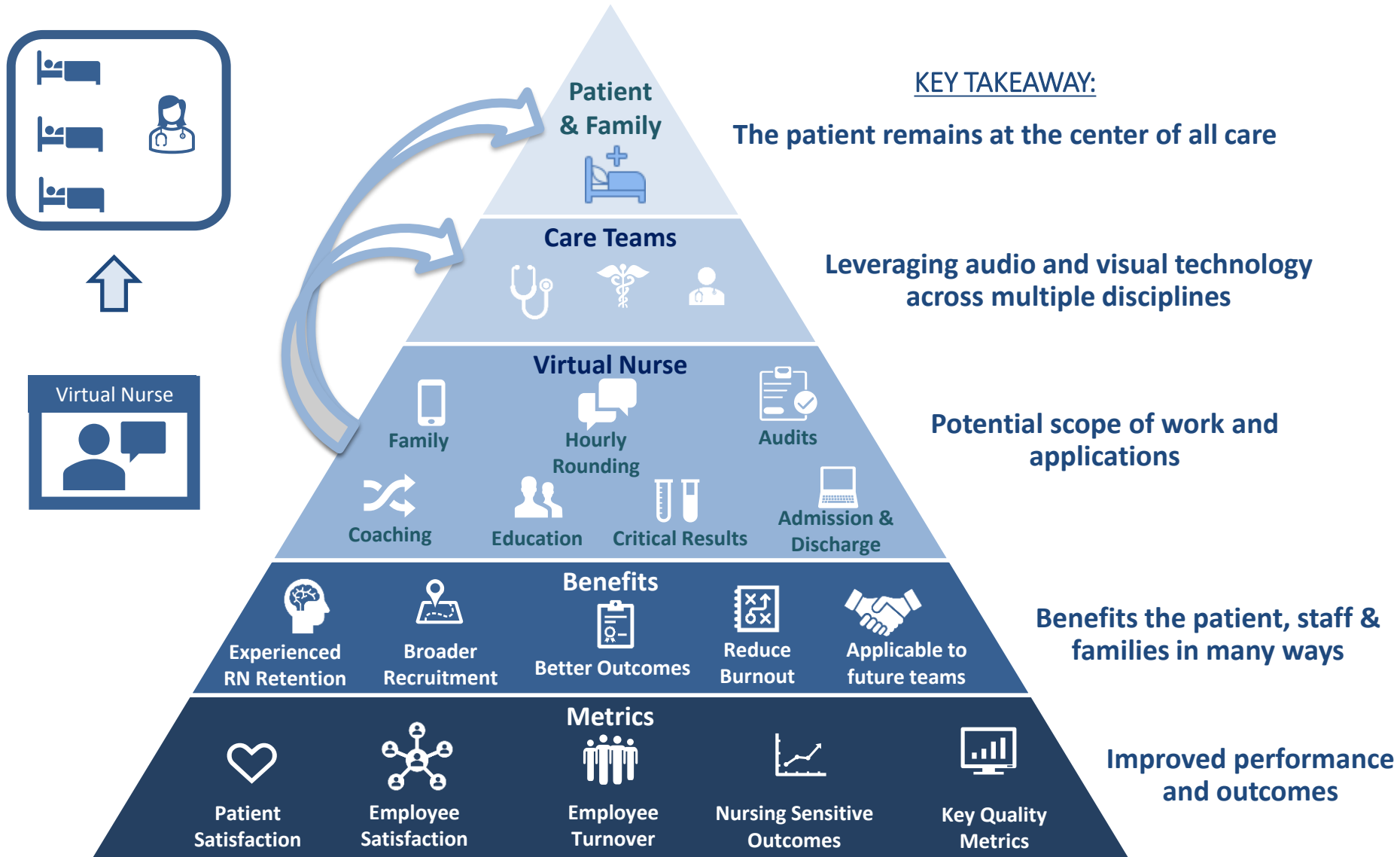
- Need a pathway for scaling technical and operational requirements

Setting the Foundation

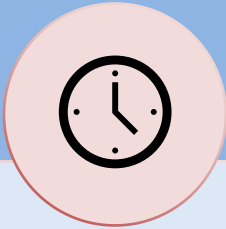
- ✓ Health System Standardization
 - Policies
 - Procedures
 - Equipment & Supplies
- ✓ All campuses utilize the same instance of Epic
- ✓ Centralize the location for the Virtual Care Team



Clinical Care Redesign: Virtual Nursing



Our Top Goals



SUPPORT TIMELY ADMISSIONS AND DISCHARGES

Decrease the time from
discharge order to
discharge time

Improve 11am discharges

Percentage of admissions
discharges supported by
the Virtual Nurse



IMPROVE STAFF RETENTION

Reduce administrative
tasks for the Bedside RN

Alternative staffing &
scheduling option (Hybrid
RN Role): 2 shifts as the
Virtual Nurse and 1 shift at
the Bedside



