

CASE STUDY

Custom Lab Portal Development for Mass COVID-19 Testing

Minnesota-based testing laboratory



Summary

In Spring 2020, Medical Web Experts (MWE) was brought on board by a Minnesota-based laboratory, with multiple locations, to design a web app in response to the surge in COVID-19 testing. Within six weeks, we built a mobile-responsive web app with features that allow anyone to schedule a test, make a payment, and view their test results - leading to a highly efficient and effective **mass curbside testing operation**. With our help, the lab more than quadrupled its testing capacity. Having initially struggled to carry out 100 tests per day, they now perform around **500 drive-through tests per day** and deliver **95% of results to patients within 24 hours**.

There were several key requirements for the web app, including:

- Offering a secure and efficient patient intake system
- Simple, user-friendly registration
- Pre-appointment patient screening with customizable features
- Secure communication of test results
- A client-facing backend to streamline workflow and communications



Most crucially, the app was designed to cohere with the principles of the “digital front door”: offering a fully integrated, seamless and ultimately empowering digital healthcare experience for patients at every step of their journey.

Challenges

1. Urgency of COVID-19 response

With COVID-19 infection rates growing exponentially, the laboratory needed a solution that could be rolled out in record time. We knew we had to design an application that could be fully functional in a matter of weeks, helping the client to cope with the overwhelming level of demand they were facing.



2. Regulatory compliance

In addition to the stringent requirements surrounding health data protection, the COVID-19 pandemic placed a fresh set of regulatory burdens and challenges on healthcare providers and testing facilities. This meant that the client not only required a secure means of sharing test results with the patient, but they also needed to be able to share relevant statistics with state departments--with the same level of speed, security and accuracy.

3. Technical challenges

Though developed quickly, the new app needed to be part of a feature-rich, customizable, and fully cohesive digital front door solution that could cater to both client and patient needs. This involved making registration and payment processes simple for users, and offering integrated insurance verification so patients could access financial support. At the same time, we wanted to design a backend that could serve the client's needs, automating tasks such as appointment scheduling and helping to streamline communications and workflows.

Phase One: Going live with the initial web app

Developing the app in record time

Knowing the urgency of the project, we managed to roll out the new solution in record time, taking **only six weeks to design**, develop, and test the platform before launch.

Within a month and a half, the laboratory was live with a mobile-responsive web app which let patients book appointments, pay for their tests, and receive their results, all through a single, secure, and easy-to-use platform.



Improving the intake process

In this initial phase, patient intake was conducted via a third-party web form containing around 10-15 initial questions for patients. This meant the lab could collect the most important data on patients while also screening for the presence of symptoms and likelihood of COVID-19 infection.

Patients, meanwhile, could select any of the client's multiple Minnesota locations in which to take their test and benefit from the inclusion of an integrated map to help them find the facility.

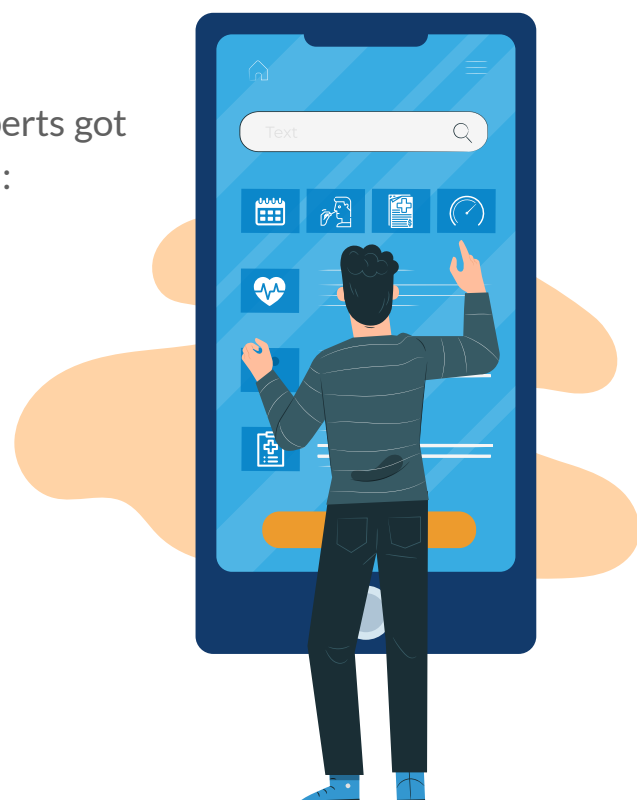
Managing patient data

As soon as test results were finalized, they were submitted directly to patients through the portal's Lab Info System (LIS), cutting out the middleman and minimizing delays. Accumulated data could then be quickly and easily exported as a CSV file and passed on to state governments and other official bodies.

Phase Two: Developing and improving the Digital Front Door

After the initial app had gone live, Medical Web Experts got to work on a number of new features. These included:

- **Integrating health insurance into our bill-pay service**, adding real-time validation so patients could access financial support at the same time as booking their test.
- Improving the app's functionality to allow for **cancellation and rescheduling of appointments.**



- Creating a “**proxy account**” feature that would allow third-party individuals, such as parents, caregivers, or companies on behalf of their staff, to book tests for another person.
- Adding a new **provider portal** where physicians could book tests on behalf of their patients.

The intake process was further optimized with the integration of a proprietary form builder, which allows the lab to create custom forms inside the app that can easily be edited from the admin panel.

With the roll-out of new COVID-19 antibody tests, the laboratory also started offering this additional service to patients.

Outcomes: Rapid testing, rapid results

The numbers



95%

of test results reach patients within 24 hours



500

tests carried out per day



6 weeks

to design and implement

Massively improved capacity

The project resulted in instant measurable benefits for the client. Having previously struggled to cope with the overwhelming demand for on-site tests- carrying out less than 100 tests per day - the lab has been able to increase its testing capacity to **~500 tests per day**.

24-hour turnaround

With the Lab Info System (LIS) allowing the quick transfer of patient data directly from the laboratory, the client can deliver **95% of test results within 24 hours** (including Saturdays), with a bulk of these reaching patients on the same day.

Patient-centric experience

The new, mobile-responsive web app delivers an **intuitive and user-friendly experience** across devices that allows patients to seamlessly book and reschedule tests, access financial support, make payments, and receive their results.

The app helps demystify the confusing process of getting tested, empowering users to find their nearest testing center.



A future-proof asset

Though designed to assist in extraordinary circumstances, the new app is an asset that will pay dividends long into the future. As a truly adaptable digital front door solution, it continues to grow alongside the client with new features and customizations applicable to lab tests beyond those just related to COVID.

With mass-vaccination efforts beginning in 2021, the lab is better prepared to meet high demand for future testing, benefitting from its automated scheduling, improved operational efficiency, and **proven ability to cope with large logistical challenges**.

The client continues to build on the platform and integrate new services such as telemedicine and virtual conferencing software, working towards a fully comprehensive digital front door solution.



Interested in finding out more?

To find out how we can help your testing laboratory or health center with a custom-built web app, get in touch with Medical Web Experts today.

 [Contact Us Online](#)

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