Lessons from the COVID-19 frontline

By Gary Gunning

During the week Jenny Arnesson works as a clinical workflow consultant for a leading communications solutions company in Gothenburg, Sweden. But every weekend during April and May, this wife, mother and qualified nurse volunteered to care for COVID-19 patients at an ICU. It was, she admits, a trying experience. But one that also demonstrated how a combination of technology, compassion and expertise can combine to help even the most critically ill patients.

Back to the frontline. Jenny Arnesson spent several weekends working as a volunteer nurse, caring for COVID-19 patients at an ICU in Gothenburg, Sweden.

Most of us are loathe to sacrifice a day off work. But when the COVID-19 crisis hit Sweden this spring, Jenny Arnesson willingly gave up her weekends, re-donned her nurse's uniform, and cared for seriously ill coronavirus patients at an ad hoc ICU in Gothenburg, Sweden's second city.

When asked why she took such a decisive course of action, Arnesson replies with characteristic Scandinavian matter-of-factness: "Why not? This was a national public health emergency. I left full-time nursing several years ago, but have maintained my nursing registration. So I was in a position to make a real contribution. After all, that's why I—and most nurses—entered nursing in the first place: to help people. And this was a clear case of people needing the kind of help I am qualified to give."

Currently employed at mobile communications specialists Ascom, Arnesson clocked up a decade's experience as an anesthesia nurse in her previous career. Now, instead of monitoring vital signs and administering medications, she works with her Ascom colleagues and hospital clinicians and managers to design and implement clinical communication and workflow management systems.

"I am," she says, "a kind of conduit between clinicians and Ascom technicians and systems designers. My job is to help ensure that clinicians' and patients' needs are kept center stage as my colleagues design solutions to their communication challenges. I apply my clinical experience to proposed answers, and make sure they address the day-to-day realities of modern nursing. I also help train clinicians how

Part of a series of articles celebrating Ascom's nurses and the WHO International Year of the Nurse and the Midwife.

to best use their new solution, and to make implementation as painless as possible."

It's obviously a demanding job. But it combines technology and human interaction in a way she finds particularly rewarding. The same combination also played a role in her decision to volunteer as an ICU nurse with COVID-19 patients. "Like most nurses, I'm curious. I really wanted to learn all I can about this terrible disease. Also, it was a rare opportunity to be an active participant in an ICU—much less while dealing with a pandemic. It was a unique chance to gain insights that I could apply to the work I normally do with hospitals and nurses."

Back to basics

According to Arnesson, her time at the ICU confirmed the importance of alleviating the cognitive load on nurses and other frontline staff. The right technology, she says, can make a huge contribution by helping busy nurses with task reminders, rounding, planning, and administration. "Many nurses, particularly those in high-stress settings such as an ICU, are constantly conducting checklists in their heads. And since we are conscientious, we tend to worry about possible omissions."

Such cognitive stress can, Arnesson says, never be eradicated. It is part of the reality of nursing. But, she adds, appropriate alarm notification and data management systems can go a long way to provide the reassurance and certainty nurses need in order to focus on delivering care. "Nurses, unsurprisingly, want the time and space to nurse! So anything that lets them focus on that is welcome."

As an example of such a welcome tool, Arnesson points to made-for-healthcare smartphones and feature phones. These devices receive patient alerts and calls, alarm notifications, voice and text communications from colleagues. Some can even integrate with medical devices and equipment, as well as with Electronic Medical Records and other IT systems. "The workflow benefits of these mobile devices are obvious," says Arnesson. "Nurses can for instance use the device to assess the severity of a patient call before interrupting what they are doing in order to walk to the patient. Nurses can relax if unable to respond promptly to an alert received to their devices, as they know alerts are automatically passed along to colleagues in a managed way."

Unexpected benefits

Arnesson's time at the ICU also highlighted for her some unexpected advantages of relatively simple technology. "The loudspeaker on my mobile device," she says, "was of immense value. I know it's a low-tech feature, but with something as infectious as coronavirus disease, clinicians really must limit the number of times they approach patients and colleagues to learn something or gather data. So being able to communicate via the loudspeaker was very convenient."

The use of integrated mobile devices also contributes to a calmer, quieter healing environment for patients. "That's a key benefit," adds Arnesson. "We need to remember that hospital wards are also working environments for clinicians. Transmitting patient calls and alarm notifications to mobile devices reduces the number of audible alarms and flashing corridor lights—both known to contribute to alarm fatigue among nurses."

Arnesson is also keen to stress the value of a centralized display point for continuously updated patient data. "Systems that give nurses an overview of the status of all patients in an ICU or ward are literally worth their weight in gold," she says. Such systems can be centralized, featuring one or more large

wall-mounted screens with in-depth data on each patient. Alternatively, they can be decentralized, with data distributed to individual clinicians' mobile devices.

"The key factor," adds Arnesson, "particularly with something like COVID-19, is to minimize close-proximity interactions between patients and clinicians." This of course creates a dilemma in complex critical care environments. Nurses need to remain close to patients—yet at the same time they must interact with a host of colleagues: doctors, other nurses, the pharmacy, shift leaders, and so on. But in isolation units, staff cannot enter and leave every time a nurse calls for them.

"That's why, explains Arnesson, " it is essential to use every technical means available to gather clinical data, and to distribute it to individual nurses and doctors." Minimizing contacts does more than reduce infection and contamination risks. It also helps reduce workflow bottlenecks and the consumption of key items such as personal protective equipment. "The underlying principle is really quite simple: use technology to send data to people, and avoid sending people to retrieve data and updates from patients and colleagues."

Return to a new normal

As the COVID-19 crisis in Sweden slowly but steadily recedes, Arnesson is finally enjoying some well-deserved free weekends. Not that she can suddenly erase her experiences at the ICU and return to a 'normal' life.

"Absolutely not. My time at the ICU was a real eye-opener. For example, 'normal' ICU patients usually only require a few days on a ventilator in order to give their bodies a temporary respite. But with COVID-19, we had patients spending two, even three weeks on ventilators—something which in turn causes other issues."

She has also had to reassess her mental picture of what constitutes a 'typical' ICU patient. The majority of her COVID-19 patients were older than fifty years of age. But many of them had no, or only mild underlying conditions. "Suddenly, people you would never expect to see in an ICU were being admitted in huge numbers, and they were extremely unwell. It really is a wake-up call for us as a society to review our healthcare investment and preparedness."

As for the future, Arnesson is looking forward to spending time with her family, and reconnecting with work colleagues. And although she is the first to acknowledge that it is hard to see a 'positive' side to the COVID-19 crisis, she does welcome the spotlight it has thrown on the dedication and skill of nurses and other frontline clinicians. "Too many of us only appreciate nurses once we or our loved ones land in hospital. If there is one thing all of us can take away from the crisis, it is to raise society's appreciation for these amazing human beings we call nurses."

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