PATIENT SATISFACTION


Support an optimum
patient experience

Improve patient
outcomes


Virtual Care Infrastructure:

- Strategy & Vision
- Business Plan and Value Drivers
- Virtual Care Model Timeline
- Committee Structure/Governance


Virtual Care Platform: Strategy and Objectives




Care Model Innovation: Harnessing Digital Health Applications to improve access, patient experience and care network allowing for differentiation in our clinical offerings



Modern Digital Health Hub: Omnichannel technology solution integrated with Epic to support all Digital Health Programs to foster innovation and collaboration within one platform



Patient Experience: Improve patient experience scores and provide timely care to deliver exceptional quality and value



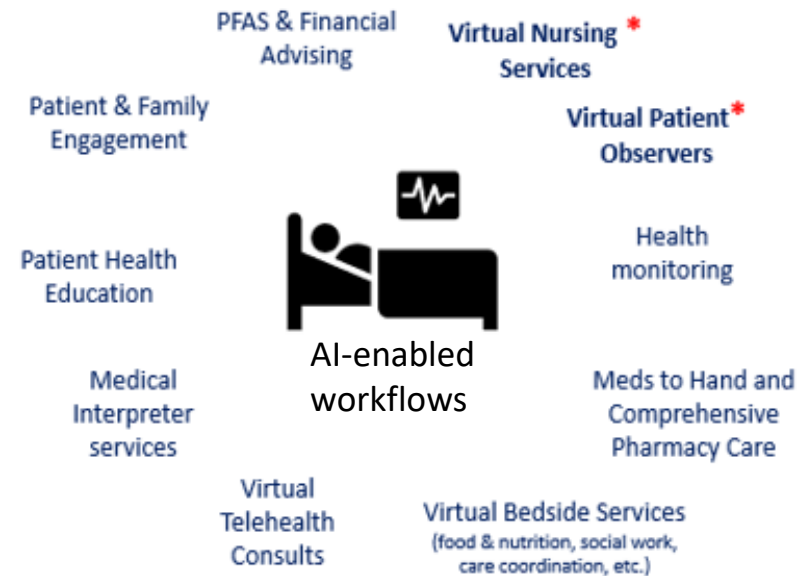
Joy in Practice: Promote greater collaboration and learning across platforms to promote continuous learning and innovation including a focus on our cutting-edge clinical research

Vision for Inpatient Virtual Care Model

Vision Statement

- Develop a **unified technology platform** for clinical programs
- Incorporate an **AI-enabled workflows** to enhance patient care
- **Streamline** operations and provide advanced analytics.
- Ensure **centralized governance** and standard metrics.
- Focus on **patient and family engagement** in care.

