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“The goals include improving the effectiveness of our services through better informatics and targeted case management.”

## The Commonwealth of Virginia's Transformation to Electronic Health and Human Resources (eHHR)

By Bill Hazel

The Commonwealth of Virginia has initiated a program in Health and Human Resources to transform its information technology infrastructure into an integrated system based on service-oriented architecture (SOA) and the Medicaid Information Technology Architecture (MITA). Concurrently, the Commonwealth has begun to explore business process redesign to take maximum advantage of new technologies. The goals are to improve the effectiveness of our services through better informatics and targeted case management, to improve efficiency by automating tasks when possible, to facilitate communication between workers, to reduce paper usage and storage, and to facilitate better management processes. We anticipate that our customers will benefit from being able to interact with the Commonwealth electronically in an easy-to-use self-service workflow for applications, accounts management and communications.

Although HHR is the focus of our current efforts, the transformation is intended to form a basis for extension of the platform into other areas of state government. To that end, all activities are undertaken with the idea that products can be multitasked or repurposed and that duplication of services is held to a minimum. Critical to success is the resolution of issues of governance, data sharing, security, adoption of uniform data standards, reengineering of business processes across and between agencies, and agreement on the technical infrastructure. Thus far, four Secretariats and multiple agencies are engaged in the process, thereby creating a number of management challenges that arise on a regular basis.

Virginia's Health and Human Services Secretariat consists of 12 agencies. Traditionally they have functioned somewhat independently. The Department of Social Services (DSS) has a particularly difficult structure, as Virginia is a state-supervised locally administered system. DSS is charged with most of the eligibility and enrollment functions for the state, and currently the customers interface directly with the workers of the local agencies.

As with most states, funding for IT infrastructure in Virginia is generally for a single-purpose solution. Traditionally projects have been undertaken as grants are available. This has led to a number of systems that do not interoperate effectively. Over time, these systems have aged and maintenance has become more expensive while at the same time, the business rules have become increasingly complex, and the systems have begun to adversely affect worker productivity.

The recession that began in 2008 dramatically increased the need for public services. Virginia has seen the Medicaid enrollment increase to 940,000 and SNAP enrollees now number over 900,000. Last year, more than 2.3 million applications for these two services were processed. The Patient Protection and Affordable Care Act of 2010 (PPACA) will result in another 425,000 potential Medicaid enrollees and about 100,000 individuals who may apply for premium sup-

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port through the Health Benefit Exchange. The increased workload has not been accompanied by increased funding for staff increases due to the tight budget constraints associated with the recession. Additionally Virginia has a problematic error rate on Medicaid applications that needs to be addressed. This combination of factors required that Virginia begin to rethink the basic task of eligibility determination and enrollment.

Virginia has a unique structure that funds services for at-risk youth. The Comprehensive Services Act (CSA) was passed in 1992 and created an Office of Comprehensive Services to oversee a blended funding stream that comes from the Division of Juvenile Justice, the Department of Education Services, the Department of Medical Assistive Services (Medicaid) and the Department of Social Services. Localities also participate in funding these services. One of the major challenges of this organization is demonstrating the value of services provided.

The Office of Comprehensive Services has information in four systems that do not share data and it is difficult, if not impossible, to attribute costs to an individual customer. As a result, it is not currently possible to associate improvement in clinical scores with treatment and cost. Budget pressures again have driven a demand to demonstrate efficacy and efficiency. A need for better data management reflects a challenge that goes beyond this agency.

Another major driver of change is opportunity. The general acceptance that healthcare is difficult to access, lower quality than desired and increasingly unaffordable has pushed the industry toward the adoption of electronic medical records and the development of health information exchanges to facilitate interoperability. Virginia used funding from the American Recovery and Reinvestment Act (ARRA) to plan for a health information exchange.

The previous administration created two groups to assist in this planning. The Health Information Technology Standards Advisory Committee (HITSAC) was tasked with harmonizing data standards for use in the exchange, and the Health Information Technology Advisory Committee (HITAC) was charged with planning for an exchange and preparing a grant application for implementation.

The current administration recognized that the social service sector had many parallels to the healthcare sector and began to think that creating a more integrated system in social services built on a technology platform could provide needed efficiencies and also yield actionable data and facilitate coordination. Technology staff recommended that the Commonwealth leverage MITA and begin to develop the transformation strategy with encouragement from CMS.

