# Virtual Nursing: Lessons Learned

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There continues to be a U.S. and global nursing shortage, and nurses feel burnt out. While there have been changes (the pendulum has swung from temp nurses to boomerang nurses with better compensation[1]), the decades-long, acute situation still exists.[2] The problem and consequences are well documented[3],[4] - there is a critical shortage of nurses. Not enough nurses are entering the workforce and staying, and those who remain - feel burned out, work long hours, face significant physical demands, and necessitate increased financial impact either through the hiring of temp staff or expanded remuneration to attract nurses to balance the needs of the healthcare system.
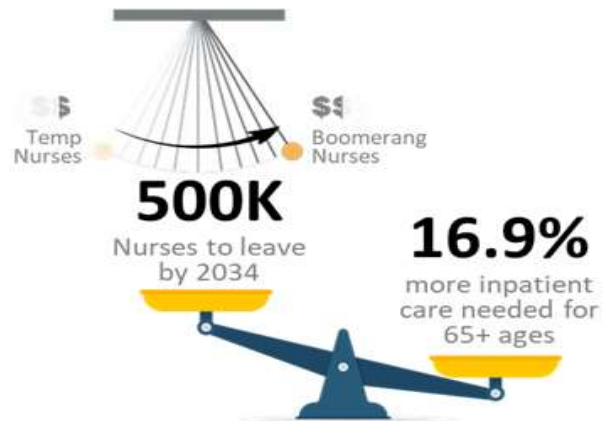
As reflected in the figure the nursing shortage is especially acute in the U.S. Veteran and Military Health systems, the largest and one of the most complex health systems globally. 92% of VA facilities report severe nursing shortages.[15] This shortage poses an even more acute impact since the number of Veterans requiring care has increased since the passage of the PACT Act.

Dr. Kathleen Sanford, the Executive Vice President and Chief Nursing Officer for CommonSpirit, captures the issues[5]

> "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.'"

Now or New

The problem is immediate, and current financial positions encourage rapid returns on investments (six months to a year). Now, it is possible by

1. Relying on what's been learned or proven in Virtual Nursing redistributes nursing, creating better coverage ratios across nursing units,
2. Depending on the appetite of the organization, relying on delivery center or offshored nurses (U.S. licensed),
3. Moving nursing tasks that others can do to these alternative resources.

Therefore, it's about an all-in approach that is very tactical – limiting costs found in infrastructure improvements. But it's also an approach that establishes the "new." Is "new" a care model without nurses or a tiny fraction of today's nurses? To be timely, let's pose the question to Microsoft's generative AI. We get a predictable answer: "There is a shortage of nurses in the healthcare industry. The International Council of Nurses warned that there could be a shortage of 13 million nurses by 2030 unless drastic action is taken. Hospitals are innovating amid dire nursing shortages. Over the past three decades, research has established that inadequate nurse staff in hospitals is associated with increased patient morbidity and mortality." If, as we'll see in the next section, the goal is to return nurses to the top of their licenses, delivering care to patients in the acute and critical spaces feels as if it might be Humans + Automation.

Clear, Core Strategies and Tactics Show Promise

Dr. Sanford also captures the aspirations for the future of nursing.

> "We're doing a complete revisioning of patient care, and we're starting with acute care, looking at what it is that makes nurses' jobs less than joyful or less than satisfying. You have to have good pay and working conditions to get them to come work for you at all, but beyond that, what is it that makes a workplace the best place for people to work at the top of their license? What makes it a good place to have a voice? What makes it a good place to work as a team? What makes it a place that you can be proud of?"

A solution gaining rapid momentum is Virtual Nursing - Humans + Automation.[6],[7],[8],[9],[10],[11],[12] Virtualizing nursing is driven by three common themes:

1. Redefine the nursing career, create diverse opportunities for those interested in nursing, reduce the friction that takes the joy out of nursing, and extend career longevity through options.
2. Reduce the labor costs of nursing. Do better than "moving the deck chairs on the Titanic" by creating fundamental change in nursing care delivery.
3. Solutions must be scalable, enrich the relationship between nurses and patients, and offer career flexibility.

The strategy leads to very tactical steps, beginning with acute care – realigning tasks better by utilizing Humans + Automation.

As explained by Kaveh Safavi, MD, Global Managing Director at Accenture[13]

"Instead of traditional calculations (the number of hires or agency staff required to fill vacant roles), the end state should be expressed in terms of the required tasks. These would probably be split into physical / cognitive and routine / non-routine tasks. Once split, the correct combination of human and automation technologies with the correct skill levels, and on the correct basis (permanent versus temporary) can be budgeted for—with automation technology focused mainly on routine tasks, and humans on non-routine."

Humans + Automation realignment uses the three levers illustrated in the diagram below. Often, levers are pulled together, and tasks are realigned by distributing portions of a task to the most appropriate source and ensuring coordination.

Resolving forty (40) years of nursing challenges necessitates pulling on all the levers to make permanent, lasting change. Opportunities exist to quickly achieve direct and indirect benefits (6 to 12 months), but endless benefits are derived from the journey.

