

Helping Inmates Reenter Society While Helping Society Stay Safe

Medical Data Disseminated in Real Time



Health Interoperability

For the past two decades Trinity Technology Group, Inc. (TrinityTG) has been developing interoperability technology for clients who wish to integrate disparate data across systems within an organization, or across multiple systems and multiple organizations.



TrinityTG is overseeing this technology's development at the California Department of Corrections and Rehabilitation (CDCR) to integrate health care data with the agency's Offender Management System. The project involves one of the largest inmate populations in the country.

The idea is to move electronic health care information seamlessly between disparate health care facilities or different health care provider groups that may have unique ways of classifying specific ailments and/or other medical conditions. In this way, varying institutions can have their distinctive medical databases translated from one system to another thereby offering anyone the most comprehensive health care services feasible no matter where the end user is located.

The idea began with the development of Electronic Health Records and subsequently Health Information Exchanges. Private health care facilities found the programs useful. As clients and customers moved from one doctor or dentist to the next, their complete health data package moved with them allowing the new provider immediate access to a virtual lifetime of information.

The Challenge



Some public agencies, however, such as CDCR and its sister agency, CA Correctional Health Care Services (CCHCS), did not immediately embrace the technological advantages in part because the myriad computer systems within the agency's headquarters and its adult prison facilities became operational at different times and in varying regions of the State. The time and cost to unify the computer operations agency-wide was also prohibitive.

Some infrastructure was put in place to achieve the necessary transfer of data, but all too often the information became vulnerable as it moved from one system to another. Human error caused duplicate key entries, and missing or incomplete data. And the different systems often included inconsistencies in the timelines of events, the definitions of maladies or treatments, and the simple interpretation of the data applications from one system to another.

Yet, the federal mandates of the Health Insurance Portability and Accountability Act (HIPAA) required the health data of offenders be made available to the CDCR in its entirety. This initially resulted in reams of paper being printed and sent via mail or courier to prisons throughout California's 163-thousand square miles. Failure to complete this task could result in endless legal quagmires and court battles.

The load was lightened somewhat with the advent of email. Still, endless streams of documents sent via the Internet cluttered the in-boxes of doctors, dentists, nurses, and other health care specialists simply because the computer systems could not be integrated electronically.

BY THE NUMBERS

- ❖ In May 2011 the U.S. Supreme Court ordered CA to reduce crowding from 200 percent of capacity to a more manageable 137.5 percent
- ❖ Prop. 57, passed by CA voters in Nov. 2016, required another 7 percent reduction

Source: CDCR and CCHCS

The population reduction mandates do not reduce CDCR's HIPAA responsibilities. Just the opposite. It may make the responsibilities more difficult to achieve as the inmates leave the agency's direct purview. These difficulties could result in the hiring of additional personnel to facilitate the HIPAA requirements manually, offenders missing vital treatment and services, or offenders on parole not receiving the physical and mental health services they require.

Incarcerated persons are by definition individuals guilty of a criminal offense by the verdict of a jury or the decision of a judge in a court of law. While incarcerated, reliable data sharing from one facility to another will ensure offenders continue to receive the proper medical care. This may be particularly imperative if the offender is engaged in a high level of rehabilitation services.

BY THE NUMBERS

- ❖ CA Correctional Health Care Services (CCHCS) and CA Dept. of Corrections and Rehabilitation (CDCR) are two different agencies
- ❖ 32 Prisons for Adult Men housing approximately 114,000 men as of July '18
- ❖ 3 Prisons for Adult Women housing approximately 5,200 women as of July '18

Source: CDCR and CCHCS

Then in 2011, following a U.S. Supreme Court ruling to stem prison overcrowding in California, CDCR was forced to parole thousands of offenders. Now the agency faced not only the incompatible computer systems among its prisons, but also the incongruous systems inhabiting jails in each of California's 58 counties. When the Offender is integrated back into society, medical and mental health records, not to mention education records, followed slowly making it difficult for authorities outside the prison system to learn the offender's history in a timely fashion.

BY THE NUMBERS

- ❖ CDCR projects the agency will transfer approximately 3,000 inmates to county jails and other facilities over the next 12 months
- ❖ CDCR projects the agency will parole approximately 2,300 inmates back into society over the next 12 months

Source: CDCR

Once the offender is returned to the community the same holds true. It is vitally important for offenders in the community who are interacting with private doctors and dentists, to have their healthcare information accessible to those providers.

BY THE NUMBERS

- ❖ Studies show participation in prison education, including both academic and vocational, was associated with an over 40% reduction in recidivism

Source: RAND Corporation

Additionally, the sharing of educational data is advantageous if offenders plan to enroll in educational services. Trustworthy physical and mental health information, as well as educational information, provided by the State, is imperative to all institutions required to interact with offenders in order to ensure the best possible outcomes in any and all situations. This is because authorities outside of the State's incarceration system may not have complete access to medical or educational history for offenders on parole. The general public itself could be put at risk in this scenario.

This immediate access to the information could also be useful to peace officers. The upfront access to an offender's history by Law Enforcement could improve officer safety during a routine stop because the officer would be able to adjust his/her tactics, etc.

