



A Guide to Virtual Nursing: Inpatient Settings

Virtual nursing workflows, key performance indicators, and IT enablement considerations for hospital-based hybrid care

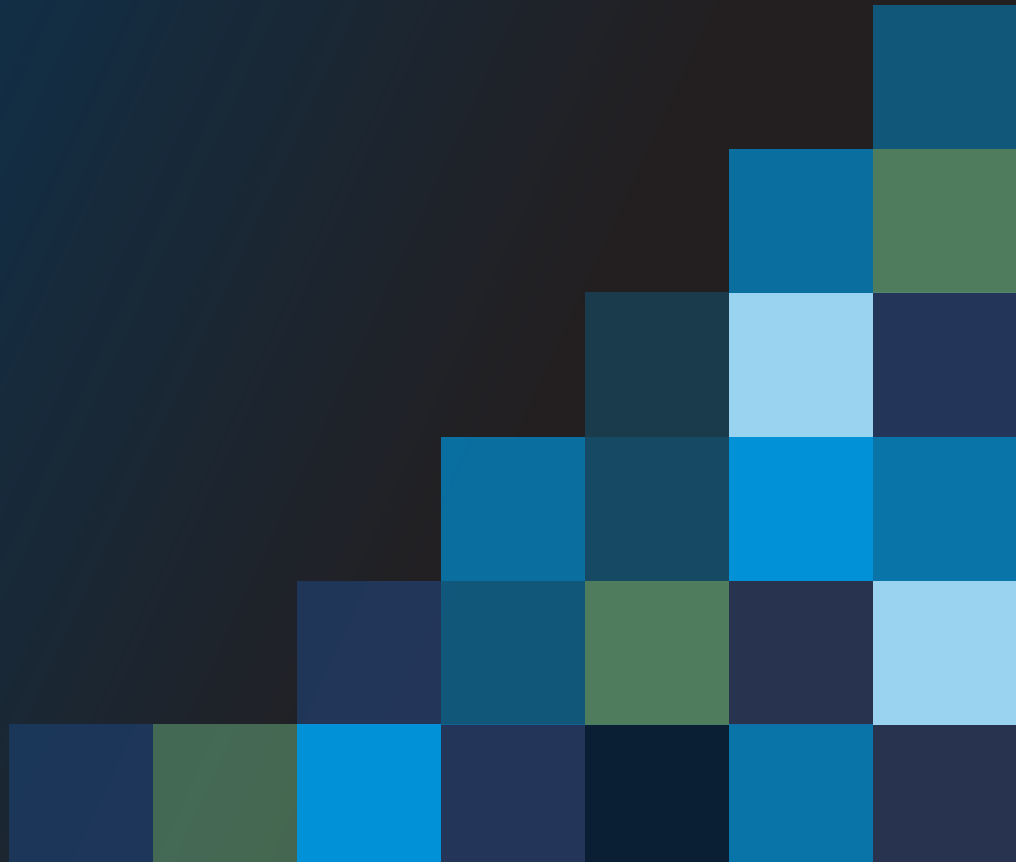


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Workforce shortages and rising costs are fueling the call for care model innovation. In the digitally enabled world of post-pandemic care delivery, health systems are looking to hybrid models that bring virtual resources into bedside care to mitigate these challenges. And for good reason.

90%

of nurses reported they were considering leaving the profession

\$46,100

the average cost of turnover for a bedside RN

\$262,300

yearly cost or savings of each percent change in RN turnover

Unprecedented turnover is taking its toll on hospitals. In a November 2021 Hospital IQ survey, 90 percent of nurses reported they were considering leaving the profession due to increased workloads and high nurse-to-patient ratios.¹ The 2021 NSI National Health Care Retention & RN Staffing Report places the average cost of turnover for a bedside RN at \$46,100, with each percent change in RN turnover costing or saving the average hospital an additional \$262,300 per year.²

