Feasibility and Impact of a Monoclonal Antibody Infusion Program in Reaching Vulnerable Underserved Communities

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Background

- Monoclonal antibodies (mAbs) against SARS-CoV-2 are potent therapeutics that prevent progression of disease in high-risk patients.
- Deploying mAb infusion programs and reaching communities in need remains challenging.
- We established a mAb infusion program centered in the emergency department (ED) fast-track.
- We seek to assess the feasibility and impact of our mAb infusion program in reaching vulnerable underserved communities.

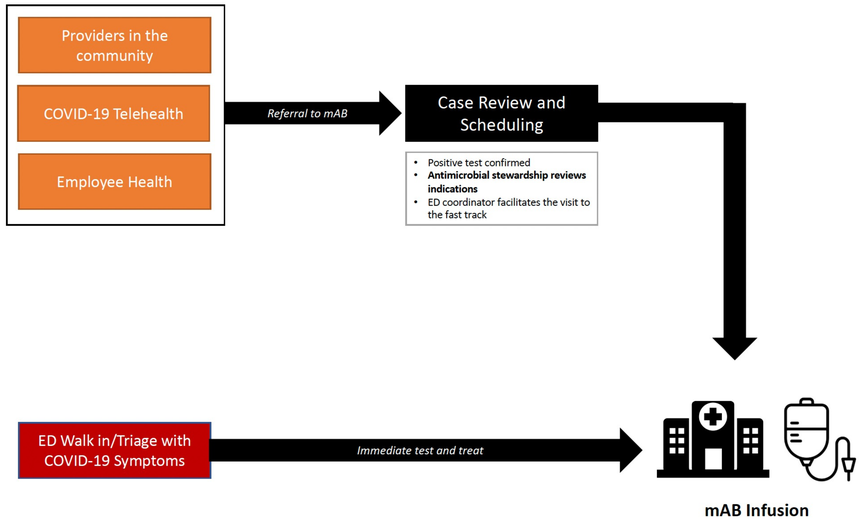
Methods

- The ED fast-track was repurposed for mAb infusions. Indications and protocols were created by the infectious disease (ID) physician and antimicrobial stewardship program (ASP).
- Test to treat was deployed in the ED and a referral program connected patients from telehealth and providers in the community to the infusion program (Figure 1).
- Data on mAb use from November 2020 to February 2022 was reviewed.
- To assess the reach of the program in vulnerable communities, the COVID-19 Community Vulnerability Index (CCVI) map by zip code was used.
- The CCVI identifies communities at risk by using variables such as sociodemographic variables, occupational factors, cumulative COVID-19 burden, vaccine uptake and other factors.

Results

- mAbs were successfully deployed and sustained throughout the pandemic, increasing its use in each COVID-19 surge by >103% (Figure 2).
- A total of 267 patients were treated, with an average age of 52 years, of which 55% (147) were female.
- Ethnicity was 46% Hispanic and Race was 54% White, 28% Black, 1.4% Asian, 1.8% Multiracial and 14% Other. Zip codes by CCVI were 64% high, 18% medium, and 3% low CCVI index.
- 15% were outside of city limits without CCVI index (Figure 3).

Figure 1. Monoclonal antibody infusion test-to-treat and referral process in t he ED fast track



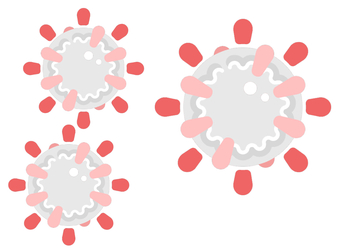


Figure 2. COVID-19 Community Vulnerability Index (CCVI) of patients who received monoclonal antibodies at our program

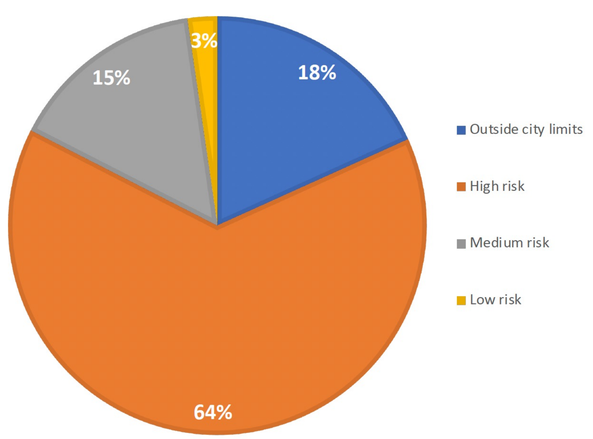
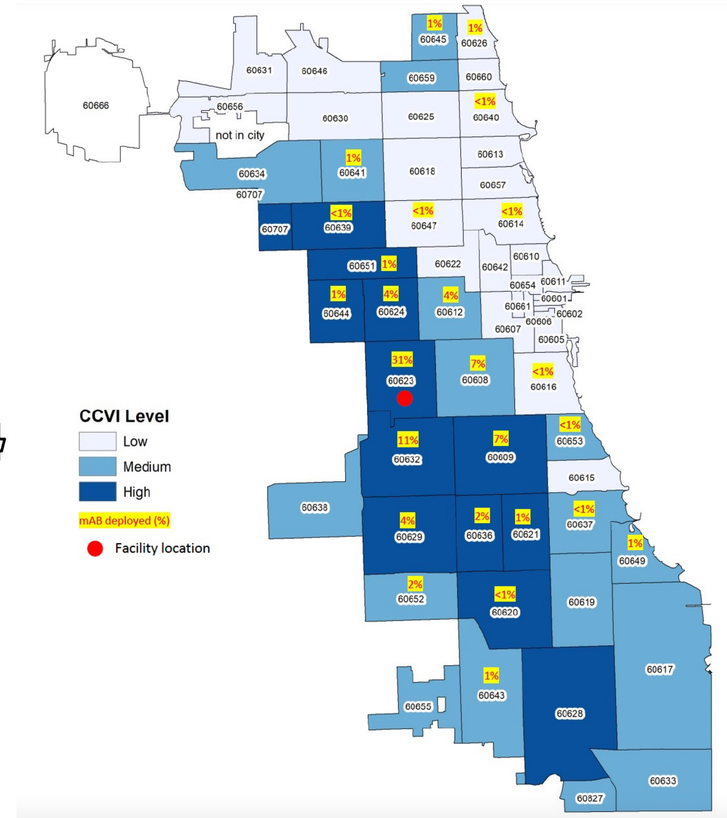


Figure 3. Monoclonal antibody infusions by COVID-19 Community Vulnerability Index (CCVI) and Zip codes



Conclusions

- A mAb infusion program with test to treat and referrals from the community was successfully deployed in an ED fast track.
- The ED space and staff can be leveraged for mAbs during surges amid clinic staffing challenges.
- The program adopted novel mAbs as new COVID-19 variants emerged.
- Uptake increased with each wave, likely reflecting awareness of mAbs and the infusion program by patients and providers in the community.
- The majority of patients served (82%) were of high and medium CCVI.
- Thus, this mAb infusion program led by ID and ASP successfully reached predominantly underserved vulnerable populations.

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