Parkland

Testimony to Senate Committee on Health & Human Services on COVID Data and Modeling

December 7, 2020

Chairman Kolkhorst and Members of the Committee,

Thank you for your time today to hear my testimony. My name is Brett Moran and I am an Associate Chief Medical Officer and Chief Medical Information Officer at Parkland Health & Hospital System. As you have heard, our system has been hit hard by COVID-19, with more than 18% of the county cases being diagnosed by and cared for at Parkland.

One of the top concerns the leaders as well as the boots-to-the ground doctors and nurses expressed is the lack of data or information. As the pandemic struck, I was tasked to use data to help inform the hospital about COVID-19 and trends relating to it. We began by creating a dashboard used by our COVID-19 command center to help with day-to-day decisions regarding cases, staffing, supplies, testing and bed control (See Figure 1).

As our dashboard became more sophisticated, we also ventured into predictive modeling. Parkland's Center for Clinical Innovation (PCCI) created a Proximity Index—a score that could identify individuals at risk of having COVID-19 who lived in areas with high "density" of COVID-19. We were able to take these predictions and help identify patients coming into the clinic for appointments and provide outreach to them ahead of time, asking them about possible symptoms or exposures. Where appropriate, we'd offer COVID-19 testing and convert their appointments to virtual (Figures 2 and 3). This helped reduce the spread to the other patients in the waiting room and to the clinical staff providing care. Seventeen percent of patients who were identified as high index reported "COVID-like" symptoms and 28% endorsed potential high-risk exposure. To date, more than 21% of patients identified as high proximity index are positive for COVID-19, when tested.

PCCI also created a vulnerability index (Figure 4), which helps identify patients who have a higher likelihood of doing poorly were they to catch COVID-19. Using both of these scores, along with associated geomapping and hotspotting, Parkland was able to partner with the Dallas County Health Department to provide focused outreach to "at risk communities;" giving recommendations for COVID-19 testing locations and enacting community engagement and education campaigns regarding staying safe, social distancing, wearing masks and monitoring for symptoms (Figure 5). We have directed more than 100,000 "robo calls" and 210,000 text messages to community

Parkland Health & Hospital System
5200 Harry Hines Blvd. | Dallas, TX 75235
214.590.8000 | fax 214.590.8096
www.parklandhospital.com

residents who were high risk or lived in high-risk areas. Parkland's Community Health Workers have logged more than 3,100 encounters with at-risk patients, providing social and behavioral support, assistance with medications, COVID-19 education, appointment navigation and telehealth appointments. Using this data, Dallas County community outreach teams visit highly impacted neighborhoods and consult with community members and retail owners to implement public health recommendations. Parkland is now using similar processes to help inform the county and ISD with school-related COVID-19 geomapping and hotspotting, and using parallel processes to direct flu drives and COVID-19 vaccine recommendations to ensure the most "at risk" and vulnerable citizens receive the care they need.

Healthcare reporting of data has always been a critical element and with COVID-19 it became even more vital that the reporting be accurate, timely and efficient for the health entity. In our first days of the pandemic, Parkland found it was sending 11 different reports to 6 different areas, including the Dallas mayor, the county health department, the Department of Public Safety, the regional RAC, the Department of State Health Services, and the U.S. Department of Health and Human Services. Collating the data, both from automated reports and manual abstraction from our bed control team were painstaking activities. There were similar report items requested but which differed in their definition so that one answer may not suffice for any two reports. There were requests for information which lacked specificity such that we were not certain what the requesting agency was truly looking for. Repeated revisions to requests or added elements, frequently within the same week, caused us to scramble to keep up with which version of the request we were working to satisfy. We appreciate DSHS modifying the EM Resource portal for data collection so that we no longer are required to report directly to the federal government, this has cut down on some of the duplicative reporting requirements.

