PROMISING PRACTICES

Intermountain Healthcare: Equitable Risk-Adapted Strategy for Monoclonal Antibody Treatments

Recommendations for Health Systems

This document includes promising practices and recommendations from Intermountain Healthcare's success in proactively risk stratifying patients who would benefit from COVID-19 monoclonal antibody treatments. These findings provide inspiration and information to those working to build treatment awareness and increase monoclonal antibody utilization in a health system setting. The information below can supplement individual plans and provide context to playbooks and planning discussions with leadership.

SUMMARY

When the U.S. Food and Drug Administration first issued an emergency use authorization for monoclonal antibody treatments, there was a high demand for these treatments, but infusion availability was scarce. Intermountain Healthcare **used a risk-adapted strategy to identify COVID-19 patients who were likely to benefit from monoclonal antibody treatment**. With this risk-adapted approach, Intermountain Healthcare was able to prioritize high-risk patients and decrease the risk of being hospitalized with severe illness. As of June 2021, Intermountain Healthcare **screened and contacted 11,000 COVID-19 positive patients, of which 1,300 were infused within 62 hours of being tested for COVID-19**. Intermountain Healthcare was able to achieve a 4% hospitalization rate of high-risk patients, reflecting a more than 50% relative risk reduction in many patients.

Overview of Intermountain Healthcare's Approach

Like many health systems during COVID-19, Intermountain Healthcare was responsible for both ongoing care delivery and implementing public health measures including the use of monoclonal antibody treatments for COVID-19. **Uniquely, Intermountain Healthcare applied an equity lens to their risk-adapted strategy by including data about geographic location, race, ethnicity, and gender**. This type of equity strategy is now explicitly endorsed in the FDA Emergency Authorization Act document for Casirivimab/Imdevimab. This approach ensured that high-risk patients who are more likely to benefit from monoclonal antibody treatments were identified and had equitable access to treatment.

Success Factors

- Used a risk-adapted strategy based on data analytics to drive down hospitalization rates while managing limited infusion capacity.
- Redeployed under-utilized personnel to screen and connect treatment with COVID-19 positive patients each day. This created a connection to care for patients who may not have had a referral from a primary care provider.
- Leveraged a publicly available risk score, which was validated in a population of over 24,000 COVID-19 positive patients.
- Used research capabilities to assess the safety and effectiveness of monoclonal antibodies with real-world data.

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RECOMMENDATIONS

The following section provides key recommendations based on Intermountain Healthcare's experience.

Implement a Risk Adapted Strategy for Prioritizing Scarce Resources

- ✓ Leverage a publicly available, standardized, and validated risk score, such as the Utah COVID-19 Risk Score[1], to identify high-risk patients who are statistically more likely to benefit from treatment.
- ✓ Provide a quantifiable and adaptable approach to supply demand matching for managing limited infusion resources.
- ✓ Develop risk models with an equity focus by including race, ethnicity, and gender, and social determinants of health (e.g., environment, community, and individual economic stability) in data analysis[1] to identify patients who will benefit the most from treatment.

Creative Redeployment of Personnel Provided the Manpower to Connect Patients with Treatment

Intermountain Healthcare **redeployed under-utilized personnel** to an internal monoclonal antibody "MAb Squad." The MAb Squad **screened the list of positive test results daily to identify eligible patients** and quickly connect them with treatment. This bypassed the need for a referral; therefore, the MAb Squad provided a connection to care for patients without a primary care provider.

Exhibit 1: Risk Model for Care Equity

- ✓ Set a risk threshold for hospitalization based on the maximum number of patients that could be safely infused and the number of high-risk patients who are mathematically more likely to benefit from treatment.
  - Use this threshold to understand how many patients need to be treated to maintain a certain hospitalization rate.
  - Use the output of the risk models to prioritize limited infusion capacity to patients for whom prevention of hospitalization was most likely.
  - Adjust risk threshold estimates as capacity and eligibility criteria expand.
- ✓ Employ research techniques to study the safety and effectiveness of the treatment while it is being deployed.
  - Use real-world evidence studies that include analyzing clinical data and implementation in clinical environments.
  - Gather information on adverse and safety events in real time to adjust the implementation of the monoclonal antibody treatment program.

Including Race and Ethnicity in Risk Models Enhances Care Equity

When co-developing the Utah COVID-19 Risk Score [1], Intermountain Healthcare included race, ethnicity, and gender in the risk modeling to ensure that those individuals who were comprising a larger portion of hospitalized patients would be identified for monoclonal antibody treatment.

