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CASE STUDY

for health care providers worldwide

How CHI Health Implemented a Virtual Expert Nurse Staffing Model

Using telemedicine to scale nurse expertise and increase inpatient productivity

Published – April 2021 • 10-min read





Table of contents

Overviewpg. 3

Approachpg. 4

1: Create virtual nurse role pg. 5

2: Equip virtual nurses with a telemedicine platform
and real-time clinical datapg. 7

3: Adjust staff workflow to support virtual nurses pg. 9

Results. pg. 12

Related content.pg. 13

Overview

The challenge

Most nurses operate in a primary staffing model, in which each nurse is solely responsible for their assigned patients. But this model doesn't suit the needs of either novice or expert nurses. Novice nurses deliver care without formal oversight by their expert RN peers, which can harm quality and safety. At the same time, expert RNs tire of the physicality of bedside care delivery and may opt to leave the organization entirely.

The organization

CHI Health is a 14-hospital health system headquartered in Omaha, Nebraska, within the CommonSpirit Health enterprise.

The approach

In 2014, the system CNO at CHI Health worked with technology vendor Banyan Medical Services to introduce a virtual expert nurse role on inpatient units. This role allows the units to scale nursing expertise over a team-based staffing model while retaining expert RNs.

The result

The virtual team-based staffing model helps organizations adjust their skill mix, reducing labor costs. This model also helps improve care coordination and new nurse retention.

Approach

CHI Health used virtual expert nursing to scale nurse expertise and increase inpatient productivity

In 2014, CHI Health created a virtual expert nurse role to scale nursing experience over inpatient units. This document focuses on the three components of this staffing model.

The three components

01 Create virtual nurse role

02 Equip virtual nurses with a telemedicine platform and real-time clinical data

03 Adjust staff workflow to support virtual nurses

01 Create virtual nurse role

CHI Health introduced a virtual expert nurse role in 2014 to several inpatient units. The expert nurse performs two main functions. First, they provide a universal layer of nursing expertise, as they oversee all nursing staff delivering in-person bedside care. Second, they complete nursing tasks that require expert competence, such as communicating with the interdisciplinary team and managing care coordination and patient flow.

Other virtual expert nurse responsibilities include:

- Assisting with patient admissions
- Preparing patients for discharge
- Supporting new RNs
- Conducting real-time quality surveillance
- Identifying high-risk patient needs



1. CREATE VIRTUAL NURSE ROLE

CHI Health has six requirements for selecting their virtual expert nurses, listed below. Nursing leaders sought to hire experienced nurses with the strong communication skills necessary to working effectively in a virtual environment. And they tried to hire for these positions internally.

Leaders piloted the expert RN roles in the oncology and med/surge units. These units not only had managers willing to pilot the technology, but they also had low nurse turnover rates. This meant that the experienced nurses who would become the virtual experts already had strong relationships with staff.

CHI Health baseline requirements for virtual expert nurses

- BSN-prepared
- Expert-level nurse
- Minimum five years experience in related area
- Demonstrated ability to think critically and respond adeptly to patient needs
- Comfortable with new technology
- Excellent communication skills

02 Equip virtual nurses with a telemedicine platform and real-time clinical data

CHI Health partnered with Banyan Medical Services for their AURA virtual integrated provider technology. The AURA is a digital platform with real-time information sharing between an expert RN and patients through monitors in patient rooms.

The technology helps support virtual RNs' work in three ways:

- **Integrated software technology aggregates patient information** in real time, allowing the virtual nurse to monitor all aspects of care on one screen.
- **Two-way audio and video system** enables the virtual nurse to easily communicate with the bedside care team and patients at any time. When the virtual expert nurse wants to connect to a room, they send an alert to the patient and turn on the video camera.
- Staff and patients can **contact the virtual nurse through the touch-screen tablet** in the patient room for on-demand support.

Today CHI Health has seven full-time virtual expert nurses providing 24/7 coverage at their urban hospital site. These nurses also provide coverage 12 hours a day, 5 days a week at one of CHI Health's rural hospital sites.



2. EQUIP VIRTUAL NURSES WITH A TELEMEDICINE PLATFORM AND REAL-TIME CLINICAL DATA

View of patient from virtual RN's office



View of virtual RN from patient's bed



Source: Banyan Medical Services, Inc.,
<https://www.banyanmed.com/>; Catholic Health Initiatives (CHI)
National/CHI Health Nebraska, Omaha, NE; Advisory Board
interviews and analysis.