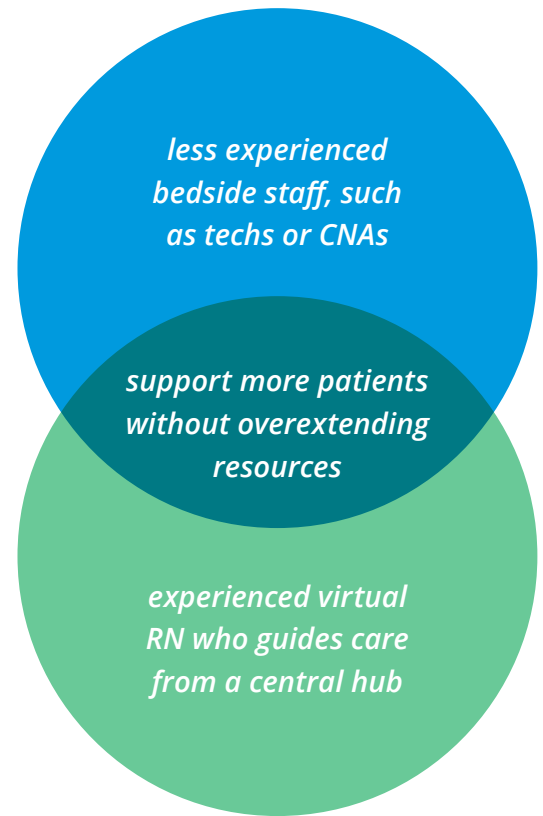
High outsourced labor costs and the risk to patient safety that arises when care teams are stretched too thin are exacerbating these challenges. And it's untenable.

Virtual Nursing and Hybrid Care

One way health systems are mitigating FTE shortfalls while supporting high-quality, cost-effective care is through virtual nursing or telenursing.

Virtual nursing describes a variety of remote clinical workflows used to support and streamline bedside care. Virtual nursing programs partner less experienced bedside staff, such as technicians or nursing assistants, with experienced virtual nurse resources who support and guide patient care from a central hub. This hybrid care approach amplifies the reach of seasoned nursing staff, allowing hospitals to support more patients without overextending resources — a critical need as workforce challenges persist.

By easing the burden on clinical teams, health systems improve the quality of care and the clinician experience, which carries measurable outcome improvements. In addition to improving patient coverage and safety and recouping vital bedside time for floor nurses, virtual nursing also supports workflow efficiency, minimizes variation in care, and reduces labor costs. This hybrid care model also gives nurses who might otherwise leave the profession due to exhaustion or physical limitations the opportunity to continue working.



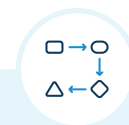
BENEFITS OF VIRTUAL NURSING



Improves staff balancing and labor costs



Supports nurse recruitment and retention



Drives workflow efficiency



Enhances patient coverage and safety



Accelerates the speed of clinical intervention



Minimizes variation in patient care

Virtual Nursing Workflow Examples

The following inpatient workflows represent ideal places to get started when implementing virtual nursing programs.

Tele-Monitoring

Tele-monitoring is a clinical program where a virtual nurse uses a variety of tools to remotely monitor and assess patients for deterioration in order to intervene in a timelier manner and prevent complications.

Common tools used in tele-monitoring include an audio/visual virtual care platform, EMR access, and clinical decision support (CDS) resources. Depending on the workflow, integrated devices and services such as digital stethoscopes and language interpreters may also be leveraged.

Tele-monitoring virtual nurse workflows include:

- + Frequent rounding via video on the highest-risk patients
- + Follow-up on deterioration alerts
- + Chart review on patients with worsening trends
- + Clinical documentation of bedside care
- + Engagement of bedside nurse and provider as needed

The virtual nurse may work with a bedside telepresenter with a digital stethoscope and other medically integrated devices to facilitate a virtual assessment prior to the notification of the bedside team.



TELEPRESENTER

A medical assistant who is present with the patient during a telehealth assessment led by a remote clinician.

New Admissions

There are two common models for virtual admission workflows.

MODEL 1

The bedside nurse performs the admission assessment as usual, and a virtual nurse transcribes the admission details into the EMR

