



COVID-19 Wave 4 Challenge – Scaling ICUs

(September, 2021)

As the COVID-19 pandemic brings an unexpected Wave 4 despite the introduction of vaccines in record time, a range of states and hospital systems are again facing an ICU bed shortage. In late August, Alabama reported 102% occupancy of its ICU bed capacity. However, pandemic challenges go beyond the demand for physical resources. Hospitals frequently face a shortage of intensivists and critical care nurses to treat critically ill patients. In addition, the pandemic has increased demand for their services and placed healthcare providers (HCPs), and patients at increased risk as facilities face local surges.

In a survey conducted near the outset of the pandemic by the Society for Critical Care Medicine (SCCM), of more than 4,800 critical care providers surveyed, only 29.5% said their ICU is equipped with a telemedicine system to manage acute COVID patients.¹

Building physical and staffing capacity for ICU care is paramount to addressing the current crisis while maintaining standards of care and protecting HCPs and patients². A range of organizations have leveraged telehealth and digital solutions to scale for the upsurge and address the unique needs of critically ill COVID-19 patients requiring stays in the ICU.

BENEFITS OF TeleICUs

Expands ICU bed capacity through virtual care	<p>Enables conversion of non-critical care beds into ICU beds.</p> <p>Creates opportunities for “pop up” ICU beds in other locations.</p> <p>Creates temporary hospital capacity for support of non-COVID-19 patients</p>
Protects provider staff and addresses staff shortages	<p>Leverages telemedicine to reduce bedside contact, mitigate infection risk, and centralize tasks such as documentation.</p> <p>Supplements staff by redeploying non-intensivists to virtually monitor ICU patients and engaging distant providers in local, hotspot care coverage.</p>
Provides aggregated data in real-time, applying algorithms to aid care teams in clinical decision making	<p>Leverages AI and predictive analytics for COVID-19 risk scoring, trajectory monitoring, and patients’ respiratory status within existing workflow, benchmark reporting, and performance management.</p> <p>Facilitates improved, more efficient care models that reduce ICU length of stay, thereby improving capacity.</p>
Expands specialist and multi-disciplinary care through telehealth services to mitigate patient risk	<p>Provides flexible views of clinically relevant patient data to enable specialists to review and monitor patients remotely.</p> <p>Increases access to specialists and maximizes their capacity.</p> <p>Allows for multi-specialty conferences to best address individual patient care.</p>

¹ SCCM ICU Readiness Assessment <https://www.sccm.org/getattachment/Blog/April-2020/ICU-Readiness-Assessment-We-Are-Not-Prepared-for/COVID-19-Readiness-Assessment-Survey-SCCM.pdf?lang=en-US>

² Bravata, D.M., et al., *Association of Intensive Care Unit Patient Load and Demand With Mortality Rates in US Department of Veterans Affairs Hospitals During the COVID-19 Pandemic*. JAMA Network Open, 2021. 4(1): p. e2034266-e2034266.



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CASE STUDIES – EXCELLENCE IN ACTION

Northwell Health – TeleICU Extends Clinical Capacity

- Leverages telemedicine carts in ICU beds outside hard-wired rooms to increase ICU capacity
- Allows rapid assessment of patients in ICU and other units for triage and potential transfer via centralized virtual ICU model
- Provides rapid training to evaluate patients via telemedicine, including ER evaluations, extending the workforce and protecting staff
- Leverages teleICU RNs to provide in-room presence to support bedside caregivers
- Allows teleICU RNs to monitor PPE compliance, educate staff on proper PPE use, provide hourly safety rounds and document care on behalf of bedside staff

Intermountain Healthcare – Leverage Scarce Resources

- Rapid dissemination of best practices for treating COVID-19 patients.
- Brought in less experienced nurse and respiratory support from other units and traveling nurses, guided by experienced tele-critical care staff
- Triage and admit COVID-19 patients to tertiary care centers by load balancing less acute patients to community hospital ICUs when appropriate.
- Provide telehealth technology access at the local level in addition to central the TeleCritical Care center. This allows clinicians to work with patients by camera, reducing exposure and PPE usage

Hicuity Health – Implement Rapid Tele-ICU Deployment and Surge Coverage

- Rapid deployment of new hospital implementation of teleICU to enable COVID telehealth care coverage within two weeks
- Enabled addition of COVID-dedicated ICU surge capacity across dozens of partner hospitals
- Utilize nine care centers to flexibly support regional case volume as hotspots moved across U.S.
- Rapidly iterate and deploy COVID workflows, extending regional best practices and calibrating bedside and teleICU engagement to decrease HCP exposure while maintaining personal patient contact

CommonSpirit Health – Expands Virtual ICU Support

- Physician services expanded, adding Intensivists in a “Round & Respond” model in three Texas markets. Critical care providers extended their reach to deliver care in ED, ICU and Cohort units.
- Regional hub sites in the Northwest and Nebraska expanded nursing services to critical care units in Arizona and Texas: mentoring, cohort unit monitoring, charting, medication verification and skin integrity checks
- Fleets of devices, both handheld and carts, were deployed and used in multiple interactions from virtual calls, spiritual support, patient and provider interaction and family connection