

# Beyond Virtual Nursing 1.0



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A solution gaining rapid momentum in the healthcare space is Virtual Nursing, which Accenture defines as the collaboration between Humans + Automation to achieve Care Reinvention. <sup>[1,2,3,4,5,6,7]</sup> Virtual nursing is driven by three common themes:

1. Redefining the nursing care delivery model through co-creation with nurses, creating diverse opportunities for experienced nurses as well as those interested in nursing, prioritizing the wellbeing of nurses, and extending career longevity of seasoned, semi-retired nurses by reducing brain drain.
2. Reducing the cost of labor impacts associated with high nurse turnover rates. The need to do better than “moving the deck chairs on the Titanic” by creating fundamental change in nursing care delivery.
3. Developing scalable solutions that enrich the relationship between nurses and patients and offer career flexibility.

Dr. Kathleen Sanford, the Executive Vice President, Chief Nursing Officer for CommonSpirit, and one of the 50 [most influential](#) clinical executives of 2023 captures the issues. <sup>[8]</sup>

*“Speaking of being burned out, that’s been in the literature for nursing for 40 years too, if not longer. People act as if that’s a big surprise...nursing has been talking about it for many, many decades. Research shows that nurses have felt they haven’t had a voice in their jobs; they don’t like being treated as a commodity; they’ve had respect issues; they’ve had issues because it’s [traditionally] a female gender profession. There’s confusion over our education and what the educational levels should be. And when many people think of nurses as angels, mostly they talk about women that way. They forget that there is a great intellect that goes with that love. It’s intellect plus love, empathy, kindness, scientific knowledge, and ability and skills. So, all of this has led to a time when more mature nurses are leaving, and the younger nurses are saying, ‘Hey there’s something wrong here.’”*

The U.S. Veterans Health Administration is the largest, global health system, and realizes nurses are key to ensuring patients receive care. Pamela Jackson, a Nursing Executive located in the Dublin VA, echoes the importance of nursing. <sup>[11]</sup>

*“Where we can get back to the heart of what nursing really is. Because when you think about it, nursing is the heartbeat of everything we do in health care.”*

## Virtual Nursing 1.0

Many healthcare organizations have embarked on the bold journey to incorporate Virtual Nursing as part of their care delivery model. The initial steps taken by these early adopters to develop these programs are regarded as Virtual Nursing 1.0.

Virtual Nursing 1.0 aims to achieve the following:

1. To leverage the tangential successes found through using various technological solutions to deliver care to patients virtually. Such uses include:
  - a. ICU monitoring to address the shortage of intensivists and, to a lesser extent, ICU capability.
  - b. Patient observation sitter-type use cases, such as traditional slip/fall or mental health sitters.
  - c. Ambulatory settings which provide timely and convenient access to quality care for patients in their homes and communities to decrease barriers to access.
  - d. Delivering care to COVID-19 patients through telehealth monitoring solutions to reduce hospital admissions and infections.
2. Introduce and integrate an experienced nurse who is remotely located into a handful of the core activities in a medical/surgical (non-telemetry) care setting. The diagram below (Figure 1) illustrates the extent of task shifting in most of the early Virtual Nursing programs. Initial tasks shifted or augmented by an experienced remote nurse include assessments/reassessments (focusing on SBAR at admission), rounding, discharge, patient/family education and communication, and documentation review. In most of these tasks, the focus has been on limited, predictable moments when these tasks occur. The driving influence in some instances has been to create scale by leveraging the remote nurse to support multiple units or to share care team responsibilities.

The illustration below highlights a typical staffing model for inpatient Virtual Nursing 1.0.

