

HOMERuN COVID-19 Collaborative Clinical Practices Survey Results

March 22, 2021 Newsletter

The Hospital Medicine Reengineering Network (HOMERuN) is a national network of Hospital Medicine investigators at 12 academic medical centers (AMCs) and 50 affiliated sites. During the COVID-19 pandemic, HOMERuN leadership formed the “COVID-19 Collaborative” as a mechanism to share information and practices regarding pandemic responses across participating institutions.

The HOMERuN COVID-19 Collaborative conducted a survey of clinical practices related to COVID-19 care between December 17, 2020 and February 8, 2021. Below are a few top takeaways from the survey.

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Hospital Characteristics

- **Who participated?** We received responses from 52 of 83 (63%) invitees. Our data skews heavily toward academic medical centers (AMCs) with 94% of respondents describing their hospital as an AMC and only a small fraction as a community (14%) or safety net (14%) hospital.
- **How bad was the COVID-19 surge?** Many hospitals essentially became “COVID-19 hospitals,” with at least 61% experiencing peak COVID-19 census 50% greater their usual total hospital medicine census and at least 27% experiencing peak COVID-19 censuses greater than their usual total hospital medicine census. A majority of sites experienced total hospital medicine censuses “far greater” (41%) or “somewhat greater” (31%) than usual.

Clinical Practice Guidance

- **COVID-19 guidance:** Nearly all (98%) institutions provide some form of guidance on the evaluation and management of COVID-19 with the majority using a combination of dissemination methods, including email (84%), an institutional website (82%), COVID-19 specific order sets (73%), COVID-19 specific note templates (65%), a group wiki or document

sharing site (57%), COVID-19 specific best practice alerts (55%), and training sessions before service (53%).

- **Single source of truth:** In addition to the multimodal approach above, 84% of institutions have a “single source of truth” for frontline providers, most commonly an institutional website.

"As the system became familiar with COVID care, and work [became] more standardized... This is now considered one of the easier services."

COVID-19 Clinical Practices

Admission and discharge practices

- **The gatekeeping functions:** In an overburdened hospital system, the decision to admit or discharge a patient becomes an important mechanism to regulate access to a limited resource. We observed that hospitals were likely to adjust criteria for discharge but not for admission. Even during surge conditions, only 13% of hospitals raised thresholds for admitting patients with COVID-19 whereas nearly half or 46% lowered thresholds for discharging patients with COVID-19 compared to the pre-pandemic standard of care for patients with lower respiratory tract infection. 79% of hospitals that have relaxed their discharge criteria have developed home monitoring programs compared to 63% overall.
- **ICU admission criteria:** Although hospitals have not, for the most part, modified general admission criteria, it appears that they have been more willing to raise the bar for ICU admission. Of the 27 sites who provided this type of granular data, 8 (30%) permit use of maximal or near maximal HFNC (50-70L, 0.8-1 FiO₂) and/or NRB mask outside of the ICU.

Risk stratification and monitoring

- **Risk stratification:** 37% of institutions have implemented standardized risk assessment methods to identify patients with COVID-19 at high risk for ICU admission, mechanical ventilation, and/or mortality. 68% of these include home-grown tools, and 47% include published risk scores, such as the 4C Mortality Score for COVID-19.
- **Stratified care:** These risk assessments are being applied most commonly to determine eligibility for certain treatments (79%) and to determine need for admission and level of care (53%).

Therapeutics

- **Consensus, for the most part:** Evidence, guidelines, and clinical practices at surveyed HOMERuN sites are summarized below for remdesivir and dexamethasone. Overall, there is strong consensus on practices that are supported by both the evidence and by major guidelines from the **IDSA** and **NIH**. Not surprisingly, greater practice variation occurs in areas where the major guidelines disagree and/or are not aligned with the underlying evidence.