On the side of Parkland receiving data, we have appreciated close partnerships with our city and county health partners and have collaborated to create a semi-automated contact tracing solution using text messaging and self-reported patient online surveys. At the current rates, manual contact tracing is nearly impossible. To date, we've sent surveys to almost 70,000 individuals, 45% of who have completed it. But like others, we have had to account for reporting fluctuations in state and regional COVID-19 data and try to discern if they are implying an upcoming surge in COVID-19 or merely represent delayed data or test results coming from a batch that slipped through previous reports. These issues, if too recurrent, can instill loss of confidence in the health systems with the data. Reporting processes continue to vary from sophisticated interfaces to simple faxes that require manual transcription, leading to potential transcription errors and taking extra time before the data is made available.

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On Nov. 18, Parkland went live with Electronic Case Reporting, a venture supported by both the CDC and Association of Public Health Laboratories (AHPL) (Figure 6). This is a standardized, automated, real-time reporting process that uses discrete data definitions which allow for pulling of the accurate information directly from an electronic health record without manual abstraction or cleaning of data. The information then can pass directly and immediately across an electronic interface to public health agencies from the CDC to the state and down to the local agencies--all seeing the exact same information with the same definitions so that accurate, timely and precise decisions, modeling, and community engagement can occur. It reduces the burden of work while increasing the timeliness and value of the information.

While Parkland is live on electronic Case Reporting through the AIMS network, our county health department will not be live until later this month—meaning that we continue to report in different ways to different entities. Similarly, many local and even state health agencies do not have capabilities to receive electronic data through this or other information networks, hindering timely data capture and reporting for their communities. The COVID-19 pandemic has taught us that increased attention to the healthcare reporting infrastructure is warranted. Expanding beyond COVID-19 to all communicable disease reporting in an automated, real-time manner, and then beyond case reporting, with standardized, well written data definitions; and where if revisions are needed, they are coordinated and can occur in infrequent batches. Incentivizing implementation of electronic case reporting both in health systems as well as health departments would greatly accelerate adoption.

Parkland has learned much since its first COVID-19 case on March 14. We hope that our data reporting can further advance timely and accurate decisions by healthcare and government leaders as well as valuable predictive analytics. We look forward to the day when this is no longer necessary but even when that happens, the lessons learned can be leveraged on standard, routine reporting and communication that must continue to occur between healthcare organizations and the state and local health agencies. A bright future would include streamlined collection and dissemination of automated, standardized, real-time data from the highest health agencies to the smallest clinic.

