

NASCIO 2011 Recognition Awards Nomination

Section A - Cover Page

Title: Kentucky State Level Repository (KYSLR)

Category: Fast Track Solutions

State Nominating: Kentucky

Date Developed/Launched: Development began in September 2010; Go-Live in late December 2010

Website: <https://apps4.chfs.ky.gov/kyslr/>

Section B - Executive Summary (one page)

The Kentucky State Level Repository (KYSLR) provides the technical and operational infrastructure for the Department for Medicaid Services (DMS) within the Cabinet for Health and Family Services (CHFS) to administer the Kentucky Medicaid Electronic Health Record (EHR) Incentive Program. The KYSLR application, which was developed by the CHFS Office of Administrative & Technology Services (OATS), is a web-based system that allows practicing physicians and hospitals to register for and attest to meeting eligibility and Meaningful Use requirements for the EHR Incentive Program, as set forth by the Centers for Medicare & Medicaid Services (CMS).

In addition to incentivizing providers to adopt and meaningfully use certified EHR technology, the program is also designed to improve operational efficiencies within and across the entire Medicaid enterprise. As with any monetary incentive program, Kentucky's Medicaid EHR Incentive Program has prompted many health care providers across the state to update their medical licensure, Medicaid enrollment, and other pertinent regulatory information in systems that monitor and control that data. This active and aggressive updating effort has allowed DMS to realize significant operational improvements in the integrity and validity of the data used to support many Medicaid programs. Likewise this effort has helped to ready DMS in their strategic direction towards key managed care initiatives, even in advance of planning and implementation efforts.

Kentucky was the first state in the nation in January 2011 to issue a Medicaid EHR Incentive Payment to a hospital. As of this submission, it is one of only four states making incentive payments to hospitals and eligible providers. As the Kentucky Medicaid Program covers one in five Kentuckians and is one of the state's largest health coverage providers, the payment of provider incentives coupled with the potential for cost savings to Medicaid through the use of HIT portends tremendous impact on the state economy.

Section C - Concise description of business problem, including:

- **Solution to problem**
- **Length of time in operation (initiation and implementation dates)**

The Kentucky Medicaid Program serves approximately 800,000 children and adults annually, many of whom are among the state's most medically vulnerable citizens. To improve the quality and safety of care, the Health Information Technology for Economic and Clinical Health (HITECH) Act of the Recovery Act of 2009 included the provision of incentive payments for physicians and hospitals who are Medicaid providers and demonstrate meaningful use of electronic health records (EHR) and engage in electronic exchange of health information beginning in calendar year 2011. The purpose of the Incentive Program is to incentivize health care providers to adopt, implement, or upgrade to certified Electronic Health Record (EHR) technology and to use such technology in a meaningful way that will help further care coordination, quality of care, and clinical outcomes across the country.

Development of the Kentucky State Level Repository (KYSLR) began in September 2010 under the auspices of the CHFS Office of Administrative & Technology Services (OATS) to support the DMS in the administration of the EHR Incentive Payments Program. The KYSLR application went live in January 2011 and currently in use by DMS allowing practicing physicians and hospitals to use the Internet to register for and attest to meeting eligibility and Meaningful Use requirements for the Incentive Program, as set forth by the Centers for Medicare & Medicaid Services (CMS).

The KYSLR relies on standards-compliant web development methodologies and takes advantage of distributed and service-oriented architectures. The application itself is comprised of three systems: a public-facing Internet application open to physicians and hospitals known as the KYSLR, a business-facing intranet application secured to specific DMS staff known as the DMSAppEHR, and a back-end administrative application known as the SLRAdmin. The KYSLR system uses a real-time data validation web service provided by CMS and hosted via the Salesforce.com Service Cloud Platform. The web service, a back-end validation algorithm of the Certified HIT Product List (CHPL) system, provides instantaneous validation of Complete EHRs and EHR Modules that have been tested and certified under the Temporary Certification Program maintained by the Office of the National Coordinator for Health IT (ONC). In addition to ensuring that providers are in fact utilizing certified EHR technology, the KYSLR system also allows them to input Meaningful Use metrics, upload supporting documentation, track the progress of their attestation through DMS processes, and securely communicate with DMS staff through an in-app messaging module.

The DMSAppEHR system is the real heart of Kentucky's Medicaid EHR Incentive Program. Utilizing this intranet-based application, DMS staff can coordinate preliminary eligibility of incentive program registrations and simultaneously verify multiple areas of the provider's attestation in parallel with routine DMS business operations. The system itself integrates with the Medicaid Enterprise User Provisioning System (MEUPS) for credential authentication and utilizes Microsoft's Active Directory (AD) groups for access

authorization, ensuring that only those users with appropriate credentials can access the system, in accordance with CHFS security protocols. The system further secures data access through innovative record locking techniques that ensure users within the same DMS business unit do not attempt to work on the same record at the same time. Likewise the system maintains a robust and active audit trail, ensuring that anyone accessing or modifying information is recorded for historical documentation and regulatory compliance.

The final component application, SLRAdmin, is an administrative simplification system that allows non-technical staff to provide operational support for data coming into or going out of the back-end database. Utilizing the SLRAdmin, business analysts and power users can manage interface files received from the National Level Repository (NLR) system provided by CMS and parse their XML content into staging and transactional tables specifically designed for the EHR Incentive Program. All files and subsequent data are validated in real-time to ensure referential integrity and promote secure data persistence.

