Equipping Health Organizations and Medical Professionals to Fight Against the Pandemic with a Comprehensive COVID-19 Alerts and Reporting Solution

Prominent interoperability leaders 4medica and KPI Ninja team up to launch COVID-19 Alerts and Reporting Solution™ to make pandemic response efforts easier

Customer

Nebraska Health Information Initiative (NEHII)

Founded: 2008

Industry: State Health Information Exchange

The Mission

Bring trust and value to health information technology by providing COVID-19 solutions that inform life-saving decisions and community emergency preparedness.

The Result

Comprehensive analytics solution to support rapid treatment and prevention of COVID-19 (coronavirus) pandemic.

Key Features

- Dashboards, reports and alert notifications that provide real-time, actionable insights from electronic health records and other data sources

- HL7 results interface and HL7 orders detail interface to connect to each lab

- MPI-enhanced patient identity matching ensures test results are assigned to the correct patient

- Comprehensive COVID-19 laboratory, healthcare utilization and bed status analytics

Key Impacts

- Critical laboratory information categorized to understand testing volumes and prevalence of positive cases

- Grouped clinical risk factors identify patients at higher risk of contracting severe forms of the disease

- Comprehensive view of when and where patients seek out care, with notifications for movement of positive COVID-19 cases

- Real-time monitoring of the region's hospital bed status with dashboards, reports and alerts to support emergency medical services, first responders and public health agencies

Nebraska Health Information Initiative (NEHII) is a state Health Information Exchange (HIE) focused on creating positive healthcare outcomes through the use of sophisticated technology solutions that include health data analytics. The dedicated team, headquartered in Omaha, has been on a bold mission to transform from a data intermediary to a population health enabler since 2018. The result has led to a radical change in how HIEs are positioned to be the solution to enable value-based care across the industry.

Shortly after nationwide announcements of a possible public health concern, NEHII quickly shifted to supporting COVID-19 (coronavirus) pandemic efforts. Today, their rapidly deployed comprehensive analytics solution supports local, national and government authorities. As the country's understanding of the respiratory disease evolves, NEHII continues to refine its contributed data analytics to better track the variables that prevent the spread and positively impact the health of communities.

Due to the comprehensive and varied data set of the HIE, Jaime Bland, CEO of NEHII, said, "Health stake-holders across the region and beyond geographically have turned to NEHII for help solving their complex data pain points related to the prevention and management of our nation's pandemic."

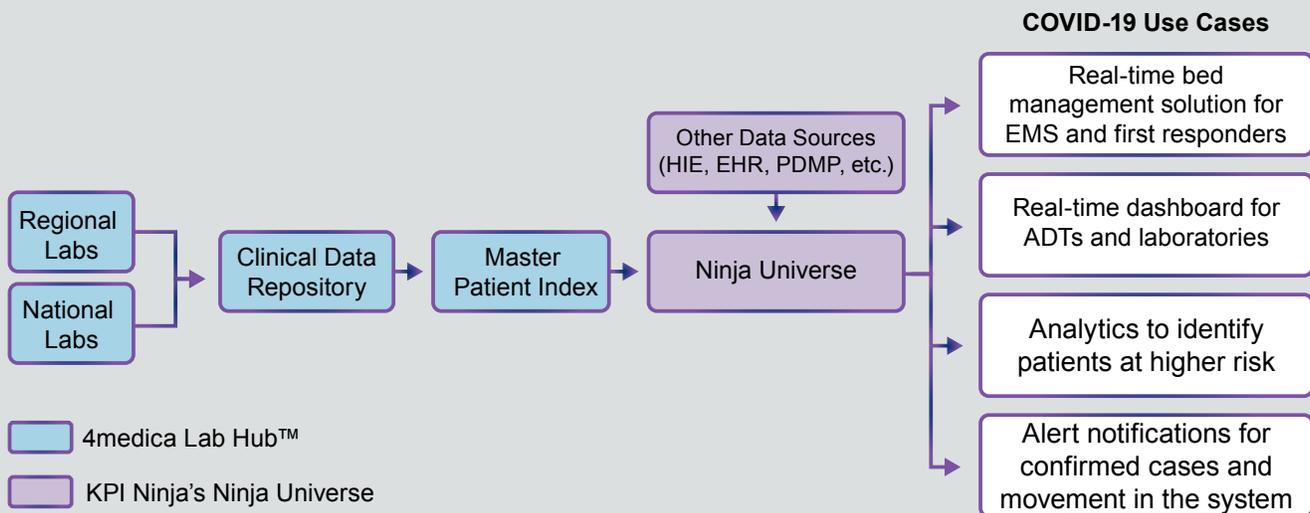## Addressing Barriers to a Comprehensive Pandemic Understanding