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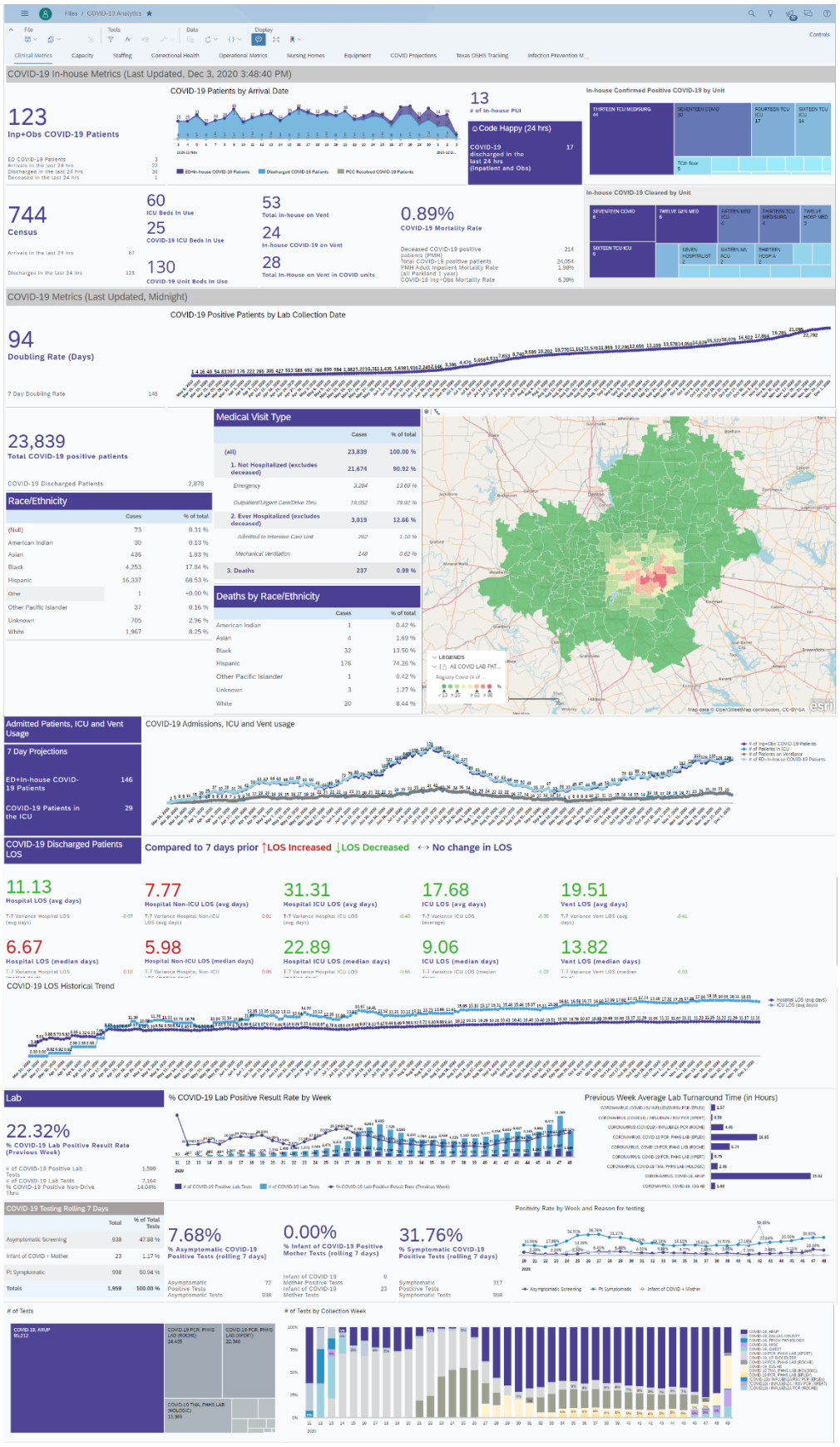