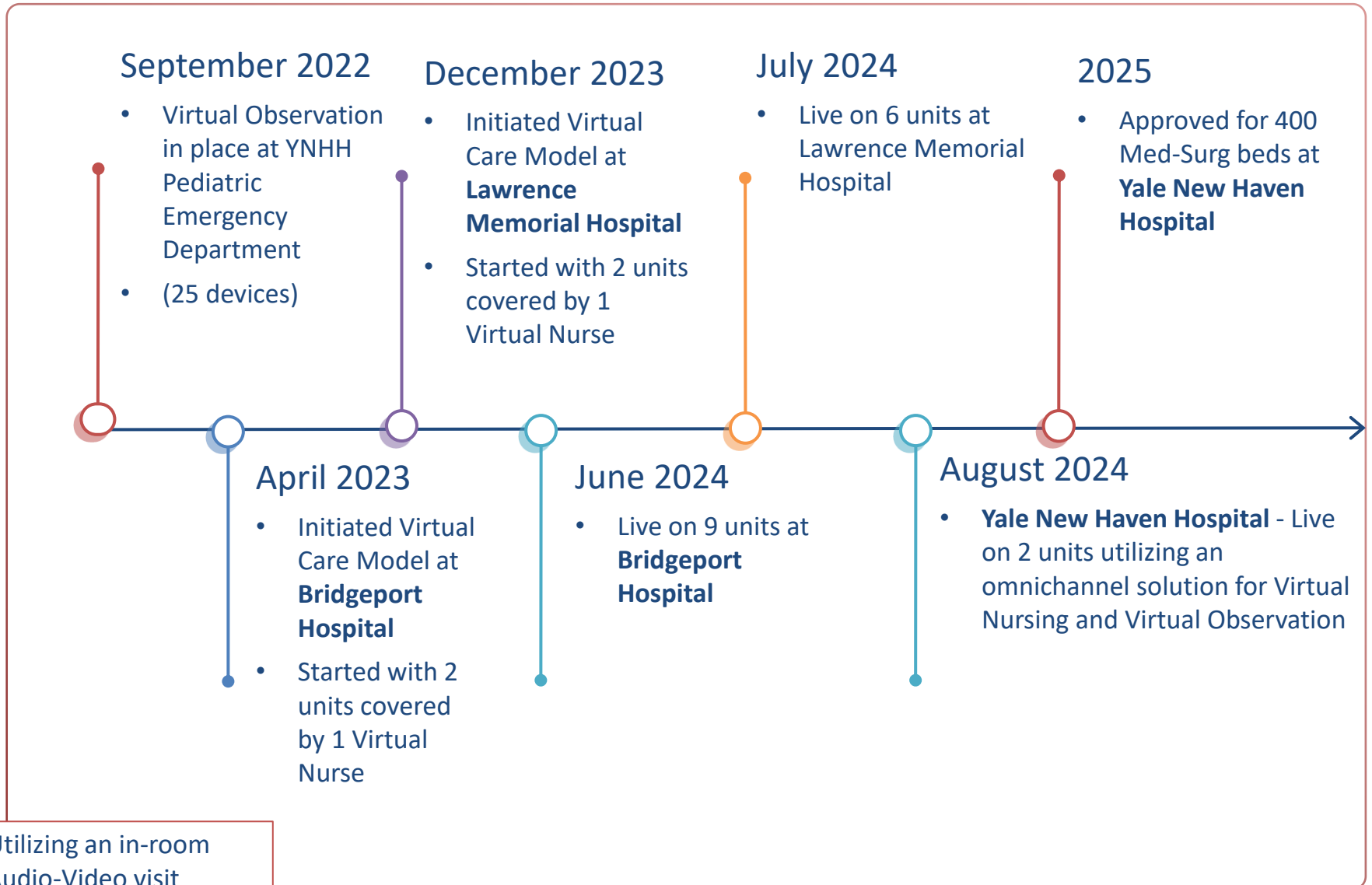
Digitally Enabled Clinical Program Portfolio



* Initial use cases

Each additional use case brings new revenue and experience opportunities

Virtual Care Model Journey Timeline



Utilizing an in-room Audio-Video visit technology solution

Setting up for success – Virtual Nursing



VIRTUAL NURSES

At least two years of Med-Surg experience, preceptor and charge capable.

Current staff of the units going virtual.



STAFFING MODEL

Hybrid positions consisting of two virtual shifts and one on-unit shift per week.

Coverage from 7am – 7pm, 7-days a week, including weekends and holidays.



UNIT COVERAGE

One Virtual Nurse covers two units, with the ability to cross-cover other Virtual Nurses as needed.

Consistent Virtual Nurses covering the same units.



COMMUNICATION

Clear and easy communication pathways between the Virtual Nurse and bedside teams.



METRICS

Created a structure that includes Nursing Leadership, and Informatics with the purpose of establishing clear, definable and achievable metrics.



OPTIMIZATIONS

Build tools within the electronic medical record to keep the Virtual Nursing workflow as similar to a bedside nurse as possible.

Technology Decision Points

Internal Request for Proposals (RFP)

- Vetted Vendors with the focus on Omnichannel Solution for multiple use cases using an internal rubric
 - Virtual Nursing, Virtual Observation, Tele-Consults
 - AI Embedded in platform and AI use cases (i.e. Fall Risk)
 - Ability to incorporate Interpreter Services
 - Hardware and Software
 - Technology Support Models
 - Dashboard and Metrics
- Clinical Comparison of technology occurred during pilot phases

| Telehealth Assessment | Vendor 1 | Vendor 2 | Vendor 3 | Vendor 4 | Vendor 5 | Vendor 6 |
|-----------------------|----------|----------|----------|----------|----------|----------|
| INPATIENT SOFTWARE | 63% | 67% | 78% | 73% | 74% | 88% |
| HARDWARE/SOFTWARE | 88% | 42% | 75% | 71% | 83% | 75% |
| SUPPORT ASSESSMENT | 94% | 69% | 100% | 81% | 75% | 81% |
| METRICS ASSESSMENT | 100% | 75% | 100% | 100% | 75% | 75% |
| OVERALL SCORE | 86% | 63% | 88% | 81% | 77% | 80% |

SMART AIM

Implement a comprehensive inpatient virtual care solution for YNHHS utilizing an omni-channel technology solution

Initial workflows to include Virtual Observation (1:12 ratio) and Virtual Nursing (1:50 ratio) to support admissions, patient education, hourly rounding and discharge