The impact of COVID-19 on individuals and communities continues to grow in volume and magnitude. The specific strategies and the degree of sophistication of response efforts have evolved rapidly. The lack of trustworthy, accurate data has prevented health organizations and medical professionals from responding in an informed and strategic way. Fighting the growing data problems has pulled staff away from priority work, causing delays and rework during a critical time. Even worse, the response efforts implemented to date may not necessarily lead to the outcomes expected as staff are compelled to act without access to information on how and where to best affect change.

Symptoms of health data spiraling out of control include:

- Discrepancies found in publicly reported data… state versus CDC

- Lagging test results… days rather than hours or minutes

- Test results that cannot be matched to a patient record… lack of identification or deduplication

- Data that is only available to some stakeholders… some states not tracking recoveries

- Reactive response efforts…. little to no proactive interventions

- Outcome metrics only… inability to identify a trended issue and know how to change

- More time spent on manual data aggregation or analysis… diverting resources and attention

Essentially, data that does not lead to understanding or is presented in a manner that potentially leads to inaccurate conclusions is meaningless. To ensure medical professionals have the information needed to respond appropriately, 4medica and KPI Ninja collaborated to create a solution that offered comprehensive, real-time insights to equip front-line healthcare workers with the precise, accurate information required to perform their jobs at the highest level.

COVID-19 Use Cases

Regional Labs → National Labs → Clinical Data Repository → Master Patient Index → Ninja Universe

Other Data Sources (HIE, EHR, PDMP, etc.) → Ninja Universe

COVID-19 Use Cases:
- Real-time bed management solution for EMS and first responders
- Real-time dashboard for ADTs and laboratories
- Analytics to identify patients at higher risk
- Alert notifications for confirmed cases and movement in the system

4medica Lab Hub™
KPI Ninja's Ninja Universe

Easier Response with Interoperable Analytics

The COVID-19 Alerts and Reporting Solution™ integrates the 4medica Lab Hub™ and KPI's Ninja Universe analytics platform to provide real-time lab pandemic analytics and ADT notifications. 4medica receives, normalizes and matches real-time lab data feeds to the right patient identity from public health laboratories and commercial laboratories such as Quest Diagnostics, LabCorp and BioReference Laboratories. The validated data is then submitted to the Ninja Universe platform to analyze and share with the appropriate front-line providers, public health agencies and patients.

"The COVID-19 Alerts and Reporting Solution™ makes sense of the confusing collection of data to prevent the transmission of COVID-19," said Gregg Church, president of 4medica. "While interoperability is a persistent challenge in the U.S. healthcare system, we've proactively built a solution that interprets the data into clear, succinct and actionable knowledge to help healthcare organizations address critical COVID-19 pandemic issues quickly and efficiently."

How the COVID-19 Alerts and Reporting Solution™ Helps

Placing knowledge in the hands of clinicians, teams and organizations will enable exceptional care and accelerate outcomes. The COVID-19 Alerts and Reporting Solution™ helps health organizations and medical professionals focus on response efforts instead of aggregating or interpreting data. Having interdisciplinary health data and pandemic analytics centralized to a single platform frees up precious resources, allowing stakeholders to easily monitor and optimize the response strategy in one place.

Users gain the insight needed to make informed and actionable decisions addressing the COVID-19 pandemic by bridging data sources and implementing a single source of truth platform.