Figure 1: Parkland COVID-19 Dashboard

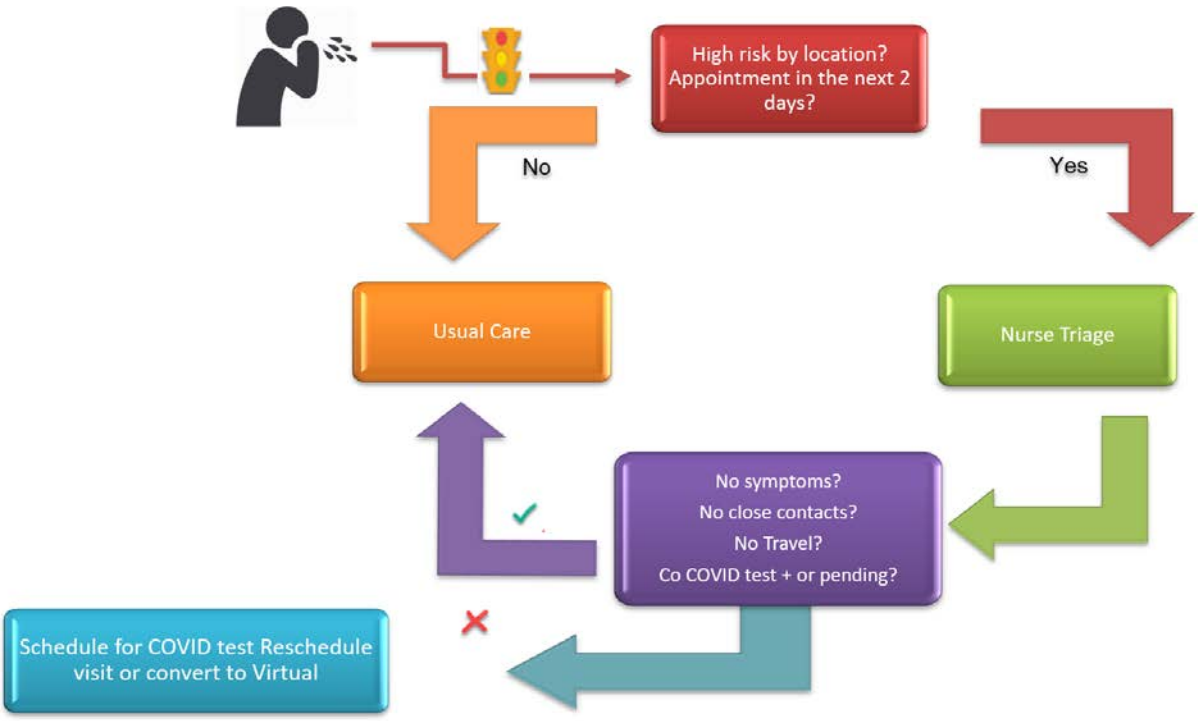
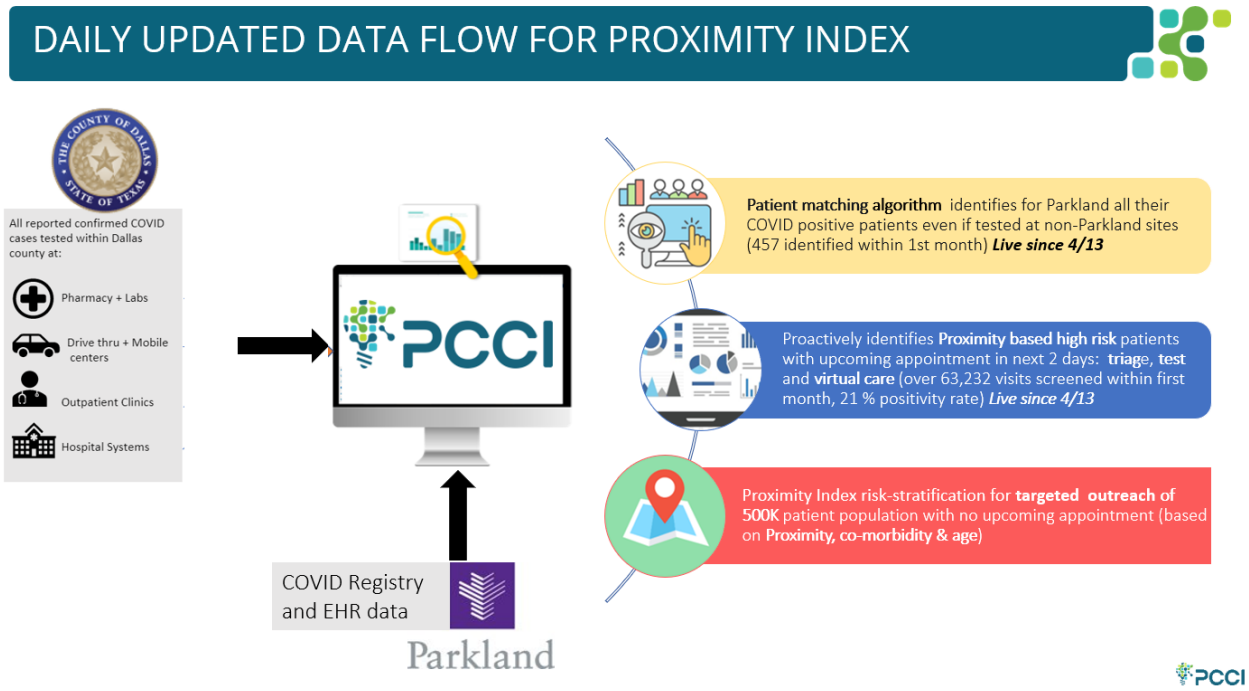


Figure 2. Proximity initiative I: Reducing the spread of COVID-19 into the health system based on Proximity Index score.



