OCTOBER 2020, CASE STUDY

TRACKING COVID-19 ANALYTICS FOR A STATE GOVERNMENT HEALTH DEPARTMENT





THE CURRENT CHALLENGE

One of our long-term partners, a state health department contacted ARDEM, requesting assistance with processing COVID-19 test requisition forms from multiple testing centers. ARDEM has worked with the state health department for many years prior as we were originally awarded a seven-year contract for the data entry from Flu Immunization Questionnaires and processing HIV data.

The original scope of work comprised document preparation, scanning, and data entry.

As part of the ongoing project, we processed nearly an estimated 300,000+ forms each year during the flu season. In 2014, the immunization project was re-awarded to ARDEM for another seven-year period. Since then, we have assisted the state department with data and document processing during different outbreaks such as H1N1 and COVID-19.

KEY BENEFITS

- Reliable Training Process
- Real-Time Processing within 30 minutes of receipt
- Ensured Accuracy
- Security and Compliance

The state department reached out to ARDEM and asked us if we could assist them with processing test requisition data, medical claims and immunization information from incoming COVID-19 forms received daily from multiple testing locations. ARDEM immediately took cognizance of their needs and after evaluating the full scope of services required, we scaled our operations to match the department's requirements.

Ever since then, we have been assisting the department to speed up their COVID-19 test requisition form processing by shortening data delivery cycle and lowering processing costs. We are receiving around 2,000 forms a day, 7 days a week. Additionally, all these COVID forms are scanned and uploaded from different locations and need to sorted, indexed and stored likewise.

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	CORONAVIRUS TEST		Other relevant clinical information:
Ana	Positive No	Biochemistry	Examination reques
	Positive Negative	CEA HIV 1 & 2	
	- FBC Negative	CEA HIV 1 & 2 CA 1 HbA1c	Profile test = G2000 = DFS = G 2000-X = LFT
	Regative	CEA HIV 1 & 2 CA 1 HbA1c CA 5 HBSAB	Profile test G G2000 DFS G g2000-X LFT G G79 RFT
	Negative	Biochemistry CEA HIV 1 & 2 CA 1 HbA1c CA 5 HBsAg CA 9 H. pylori	Profile test G 2000 DFS G 2000-X LFT G 79 RFT G GTI TFT
	E FBC Hb E TWDC E Platelets	Biochemistry C CEA HIV 1 & 2 C CA 1 HbA1c C CA 5 HBsAg C CA 9 H. pylori C PSA Uric Acid	Profile test G G2000 DFS G g2000-X LFT G G79 RFT
	Negative	Biochemistry CEA HIV 1 & 2 CA 1 HbA1c CA 5 HBsAg CA 9 H. pylori	Profile test G 2000 DFS G 2000-X LFT G 79 RFT G GTI TFT



PROJECT DESCRIPTION

Real-Time Data Processing for COVID Test Forms

Every COVID-19 TRF contains the following:

- Submitter Details
- Patient Information
- Requisition and Insurance Information

Following the protocol specified above, handwritten data is extracted and processed from test requisition forms in realtime for immediate results and entered directly into the client's system.

The extracted data is verified and validated through a series of programmed steps in order to deliver close to 100% accurate data. This, in turn, enables the state department to deliver test results accurately to all patients at every location.

Security and industry compliances are at the forefront of every ARDEM contract and we take our client's confidentiality very seriously.As an ISO27001-certified data entry company, ARDEM has all the appropriate protocols and redundancies in place to secure our clients' data. Additionally, HIPAA, PCI, PHI and PII compliances are met while entering, processing and sharing data for patient data security.

Test Requisition Management

All incoming forms are scanned and uploaded onto our online collaboration portal, the ARDEM Collaboration Platform, a cloud-based tool that enables our clients to share and upload data with a few simple clicks.

Our solution was to create a specific bucket for every location, where all the COVID-19 test requisition forms are received location-wise. As soon as the forms come through, they are tracked and instantly ingested into our processing cycle.

UTILIZING TECHNOLOGY

As the test requisition forms are coming in from multiple locations, the test requisition management solution for the partner health department needed to be formulated keeping the same in mind. All incoming forms are scanned and uploaded onto our online collaboration portal, the ARDEM Collaboration Platform, a cloud-based tool that enables our clients to share and upload data with a few simple clicks.

- **Tracking Test Forms**: Once COVID-19 test forms have been received or scanned, the counts are recorded and an electronic copy of each form is visible through the file manager on the ARDEM Collaboration Platform.
- Live Status and Real-Time Updates: Using the exclusive workspace allocated to the department on ARDEM Collaboration, the client team can easily track which test forms have been received, which ones are in the queue, and finally, track the no. of forms that have been completed for delivery for each of their locations.
- **Recall Testing Forms**: Every COVID-19 testing form is automatically indexed by location to ensure instant image recall. Whenever required, patient data can be recalled using any of the following data fields; First/Last Name/Testing Facility/Patient ID.
- **Push-Button Reporting**: The ARDEM Collaboration Platform offers additional efficiencies apart from the ability to stay connected and manage remote teams with greater efficiency. The platform further comes with dashboards for live and pushbutton reporting that allow the client team to track the no. of patients tested by date/location/week/month/quarter/year. The team can further view and map metrics for each location to increase visibility at a macro-level.



BENEFITS OF WORKING WITH ARDEM

Apart from needing assistance with the sheer volume of test forms coming on a daily basis, there were quite a few additional challenges that we helped overcome:

- All test requisition forms are typically filled in by hand and correspondingly contain handwritten data that cannot be deciphered solely by OCR automation technology.
- ARDEM came up with a solution to tackle this problem by implementing a dual-key entry methodology.
- The data from the incoming test requisition forms is extracted using a combination of automated data capture and effort-based processing.
- This data is then run through a programmatic check to compare the two sets of data. In case there is any variance, it is immediately flagged and a third analyst reviews the two datasets and compares it to the original image.
- Each field of data is audited field-by-field for accuracy. Our team even looks up any missing data from the client's system eliminating the need for additional data entry from the client's team.
- Utilizing the ARDEM Collaboration Platform, ARDEM has also helped create a heatmap to track active cases and tested patients in the state for better tracking.



As we continue to partner, we are fully prepared to scale our operations to meet any fluctuations in the volume of incoming forms and further help them with executing an effective immunization program once a COVID vaccine is finally approved.

ARDEM is completely committed to providing absolutely nothing less than 100% satisfaction to both its employees and clients. The aim is to build a strong network of closely-knit people who are passionate about their work and take pride in what they do.



ARDEM Incorporated delivers success for companies looking to efficiently streamline their processes and improve ROI. We implement the world's most sophisticated Technology platform combining human interaction with advance technologies to automate business processes and lower operational costs.



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