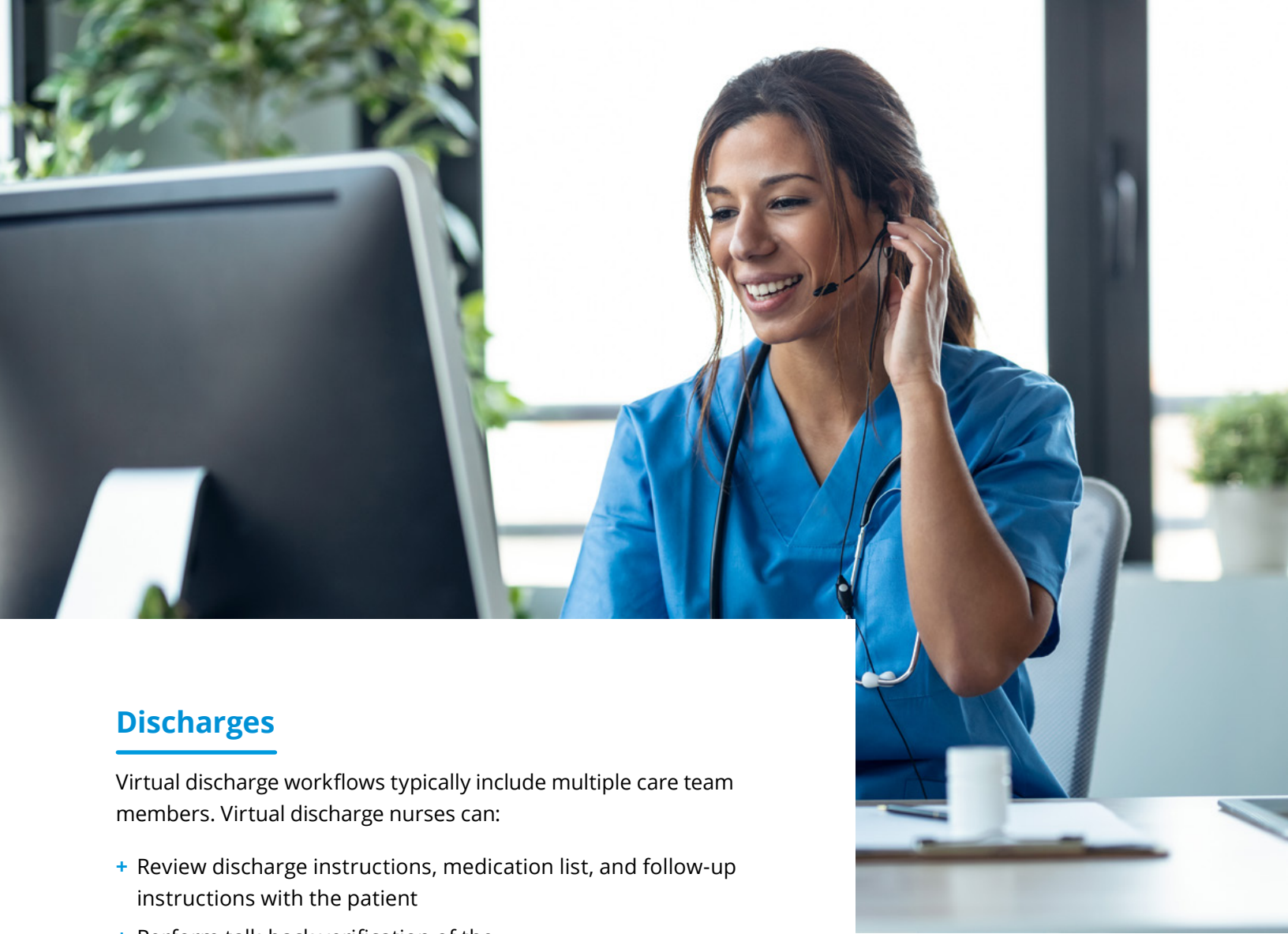
MODEL 2

A virtual nurse performs more of the duties associated with a new patient admission to alleviate some of the burden on the bedside nurse. In this model, the virtual admission RN would field:

- + Admission history
- + Admission physical assessment, as long as there is a telepresenter at the bedside with an audio/video telehealth system and a digital stethoscope
- + Medication history and current medication list
- + Plan of Care
- + Admission documentation, including any vital signs taken by the telepresenter
- + Notification of the bedside nurse of any concerning abnormalities

The bedside nurse would then be able to review, edit, and cosign that virtual nurse admission as needed, depending on your facility procedure. The bedside nurse would perform any necessary physical assessments or procedures unable to be performed by the remote or virtual nurse, such as IV insertion, with the virtual nurse observing and documenting that as well.





