



COVID-19 Resource

Expert Recommendations for Staffing and Surge Preparation During Pandemics, Disasters and Crises

04/14/2020



BACKGROUND

There is a body of evidence about staffing ratios and patient acuity. Researchers have studied the impact of staffing models on patient, clinician and organizational outcomes under typical (usual intensive care unit) conditions.

This is what we know:

- A single widespread solution to nurse staffing in intensive care units (ICUs) does not exist due to: a) the wide range of patient acuity, b) patient needs that change frequently and c) varied availability of interdisciplinary staff.
- Some professional organizations recommend mandated ratios that correspond with state-mandated ICU nurse staffing ratios.
- Most mandated ratios are 1:1 or 1:2, meaning one nurse caring for one patient or one nurse caring for two patients.
- Several ICU staffing models exist and vary depending on the availability of interdisciplinary staff (intensivist, anesthesiologist, resident, nurse practitioner, physician's assistant, registered nurse, respiratory therapist, etc.).
- These models work well under usual ICU conditions.

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SUMMARY: INTENSIVE CARE UNIT (ICU) STAFFING IN PANDEMIC, DISASTER AND CRISIS CONDITIONS

- There is no evidence-based model for ICU staffing during pandemic conditions.
- Evidence-based staffing models for typical ICU conditions may not be applicable or feasible during a pandemic, disaster or crisis.
- There is no time to conduct research about staffing during a pandemic, disaster or crisis.
- We must rely on the evidence that already exists related to pandemics, disasters and crises to guide best practice decisions during a pandemic.
- The current evidence related to pandemics, disasters and crises are expert opinion.

RECOMMENDATIONS FOR INTENSIVE CARE UNIT (ICU) STAFFING IN PANDEMIC, DISASTER AND CRISIS CONDITIONS

Based on the evidence (Table 1), we recommend:

1. Implement a care team model*
2. Expand clinician expertise
3. Use a tiered staffing strategy
4. Limit routine service
5. Curtail administrative and teaching responsibilities
6. Cancel staff vacation and leaves
7. Reassign staff

**When implementing a Team Nurse Model be aware that many new clinicians are not familiar with this model and there will be a learning curve. (Mack et al., 2020)*

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Synthesis of Evidence: ICU Staffing During Pandemic, Disaster and Crisis Conditions

	1	2	3	4	5
	Society for Critical Care Medicine, 2020	Department of Defense, 2020	CHEST Consensus Statement Hick et al., 2014	CHEST Consensus Statement Einay et al., 2014	Sandrock, et al., 2010
Care team model	X	X	X	X	X
Expand clinician expertise (Expand the scope of practice pharmacist role, train non-ICU staff to provide ventilator care)	X	X	X		X
Tiered staffing strategy (see Figure 1)	X	X			
Limit routine services (elective surgery, clinic visits)			X	X	
Curtail administrative and teaching responsibilities			X		
Cancel staff vacation and leaves			X		
New divisions of labor (reassign staff) based on the skill sets needed rather than traditional roles or functions of providers	X		X		
Assess resource commitments based on Treater, Time, Treatment and Threat (see Table 2)		X	X		

Legend

X = Recommended Practice



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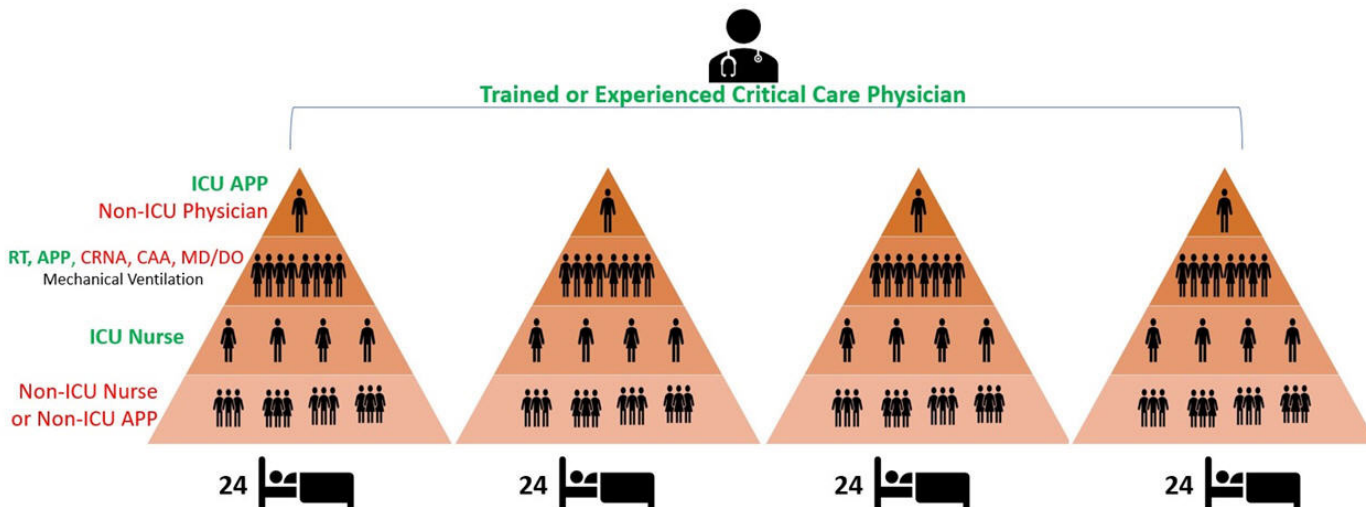
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Figure 1:

Tiered Staffing Strategy for Pandemic

Requiring Significant Mechanical Ventilation



Modified from the Ontario Health Plan for an Influenza Pandemic Workgroup. *Critical Care During a Pandemic*.