Section D - Significance of the project to the improvement of the operation of government

During the development of the State Medicaid HIT Plan (SMHP), the Commonwealth considered a range of options for capturing provider registration and attestation and administering the Incentive Payments program. Among the options considered was participation in a multi-state collaborative and engagement of an external vendor. Ultimately, in order to meet the federally designated January 1, 2011 start-date for the program and to contain development costs, DMS chose to partner with OATS and implement a Rapid Application Development (RAD) methodology in-house to develop the KYSLR by the end of 2010. This decision paid off when the Commonwealth's KYSLR system was the first state-level system to complete CMS testing and produced the nation's very first hospital incentive payment.

The KYSLR contributes to the improvement of government operations by supporting key initiatives and programs that directly relate to significant cost savings, health care reform, and the overall mission of the Department for Medicaid Services (DMS). The mission of the EHR Incentive Program supports the strategic direction and goals toward a national Health Information Exchange (HIE). The highly acclaimed journal *Health Affairs* (2005) reports a compelling business case exists for implementation of HIE estimating a five (5) percent savings in total annual health care expenditures. In Kentucky, this would result in a savings of approximately \$16 million to the Medicaid program, which currently provides coverage for nearly 800,000 Kentuckians.

Additionally, the KYSLR will provide DMS and the Governor's Office of Electronic Health Information (GOEHI) with valuable insight into the electronic connection, collaboration, and reporting capabilities of many of the Commonwealth's health care providers. Knowing these capabilities will allow DMS to establish relevant Medicaid policies in

support of achieving specific Medicaid Information Technology Architecture (MITA) maturity levels as outlined by CMS. Continuously progressing through the MITA maturation model demonstrates the Commonwealth's commitment *"to support improved systems development and health care management for the Medicaid enterprise."* (CMS, 2010) Likewise GOEHI, in collaboration with DMS, will utilize this valuable information in targeted outreach efforts to ensure a broad range of health information technologies are extended to medically underserved Kentuckians across the Commonwealth.

In addition to incentivizing providers to adopt and meaningfully use certified EHR technology, the program is also designed to improve operational efficiencies within and across the entire Medicaid enterprise. As with any monetary incentive program, Kentucky's Medicaid EHR Incentive Program has prompted many health care providers across the state to update their medical licensure, Medicaid enrollment, and other pertinent regulatory information in systems that monitor and control that data. This active and aggressive updating effort has allowed DMS to realize significant operational improvements in the integrity and validity of the data used to support many Medicaid programs. Likewise this effort has helped to ready DMS in their strategic direction towards key managed care initiatives, even in advance of planning and implementation efforts.

Finally, the KYSLR helps to significantly improve upon government operations from a technology perspective as well. New techniques and methodologies for accessing data, enriching the user experience, and securing the underlying system, were all introduced throughout the Software Development Lifecycle (SDLC). Technologies such as Microsoft's Entity Framework allow the application's data model to more easily align with defined business processes. Likewise, use of industry best-practice techniques, such as those provided through the Microsoft Solutions Framework, ensure that the system was developed using fully supported principles, models, disciplines, concepts, and guidelines for delivering information technology solutions. These new capabilities help to expand upon the Cabinet's already sophisticated technology stack, as well as provide additional alternatives for architects and developers to choose from when designing solutions to support their specific business users' needs.

Section E – Benefit of the project

- **Include benefits realized by service recipients, taxpayers, agencies or the state**
- **Include documented outcomes such as realized return on investment, short-term/long-term payback (with summary calculations), or cost avoidance data**

Public Value of the Project:

The Cabinet is responsible for the health and safety of some of Kentucky's most vulnerable citizens. This includes medically fragile adults and children and children in

foster care. Coordination of care for these individuals is essential to their health and safety. The KYSLR helps support this mission by allowing many of the Commonwealth's health care providers that serve these vulnerable populations to obtain financial support for the purchase and use of health electronic health records and to participate in electronic health information exchange through connectivity to the Kentucky Health Information Exchange (KHIE). The KHIE provides the functionality for providers to ensure that care is coordinated, delivered on a timely basis, and that the patient's medical record is always available when care is rendered, including medical emergencies. The KHIE also supports the transfer of care as patients transition from hospitals to nursing homes and other community settings.

Moreover, the provision of tools such as electronic health records and electronic health information exchange for physicians and hospitals in Kentucky is critical given that nearly 2 in 3 counties are medically underserved. Provider incentive payments (and their timely payment) can serve as valuable recruitment tools to physicians wishing to relocate and to new physicians entering public and private practices. The incentive payments also can provide valuable financial support to Kentucky's 30 critical access hospitals and other rural hospitals and clinics.

Efficiencies in the Medicaid Program represent important gains in the Commonwealth's efforts to control rising costs and decrease deficit funding in the State Budget. Much has been written about the economic impact of Medicaid on the States. The Kaiser Foundation reports that Medicaid funding represents the single largest source of federal grant support to states, accounting for an estimated 44 percent of all federal grants to states in FY 2008. At the same time, states on average spent 16 percent of their funds on Medicaid, making it the second largest program in most states' general fund budgets following primary and secondary education.