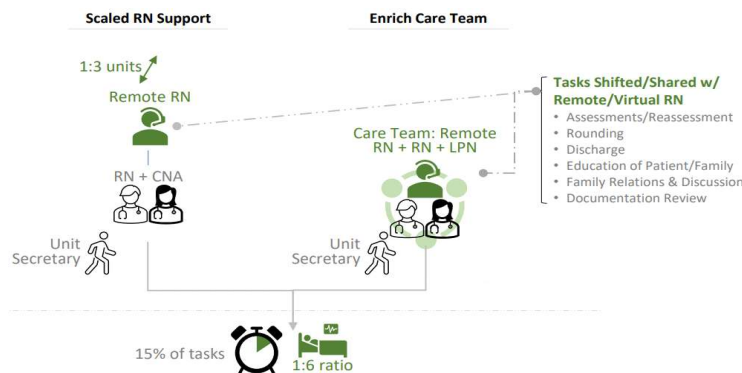


Figure 1: Virtual Nursing staffing model for inpatient acute care settings based on available literature for beginning programs.

## What Happens After Virtual Nursing 1.0

For decades, there has been a need to change the inpatient nursing care delivery model. As a result of the COVID-19 pandemic, awareness of the value of virtual health increased. Consequently, Virtual Nursing began to evolve in inpatient care and across the continuum. The **Virtual Nursing Maturity Framework** described below, highlights how health systems can pursue the transformation journey from inpatient care to scale across the care continuum.

Current **Virtual Nursing Maturity** is:

**f**(Progress shifting & augmenting tasks, Care setting, Delivery approach)

At the core of the **Virtual Nursing Maturity Framework** is the recognition that the journey will take time. Over time, more tasks will be shifted or augmented. Therefore, it is helpful to understand the breadth of the tasks performed within a particular care setting. Typically, in a 12-hour shift, inpatient nurses handle about 40 tasks. The table in Figure 2 below lists the different tasks and identifies those found in early Virtual Nursing 1.0 programs.

#	Frequency (High, Moderate, Low)	Activity	Virtual Nursing (3 Levers) has been Applied
1	H	Answering call lights	●
6	H	Care plan review	●
23	H	Charting/Documentation	●+
5	H	Critical lab values	●
S2	H	Delivering / Retrieving food trays	
S1	H	Delivering beverages and snacks	
F1	H	Direct care plan	
22	H	Huddle coordination	●
2	H	Monitoring telemetry	●
19	H	Nurse to nurse communication	●
18	H	Nurse to provider communication	●
3	H	Patient observation	●
F2	H	Respond to vital signs and emergent	●
7	H	Rounding	●+
0	H	Safety & Infection Control	
4	H	Tracking lab order/results and patient transport	●
21	H	Unit management	
S3	H	Waste collection /disposal	
8	M	Assessment/Reassessment	●
25	M	Clinical decision-making support	●
S7	M	Delivering/ Picking up items interdepartmentally and medications to/from pharmacy	
F3	M	Documentation review	●
12	M	Family education	●+
11	M	Family relations & discussions	●
20	M	Giving / Receiving shift reports	●
S6	M	Lifting/ repositioning patient	
F4	M	Medication administration	
9	M	Medication Management	●
10	M	Patient education	●+
S5	M	Patient transportation	
S4	M	Searching for and retrieving supplies and equipment	●
16	M	Video binders / Discharge planning and readiness	●
F5	M	Wound management	●
15	L	Admit/Transfer between units	●
F6	L	Backfill unavailable staff	●
17	L	Discharge communication	●+
24	L	Mentor / Advisor / Coach	●
14	L	Patient check-in	●
13	L	Pharmacotherapy	●
26	L	Staff education	●+

Figure 2: Inpatient nursing tasks, including those demonstrated through experience and those tasks found in early Virtual Nursing 1.0 programs. A typical virtual nursing program in a Medical/Surgical setting will pull only a minimal set of levers (see those marked with +). Other experiences indicate that virtual nursing (Humans + Automation) impacts many more tasks (see those marked with ●).

A similar list of tasks could be provided for nursing care within any care setting across the continuum. The goal of the **Virtual Nursing Maturity Framework** is to communicate where a healthcare organization may be on their transformation journey. The following are used to describe the Virtual Nursing Maturity levels within a particular care setting.

