



CALIFORNIA CORRECTIONAL HEALTH CARE SERVICES

NASCIO 2018 State IT Recognition Awards Nomination

Title: Transforming Correctional Health Care with the Electronic Health Record System

Category: Digital Government: Government to Citizens

State: California

Agency: California Correctional Health Care Services

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Project initiation and completion dates:

- Project start date: October 1, 2013
- Three-institution pilot launch: October 2015
- First institution relaunch: August 23, 2016
- Final rollout: October 31, 2017



EXECUTIVE SUMMARY

Increasing Safety and Improving Outcomes for Patients in California's Prisons

California Correctional Health Care Services (CCHCS) strives to provide a community standard of health care to meet the needs of its patient population. Established in 2008 under federal receivership, CCHCS has improved health care for California's prison inmate population at 35 institutions across the state. The process of managing patient care evolved from millions of paper records filed locally, to a database of scanned electronic documents in 2011 with a central archive repository, to a fully integrated Electronic Health Record System (EHRS), which links all 35 institutions as well as several headquarters locations and a central fill pharmacy.

The EHRS is a commercial-off-the-shelf (COTS) solution from Cerner Corporation called Millennium. The system was configured to improve the quality, safety and efficiency of patient care in a correctional setting. CCHCS worked with Cerner to successfully plan, configure, build and roll out the EHRS statewide. The system supports more than 116,000 patients, over 9 million medical record transactions daily, and an average of 9,552 users who deliver care each day.



CCHCS led efforts in the redesign of organizational policies and procedures to effectively utilize the capabilities of an electronic health care record. The project integrated 5,000 new wireless devices and configured more than 30,000 existing devices to communicate with the EHRS. The EHRS allows providers to manage patient care based on real-time data from a single integrated system.

The data from the EHRS is processed through a Health Level-7 (HL7) interface and is used to support a real-time health care dashboard. The dashboard provides key metrics that are standardized and accessible online, and is used to analyze and promote efficiencies that can be customized for each medical user. Examples of the dashboard measurements include: Care Management, Population Health Management, and Medication Management.

The EHRS provides data used by health care staff to identify and manage individual patients and patient populations, apply evidence-based standards and guidelines, and improve health care processes to implement the Complete Care Model. Along with decommissioning 19 legacy systems, future enhancements include a fully integrated dental component and an information exchange with outside entities, such as regional hospitals and county jails.

With implementation of the EHRS, providers have the ability to manage care based on real-time data, and to provide more information to patient. CCHCS has transformed correctional health care from a manual group of systems to a single, modern, system that increases automation, promotes consistency, improves reporting accuracy, and delivers a constitutional level of care to the inmate population.



CONCEPT

Providing Constitutionally Adequate Care for California’s Most Marginalized Citizens

In 2001, an inmate named Marciano Plata sued the State of California for violation of the 8th amendment, arguing that inadequate medical care in California’s prisons constituted cruel and unusual punishment. At that time, on average, an inmate in one of California’s prisons died every seven days due to deficiencies in California’s medical delivery system.

In 2006, the United States District Court for the Northern District of California appointed a Receiver to assume executive management of the California prison medical system and to raise the level of care for inmates to constitutional standards. The EHRS is a key part of the Receiver’s Turnaround Plan of Action to improve the quality of medical care provided to inmates.

Providing quality care to incarcerated persons is beneficial to supporting care continuity upon release. Inmates must learn how to manage their personal medical conditions so they can reintegrate into society as productive citizens in their communities. There are a number of steps taken to ensure benefits are realized, often in partnership with other state agencies. This includes helping to acquire health coverage, maintaining medication regimens, identifying and connecting patient inmates with outside providers, sharing of health records, and educating on how to safely manage personal disease(s) and diagnosis. These steps are vital to providing care, protecting communities, strengthening public health, and spending money wisely.



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Moving from Paper Records to an Electronic Health Care Record



The number of health care files used at the various institutions to provide care to patients was unmanageable. Hundreds of thousands of health care records were housed at prisons and the centralized health records center, with the majority of them unfiled and hard to locate. To manage the paper records, CCHCS looked at existing scanning technology to turn the paper documents into electronic documents. This led to the electronic Unit Health Record (eUHR) system, and in 2011, this became the CCHCS solution for a health care records database.



In conjunction with the eUHR implementation, an effort to provide data connectivity to all prisons was started. This effort installed network drops and miles of fiber into all 35 prison institutions, providing hardwire and wireless network access to over 10,000 computers. Once the infrastructure was in place, scanning into the eUHR database made finding patient records faster and easier.