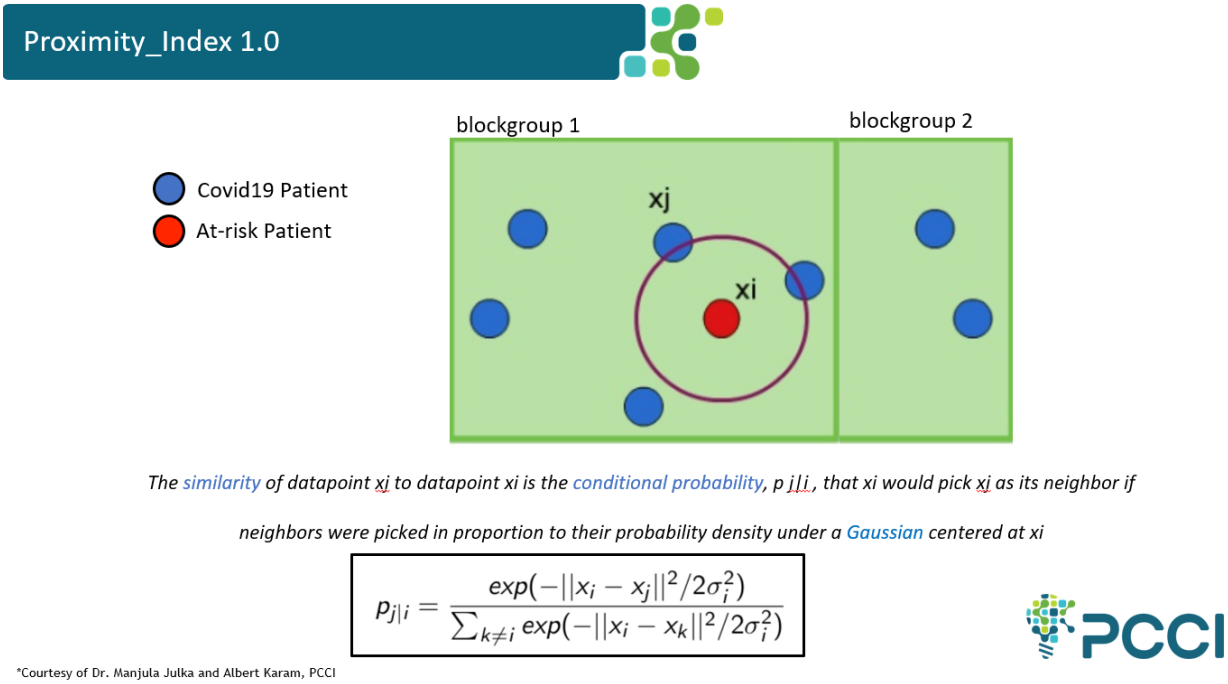


Figure 3: Proximity Index Score Details

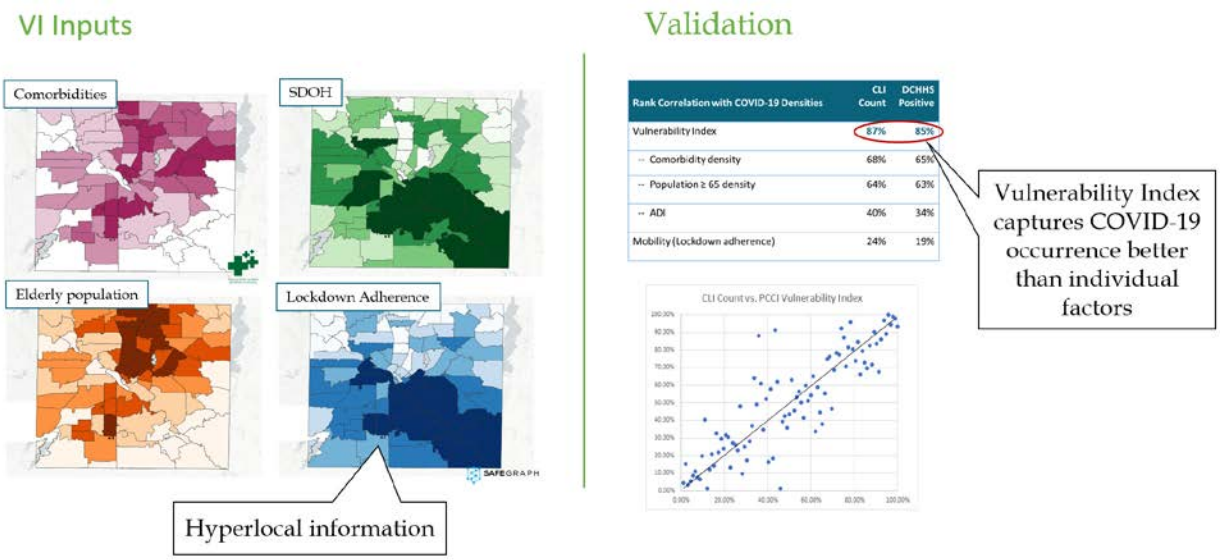


Figure 4. PCCI's approach assesses data-driven COVID-19 risk utilizing multiple data points aggregated to provide for a higher accuracy in capturing individuals who will endorse COVID-like illness and ultimately test positive for COVID-19 by the Dallas County Health Department.