**Table 1: Progression along the Virtual Nursing Maturity Framework**

Virtual Nursing Maturity Level	Description
Level 1.0	An organization has begun the journey towards Virtual Nursing. Experienced nurses are identified and trained using specific tools for virtual care delivery. A handful of tasks have been shifted or augmented.
Level 2.0	Approximately half of the identified tasks that could be shifted or augmented are inflight and maturing. Collaboration with Virtual Nurses and Bedside Nurses occur with clarity on roles and responsibilities. A foundation is established that supports all four levers found in the Virtual Nursing model which are: local nursing capability, automation/technology, support staff, and remote consultations.
Level 3.0	A full range of tasks identified to be shifted or augmented are inflight and maturing. Effective coordination and collaboration between Virtual Nurses and Bedside Nurses on shared tasks. The Virtual Nursing Maturity Framework supports innovation and the introduction of new approaches, automation, and technology.

## Applying the Virtual Nursing Maturity Framework

Table 1 demonstrates the framework for tracking the progression and scale of Virtual Nursing programs. To successfully implement the **Virtual Nursing Maturity Framework**, there are three dimensions which must be considered: Progression, Setting, and Delivery. Table 2 provides a description of each dimension.

**Table 2: Virtual Nursing Maturity Framework Dimensions**

Dimension	Description
Progression	<p>This dimension focuses on the progress made in shifting or augmenting identified tasks within a particular nursing care setting. An example of progressions within an inpatient department is highlighted below:</p> <p>Progression 1 = 15% of identified tasks are shifted or augmented.                      Progression 2 = Approximately 50% of identified tasks are shifted or augmented.                      Progression 3 = All identified tasks are shifted or augmented.</p> <p>This approach is consistent with how progress is reflected as improvements are built into each iteration using the previous progression as a foundation.</p>
Setting	<p>The Virtual Nursing Maturity Framework can be applied to more than inpatient care. “Setting” can be used within a health system to track progress of the scalability of their Virtual Nursing programs that maps to their various care settings. If a healthcare organization’s Virtual Nursing program is only focused on</p>

	<p>the inpatient setting, the setting number of 0 is assigned indicating that only one care setting has implemented a Virtual Nursing program. If the program expands to include ambulatory/outpatient care departments, the setting number of 1 is assigned.</p> <p>For example, a healthcare organization with a Progression Score of 2.1 would signify their Virtual Nursing program has approximately 50% of identified tasks shifted or augmented across 2 care settings. Therefore, the Virtual Nursing Maturity Framework aims to offer a healthcare provider the opportunity to track their progress meaningfully based on their unique health systems.</p>
<p>Delivery (D=Delivery Center; C=Command Center)</p>	<p>Many healthcare organizations will find improvements to nurse-to-patient ratios as one of the great benefits of implementing Virtual Nursing programs. In many instances, organizations will also find that a remote nurse can support more than one nursing unit, outpatient clinic, hospital, or community care center.</p> <p>Subsequently, Virtual Nursing begins to take on a centralized “delivery center” care model where a nursing resource is provided across the enterprise. A great example of this progression across settings towards a centralized approach is Mercy Virtual, Veterans Administration eICU, and how vendors such as Banyan, Andor Health, and Accenture offer nurse staffing to meet the needs in Lever 3: Leverage Team Support of the Virtual Nursing Model. A Command Center approach is used to direct Virtual Nursing resources to meet real-time or near-real-time needs like a physician command center.</p>

Beyond Virtual Nursing 1.0, the **Virtual Nursing Maturity Framework** provides a roadmap for health systems to understand where they are today and offer foresight into the future by tracking their progression, settings, and delivery throughout their implementation journey. Table 3 provides examples of the maturity framework scorecard.