Additional capabilities include:

- Risk analytics for payers, providers and government to identify those at higher risk

- Real-time bed management solution for dispatch, emergency medical services and first responders for an accurate understanding of available bed count

- Real-time admission, discharge and transfer (ADT) solution to track when, where and what type of care is being provided

- Real-time monitoring of laboratory testing volumes, results and turnaround times

- Alert notification for positive cases and the movement of these individuals

- Gaps in care worklists (i.e. report of patients with COVID-19 symptoms but no lab testing)

- Real-time notifications of lab results to providers and patients through a secure mobile app or cloud-based desktop application

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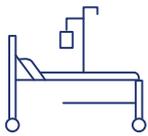
Bed management

First responders and emergency medical services and dispatch teams no longer rely on manual or verbal reports of overall hospital capacity. With the solution's aggregated data and visualizations, these individuals can quickly identify opportune receiving hospitals with a visual indicator of status if necessary for decision-making. They can also review more granular information like the types of beds available (emergency, intensive care, isolation) or location proximity.

Risk report

Providers, payers and health organizations no longer must rely on manual chart reviews or lagging claims information to identify patients at higher risk. The solution provides population, subpopulation, provider and patient level information to prioritize outreach efforts. The analytics are built on the longitudinal patient record that contains information across different data sources and providers, going beyond clients' internal datasets and understanding of their attributed patients.

Geomap

The Department of Health and Human Services and Public Health (in addition to numerous coalitions, associations and many other organizations) can use this information to understand outbreak hot spots to create strategies and allocate resources.

ADT dashboard

Stakeholders across the ecosystem gain real-time understanding of healthcare utilization to characterize when and where patients seek out care, including alert notifications for the movement of positive COVID-19 cases.

Lab dashboard

Stakeholders across the ecosystem gain a real-time understanding of critical testing information including specific details such as testing volumes, positive cases and turnaround times.

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The solution supports diverse data needs ranging from a first responder's placement decision to a coalition's strategy planning. Ninja Universe's technical infrastructure makes it an excellent solution for pandemic monitoring."

About NEHII

NEHII, Inc. is a 501(c)3 non-profit organization with a public/private governance model that includes health care providers, payers, and the State of Nebraska. NEHII is a statewide Health Information Exchange designed to share clinical and administrative data among providers in Nebraska and neighboring states. NEHII's purpose is to achieve health care transformation through community betterment collaboration while protecting the security and privacy of medical information. www.nehii.org

About 4medica

Guaranteeing an unprecedented 1% patient record duplication rate, 4medica® solves data integrity and financial challenges to minimize patient safety and other clinical risks and achieve true clinical interoperability and transparency for patients. Our Big Data Management and Clinical Data Exchange cloud solutions help healthcare organizations facilitate patient identity management and data exchange to ensure the right data is captured at the right time, the first time. 4medica's Perfect Order for Perfect Payment™ ensures labs and imaging centers get paid by integrating high-volume revenue cycle management services throughout the entire order management process. 4medica has processed up to 6 billion clinical results representing more than 70 million patient identities. The company connects 40,000-plus physicians to hundreds of ACOs, HIEs, HINs, hospitals, health systems, laboratories, radiology imaging centers and payers nationwide. Learn more at www.4medica.com.

About KPI Ninja

KPI Ninja is a healthcare analytics company that supports healthcare organizations to meet their population health and value-based initiatives. Using our signature mix of innovative technology solutions and services, we work shoulder-to-shoulder with clients to accelerate goal achievement. In harmony with our data-centered ethos, we truly believe that our success is strongly correlated with yours. We are differentiated by our comprehensive capabilities that transcend value-based programs and data sources to support stakeholders' use of data to improve outcomes. Our platform is aligned to initiatives led by CMS, ONC, NCQA, including holding NCQA's eCQM Certification, Measure Certification for HEDIS® Health Plan 2020, PCMH and PCSP Prevalidation; demonstrating our commitment to providing you a trusted brand. www.kpininja.com.