



# Reinvention to Build a Future-Ready Health Care Workforce

*Scaling human labor with technology to augment the work and lessen the burden on your clinical staff*

## Introduction

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Health systems must find a way to close the gap between supply and demand for care. Caregivers are burned out and leaving the workforce, but hiring more caregivers won't solve the problem for the long term. The solution is to reinvent the nature of care delivery. Other industries are scaling human labor with technology, and health care can do the same by using technology to lessen the burden on the health care workforce. This AHA-member knowledge exchange explores how health leaders are rethinking work and using technology to maximize available human capacity, enhancing skills and normalizing change through new operating structures.



# Participants



**Mary Mannix, MBA, MSN, FACHE**  
*President and CEO*  
Augusta Health  
Fishersville, Va.



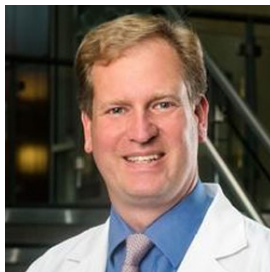
**John Murphy, M.D.**  
*President and CEO*  
Nuvance Health  
Danbury, Conn.



**Asha Rodriguez, MBA**  
*Vice president, facility executive*  
Atrium Health Cabarrus  
Concord, N.C.



**Kaveh Safavi, M.D., JD**  
*Senior managing director, global health*  
Accenture, Chicago



**Jon Stallkamp, M.D.**  
*Senior vice president and chief medical officer*  
Main Line Health  
Bryn Mawr, Pa.



**MODERATOR**  
**Michelle Hood**  
*Executive vice president and chief operating officer*  
American Hospital Association, Chicago

**MODERATOR MICHELLE HOOD** (*American Hospital Association*): **How are you thinking about using technology to alleviate the burden on clinicians and nonclinicians at the intersection of technology and human resources? Is your organization quickly trying to adopt additional technologies, and are you piloting technologies in certain parts of your organization?**

**JON STALLKAMP** (*Main Line Health*): Our staff are stretched, and we want to move forward on innovation. It's hard to do when everybody is trying to keep the lights on and keep things moving. We've moved into the world of virtual nursing. We have virtual nurses who help to admit some of our patients, and we have a virtual buddy who watches our patients to prevent falls. Virtual nurse practitioners, working from home, can take phone calls from the hospital nurses directly. This helps to retain our staff going forward.

We've implemented virtual hospitalists who work remotely taking admissions for our hospitals and taking care of patients. This allows the hospitalists to focus on the patients without being called away.

Our physicians are burned out. They're spending time in front of the computer rather than with the patient. We're trying an AI-powered, voice-enabled, ambient clinical intelligence solution to enable clinicians to automatically document patient encounters accurately and efficiently at the point of care.

For our stroke services, we've tried an AI-powered care coordination solution that analyzes medical imaging data to accelerate diagnosis and treatment. It has reduced the time to neuro intervention significantly. We're looking to expand that for a pulmonary embolism. There are so many AI platforms, we want to make sure that we focus on one or two, instead of multiple platforms for every department.

**JOHN STALLKAMP** | MAIN LINE HEALTH

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**MARY MANNIX** (*Augusta Health*): Our path forward will be through building an organizational platform and framework for systemwide innovation, transformation, optimization and adoption of technology. I have been spending a great deal of time over these last months building the case for workforce support with the board and the senior executive team. We're not going to have sufficient staffing numbers moving forward. We don't have them right now, and staffing our health system using travelers is unsustainable.

I liken this innovation platform to the cultural revolution that occurred in the field in the 1990s with total quality management when we all became disciples of W. Edwards Deming, and we all attended various quality colleges like Juran or Crosby. As an industry, we became immersed in total quality management. This same cultural movement needs to occur for innovation. I'm building an organizational framework and cultural initiative in my health system to drive innovation and transformation. In coming out of COVID-19, we're linking this as our path forward for both workforce and financial stability. We want to understand the cycle of innovation better. How do you run a design workshop? How do you set up a prototype? How do you test? How do you adopt? What are those core competencies?