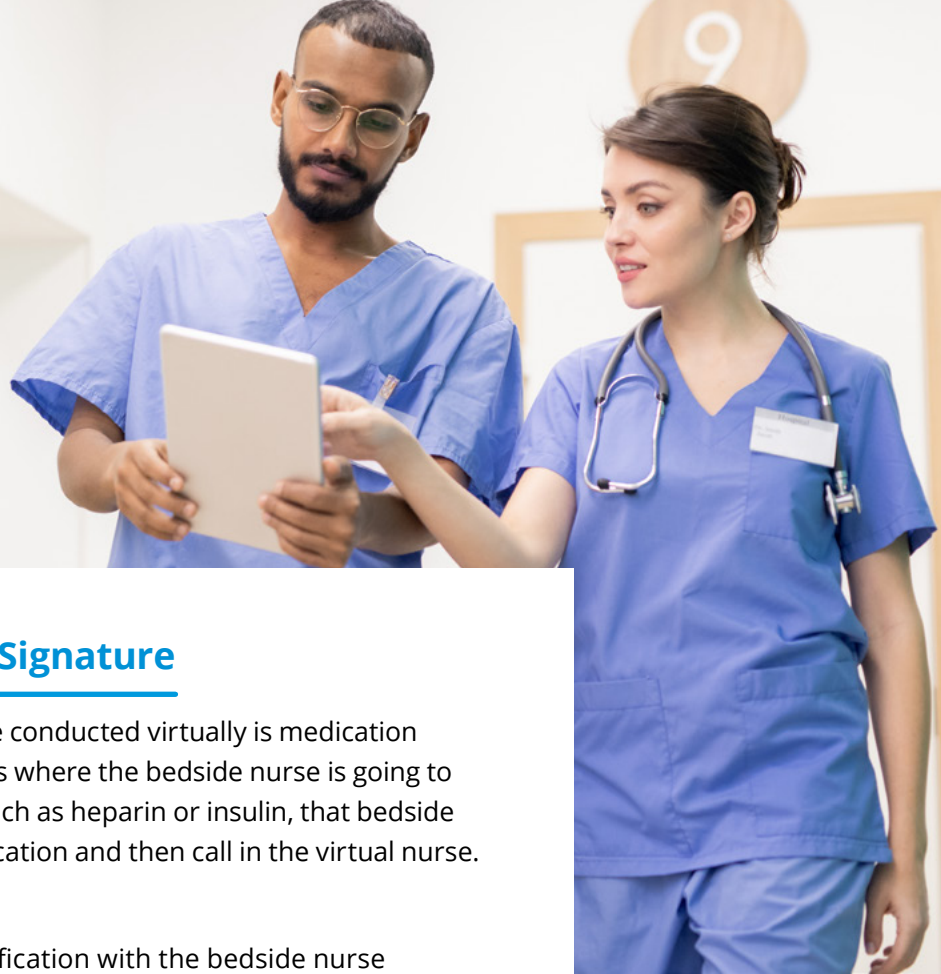
Discharges

Virtual discharge workflows typically include multiple care team members. Virtual discharge nurses can:

- + Review discharge instructions, medication list, and follow-up instructions with the patient
- + Perform talk-back verification of the material for understanding
- + Schedule a follow-up appointment
- + Invite the Care Manger into the virtual discharge call

The bedside nurse or tech would then provide teach-back instructions as needed, obtain document signatures, and dispense discharge paperwork to the patient.

Care managers can similarly use the virtual care platform for patient engagement. Care managers can schedule patient follow-up appointments, coordinate durable medical equipment delivery, and reach out to ambulatory care managers as needed. They can also work with the patient to schedule home health and any other discharge services needed so there are no gaps in care from discharge to home.



Medication Second Signature

Another workflow that can be conducted virtually is medication second signature. In instances where the bedside nurse is going to give a high-risk medication such as heparin or insulin, that bedside nurse would obtain the medication and then call in the virtual nurse. The virtual nurse would then:

- + Perform medication verification with the bedside nurse via camera
- + Document medication verification in the EMR in tandem with the bedside nurse

Care teams can similarly support second signature for blood products virtually. Depending on your EMR, the second verifier may be required to be in the same EMR at the same time as the first verifier. This can be accomplished by having the second virtual nurse verifier gain remote access to the same PC as the bedside nurse prior to performing the verification. The bedside nurse would obtain the blood from the blood bank and call in the virtual nurse. Together they would then perform the blood verification procedure. The bedside nurse would document in the EMR and the virtual nurse would access the bedside PC remotely and do the same.