60-day user acceptance before full roll-out

Primary Key Drivers

Staff Outcomes and Satisfaction

Virtual Nurse for Admission and Discharge Documentation
Staff Retention/Recruitment

Patient Outcomes and Satisfaction

11am Discharges,
Press Ganey
HCAHPS

ROI

Decrease Sitter Spend
Decrease Travelers
Decrease Incremental OT

Quality & Safety

Decrease Fall Risk

Interventions

Order Technology
Install Technology

Develop operational workflows
Train staff on technology
Scripting for education

Implement change management process

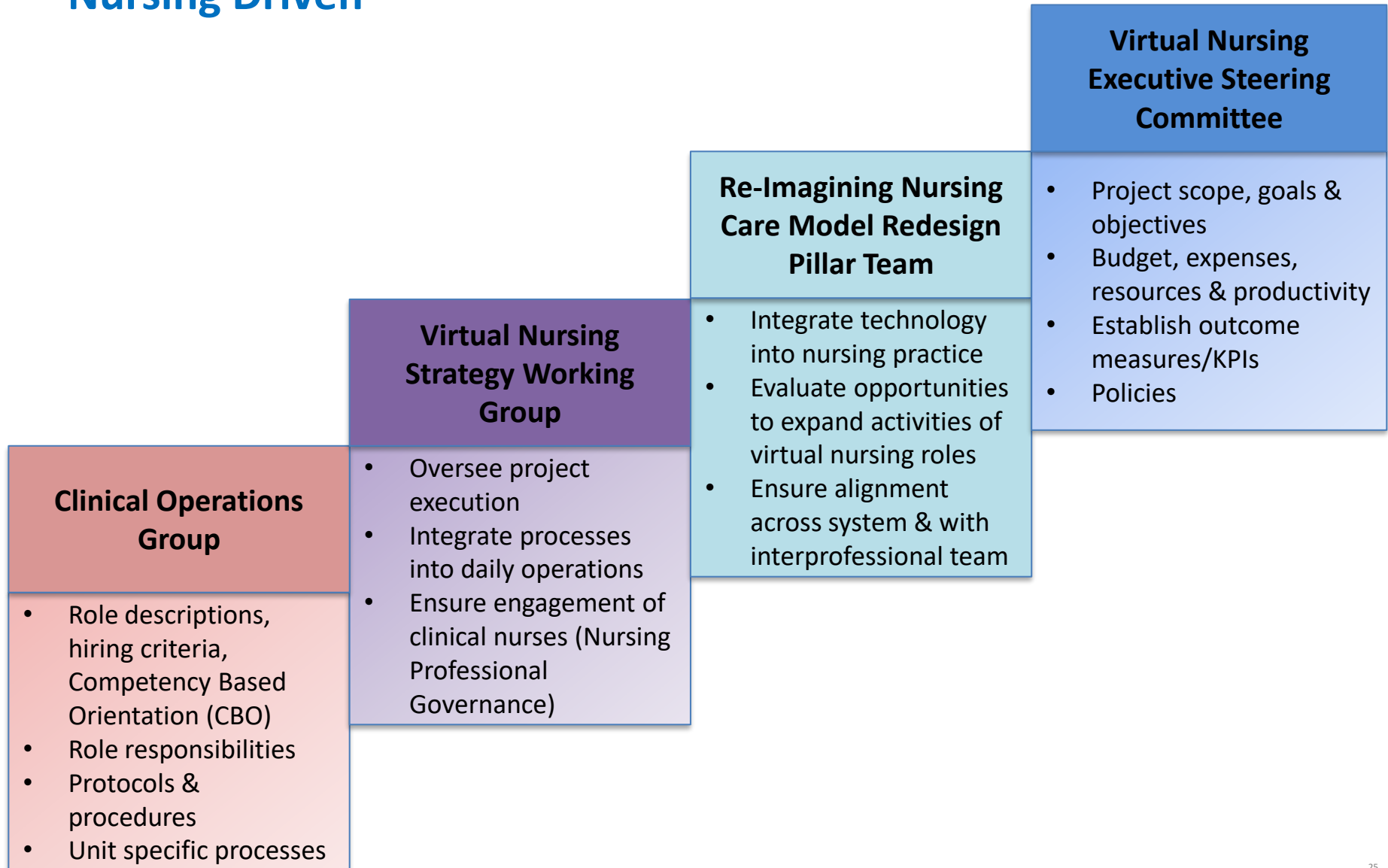
Identify and track metrics

Roles and Responsibilities

| Role | Responsibility |
|--|--|
| CNOs | Leadership oversight for Virtual Nursing within their hospital |
| Accountable Leads | Executive Directors within nursing to provide leadership and direction for nursing workflows; Working in collaboration with IT Virtual Care team |