The good news is that the AHA workforce task force is developing a framework and making recommendations to help all of us in the field.

**KAVEH SAFAVI** (*Accenture*): Mary mentioned wanting to know about technology as a leader. At Accenture, we have seen across all our industries globally, the requirement for technology literacy in a CEO and senior executives. It's impossible to have a business strategy that's separate from technology. They're indistinguishable and intertwined. We're now getting to the place where people need to have technology literacy as a condition of the job.

**MANNIX:** We know what our mission is. We're a community health system and we're not trying to expand across states or starting a health plan, although we've been in a Medicare shared savings program for nine years. We know who we are, and we know who we're not.

We put together a five-year financial plan with targets to get us back to the operating margin and cash flow needed to sustain this community model of care.

This year, our performance targets are access, length of stay, compliant documentation management and care redesign on the nursing units where our traveler use is the highest. I view this work as aligned with performance improvement that is more incremental in nature. But by years 3, 4 and 5 of the plan, we must be able to move further along in scalable innovative and technological solutions to hit those targets.

**JOHN MURPHY** (*Nuvance Health*): We have approximately 1,700 open positions, 800 of which are for nursing. We haven't yet incorporated technology to effectively address this problem. There is so much to do and so few people to do it. It is difficult to find the time and to say, 'Hey, look, we need to train you on this.'

But we need to start somewhere. We've decided to start in nonclinical areas where there's low-value work that can be automated such as in the revenue cycle, because it's getting harder to hire staff.

There are individual applications, whether it's how we onboard people, how we offer mental health or wellness services, or a tool to predict staff retention and risk of resignation. We're slower at adopting technological solutions than I'd like, but largely it's because people don't have quiet time to sit down and say, 'Let

me think this through with you.'

**ASHA RODRIGUEZ** (*Atrium Health Cabarrus*): We're doing work in the clinical innovation space in our service lines and in our hospitals. We also have an entire division focused on innovation and we are moving quickly to scale work throughout our organization. In terms of innovation, we've done virtual nursing support and, very successfully, hospital at home. Up front, there is more work needed to scale and refine those processes. At the facility level, we've started some virtual proctoring in one of our surgical service lines. We had to work through the delineation of privileges and ensure clear protocols..

To John's point, I'd love to see more use of technology in the supply chain and even security. Teammates are hard to find in many nonclinical areas. There used to be a time when clinical positions were primarily hard to fill. Now even areas like food service and environmental services are finding it challenging to recruit.

For some of these roles, we're looking at opportunities to remove barriers to entry for education. In our workforce pilots, we're focusing on internal economic mobility for our teammates and moving them into positions that either don't require additional education and we can provide on-the-job training; or if it does require education, do the training on the job and help them become certified for the role.

There's an opportunity with professional organizations, like the American Organization for Nursing Leadership (AONL) and Association of University Programs in Health Administration, to have a collaborative conversation around what do we do to supplement areas where the pipeline is dry. Is it time to

**MARY MANNIX** | AUGUSTA HEALTH

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change the way we look at some of the certifications, education and licensure requirements?

With the burnout conversation that we're having, I believe there is a sweet spot in changing the skill mix appropriately and adding a few more key providers to the care model to reduce some of the clinician workload.

**MODERATOR: What are some obstacles preventing your health system from pursuing a human + machine model?**

**MURPHY:** At the moment, there isn't a great appetite for it on the clinical side. The technology ethos is, as Zuckerberg said, 'If you're not breaking stuff, you're not moving fast enough.' That does not work in health care where the prevailing cultural norm is, 'Do no harm.' For most physicians, you need to demonstrate to them that this is completely safe and that no one is going to be harmed. It's a high bar to leap over.

In addition to safety, there's the equity piece. Much of the medical literature has its own biases built into it. We need to fix that before we replicate the bias.