Funding was the next major concern. A solution became apparent when the federal administration ruled that states could utilize the 90% administrative match through Medicaid to fund infrastructure and eligibility systems. With this enhanced source of federal funding, the Virginia General Assembly in 2011 provided the state funding to build the SOA infrastructure including the enterprise service bus, enterprise data management (EDM) tool, and the workflow and business rules engines. Included in the budget was the creation of a program office and resources to create legacy system interfaces such as the birth and death registries, the immunization registry and the health information exchange.

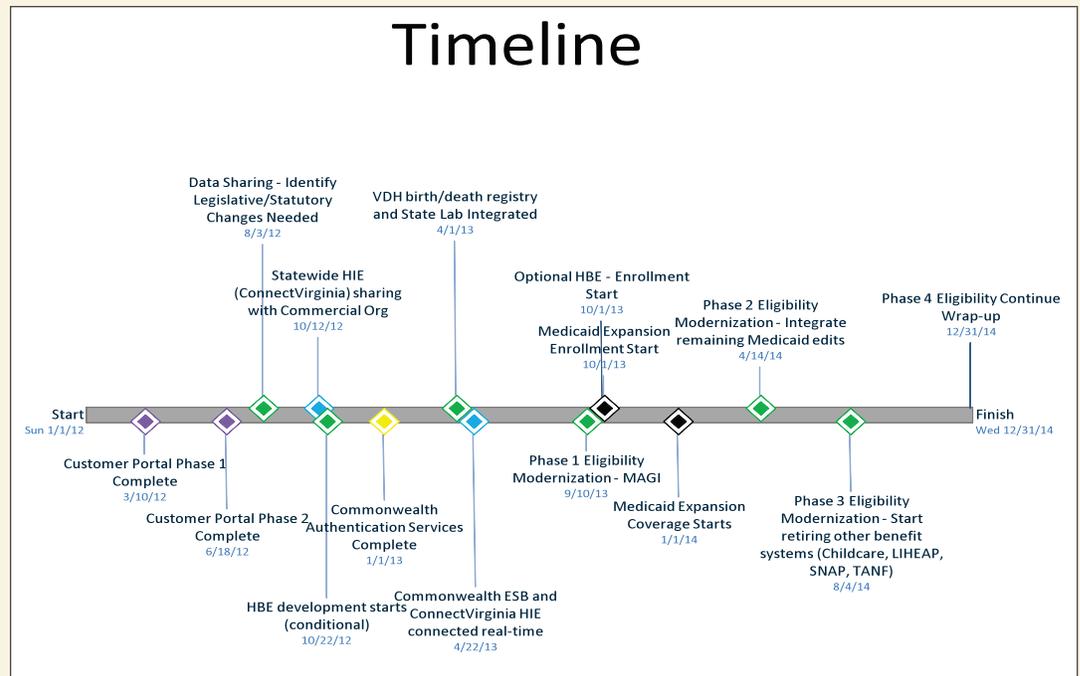
A critical decision was made to build a Commonwealth Authentication System (CAS) in our Department of Motor Vehicles (DMV). DMV is the agency in Virginia that has the most trusted citizen demographic information and is able to share that data with DSS. The CAS is integrated with the EDM tool and will enable citizens to create and manage accounts using a consistent identity. It will improve the Commonwealth's ability to prevent fraud while permitting appropriate application of services. The EDM will essentially become a directory of Virginia citizens and will not contain any social service programmatic data. Initially it will hold only DMV and DSS data and the cross-matching will be DSS property.

In 2009, the Virginia DSS put out a request for proposal (RFP) to create an integrated childcare system. This was envisioned to include a customer portal and enable better management of childcare services. The contract was awarded to Deloitte, and its solution was based on

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the Michigan Bridges program. This contract was extended to include access to Medicaid, SNAP, TANF and LIHEAP programs. Currently, DSS is undertaking a “soft” rollout to local agencies. Several local agencies are utilizing the tool in their offices on a limited basis and as of this writing more than 800 applications have been entered by customers directly. By July 2012, the full capability will be implemented state-wide.



**FIGURE 1 — High-Level Timeline for Health System Transformation in Virginia**

The next major step in the transformation is modernizing our eligibility and enrollment systems. The General Assembly has included state funding in this budget and Advance Planning documents are filed with CMS to secure Federal funding. Although a contractor is not likely to be on board until October 2012, the Secretariat is already examining business processes and existing rules proactively. The goal is to have the eligibility process workflows updated and revised business rules ready to be installed over the next five months. Priority will be given to Medicaid in order to meet the requirement for the Health Benefit Exchange (HBE) eligibility determination in October 2013.