| Virtual Care Team Support Leads | Workflow experts Workflow development, training development Virtual Nursing staffing oversight in collaboration with nursing managers Metric Dashboard development Co-lead Business Planning and Development with stakeholders |
| Project Managers | Clinical Workflow experts Collaborate on Workflow development Collaborate on job description, training materials, standard operating procedures, playbooks and other materials On-site with Bedside teams at go live |
| Clinical Leads – Nursing | Ensure effective use of Virtual Nurse by bedside teams Lead manager between bedside/virtual teams Ensures metrics adherence |
| Technical Support | Implementation of technical devices and ongoing technical support |
| Reporting/Data Analytics | Create metrics and reporting; Works closely with virtual care team to develop and then vetted thru the committee structure |

Governance Structure for Virtual Nursing Initiative

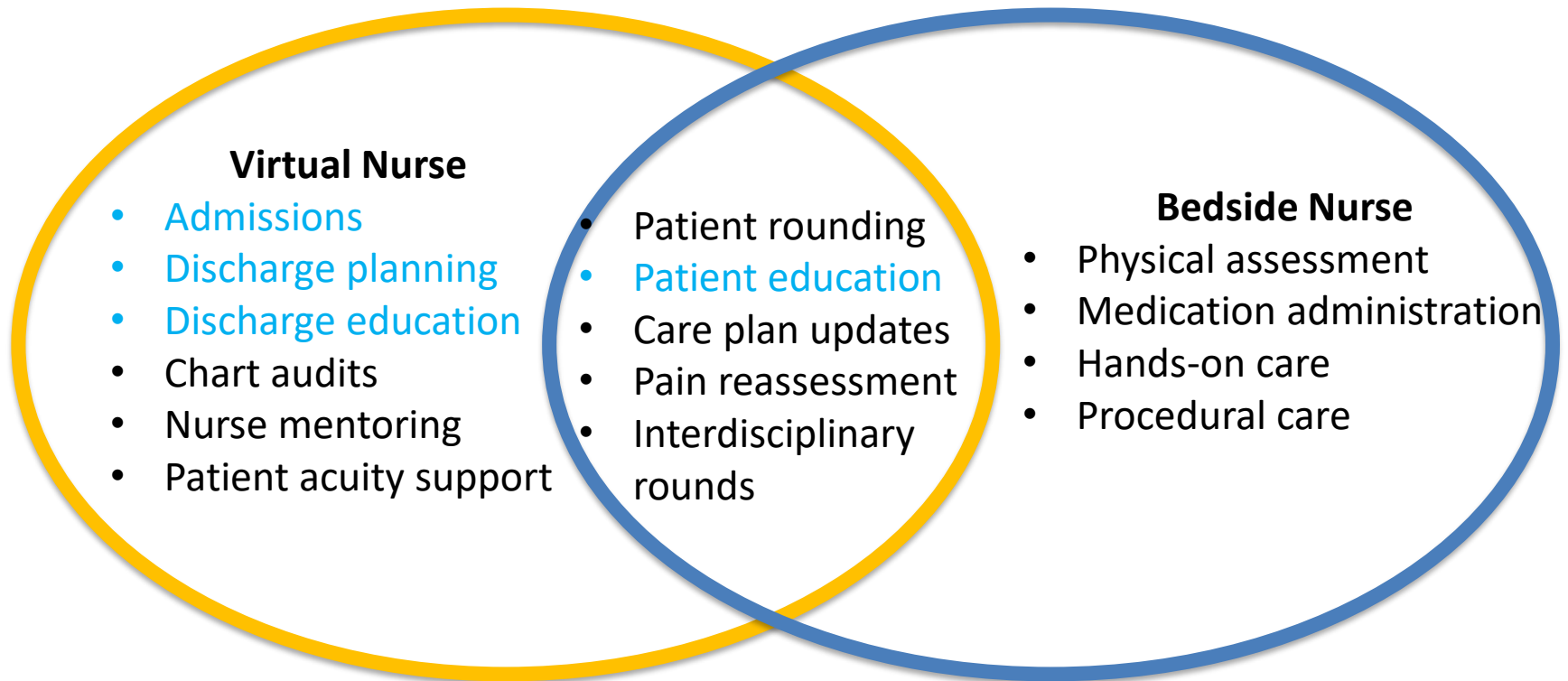
Nursing Driven



Workflow Operations:

- Day in the Life with the Virtual Care Model
- Staffing Models
- Implementation Playbook