**RODRIGUEZ:** We haven't had any concerns specifically related to clinical safety, but there's a lot of fear when we talk about technology innovation in the staffing space, particularly with care providers. There are lots of concerns about reliability and additional workload. Are we using existing technology and maximizing it to its full capability? I don't believe so. Opportunities in existing technology like remote patient monitoring and clinical notification systems can take our work to the next level and serve as a bridge to artificial intelligence (AI). We must do so without adding to the cognitive burden of our teammates. In the AI space, I'd love to see pathways and protocols. We all

have the data. We know how much ambulation it takes to discharge a patient home. It would be great for us to have more visibility into care and best practices based on our own performance.

**MODERATOR: The Institute for Healthcare Improvement (IHI) and the AHA through our AONL division are working on several pilots of clinicians working with technology. IHI has engaged with us specifically to measure patient safety as part of the pilot and the research to demonstrate that we're not harming, we're not adding additional risk to the care processes.**

**MANNIX:** Our organization is doing some workflow redesign in the laboratory where we have a medical technologist shortage and in nursing as it relates to our float-er pool. We've been using virtual sitting for patients at risk of falling and other adverse events for a while now. We're interested in virtual nursing, and we've identified a prototype unit in our organization that's enthused. We've applied to be a pilot in the program being conducted by the AHA through AONL and IHI.

**MODERATOR: Several of you mentioned other industries and how we can learn from them, especially those that are much better at innovation than we are. How can they contribute to this challenge of a workforce shortfall?**

**RODRIGUEZ:** We can learn a lot from technology companies about predictive analytics. They predict next steps with a level of accuracy that we should also be able to predict because we have so much data. We have metrics like length of stay and readmissions that sometimes appear to compete with one another. If we looked at our data, there's so much we could learn about patient care in those two spaces. However, we

**JOHN MURPHY** | NUVANCE HEALTH

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tend to focus on them as goals as opposed to an opportunity to understand our patient population. We tend to separate quality and patient safety from the global view of patient population. We must start putting them together deliberately as we prepare for how to care for patients outside of acute settings.

**SAFAVI:** I would let technology companies know that the market wants to address nurse documentation. I'm being extremely precise — not physicians, but nurse documentation and specifically generative AI. Addressing our labor issues is the biggest pain point that technology can ultimately solve. Nurse documentation, generative AI and large language models (LLMs) are the only path out of this. Technology companies can fine-tune their LLMs for nurse speak. Until we frame the workforce supply issue as a fundamental access issue, we will never succeed. There are not enough human beings in the world to solve this problem.'

**MANNIX:** Kaveh, I agree with you on the nurse documentation piece, but I feel as though we would be remiss if we didn't talk about physicians with electronic health record (EHR) vendors and technology companies. When I talk with our providers, and physicians in particular, they feel that while we have built EHRs, we have not improved the lives of our providers or helped with productivity. We've built these large, regulatory repositories of data, but none of the systems pull out clinically relevant information.

**STALLKAMP:** It's the same with nursing.

**SAFAVI:** I agree with you. The act of putting information in and getting information out is a giant time consumer.

My first order is to take away the cost of information

gathering as opposed to sensemaking. They're putting in and getting out. In looking at what generative AI can do, I'm highly optimistic that we can bring the cost of information acquisition down to zero.

Within five years, it's possible that while we talk, not only is a narrative created, but structured information is also being created and sent into the system so that you don't have to use the keyboard to create structured information. That solves the interoperability problem. The interoperability problem that we've struggled with is predominantly on semantic interoperability, and language models will take about 80% of that away. There will still remain issues around definitions.

The next order is when you want the information to make sense for you. It will come, but that's going to be a bigger lift. I'm separating out the information acquisition from the sensemaking. The math on generative AI is for caregivers. There's more opportunity in the automation or the replacement than there is in the sensemaking. A lot of the AI sensemaking is an augmentation task. It still must go through the human; you haven't replaced a human task, you've just made it better.