**Table 3: Examples Using the Virtual Nursing Maturity Framework**

S/N	Descriptor	Description
1	Virtual Nursing 1.0	Task shifting and augmentation have begun in the inpatient nursing setting with 15% of identified tasks addressed.
2	Virtual Nursing 3.0D	Task shifting and augmentation are very mature in an inpatient nursing setting, with all identified tasks shifted or augmented and some centralized nursing support offered by a delivery center.
3	Virtual Nursing 2.1	Task shifting and augmentation are used in approximately 50% of identified tasks across 2 care settings.

## What Might Virtual Nursing 2.0D Look Like?

Several health systems are at Virtual Nursing 1.0. Many have begun the process of moving from pilots to enterprise implementation. At the same time, there continue to be expansions of delivery center care approaches to improve patient observation/monitoring, outpatient services, and ICU. So, where might you expect these programs to go next?

### Additional Task Shifting and Augmentation

Health systems and nursing professionals will seek benefits beyond those found in Figure 1, where a handful of tasks were shifted or augmented. Three important next steps regarding task shifting and augmentation occur following Virtual Nursing 1.0.

1. **Add a Mix of Remote Nurses.** Virtual Nursing 1.0, especially in medical/surgical settings, focused on placing experienced, registered nurses in remote locations (Virtual RN). The next step is to add other levels of nurses (e.g., LPN or similar unit secretaries). As shown in Figure 3, this allows the experienced Virtual RN to provide additional task support at an appropriate level of remote nursing.

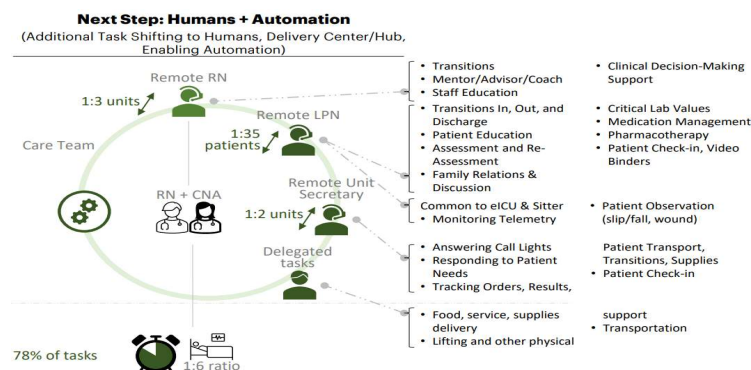


Figure 3: Tasks Shifting and Augmentation Beyond Virtual Nursing 1.0

2. **Integrate and Expand Delivery Center Approaches.** As the figure highlights above, it is possible to utilize patient observation (sitting, telemetry) and other remote nurses by applying a delivery center foundation across the enterprise to further expand care and improve nurse-to-patient ratios.
3. **Accelerate Automation and Technology to Augment Tasks.** Enhancing communication and coordination in Virtual Nursing 1.0 is a reality. Nursing communication and coordination have been a well-documented issues and the inclusion of Virtual Nursing without careful consideration introduces an added complexity if not well managed. The use of technology and automation can be leveraged to support and improve communication and coordination between Virtual and Bedside Nurses. Figure 4 below highlights the early successes achieved with automation to address Virtual Nursing communication and coordination. Additional use cases will follow.