Remdesivir

Severity	Notable RCTs		Guidelines	% HOMERuN Sites Use All of the Time
	ACTT-1	SOLIDARITY		
Moderate illness (SpO2>94%)	No benefit	No benefit	IDSA: Suggests against	21%
Moderate illness at high risk for progression			NIH: Insufficient evidence	
Severe illness requiring 1-6L NC	↓ time to recovery	No benefit	IDSA: Does not address	44%
Severe illness requiring HFNC or NIPPV	No benefit		NIH: May be appropriate	
Critical illness requiring mechanical ventilation	No benefit	No benefit	IDSA: Recommends use	83%
			NIH: Recommends use	
Critical illness requiring mechanical ventilation	No benefit	No benefit	IDSA: Recommends use	86%
			NIH: Recommends use (or dex monotherapy)	
Critical illness requiring mechanical ventilation	No benefit	No benefit	IDSA: Suggests use (w/ supply-limited caveat)	69%
			NIH: Recommends against	

Dexamethasone

Severity	Notable RCTs		Guidelines	% HOMERuN Sites Use All of the Time
	RECOVERY			
Moderate illness at high risk for progression	No benefit		IDSA: Recommends against use	20%
Severe illness (SpO2<95%) not on O2			NIH: Recommends against use	
Severe illness requiring 1-2L NC	Benefit		IDSA: Suggests use	26%
Severe illness requiring 4-6L NC			NIH: Recommends against use (min. supp. O2)	
Severe illness requiring HFNC or NIPPV	Benefit		IDSA: Recommends use	81%
Critical illness requiring mechanical ventilation			NIH: Recommends against use (min. supp. O2)	
Critical illness requiring mechanical ventilation	Benefit		IDSA: Recommends use	94%
			NIH: Recommends use	
Critical illness requiring mechanical ventilation	Benefit		IDSA: Recommends use	100%
			NIH: Recommends use	
Critical illness requiring mechanical ventilation	Benefit		IDSA: Recommends use	100%
			NIH: Recommends use	

- **Inappropriate care:** A sizable minority of sites are providing remdesivir and dexamethasone to patients with moderate illness, out of line with both existing evidence and major guidelines. These practices should be reconsidered.
- **The evidence gap for remdesivir:** It is interesting to note that both IDSA and NIH recommend broader use of remdesivir than is currently supported by empiric evidence, possibly due to expected benefit for patient subgroups that were not explicitly studied. In this evidence gap, a significant minority of institutions are prioritizing patients by incorporating phase of illness (37%, as determined by time from symptom onset or Ab testing) and/or formal risk stratification scores (29%, see above) into treatment decisions.
- **Anticoagulation:** The majority (71%) of institutions are restricting therapeutic dose anticoagulation to patients with confirmed clot, consistent with ASH guidelines. The remaining 29% are treating a subset of patients with very high D-dimer and/or more severe illness. It will be interesting to see how this evolves in light of new clinical trial data!

Our next meeting will be April 9, 2021.

Key Insights and Reflections

We asked respondents to reflect on their lessons learned. Here are their top DOs and DON'Ts.

Best Practices

- **Standardize, standardize, standardize:** Over and over again, respondents emphasized the importance of defining standardized protocols to guide care. Such protocols not only ensure consistent adherence to best practices but also boost efficiency and increase alignment across interdisciplinary teams and transitions of care.
- **Centralized, clear, concise, and consistent communication:** Hand-in-hand with lesson 1, respondents stressed that clinical guidance must be clearly communicated and “as easy to access and follow as possible.”
- **Tapping the experts:** In addition to maintaining an up-to-date “single source of truth” as mentioned above, many respondents cited multidisciplinary clinical care huddles, e.g., with ID and Critical Care/Pulmonology, as a useful mechanism to ensure consistency in care. Along similar lines, several sites mentioned that having a core group of COVID-experienced hospitalists also improved the acceptance and dissemination of standardized practices.

Pitfalls to Avoid

- **Non-evidence-based care:** Many respondents warned against the routine use of interventions that are not supported by clinical outcomes, with several noting potential harm to patients from non-evidence-based use of anticoagulation, antibiotics, dexamethasone, convalescent plasma, and even frequent lab draws.
- **“Be careful of the curse of knowledge”:** More communication is not necessarily better and can actually create confusion, especially when it is not clear, concise, and practical for the busy clinician (e.g., provide specific clinical scenarios for teaching rather than referencing the supplemental ACTT data).

Check out the [HOMERuN COVID-19 Knowledge Base](#) for more details on discharge practices from the Discharge Criteria Working Group and (coming soon) more survey results, including practice variation around screening, laboratory monitoring, proning, and more!

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