However, there were still problems with the eUHR:

- missing documents
- poor image quality
- pages out of sequence
- documents in the wrong location

The sheer volume of records was also an issue:

- Since 2011, nearly 94 million records were scanned.
- In the month of January 2017, 1.1 million records were scanned.

After years of improving health care record documentation and access, CCHCS was still using paper forms and scanning them into a collection of electronic files. The number of electronic files scanned throughout the years became unmanageable.

Transition to an Electronic Health Record System

By 2012, CCHCS decided it was time to transition to a fully integrated electronic system. The California prison system is unlike any other health care system using an EHRs. All components of health care – medical, mental health, and dental – need to be integrated into one system. Additionally, an existing system to manage inmate housing and movement had to integrate with the EHRs. It was crucial that the State implement a sustainable system and standardize processes.

One of the first decisions made was to go with a configurable COTS solution. This meant CCHCS had to change business processes, policies and procedures to fit within the new system, and not the other way around like most state Information Technology (IT) projects.

Cerner Corporation was selected as the IT integration vendor to implement Millennium as the EHRs solution. Millennium is a powerful system that supports clinical workflows via computers and portable devices. Cerner teams worked extensively with CCHCS staff to document future state workflows, develop a configuration design, and configure the system.



To make sure the design and build worked as intended, CCHCS hosted multiple integrated “mock clinics” to test workflows with staff from institutions and subject matter experts across the state. Weeks of careful planning went into setting up each event, which included more than 1,500 scenarios such as heart attacks, medication refusals, and pregnancies. The purpose of the test was to uncover as many issues as possible.



One of the most critical components of any IT project is learning and adoption, also known as Organizational Change Management. CCHCS started the task of training more than 13,000 staff across the State based on their organizational role. With some staff in the institutions having never used technology in their current positions, basic computer skills training was initially offered.

In October 2015, the EHRs were launched at three institutions – two female-only facilities and one with both female and male inmates – and immediately the implementation hit a roadblock. The built-in pharmacy capabilities didn't satisfy the State's legal requirements, so the existing pharmacy system and the EHRs had to function simultaneously. The remaining rollouts were delayed for several months to create a pharmacy interface that would allow the EHRs to meet all legal requirements.



In August 2016, EHR rollouts started again, with the final rollout completed on October 31, 2017.

Future enhancements are currently being implemented and more are under consideration. A fully integrated dental component, Dentrix Enterprise, is being implemented into the EHRs. Additionally, there are efforts to share data with hospitals and other correctional systems through various interoperability solutions.



SIGNIFICANCE

Benefits of the Electronic Health Record System

As a result of the EHRS implementation, CCHCS received Stage 6 certification by the Healthcare Information and Management Systems Society (HIMSS) for each of the 35 institutions. Stage 6 is an important indicator that an organization delivers high quality patient care with an interoperable electronic health record in place, and is the second highest tier awarded by HIMSS. Only 33.8% Acute United States and 21.8% Ambulatory U.S. organizations attain Stage 6. CCHCS is the first correctional organization or facility in the U.S. to reach this level.

Achieving Stage 6 is evidence that CCHCS has raised the level of care quality and safety above industry standards through:

- improved outcomes and efficiencies with information exchange;
- standards for clinical and financial data;
- data driven performance improvement and quality initiatives;
- operational efficiencies that drive higher utilization of the health IT system (EHRS and other systems together);
- compliance and accountability for adoption of uniform documentation practices; and
- ensuring that clinically relevant patient documentation resides in a single patient record.

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IMPACT

Impacts of Transforming Correctional Health Care

The EHRS provides access to patient information anywhere and anytime necessary to support the provider's health care decisions and effectiveness. As a web-based system, the EHRS provides access to data that allows for treatment anywhere in the institution such as cell-front care and on-call support when a clinician is off-site.

The EHRS contains clinical information, captures data, and documents information about the patient and their care from each practice area – medical, mental health, or dental. It also contains clinical results, referrals, and consultations from other providers of care for a comprehensive view of a patient's health care and history.

The impact of providing quality care to incarcerated persons is beneficial to supporting care continuity upon release. Inmates must learn how to manage their personal medical conditions so they can reintegrate into society as productive citizens in their communities.

The greatest impact of the EHRS is the ability for providers to manage care based on real-time data. With health practitioners entering data as they see patients, the data is available to other clinicians and management immediately instead of waiting months to view a report after it is scanned.

The past 12 years have been transformational for California correctional health care. Dramatic advancements in the professionalization, sophistication, and modernization of providing health care in a prison setting brings health care for incarcerated persons into closer alignment with health care provided in the community.