03 Adjust staff workflow to support virtual nurses

CHI Health redesigned the bedside team to create a team-based structure supporting the virtual RN. The virtual expert RN role allowed CHI Health to move from an RN/CNA paired model to a team-based model. In the new model, the virtual expert nurse oversees two bedside care teams made of an RN, LPN, and patient care technician who care for up to 12 patients each. The biggest change in the model was the addition of LPNs, which not only filled RN vacancies due to a local RN shortage, but also reduced labor costs. This reduction in labor costs offset the cost of the virtual RN technology.

The bedside care team is responsible for all in-person care, such as:

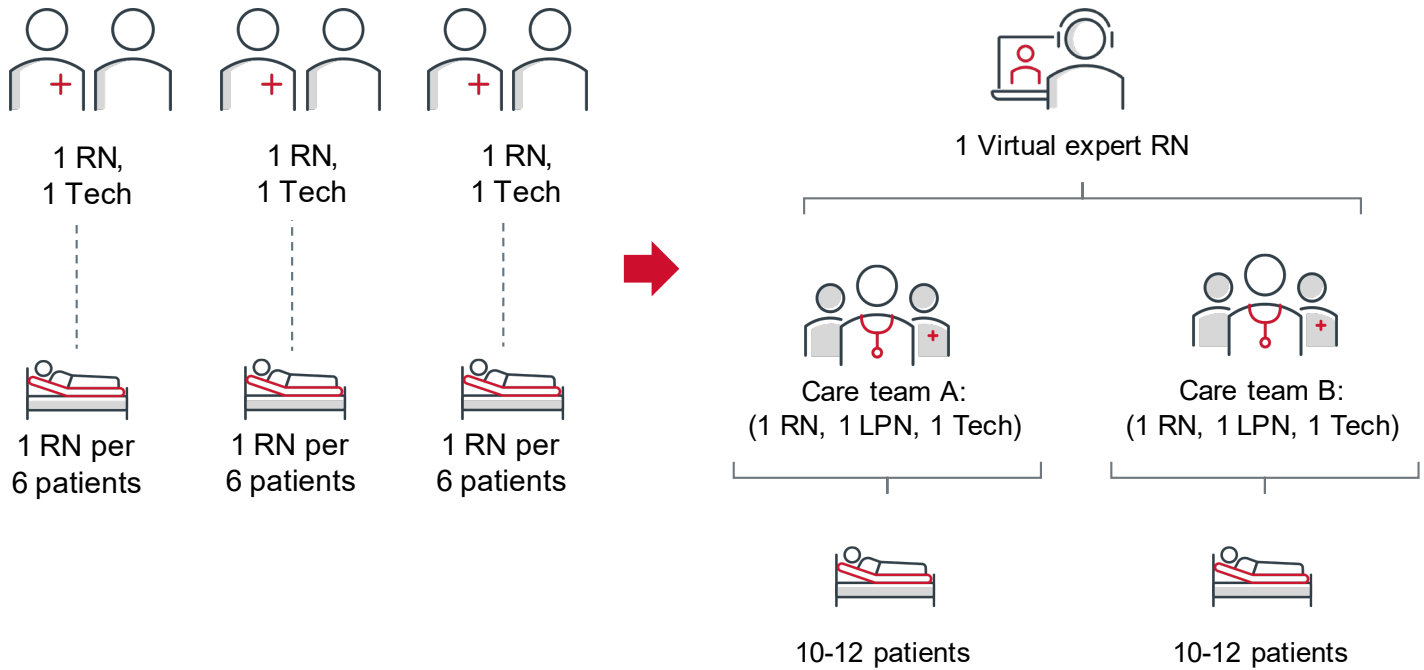
- Conducting physical assessments for patient admission
- Providing direct patient care
- Managing discharge processes and providing discharge instructions to patients and families

3. ADJUST STAFF WORKFLOW TO SUPPORT VIRTUAL NURSES

New staffing model elevates expert RN role

Previous med/surg staffing model

Virtual expert nurse staffing model, med/surg unit



There is some overlap in the responsibilities of the virtual nurse and the bedside care team. Who performs certain tasks depends on the clinical situation. For example, the bedside care team provides most of the patient education, but the virtual nurse will step in for a high-risk medication or a new diagnosis. However, CHI Health leaders deliberately developed policies to make emergencies out of scope for the virtual nurse role because the virtual nurse may be involved with another patient and unable to hear the emergency codes.