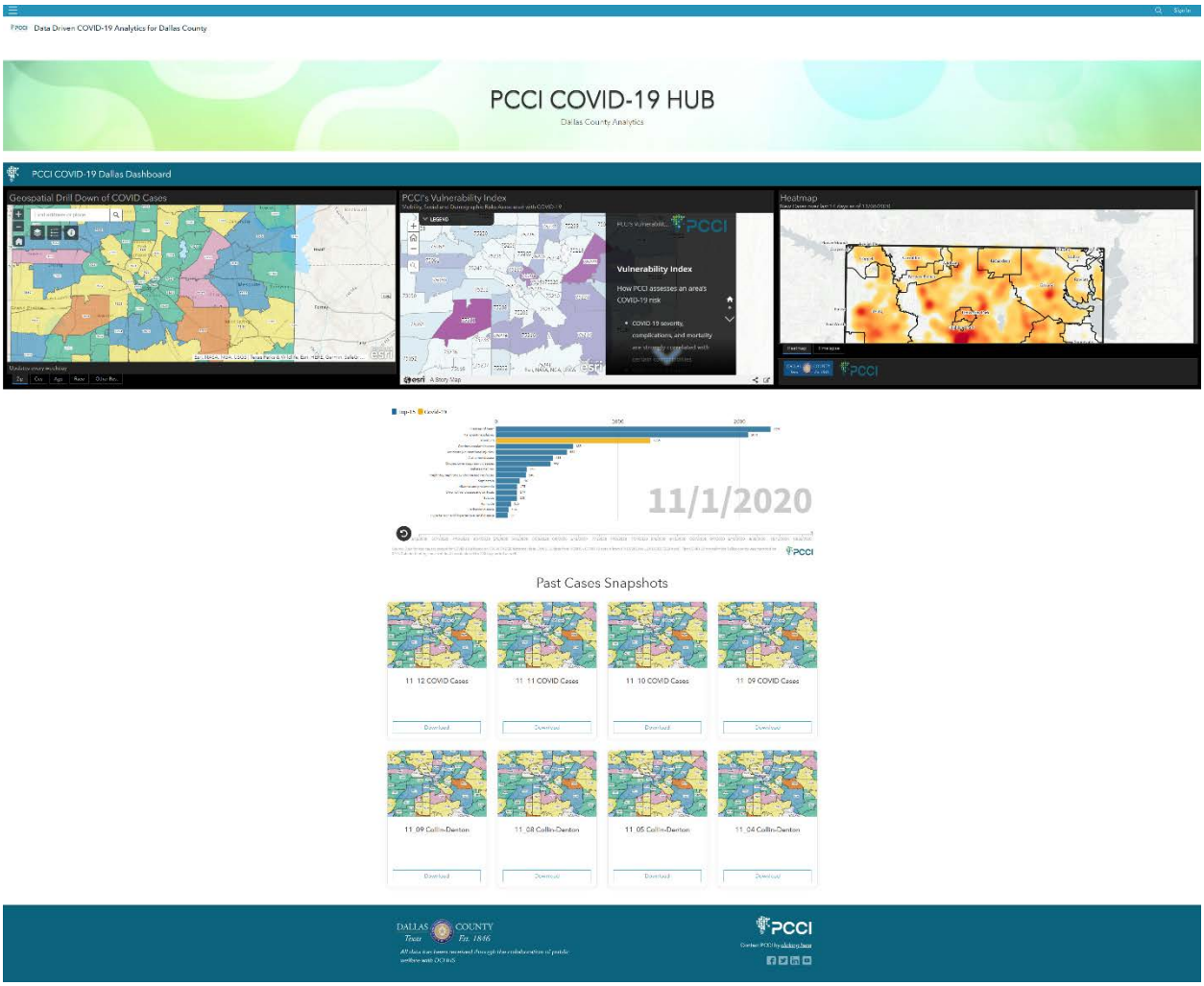


Figure 5. PCCI COVID-19 Hub website, with publicly available geospatial and heat map information related to COVID spread across the Dallas County region.

eCR Now: COVID-19 Electronic Case Reporting

Improve public health action with real-time data flow

Accessible version: https://www.cdc.gov/coronavirus/2019-ncov/php/electronic-case-reporting.html

Electronic Case Reporting (eCR) is the automated generation and transmission of case reports from the electronic health record (EHR) to public health agencies for review and action. eCR makes disease reporting from healthcare to public health faster and easier. **eCR Now** is a strategic initiative that allows for rapid adoption and implementation of eCR for COVID-19.

eCR's Value

- Enables bi-directional data exchange between healthcare providers and public health
- Provides immediate feedback from public health to healthcare about reportable conditions and possible outbreaks
- Reduces burden of manual reporting on healthcare facilities and providers and entry of information on public health agencies
- Improves completeness of reporting, including demographics that allows for expedited case investigation and contact tracing

Public Health Agencies

- eCR provides more complete data from the electronic initial case report for a better public health response
- Reduces response time with automated information during outbreaks and public health emergencies