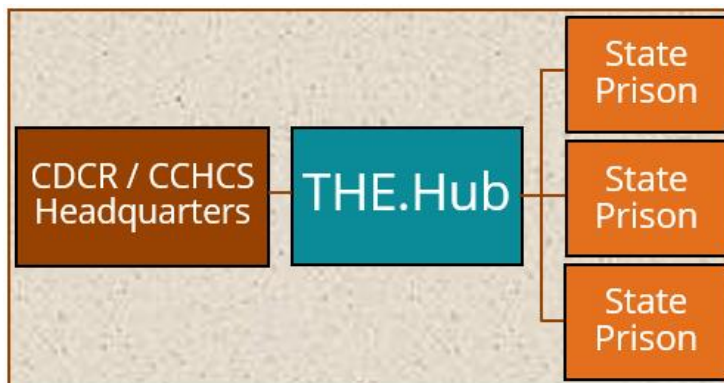
The TrinityTG Solution

With these challenges in mind, Trinity Technology Group (TrinityTG) has been developing software programming that solves these problems while alleviating the need for additional hardware or personnel. In actuality, the only "requirement" will be the desire to embrace the product.

The product is an interoperability program integrated into the Trinity Health Exchange, or THE.Hub. The system utilizes Middleware and Enterprise Service Bus products that promise safe and accurate transfer of data across systems and includes our unique data warehouse component, provider system, and eligibility and claims systems. The framework can be applied to a pre-existing infrastructure, or clients can utilize its integration engine. And it can be hosted on-premise or in the cloud.

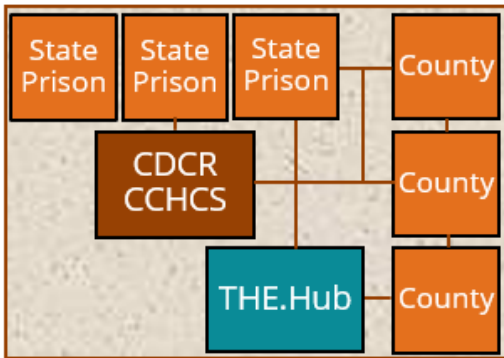
It's a full-fledged product facilitating both internal and external data exchanges allowing it to be flexible and extendable. It offers fluid data transfers, complete with insights the transfers yield, to organizations that felt – due to pricing or perceived technical limitations – the capabilities were out of reach.

Initially THE.Hub was constructed as a centralized platform. The idea was to provide a central portal sitting directly between the CDCR headquarters and its individual prisons. The entirety of CDCR's inmate patient information (over 130,000 inmate/patients' health records) would rest in this portal, being updated as necessary. When either headquarters or an individual prison required medical data on a particular inmate, THE.Hub would be accessed.



THE.Hub would be programmed to understand the technological idiosyncrasies of each computer system, so the translation process would be seamless. An HL7 standard is utilized transforming and transmitting data over an Oracle and Microsoft mixed platform. When a request was received, a plethora of algorithms would scrutinize the request ensuring Inmate A was in fact Inmate A. And an audit would occur ensuring only the data requested would be disseminated, and nothing else. This security measure preserved Inmate A's privacy dictums as outlined in the HIPAA regulations.

At first, because TrinityTG remained owner of THE.Hub's proprietary programming, CDCR felt too much sensitive information was being entrusted to a private company. Those concerns were lessened, however, with TrinityTG's alternative suggestion.











The alternative was to create a federated data model. In this case the portal acts as a transit intersection where all the computer functions programmed into THE.Hub would still facilitate the requests. The inmate patient information, however, would pass through and not be retained in the portal itself. This version of TrinityTG's concept is currently incorporated within the computer servers at CDCR's headquarters. Now the agency controls the program, while Trinity maintains it.

The next step is a pilot program initiated by TrinityTG. Selected California counties will be integrated with the program sitting in CDCR's servers. The counties will be allowed to receive and disseminate inmate data, but the information will be non-medical and contain primarily low-level factual data such as a person's court decree history.

The purpose of this test is to again evaluate the viability of the program to securely and efficiently translate information and then process the movement of inmate data from disparate governmental agencies without the need of additional hardware, personnel, and reams of paper products. The solution will provide immediate, real-time data at a fraction of the cost to taxpayers.

Key Client Benefits

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|  <p>GREATER EFFICIENCY: Data retrieval, integration, and validation will be automated reducing the compilation of information from several weeks to less than a day</p> |  <p>DATA WAREHOUSE FEATURE: Myriad data source venues will now route information to one central database where it will be automatically housed for future use</p> |
|  <p>HIGHER ACCURACY: Automation of computations will virtually eliminate all mathematical errors</p> |  <p>SCALABLE: Shared components allow for platform adjustments to meet future program needs</p> |
|  <p>DATA HAS MORE VALUE: Accuracy and speed of completed reports allows data to be more readily available for review and evaluation</p> |  <p>REDUCTION OF WASTE: Information flow from data sources to the central warehouse will be seamless resulting in the elimination of paper reports</p> |
|  <p>ID-MATCHING FEATURE: Inbound data from different systems with disparate user names is no longer a problem as new system is programed to match all user</p> |  <p>IMPROVED SECURITY: Security controls have been established allowing only authorized personnel access to any one individual report.</p> |

Trinity Technology Group has been leveraging automation to solve government business problems for over 20 years. Our talented professionals work hand-in-hand with you to create dependable and extensible solutions.