Both workflows eliminate the need for bedside nurses to hunt down a team member on the floor who is available to help verify medications and blood products, which can be a challenge. To support these workflows, telehealth systems at the patient bedside need to support camera zoom capabilities so virtual nurses can accurately read syringes and blood product bags remotely.

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Tele-Mentoring and Precepting

Interest in tele-mentoring and precepting as a new modality to support nurse training is on the rise. There are two common models.

MODEL 1 | COMBINATION PRECEPTING

In this model, responsibilities are pre-defined for the preceptor and the new nurse. A bedside preceptor performs patient physical assessments with the nurse for a prescribed period of time – perhaps the first three months during orientation, for example. Then a virtual preceptor steps in to perform proctoring with the new nurse for a prescribed period of time or for specific tasks, such as setting up hydrate drips or doing dressing changes or suctioning.

The bedside nurse would simply press the button in the patient room to bring in the virtual nurse who would then observe or proctor those tasks remotely.

MODEL 2 | ON-DEMAND PRECEPTING OR TELE-MENTORING

The second model supports on-demand precepting or mentoring. There are no formal requirements for the newer nurse to use the virtual preceptor. The bedside nurse simply calls the virtual nurse for assistance or a second opinion, as needed.

The use of tele-mentoring or precepting can also support staff training in other clinical disciplines, such as procedural areas or the operating room.

Virtual Care Programs for Multidisciplinary Hospital Teams

The same hybrid care models that benefit virtual nursing programs can also pose benefits for broader multidisciplinary care teams.

Tele-Rounding and Consults

With a virtual nursing program and audio/visual components in place, your health system is positioned to extend tele-rounding programs and [virtual consults](#) out across multidisciplinary care teams. This concept allows virtual team members to collaborate across multiple facilities to support staff balancing, ultimately helping to reduce costs associated with staff travel and inefficiency. Care teams can establish virtual multidisciplinary rounds, perform patient visits and assessments, and even have on-demand interpreter services brought in virtually to support patient engagement and education, as well.

Examples of where healthcare organizations have had success with multidisciplinary tele-rounding include:

- + Sharing of dietitians and wound care nurses across facilities
- + Including Care Managers remotely during discharge planning
- + Helping hospital leadership carve out more time to gather immediate feedback regarding patient satisfaction

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Tele-Rapid Response

In tele-rapid response use cases, a cart or tablet is taken to a rapid response call and a provider joins virtually to conduct a patient assessment and write orders. Fielding this virtually enables more efficient assessments for the provider, emergency department, or anesthesia staff. When a staff member is on call but off site, they are able to join the rapid response call virtually for a patient assessment, avoiding having to drive in for that rapid response.

Tele-Sitting

Tele-sitting or virtual observation is one of the most common use cases for multidisciplinary virtual care programs. This workflow entails continuous observation for patient safety concerns. Staff positioned at a virtual care hub remotely observe multiple patients at the same time instead of having a one-on-one physical sitter present in the room with each at-risk patient. Caregility's iObserver [virtual patient observation](#) application allows virtual sitters to observe up to 12 patients at the same time.

Patients may be virtually observed for fall risk, harm to others, harm to self, pulling of lines or drains, and concerns related to visitor threats. When considering the use of tele-sitting for suicide patients at risk of harm to self, it is important to be well versed in your organization's position as well as regulatory guidelines. Some organizations only allow observation of suicide patients who are low risk, with anyone with a higher risk threshold requiring a one-on-one physical sitter in the room.

Tele-sitting or virtual observation dramatically reduces sitter costs, which are often unbudgeted. Health systems typically see dramatic labor cost savings by pivoting from a one-to-one in-person model to a virtual model that supports one-to-many patient observation. This also frees up time for support staff at the bedside to focus on patient care.



Virtual Nursing Strategy and Implementation

As you consider best-fit use cases for virtual nursing within your health system, focus on implementing workflows that take the most tasks off the bedside nurse's plate. Once you have identified ideal areas for hybrid workflows that leverage virtual nursing, begin with the easiest win to acclimate staff to programs and garner buy-in.

Nurse staffing and virtual care programs should be addressed with tact and due diligence to cultivate trust among care team members. Replacing bedside staff with virtual resources can create tension, anger, distrust, and disengagement. A softer, slower approach is recommended. Start with a dedicated virtual admission nurse, for example, to help gain trust and nurse support.