Table 1: Key Components to Consider When Assessing Resource Commitments

Component	Details
Treater	The amount of staff expertise required to provide critical care
Time	The amount of staff time required to manage the patients
Treatment	The amount of resources required to manage the patients
Threat	Any risks to the provider or patient generated by the situation due to infrastructure damage, imminent dangers to providers and patients, or a high risk of disease transmission without appropriate personal protective equipment (PPE) available

Hicks et al., 2014

RECOMMENDATIONS/STRATEGIES FOR INTENSIVE CARE UNIT (ICU) STAFF SUPPORT DURING PANDEMIC, DISASTER AND CRISIS CONDITIONS

Based on the evidence (Table 2), we recommend:

1. Provide childcare support for staff
2. Provide on-site respite for staff (food, quiet spaces)
3. Provide on-site housing
4. Vary the length of shifts
5. Drive staff to and from the hospital
6. Consider innovative approaches

Synthesis of Evidence: Strategies to Support Staff During Pandemic, Disaster and Crisis Conditions

	1	2	3	4	5
	Society for Critical Care Medicine, 2020	Department of Defense, 2020	CHEST Consensus Statement Hick et al., 2014	CHEST Consensus Statement Einay et al., 2014	Sandrock, et al., 2010
Provide childcare support for staff	X	X		X	
Provide on-site respite (food, quiet spaces)				X	X
Provide on-site housing				X	X
Vary the length of shifts				X	X
Drive staff to and from the hospital				X	X

Legend

X = Recommended Practice

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INNOVATION

Consider innovative solutions generated by ICU nurses in the field who are currently managing COVID-19 patients to achieve the following:

- Reduce unnecessary use of personal protective equipment (PPE)
- Promote staff safety and readiness
- Reduce foot traffic

Specific strategies that can address these components include:

- Improve staffing ratios (isolation patients are 1:1)
- Utilize a runner (a nurse who is not assigned a patient but is designated to help 2-3 other nurses)
- Clumping of activities (reduce the number of times nurse has to enter the room, the patient gets to rest)
- Video monitoring (a camera in the room allows the team to assess the patient while outside the room)
- Use a team approach to consolidate care (1 person inside the room, one helper outside)

(Newby et al., 2020)

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References

1. Einay, S., Hick, J. L., & Hanfling, D. (2014). Surge capacity logistics: Care of the critically ill and injured during pandemics and disasters: CHEST consensus statement. CHEST, e17S-43S. doi:10.1378/chest.14-0734.
2. Halpern, N. A., & Tan, K. S. (2020). United States resource availability for COVID-19. Society of Critical Care Medicine. [updated March 25, 2020] Available from <https://www.sccm.org/Blog/March-2020/United-States-Resource-Availability-for-COVID-19>
3. Hick, J. L., Einay, S., & Hanfling, D. (2014). Surge capacity principles: Care of the critically ill and injured during pandemics and disasters: CHEST consensus statement. CHEST, e17S-43S. doi:10.1378/chest.14-0733.
4. Mack, R., Fiore-Lopez, N., & Glassman, K. (2020, April 7) Pandemic Surge Staffing: Insights from the Front Lines in N.Y. [Webinar]. In AONL COVID-19 Resources. Retrieved from <https://www.aonl.org/education/webinars/surge-staffing-solutions>
5. Matos, R. I., & Chung, K. K. (2020). DoD COVID-19 Practice Management Guide: Clinical Management of COVID-19. Available from <https://health.mil/Reference-Center/Technical-Documents/2020/03/24/DoD-COVID-19-Practice-Management-Guide>
6. Newby, J. C., Mabry, M. C., Carlisle, B. A., Olson, D., & Lan, B. E. (2020). Reflections on nursing ingenuity during the COVID-19 pandemic. Journal of Neuroscience Nursing. Advance on-line publication. Retrieved from <http://ovidsp.ovid.com/ovidweb.cgi?T=JS&PAGE=reference&D=ovftu&NEWS=N&AN=01376517-900000000-99813>. <https://doi.org/10.1097/JNN.0000000000000525>
7. Sandrock, C., & Sandrock, C. (2010). Chapter 4: Manpower Recommendations and standard operating procedure for intensive care unit and hospital preparation for an influenza epidemic or mass disaster. Intensive Care Medicine, 36(S32-7). doi:10.1007/s00134-010-1767-y

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