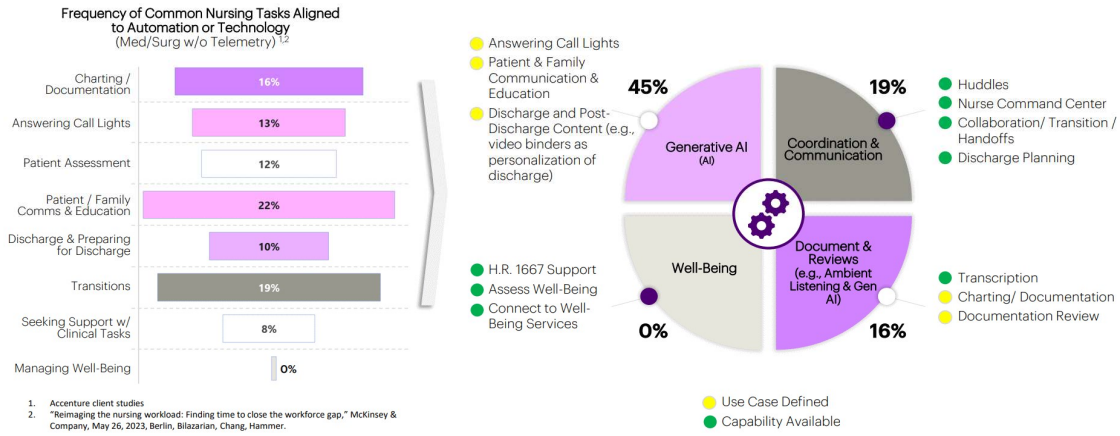


Figure 4: Task Shifting and Augmentation Using Automation

## Expanding to Other Settings and Other Professionals

The Virtual Nursing approach has broader implications. First, while the focus has been on inpatient nursing, as shown in Figure 5, a similar method can be applied to other nursing care settings. In each care setting, the pre-engagement process is identical: a) understand the nurse's tasks and document the inventory, b) bring nurses together within the setting to gain an understanding of what is time-consuming, pain points, and needs for change management, and c) using the four levers (Lever 1: Local Nurses, Lever 2: Automation and Technology, Lever 3: Support Staff, and Lever 4: Remote Consultations) identify the first tasks to be shifted or augmented and gain consensus.

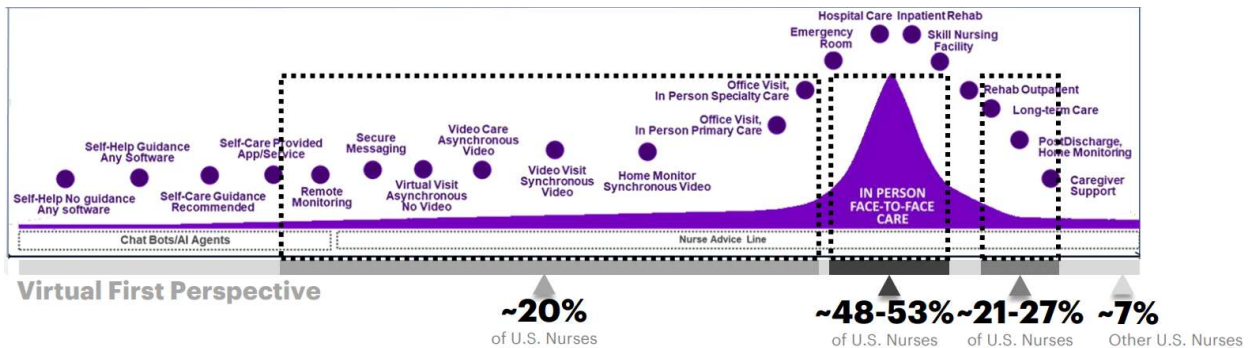


Figure 5: The Virtual Nursing Maturity Framework can be Applied to Other Care Settings [9]

Additionally, other healthcare clinicians also are faced with shortage and burnout, and there are examples of how they have benefited from a virtual nursing-type approach as well. For instance, a lack of intensivists prompted efforts to introduce virtual nurses and intensivists into eICU or teleICU care models. Keycare [10] and others have also shown they can apply virtual professionals in other areas, such as medical assistants. There will be ongoing efforts to understand what tasks can be provided to non-nursing clinical professionals to handle, further resolving shortages and improving burnout. Many of these efforts will result in enterprise-wide initiatives through similar delivery center or command center implementations.

## Journey Emphasized

This discussion highlights the journey of Virtual Nursing with Accenture's Virtual Nursing Maturity Framework as a foundation. Applying a similar approach to other clinical professionals will lead to additional benefits. Globally, and particularly in the United States, the issue of shortages among nurses, physicians, and other clinical professionals has been a critical topic for more than the four decades that I have engaged in healthcare. This journey of discovery and application is necessary to solve the problem and revive the hope of providing quality healthcare for the future.

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