Planning Recommendations

Here are a few key points to consider when developing your virtual nursing program strategy.

- + **Keep virtual workflows consistent.** If you are starting out with virtual nursing admissions, for example, have the virtual nurse support all admissions as opposed to supporting admissions as needed. Bedside staff unaccustomed to having a virtual nurse resource to lean on are less apt to remember to bring the virtual nurse in. Have the virtual nurse field all admissions across a given area. This ensures that work comes off the bedside staff's plate and they see the virtual program as a win. It also ensures that admissions do not get missed because team members think another resource is managing the process.
- + **Make sure that roles and tasks are clearly defined.** Make sure that bedside staff and virtual nurses know not only their responsibilities but each other's responsibilities as well. This reduces ambiguity around designated task assignments.
- + **Determine your clinical escalation protocol.** Establish written policy around your virtual nursing program and how to escalate cases to the bedside nurse when needed. Will the virtual nurse always escalate to the bedside or are there times they should escalate to the provider first? Who should get reports from the emergency department for a patient coming up to the floor? Is it the virtual nurse who will then notify the bedside or vice versa? Make sure that the escalation process is very clearly defined for all parties.
- + **Conduct time studies prior to program implementation.** Conduct time studies prior to implementing your virtual nursing program to identify workflows that might benefit most from a hybrid care approach and to serve as a benchmark when evaluating virtual program success post-implementation. For admission workflows, for example, what is the average number of admissions conducted per shift in your traditional care model? You will want to see how this compares to how long it takes to complete a full admission virtually.
- + **Enhance virtual workflows as you identify what works.** Plan on frequent review and reassessment for continued program improvement to build a strong virtual nursing program.

Data Collection and Reporting Guidelines

Measuring the monetary impact of your virtual nursing program can justify your program and lead to more improvements down the road. As you get started, think about what data you can collect to quantify the success of your virtual nursing program down the road. Gather information prior to launching your program to serve as a point of comparison. There are several cost factors to consider.

PATIENT SAFETY

According to the Joint Commission Center for Transforming Healthcare, out of the hundreds of thousands of patients who fall in hospitals each year, 30 to 35 percent sustain an injury. On average, these injuries add six days to patient hospital stays and more than \$14,000 in additional costs.³ Patient falls, falls with injury, complications, and extended lengths of stay are all going to cost your health system. Monitor these key performance indicators to identify cost savings stemming from your virtual nursing program.

TIME MANAGEMENT

Time is money and effective time management is a core objective of virtual nursing programs. Conduct time studies pre- and post-implementation to determine virtual nursing's impact on workflow efficiency. Are you seeing more thorough admissions and discharges? Is the process occurring at a faster pace? Gather nurse and nursing assistant average hourly rates and staffing numbers in traditional care models to look at ROI associated with reduced labor costs in virtual nursing programs.

NURSE TURNOVER

You also want to assess virtual nursing's impact on nurse turnover. Did your virtual nursing program reduce nurse leave rates? Is the program improving nursing satisfaction to better support retention? Evaluate the impact that virtual work arrangements have on your ability to attract and retain talent.



VIRTUAL NURSING PROGRAM KPIS

- + Average length of stay
- + Labor costs
- + Nurse satisfaction
- + Nurse turnover
- + Patient fall rates
- + Patient fall with injury rates
- + Patient satisfaction
- + Patient throughput rates
- + Readmission rates
- + Workflow time studies

IT Enablement Considerations

As you formulate your virtual nursing program strategy, it is imperative that you identify both your clinical and technical needs up front. Once you know which clinical processes you will transition to a hybrid model, consider what technical resources will be needed to support those workflows.

TELEHEALTH ENDPOINTS

To facilitate virtual nursing, you will need to be able to support virtual engagement at each patient bedside. Will you use mobile carts, tablets, or wall-mounted telehealth systems? Mobile carts that can be moved from room to room are efficient but may be more expensive than wall-mounted systems. Ensure that the telehealth system adequately supports the varying needs of different patient acutities.

CAMERA CAPABILITIES

What are your telehealth camera system capabilities? Can you zoom in enough for virtual nurses to read a syringe, an IV bag, or a wrist band remotely? Can the virtual nurse remotely enable night vision for dimly lit rooms when they camera into a room?