Admissions & Discharge focus

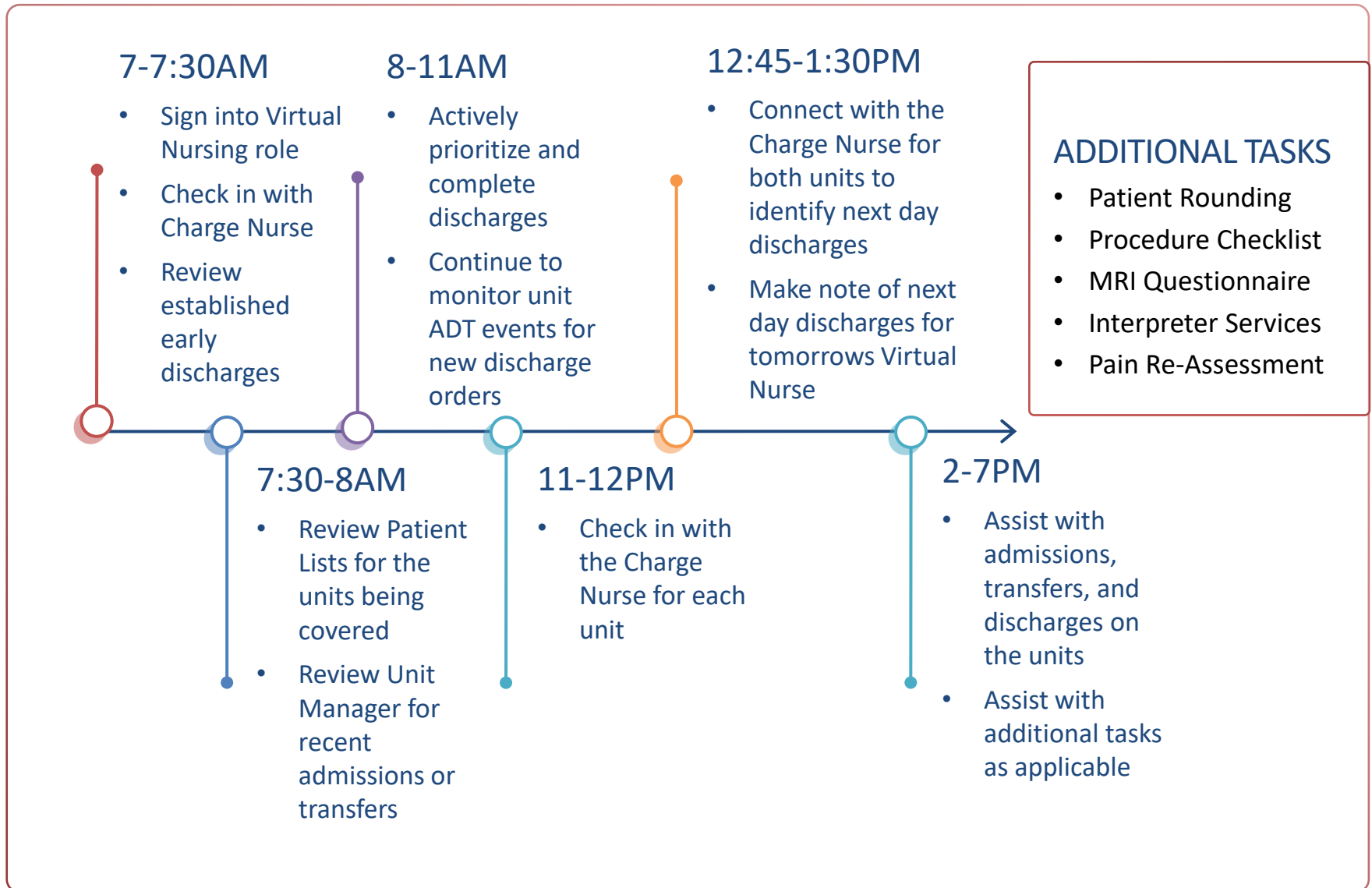


Admission & Discharge focus

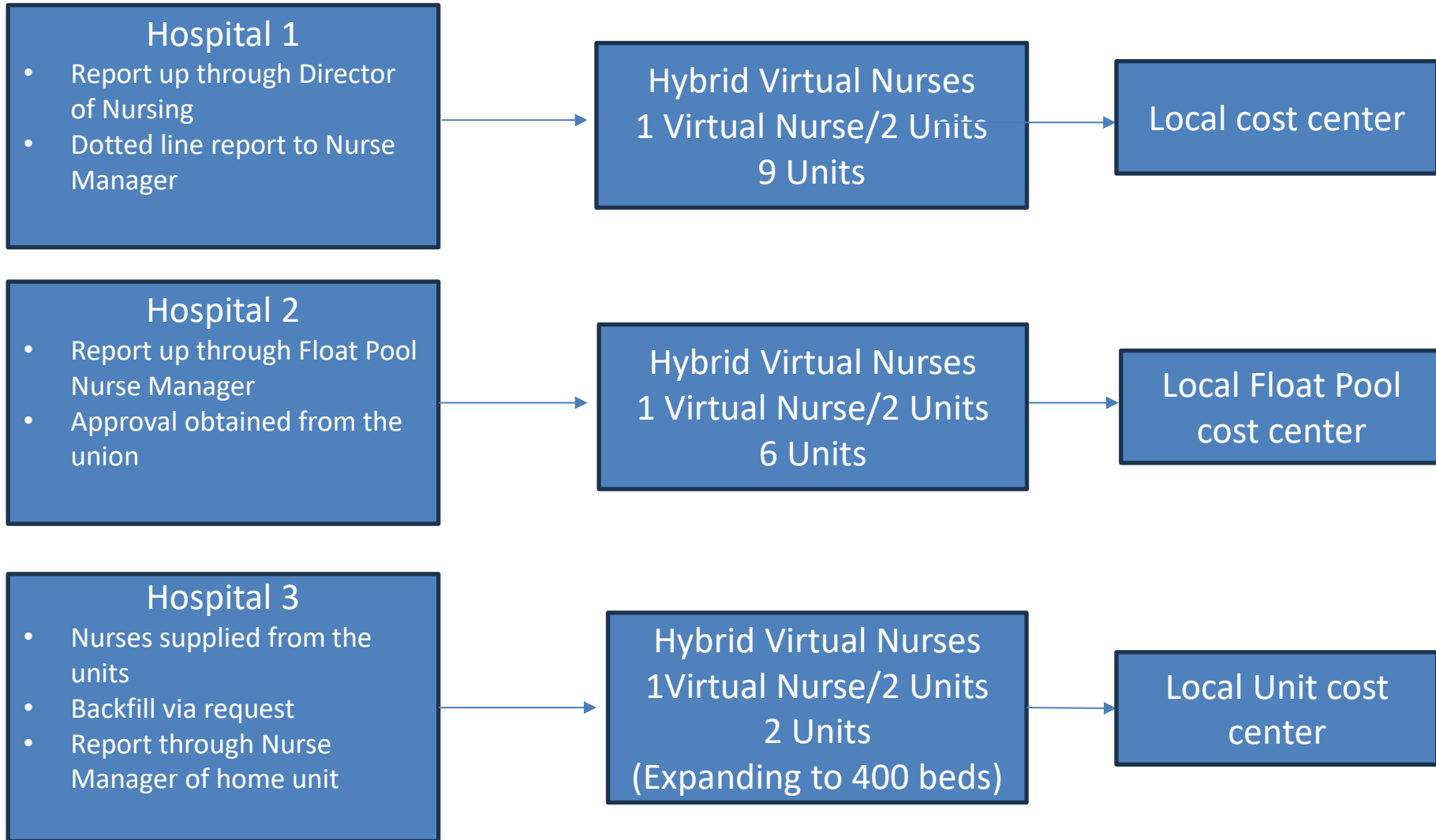
- Anticipates admissions from the ED
- Perform the admission documentation (could be in the ED or inpatient room)
- Patient orientation to the room
- Handoff to floor nurse

- Anticipates discharges from chart review, charge nurse, and huddles
- Chart review to ensure no discharge delays
- Patient discharge instructions

Day in the Life - Virtual Nurse



Virtual Nursing Staffing Models – Current State



Virtual Care Playbook

Planning Week 1

| |
|---------------------------------------|
| Operations |
| Meet with Hospital Nursing Leadership |
| Identify Units |
| Establish Accountability Leader |
| Clinical Operations |
| Virtual Nurse job description |
| Identify Unit Key Stakeholders |

Planning Week 2-3

| |
|---|
| Operations |
| Meet with Hospital Nursing Leadership |
| Meet 1:1 with Unit Managers |
| Identify space for the Hub |
| Technical |
| Quality of check In-Room hardware |
| Clinical Operations |
| Identify any specialty training (ex: neuro) |
| Identify Staff |

Go- Live

| |
|---|
| Operations |
| Daily Check-In Team Huddle (15 minutes) |
| Technical |
| On-going maintenance and monitoring |
| Metrics |
| Track and measure metrics |

Post-Implementation Week 2-3

| |
|---|
| Operations |
| Daily Check-In Team Huddle (15 minutes) |
| Technical |
| On-going maintenance and monitoring |
| Metrics |
| Track and measure metrics |

We have developed a template for implementation of Inpatient Virtual Care programs to ensure timely completion of tasks, standardized programs, and coordination among the teams