**RODRIGUEZ:** That framing is helpful because it feels as though we're drinking from a fire hose. There are small wins today that would yield significant dividends if we just focused more on how to extrapolate the learnings from those wins.

I appreciate your point. I'm not negating that the physician workload isn't an issue, but I think we've done so much with virtual care in the physician space and we haven't been able to chip away as much in the nursing documentation space.

**SAFAVI:** It's not going to be easy. Because generative AI is essentially a capability that can listen to a con-

**ASHA RODRIGUEZ** | ATRIUM HEALTH CABARRAS

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versation and then organize it, write it and structure it, that means that you must work out loud. Nurses don't work out loud necessarily or, if they do, they're not articulating what's going on in their heads. That's a massive shift in the way nurses work.

In virtual nursing documentation, a nurse in a remote location who has the same license, observes directly and documents the encounter.

Generative AI can't substitute for that. The way it works is that the nurse must have a dialogue with the patient, and that dialogue is what's being created. We're not asking the technology to judge or infer. We're asking the technology to listen and accurately characterize the narrative. In the nursing space, you want to capture all that information, not make a diagnosis.

**MURPHY:** On the nurse documentation piece, we're not jumping to AI. We're doing a pilot with our EHR vendor on a single unit where we're asking for a scribe to say, 'This is what I just did,' but speak it in 45 seconds as opposed to 75 clicks and typing notes. We want to see if the scribe function can be imported into the EHR. If we can free up 25% of a nurse's time, that's a workforce solution that could benefit everybody.

**MODERATOR:** **How can health systems start to change workforce strategies to achieve near-term goals and normalize change through new operating structures?**

**SAFAVI:** The first is a clarity around the destination before we figure out how we're going to reach it. The problem statement is that there's probably not enough people in the world to do the work. Let's stipulate that we won't solve the problem by just backfilling. But then, what do we do? The work is going to be done by a combination of people and technology working together. Technology doesn't mean replacing jobs, it's

replacing tasks. And that means you must break up the jobs and reassemble them.

The reason that's important is because if you don't have clarity around the destination, you start to try stuff that shows up but with no purpose. You don't have an organizing principle. The picture that I'm drawing is five or 10 years away. You have a crisis right now. You must temporize before you transform.

Start thinking about the sequence. What are the things for which I would get a value today?

Tinkering with AI is fantastic. That is an experiment, but not a scalable answer. The expectation that it should be is misplaced. That doesn't mean you shouldn't start thinking about tinkering with AI, but that is not the answer to the problem that you're going to deliver in six months or a year.

Sequentially right now, the best opportunity is bringing technology in around supply and demand matching. The priority is around saying, 'Let me just use technology to optimize the human capacity that's right in front of me.' Do that first. For scheduling, use software applications to auction out shifts and start thinking differently. Do the same thing with shift scheduling. You can resource people without having to create any new people.

The next big one is retention. The reason I put retention after the schedule matching is that retention takes time because you've already burned people out. You're going to have to figure out what the retention levers are and start working on it.

Next is creating new labor pools. Some of the modern virtual nursing programs are built on taking a nurse into a room and splitting the documentation task away from the nursing task. The documentation would be done by a nurse in a remote location who is observing. For ex-

**KAVEH SAFAVI** | ACCENTURE

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ample, nurses who are on disability, who would have otherwise been out of the workforce, can now be documenting. Or you can create a third-party labor pool by recruiting nurses from outside your geographic area, because you've said, 'The market to serve my patients is bigger than the physical market the patients are in.' That's a task allocation using a little technology to create the virtual experience.

Then staff pipeline is probably the fourth order. That takes a long time to build; it's going to take two, three, four or five years to start getting back into the pipeline.

The last one, which is the most important but takes the longest, is the new technologies replacing human tasks. It's clearly the long pole in the tent, but it's going to take time. To begin that journey, you want to recognize the fact that it has a different sequence to it. ●

**KAVEH SAFAVI** | ACCENTURE

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