ALERT BUTTON

Do you have a button at the patient bedside to contact the virtual nurse? Sometimes the phone is not the most efficient way to get hold of a virtual nurse.

PERIPHERALS

Is your virtual nurse going to be conducting any physical assessments? If the answer is yes, consider what peripheral resources you want to include, such as digital stethoscopes and other integrated devices.

CLINICAL DECISION SUPPORT

Do you plan to monitor patients for deterioration using a CDS system? Research and compare solutions to identify the one that is best suited for meeting your organization's specific clinical use cases.

LANGUAGE INTERPRETATION

Does your virtual nurse have access to language interpretation services through your chosen telehealth solution? Virtual nurses should be able to bring an interpreter into a call at the bedside for patients with limited English proficiency.

NETWORK ASSESSMENT

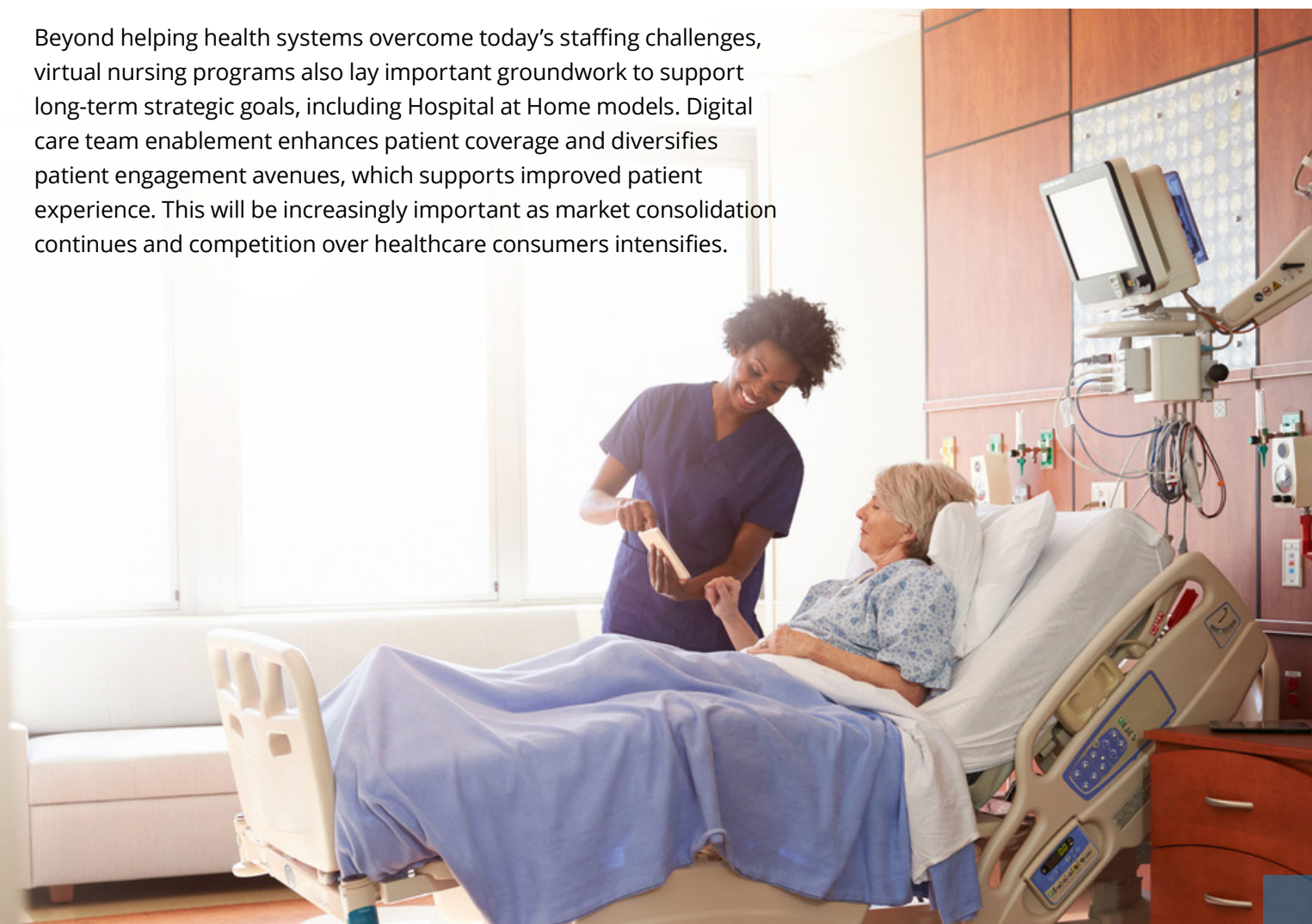
Has your IT network been assessed recently? Are there coverage gaps in Wi-Fi that need to be addressed prior to implementation? Be cognizant of the [potential impact](#) that standard security protocol can have on always-on virtual environments. Nothing can kill a virtual care program faster than it not working when you need it, which undermines trust in the program and can lead to abandonment.