Metrics & Next Steps

- Outcomes
- Future Vision
- Lessons Learned

Measuring Success | Setting the Stage for Virtual Care

Key Performance metrics



Decrease time from discharge order to discharge time

90-day Target: 15 min reduction



Integrate Virtual Nurse into admission workflow

90-day Target: ≥ 90% admissions by VN



Increase pre-11am discharges

90-day Target: +3%



Integrate Virtual Nurse into discharge workflow

90-day Target: ≥ 90% discharges by VN



Virtual Observation utilization

Ratio: 1 Observer to 12 Patients



Decrease patient falls and falls with injury

Target: 10% reduction



Decrease incidental overtime

Target: 5% reduction

Investigational metrics



Improve completion compliance of “Required Admission” documentation



Improved patient and family satisfaction



Great catches



Increased nurse satisfaction
Staff Survey



Increased percentages of individualized care plans and care plan completion rate



Camera time / hours supporting the bedside

Results (Fiscal Year to Date)



Decreasing time from
order to discharge

Decreased by
26 minutes



Increasing the percentage
of 11am discharge

Improved
by 3.5%



Decreasing incidental
overtime

Decreased
by over
\$1800

Utilization:



Percentage of Admissions completed by a Virtual Nurse = 50%

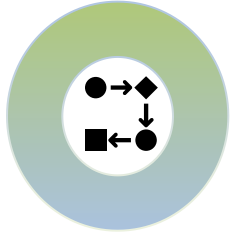


Percentage of Discharges completed by a Virtual Nurse=90%

Patient Story + Feedback

- A Virtual Nurse was reassessing a patient's pain level over video after they had recently received medication to manage their discomfort. On the reassessment, the patient reported, and the Virtual Nurse observed, that the patient was still in significant pain.
- The Virtual Nurse reached out to the covering physician to report these findings and a one-time order for Tylenol was placed. The Virtual Nurse connected to the patient over video again with an update that the medication was ordered. The patient informed the Virtual Nurse that they have difficulty swallowing Tylenol pills and would prefer the medication be prepared as a liquid. The Virtual Nurse was able to contact the team again and have it changed to liquid before it was dispensed.
- During this time, the bedside nurse assigned to this specific patient was handling a busy assignment and was extremely appreciative of the Virtual Nurses assistance.

Future State – Care Transformation Model



Improve Virtual Nursing Workflow

Optimize established workflows to increase productivity and efficiency

- Electronic Medical Record enhancements
- Communication pathways
- Data collection



Enhanced Workflows

Create more complex workflows as the available technology improves

- Dual-Nurse sign-off for high-risk medications
- Dual-Nurse skin check
- Patient rounding (routine, and at-risk populations)



Incorporate AI resources into the Virtual Nursing

Take advantage of the evolving use of AI in the inpatient nursing settings

- Fall risk detection
- Pressure injury prevention
- Aggression/violent behavior detection



Expand Programs

With lessons learned from Virtual Nursing, expand current virtual care programs

- Care Management/Social Work
- Pharmacy
- Physician consults

Virtual Care Value Drivers

Decreased Inpatient Observer Costs: Improved patient care opportunity and cost savings from utilizing technology to move from a 1:1 observer requirement to 1:12

Incidental Overtime Reduction: Lower documentation burden for bedside nursing reduces the need to stay past end of shift to catch up on pending documentation tasks causing incidental overtime

Vendor Consolidation: Move from single use case technology to omnichannel platform which allows for multiple virtual care workflows

Fall Risk Savings: Increased observation of patients at high risk of falling in the hospital leads to a decrease in falls over time

RN Turnover Reduction/Improved Retention: Increased retention and reduced turnover decreases need for other staffing resources by increasing bedside and virtual nurse satisfaction and flexibility.

Reduction in RN Traveler Expenses: Improved nurse satisfaction and retention will increase the proportion of employed nurses, and increased flexibility of nursing roles can reduce reliance on temporary premium labor. More consistent employed staffing will also reduce variations in care

Virtual Care Hub

- Development of a Virtual Team unit that houses all virtual care programs in a system-wide collaborative space
- Allows for clinical cross-coverage, and virtual care program standardization



- Central Monitoring Unit
- Remote Patient Monitoring
- Video-Enabled Rapid Response

Lessons Learned

- Take advantage of technology and workflows utilized during the pandemic.
- Partner with Nurse Leaders and Staff
- Determine metric for success
- Don't reinvent the wheel, learn from others experience
- Take a thoughtful approach when determining the Virtual Nurse Candidate(s): knowledge/experience, interaction with patients, staff, and technology
- Set up regular check-in meetings especially during the go-live weeks with the bedside and virtual team

Quote from HIMSS

“You can’t take the care out of Healthcare. But you can rewire the way it’s delivered --- with intelligence, empathy, and action at every step.”



Discussion