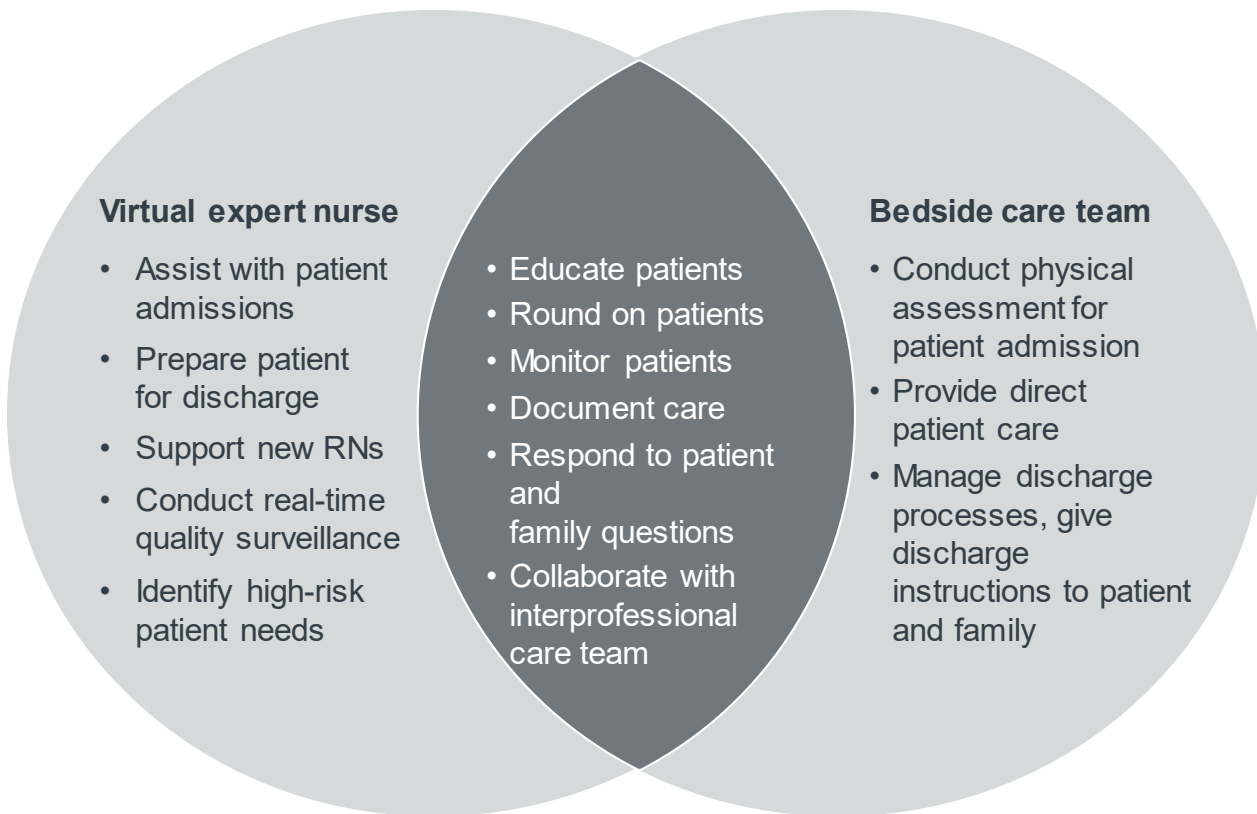
In addition to on-demand communication via the two-way video platform, the virtual nurse and bedside care team round daily. The team uses that time to coordinate care plans and prioritize high-risk patients that need additional attention from the expert nurse.

Source: Banyan Medical Services, Inc., <https://www.banyanmed.com/>; Catholic Health Initiatives (CHI) National/CHI Health Nebraska, Omaha, NE; Advisory Board interviews and analysis.




3. ADJUST STAFF WORKFLOW TO SUPPORT VIRTUAL NURSES

Selection of RN responsibilities in virtual expert nurse staffing model



Results


Banyan Medical Services, CHI Health’s vendor, reported a 175-bed hospital realized a labor savings of \$4.7 million after instituting the virtual expert nurse staffing model. This is magnified by a cost reduction due to improved quality outcomes, resulting in a total savings of \$12.8 million.


Other organizations using Banyan’s technology have also reportedly decreased turnover among new nurses, while the virtual expert team staffing model improved care coordination across the organization. 


\$12.8 M

Total projected savings for CHI Health based on Banyan reported labor savings and CHI Health’s savings from improved quality outcomes.


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