Opportunities

Virtual nursing programs hold great potential to help health systems overcome today's chronic workforce shortages while delivering high-quality, cost-effective care.

Virtual work arrangements can serve as career extension avenues for seasoned nursing staff who may be considering retiring or for those who can no longer be on the floor due to physical limitations. Virtual nursing programs also enable bedside mentoring use cases that amplify the exchange of clinical and operational knowledge among staff. This can greatly benefit new hire onboarding and training.

Beyond helping health systems overcome today's staffing challenges, virtual nursing programs also lay important groundwork to support long-term strategic goals, including Hospital at Home models. Digital care team enablement enhances patient coverage and diversifies patient engagement avenues, which supports improved patient experience. This will be increasingly important as market consolidation continues and competition over healthcare consumers intensifies.



Conclusion

Hybrid care models like virtual nursing programs offer a spectrum of benefits that connect clinical partners, minimize patient risks, and enhance the care experience for both patients and care teams. Early research indicates that these efforts also correlate to improved patient recovery. A 2022 study conducted by the Mayo Clinic showed that hybrid care boosted patient experience by 90 percent and contributed to more rapid recovery post-procedure.⁴

Technology will never replace the human element in care delivery, nor should it strive to do so. The success of hybrid care models like virtual nursing rests in its ability to seamlessly blend into care delivery. Health systems can step into hybrid care models by choosing one or two virtual nursing programs to get started and then scaling to implement additional workflows that support acute care use cases across additional parts of the healthcare enterprise.

Technology will never replace the human element in care delivery, nor should it strive to do so.

Resources

- 1 "Nursing in Crisis: Hospital IQ Survey Highlights Significant Patient Care Challenges Due to Hospital Staffing Shortages." Hospital IQ, Inc., 17 Nov. 2021, <https://www.hospiq.com/about-us/press-releases/nursing-in-crisis-hospital-iq-survey-highlights-significant-patient-care-challenges-due-to-hospital-staffing-shortages/>.
- 2 "2022 NSI National Health Care Retention & RN Staffing Report." NSI Nursing Solutions, Inc., Mar. 2022, https://www.nsinursingsolutions.com/Documents/Library/NSI_National_Health_Care_Retention_Report.pdf.
- 3 "Preventing Falls." Joint Commission Center for Transforming Healthcare, <https://www.centerfortransforminghealthcare.org/improvement-topics/preventing-falls/>.
- 4 Chadha, Ryan M., et al. "Surgical Patient Satisfaction with a Virtual Hybrid Care Hotel Model: A Retrospective Cohort Study." *Annals of Medicine and Surgery*, Volume 74, Feb. 2022, <https://doi.org/10.1016/j.amsu.2022.103251>.

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Caregility Corporation is dedicated to connecting patients and clinicians everywhere with its Caregility Cloud™ virtual care platform. Designated as the Best in KLAS Virtual Care Platform (non-EMR) in 2021 and 2022, Caregility Cloud™ powers a purpose-built ecosystem of enterprise telehealth solutions across the care continuum. Caregility provides secure, reliable, and HIPAA-compliant audio and video communication designed for any device and clinical workflow, in both acute and ambulatory settings. Caregility supports more than 1,000 hospitals across 75 health systems with over five million virtual care sessions hosted annually. From critical and acute, to urgent and emergent, to post-acute and ambulatory, as well as hospital-at-home, Caregility is connecting care everywhere.



HEADQUARTERS

81 Corbett Way
Eatontown, NJ 07724

(732) 440-7810 | info@caregility.com | www.caregility.com