- Improves communication and collaboration with healthcare providers
- Shares critical information with healthcare providers
- Monitors the spread of reportable conditions like COVID-19

Healthcare Providers

- eCR reduces burden on healthcare professionals, staff, and facilities without disrupting the clinical workflow
- Fulfills legal reporting requirements
- Streamlines reporting challenges with jurisdictions
- Connects in real time with your public health agency
- Offers credit for the CMS Promoting Interoperability Program for implementing eCR
- Improves COVID-19 reporting immediately and allows expansion to all reportable conditions

eCR Is Easy to Implement

Public Health Agencies

- ✓ Ensure your agency is connected to AIMS, the APHL Informatics Messaging Services Platform: ecr.aimsplatform.org/public-health-agencies/ecr-readiness/
- ✓ Enter your jurisdiction's reporting criteria for reportable conditions into the Reportable Condition Knowledge Management System (RCKMS)
- ✓ Engage with local healthcare organizations that are ready to implement eCR now

Healthcare Providers

- ✓ Email ecr@cdc.gov for information to onboard for eCR Now
- ✓ Contact your EHR vendor about implementing eCR now
- ✓ Learn details about implementing eCR for COVID-19: ecr.aimsplatform.org/ecr-for-covid-19-reporting/
- ✓ Obtain necessary approval from organizational leadership and implement eCR now

Learn more at www.cdc.gov/ecr

cdc.gov/coronavirus

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