- Virtualize "Local" Nurses: Using differentiated remote nurses responsible for participating in clinical decision-making or communication. Just as there are different levels of certification/skilling for floor nurses, remote nurses are often.
    1. Masters-trained, registered, or experienced nurses
    2. Continuous monitoring of nurses (e.g., vital signs, sitting, sepsis, wounds, etc.)
    3. Unit secretaries

    Each type of remote nurse supports different tasks, which can result in realigning 30% of tasks. Using remote nurses creates a change on the floor as floor and remote nurses proactively huddle, engage bedside or in other venues, and leverage command center-like capabilities. Remote nursing also creates opportunities and diverse career paths.

- Automation (Robotics, Virtual Care platforms, Artificial Intelligence [AI], and Machine Learning [ML]): Increasingly, automation focuses on enabling nursing activities by assisting in decision-making, alerting to conflicts and best actions, and taking on documentation aligned to nursing activities. Automation, such as generative AI, will impact nursing activities involving documentation, assessments, discharge, and other activities.

- Leverage Support Staff: Research has shown up to 38% of time-consuming, repetitive, and scripted activities can be shifted to these other resources, some remote, to drive cost savings. Often, these activities result in increased interruptions, delays, and poor patient relations. This staff, including nurses, can leverage the global scale of a virtual communication platform and focus on non-clinical decision-making activities.

- Remote Consultations: Physician and specialist consultations that provide insights into the patient's condition or the care to be provided to a patient.

The numbers cited in the earlier illustration come from studies focused on a single lever. On the virtual nursing journey, organizations pull each lever, often simultaneously.

Getting On the Virtual Nursing Journey

Nurses must manage and complete diverse tasks across multiple patients in an acute or critical setting. The table below highlights forty (40) of the most common tasks nurses perform during a typical shift while attending to multiple patients. 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 ●).

#	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	●†

The forty (40) most common activities nurses perform in an acute or critical care setting. The table highlights the frequency of the tasks and the journey to realization.

These experiences can inform the lessons learned.

1. Known use cases demonstrate immediate steps across the dimension of tasks that will drive value.
2. Shifting numerous complex tasks to virtualization solutions over time that can match the interests of the care provider, checking the availability of resources.

Core Ancillary Themes Learned

Realigning nursing tasks highlights the need to focus on a current acute care unit issue, including addressing the need for better communication and coordination, the different reactions between nurses in a union, and the need to focus on burnout and well-being within nursing processes.

A. Drive Communication and Coordination

Communication and coordination issues among nurses in acute or critical care settings are well documented. Interruptions, inability to connect promptly, and awareness of needed supplies and results are just a few of the reported issues. Virtual nursing exacerbates these issues and creates breakdowns in change management. Technologies that enhance communication and coordination are necessary to ensure virtualization achieves the desired outcomes. For instance, whether virtual or not, each nurse should have easy access to a personal command center. This often-mobile command center focuses on patient responsibility, associated tasks, and up-to-date awareness of care team availability. The command center is also vital to change management, including gamification that reflects the desired behavioral changes.

B. Opinions Changed Most in Nursing Leaders/RNs

Nursing leaders and RNs flipped their opinion of Virtual Nursing more than any other nursing role. Each time we explore Virtual Nursing with a hospital, we host focus groups of nurses from the floor. Every time, RNs went into those focus groups expressing the highest skepticism and were most negative to change. After the focus groups, RNs had the most favorable impression of Virtual Nursing. The focus groups were invaluable in discovering the real issues and opportunities that often benefited the RN.

C. Union vs. Non-Union

Virtual nursing has been viewed differently in union and non-union experiences. Unions have raised various issues.[14] Interestingly, in our focus groups, attitudes were similar. Across union and non-union,

- Junior and less experienced nurses express benefit when supported by the more experienced nurses on the floor.
- These same less experienced or junior nurses feel they need to be more capable and able to perform a task and desire more significant interaction with an experienced nurse.
- Less experienced nurses would prefer to refrain from interrupting an experienced nurse, creating the potential for a negative result.

Career trajectories focus on well-being, and early conversations helped in mitigating resistance. The location and rotation of virtual nurses reduced some friction by creating flexibility and familiarity with any other nurse.

D. Managing Change

Virtual nursing is changing, and the reaction to change is predictable. The earlier discussion on Union vs. Non-Union change was met with the predictable, immediate response – "What about patient safety?" Patent safety should be paramount and is in Virtual Nursing programs. Early in most Virtual Nursing programs, patient safety is the focus, so often, virtual nurses remain on campus. There is a conscious effort to connect virtual nurses with floor nurses, sometimes even doing rotations, to ensure continuity of care is the focus.

E. Wellbeing

The pandemic provided a vivid example of the stress placed on our clinicians. Legislators have noticed and are seeking, for example, H.R. 1667 (Dr. Lorna Breen Health Care Provider Protection Act) in the U.S. Congress. Virtual nursing, primarily through increased communication and coordination, is an opportunity to use technology to gauge the current well-being of clinicians. Virtual nursing creates moments when nurses come together using technology for collaboration. At these moments, using technology to gauge a nurse's status and, as appropriate, connect with support services.

The real lesson learned about Virtual Nursing is that the "40 years or longer" problem, as Dr. Sanford described, may finally receive the kind of long-term attention that resolves those individuals' difficulties.

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