A Data-Powered Approach to People-Centric Services
Leveraging data to enable a single, holistic view of health and human services recipients

Six years after the housing crisis that kicked off the recession, the economic downturn appears by many measures to be receding into the record books. Yet for health and human services (HHS) agencies, it seems like 2010. With unemployment still high and wages low, they’re serving alarmingly high levels of individuals and families.

For example, 46.9 million people currently receive Supplemental Nutrition Assistance Program (SNAP) benefits, while 3.8 million people received Temporary Assistance for Needy Families (TANF) in each month of 2013. Due to the Medicaid expansion in 26 states and the District of Columbia under the Patient Protection and Affordable Care Act (PPACA), total enrollment in Medicaid and the Children’s Health Insurance Program (CHIP) increased by 4.8 million between October 2013 and March 2014. And finally, the 15 states that operate newly created state-run or quasi-governmental health insurance exchanges processed more than 2.5 million citizen sign-ups during the six-month 2013-14 open enrollment period.

When will it end? The economic environment is too unpredictable to speculate, but it’s fair to say it will be some time before HHS workloads drop to 2008 levels. Perhaps a more relevant question is: What can we do about it?

In this issue brief from the Center for Digital Government, we’ll look at strategies for using enterprise data management to efficiently handle higher demand in the face of new legislation, restricted funding, changing demographics, and evolving privacy and security requirements — while simultaneously increasing transparency; providing better and new services; and reducing waste, fraud and abuse.

The Changing HHS Landscape: An Overview of the Challenges

The dramatic increase in demand for HHS services, coupled with pared-to-the-bone budgets, has caused a number of problems around technology, service delivery and compliance.

Technology. The technology challenges in HHS (and other government agencies, to be fair) are legendary. Many mission-critical systems are challenged, relying on proprietary, legacy technologies. Multiple types of data are delivered to these systems in an assortment of formats, and IT must develop and maintain multiple interfaces with each application change or upgrade. Program administrators are left to sift through many versions of the same answer.

Furthermore, when funding for system modernization is available, it’s handed down in buckets designated for specific functions and departments. Organizations have little financial incentive or ability to integrate and share data.

Service delivery. As constituents become conditioned by the use of modern systems, technologies and processes in the private sector, HHS is under pressure to provide the same — or even higher — levels of service, access and responsiveness. But because data is locked by legacy technologies and systems into...
departmental databases and data warehouses — silos that limit agency sharing and process improvement — it’s inherently difficult to deliver a single “version of truth” that provides a holistic view of the recipient.

Lacking a comprehensive and universally trusted picture of the benefits recipient, agencies are challenged to deliver high-quality, outcome-focused services. Caseworkers miss opportunities to identify behavior patterns that might prevent those who need assistance from getting it or detect clues that might indicate fraud. Processing errors, duplicative data entry and incorrect reports are everyday occurrences.

For recipients, this can lead to frustrating and confusing service delivery. For each service received, they must interact with different offices, websites, staff members, forms and processes. For every in-person appointment, they must take time off from work, find transportation and secure child care.

**Compliance.** HHS organizations and state health insurance exchanges must maintain compliance with federal and state regulations such as PPACA and the Health Insurance Portability and Accountability Act (HIPAA) for ensuring data privacy and security. The lack of a single version of the truth can lead to noncompliance with critical regulations, and a leading headline in the newspaper.

These far-reaching mandates are accompanied by complex implementations that require changes to all application and system interfaces. With a vast number of systems funneling data into separate silos, HHS agencies use significant resources to maintain the integrity, security and privacy of constituent data as it moves among computer systems and databases.

**All Roads Lead to Data: A New Business Model for HHS**

Business leaders crave data, but they lack the accurate and authoritative data required to make appropriate policy changes. Existing data across an agency — or perhaps more accurately, the ability to collect, share and analyze existing data — is at the root of these challenges. In the traditional government IT model, the priority is placed on the technology infrastructure and applications. But as legacy systems age, we’re reminded that it’s not technology that’s critical — it’s data. Consider, for example:

- Data is trapped by program and agency silos.
- Many agencies or programs operate as if their data is the only version of the truth about a recipient.
- Data types and formats are frequently complex and difficult to reconcile.
- Data must be kept private and secure.
- Data can be exploited or manipulated by criminals to commit fraud.
- Data represents what really matters most in HHS — people and families.

For several years, HHS leaders have recognized the value of sharing data among state and local agencies and departments to improve overall case management. “No single area of innovation promises as much public value as the rapidly evolving areas that allow government officials to utilize data across agency and IT silos,” says Stephen Goldsmith, former deputy mayor of New York and mayor of Indianapolis, now a professor at the Harvard Kennedy School of Government.

The idea is that by integrating data from welfare, children and family services, health, mental health, housing services and the courts, HHS can create the elusive single system of record that provides a complete view of the individual or family. This will enable all agencies that contribute to and access the record to deliver faster, more efficient service to benefits recipients, reduce fraud and errors, and save taxpayer dollars.

However, in spite of the value of data, the current IT model emphasizes investment in infrastructure and applications. For example, since data integration is frequently the last phase of an implementation, it often falls victim to budget and scheduling delays, such as the elimination of data interfaces and integration points.

Yet even with unlimited funds, a poorly planned and implemented infrastructure or application can fail if it relies on poor data or a badly managed data integration process. Turning the current model on its head creates a new standard — one that emphasizes the value of data to the HHS organization (see graphic to the right).