Exhibit 2: Creative Redeployment

Adapt Existing Resources to Optimize Infusion Capacity

- ✓ Educate patients and providers about monoclonal antibodies before patients test positive.
  - Encourage providers to share information about the treatment when informing patients of a positive test result.
- ✓ Inventory available resources to determine if there are under-utilized personnel that can be temporarily redeployed to focus on the utilization of monoclonal antibody (MAb) treatments such as a "MAb Squad" (see Exhibit 2 for more details).

[1] While co-developing the Utah COVID-19 Risk Score, Intermountain Healthcare sent a letter to the Office of Civil Rights citing the National Quality Forum Work Group 2014 recommendations [2] to account for race and ethnicity in risk models. Intermountain Healthcare recognized that this was important when the goal of the risk model is to improve equitable access to a treatment and avoid systematic disadvantage to populations that are at higher risk.

- ✓ Strategize creative ways to use existing infrastructures (e.g., infusions centers, urgent cares, emergency departments) for increasing infusion capacity to meet demand.
- ✓ Establish cross-training among nurses so that experienced nurses or existing urgent care sites train other urgent care or emergency department nurses to administer monoclonal antibody treatments.

Next Steps for Intermountain Healthcare

Intermountain is focused on sustainability moving forward. The "MAb Squad" has received continued support from their administration after its initial successes. With decreasing community transmission, Intermountain Healthcare will consider the program successful when providers are able to assess eligibility and fit monoclonal antibody treatments into a conventional prescribing framework.

Intermountain Healthcare hopes to start patients on the path to monoclonal antibody treatments earlier in their symptom course. They are moving towards a point-of-care delivery model which involves scaling up monoclonal antibody infusion availability in emergency departments and urgent cares, as well as preparing to deliver monoclonal antibodies in the home with their home care program.

Collaboration Among Infusion Sites Increased Infusion Capacity Across the Region

Infusion availability is a limiting factor in monoclonal antibody treatment due to the need to separate COVID-19 positive patients. Intermountain Healthcare convened representatives from infusion centers, urgent cares (e.g., InstaCare Clinics in Utah) and emergency departments to establish a network of infusion sites who agreed to shift schedules, expand hours, and open additional sites. Of the available 27 sites, 10 were added with the goal to **increase geographic equity so that no patient had to drive more than 59 minutes to receive a monoclonal antibody treatment.**

Exhibit 3: Collaboration - Infusion Sites

Healthcare professionals involved in the monoclonal antibody treatment program at Intermountain Healthcare reported that their involvement was one of the most satisfying endeavors in their healthcare career. Health systems considering similar programs may find that this work generates a high sense of satisfaction and engagement among providers.

The recommendations in these promising practices document provide a foundation for other health systems using existing resources and risk prediction models to connect patients to monoclonal antibody treatment.

Other Resources:

- Publicly available Utah COVID-19 Risk Score calculator
  - Preprint: Simple Scoring Tool to Estimate Risk of Hospitalization and Mortality in Ambulatory and Emergency Department Patients with COVID-19 | medRxiv
- Real-World Effectiveness and Tolerability of Monoclonal Antibody Therapy for Ambulatory Patients with Early COVID-19
- Clinical criteria for COVID-19-associated hyperinflammatory syndrome: a cohort study - The Lancet Rheumatology
- Intermountain Researchers Develop New Tool to Diagnose COVID-19 Patients at High Risk of Developing Severe Inflammatory Disorder
- Intermountain Healthcare Using Innovative Data Analytics to Predict COVID Risk and Identify Best Treatments | Mar 18, 2021 - ReleaseWire
- Webcast: Intermountain Healthcare's Experience with Monoclonal Antibodies A Discussion with Brandon, Webb, MD Infectious Disease on Vimeo
- At Intermountain, Predictive Analytics Boost COVID-19 Outcomes (healthitanalytics.com)

References

1. Utah COVID-19 Risk Score Calculator available at: https://coronavirus.utah.gov/noveltherapeutics/.
2. National Quality Forum. (2014, August). Risk adjustment for socioeconomic status or other sociodemographic factors. Washington, DC. National Quality Forum. https://www.qualityforum.org/Publications/2014/08/Risk_Adjustment_for_Socioeconomic_Status_or_Other_Sociodemographic_Factors.aspx.