Virginia has decided to wait until the Supreme Court rules in June 2012 before implementing an HBE but it has been determined that Virginia will build and operate its own exchange if needed. Extensive planning is being done in preparation. Part of that planning includes developing an RFP for the actual HBE as part of the eligibility and enrollment RFP. A Level 1 planning grant is being prepared and will be submitted if necessary after the court rules. Virginia plans to determine eligibility for applicants and then forward appropriate information to the exchange or to Medicaid.

**KEY ISSUES**

A number of key issues have been and are being addressed in concert under this project:

**Governance**

A Program Oversight Committee (POC) was created to include principals of key Secretariats and agencies. This includes the Secretary of Health and Human Resources, the Secretary of Technology, the Commissioner of DSS, the Director of the Virginia Information Technology Agency

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(VITA) and the Director of the Division of Motor Vehicles. Monthly meetings are attended by staff from involved agencies, legislative staff and the Auditor of Public Accounts.

**Program Management**

The eHHR Program Office is comprised of State and contract staff. The office functions to manage and coordinate the various projects following Project Management Institute (PMI) program standards; set the direction and strategy of the program; address funding; coordinate program-level milestones; schedule activities; manage scope and monitor the budget.

**Strategic Planning**

An Information Technology Strategic Plan (ITSP) has been developed for HHR. This is the first Secretariat-wide ITSP; generally ITSPs are written at agency level. This ensures alignment to federal and state direction toward an enterprise vision. This plan will be updated regularly. Adherence to the ITSP is being included in all agency head employee work profiles and is to be placed in the profiles of appropriate deputies and CIOs.

**VITA Project Management**

VITA is the supplier of the technology for all of Virginia's agencies. Its role prior to this project was primarily to procure technology. A new office was created to facilitate the eHHR program and to provide shared enterprise "centers of excellence" for SOA and enterprise data management business services.

**Data Standards**

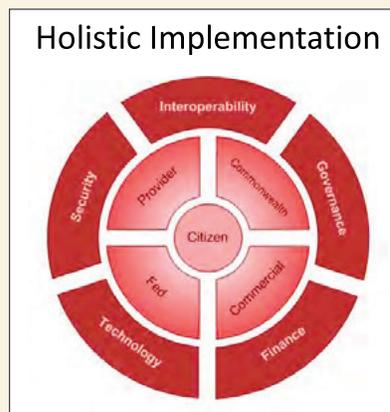
The HITSAC was rechartered to harmonize and recommend data standards for HHR.

**Data Sharing**

A Data Use and Reciprocal Support Agreement (DURSA) is being created. All agencies that intend to share data in the Commonwealth will become party to the DURSA. This approach is modeled after federal and state agreements being utilized for health information exchange data sharing. The DURSA is due to be complete by July 2012. Once done, it is expected that some legislation will be needed if data is to be shared beyond HHR.

**Security**

A strong user authentication framework, logical role-based application permissions and adoption of industry-leading physical security standards ensure confidentiality and discretion for all citizen data collected. Citizen consent preferences are collected and respectfully complied with via the security framework. Dedicated Commonwealth resources continue to monitor and assess security threats, further enhancing the system's security model.



**FIGURE 2 – Multifaceted System Modernization Leveraging Multiple Partners to Yield a Citizen-centric Result**

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While technology is the backbone of eHHR, it is just one piece of a multifaceted effort to modernize and transform the way Virginia provides governmental services. The HHR IT Strategic Plan defines a holistic view to collectively improve healthcare and human services to Virginians by providing access to the right services to the right people at the right time and for the right cost.

This citizen-centric approach enables clients to more easily and efficiently search for services, determine potential eligibility, and apply and manage their information online. Workers within various agencies and provider organizations will take a collective approach to meeting the needs of clients, including workers' ability to link to potential programs for their clients based on demographics. Currently eligibility workers are overloaded with large backlogs of work. Since many clients will move to self-directed services, eligibility workers will be able to spend more quality time with the critical-need citizen population who require more comprehensive assisted services, such as the aged, blind and disabled.

When healthcare providers are able to more efficiently aggregate and model data, the time needed to satisfy requirements for the state and other funding entities is reduced. This will enable providers to offer more services to patients and/or engage more patients through existing programs. The Commonwealth will be able to reduce redundancy and shift resources away from administrative functions. Lastly, once Virginia can accurately identify clients across multiple systems, the potential for fraud and abuse will be reduced, again enabling more resources to be directed toward the right clients for the right cost.

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*William A. Hazel Jr., MD, an orthopaedic surgeon from Northern Virginia, is Virginia's Secretary of Health and Human Resources.*