In this model, data is treated as an organizational asset with a defined process for collecting, linking, securing, sharing, analyzing, archiving, publishing and
governance. Data is viewed separately from IT systems in terms of strategy, organization, management, procurement and implementation.

To facilitate this new model, an enterprise-wide data platform — one that’s accessible to all relevant agencies and departments at all levels of government — is required. The fallacy is in thinking it’s just an integration or data quality problem, when it’s an authoritative data problem. Solving the authoritative data problem involves business and IT leadership working collaboratively with a rules- and workflow-based approach to eliminate valuable data from being left on the table. Further, how you make lifecycle changes to the process once underway will also determine effectiveness.

Enterprise-Wide Data Platforms: The Foundation for a Data-Centric HHS

To resolve enterprise-wide data problems and enable a new model for managing and using data, we suggest the use of an enterprise-wide data platform. Many HHS agencies have already implemented technology such as relational databases and business intelligence/data analysis software for collecting, sharing and analyzing data — traditional tools that, while useful, are still unable to synthesize data to create a comprehensive recipient profile.

Master Data Management (MDM), a key component of the modern enterprise-wide data platform, builds on the foundation created by traditional approaches to provide the consistently accurate and authoritative dataset required to improve HHS analysis and decision-making.

Using complex algorithms to shield business and IT from the drudge work, MDM systems synthesize data, regardless of format, application or source into a master data output of authoritative data that can be accessed by all participating organizations. Tasks performed by MDM systems include:

- Inspecting each data source
- Clarifying the rules and structures of each source
- Establishing relationships among data types
- Finding anomalies
- Recognizing and de-duplicating records if needed
- Solving identity problems
- Cleansing and standardizing data
- Identifying and repairing data quality issues
- Consolidating data into a master data file

Without requiring each entity to develop and implement a separate technology infrastructure or application, and then figure out how to make lifecycle changes months after a “go live” date, an MDM platform creates and automates a process for capturing, linking and securing multiple data points. Existing systems, databases and applications remain in place, integrated with the MDM system. In this way, MDM platforms help HHS agencies overcome some of their biggest data-related challenges:

- **Data Management.** MDM integrates and links multiple data points about a single benefits recipient or family that reside in disparate systems in multiple data formats and from fragmented sources. This is accomplished with easy, business-driven remediation of conflicting data issues in a powerful interface that puts the business in control of the surviving data attributes.

- **Data Quality.** MDM inherently provides the high-quality data needed to make sound decisions by solving common data quality problems, such as data entry errors, identification problems (name changes or change of address), files lost due to technical glitches or system crashes, problems during database consolidation or integration, invalid or missing information, inconsistent coding, bad metadata and others.

- **Data Security and Privacy.** MDM systems allow data to be accessed and shared, but in accordance with HIPAA, PPACA and other mandates, personally identifiable information is not revealed. Secure exchange of data among systems is guaranteed through the use of appropriate data encryption and security protocols.

By creating a single file in a secure location that serves as a central data repository, MDM makes the integrated data accessible to all contributing and authorized entities and enables a true single view of the citizen that includes relevant data from state and federal health insurance exchanges, all payer claims databases, Medicaid management information systems, integrated eligibility systems, master patient indexes, unemployment insurance databases, etc.

Business Benefits of MDM: A More People-Centric HHS Organization

An MDM platform can serve as the authoritative data source for Web-based portals for caseworkers and other agency employees, benefits recipients and independent researchers. With the master data file as the
foundation for consistent results, HHS agencies can advance service delivery, organizational decision-making, discovery and administration, and reduce infrastructure and operational costs across participating agencies.

Access to all the right data provides caseworkers with an integrated recipient profile, allowing them to view all services received by a single client and make more informed decisions. It simplifies eligibility and enrollment processes and decisions, and makes it easier to recognize patterns that could indicate fraud, child or elder abuse, and other misconduct. Via a streamlined workflow, caseworkers are able to provide better customer service.

Recipients and applicants benefit from a dramatically improved user experience that empowers them to securely complete the majority of the processes online. They can access an integrated eligibility application, view a concise electronic presentation of their complete HHS record and submit changes to their information. When a phone call or office visit is needed, it is handled more efficiently and with better outcomes.

Agencies that contribute and access data contained in the MDM system suddenly have a wealth of information at their fingertips. By applying business intelligence and data analytics tools to the integrated data, researchers can reveal patterns, trends and problems about programs or demographic groups. Their analyses can be used to evaluate programs, answer health-related policy questions and develop new strategies for serving citizens. To improve transparency and accountability, data and analyses can be made available for online public access without jeopardizing participant privacy.

**Broad Changes, Single View**

By implementing an MDM solution, HHS agencies can enable the changes necessary to break through departmental data silos and create a true system of record that serves as a single version of truth for all participating organizations.

With MDM technology at the heart of an enterprise-wide data platform, HHS agencies are able to share data more easily. This allows caseworkers to understand the full breadth of programs and services being used by an individual or family and results in a more comprehensive view of the benefits recipient.

Ultimately, all involved — individuals, families, caseworkers, agencies and taxpayers — will benefit as HHS organizations deliver faster, more efficient service, reduce fraud and errors, and cut costs. Powered by consistent, high-quality authoritative data, HHS agencies can break through technology barriers to increase their effectiveness, efficiency and agility.

**Endnotes**

1. www.fns.usda.gov/pd/34SNAPmonthly.htm
   ib_2014Apr_enrollAddendum.pdf

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— Stephen Goldsmith, Former Deputy Mayor of New York and Mayor of Indianapolis, Current Professor at the Harvard Kennedy School of Government

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