

From Urgency to Innovation

Improving Access, Outcomes and Efficiencies through Connected Health and Human Services¹

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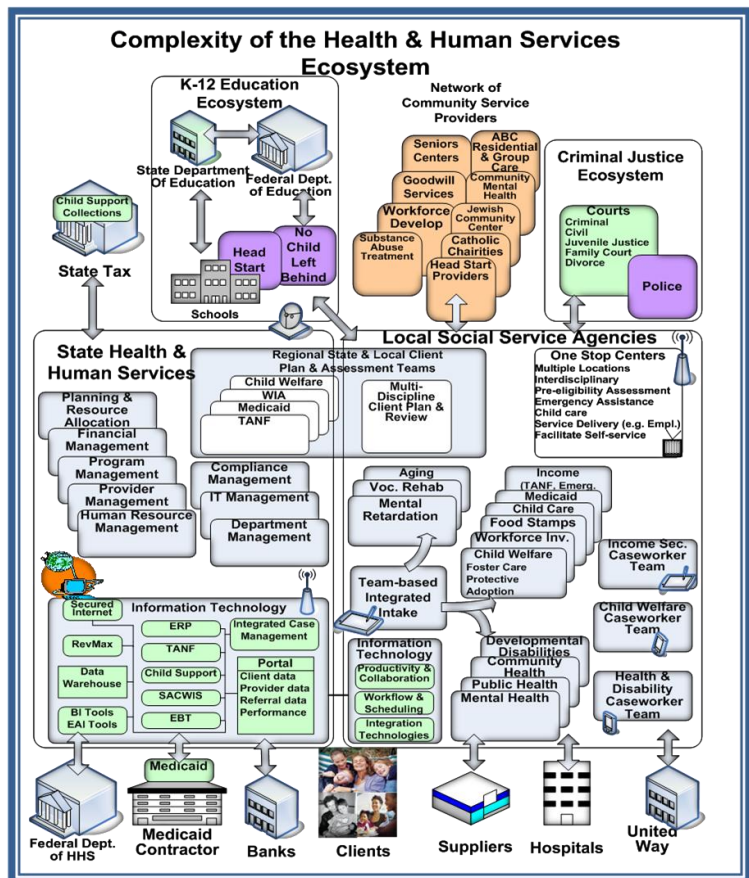
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Advancements were made in the last decade to connect systems and services of care. The economic crisis of 2009, as well as the priority and the commitment of resources for health information technology have created urgency for more systemic action. The next five years will witness broad business and technology innovation to improve access, outcomes and efficiencies through connected health and human services.

Trends toward Connected Systems of Care: 2000-2009⁴

Health and human services delivery is complex. It constitutes as much as forty percent of state spending. Consumers are served by multiple agencies including health, behavioral health, children and family services, employment programs, courts and education. They navigate multiple intake and eligibility processes in different office locations with redundant and disconnected case management approaches.

The “system” is characterized by a lack of coordination. It is program rather than consumer centric. As a result it is inefficient and impedes access to services. The lack of coordination results from a number of factors. Federal and state categorical funding requirements effectively dictated separate infrastructures and organizations. Enabling legislation created distinct agencies with advocacy groups lobbying discrete legislative subcommittees for special attention, and information sharing is impeded by conflicting interpretations of privacy.



For many years information technology hindered rather than enabled coordination. Dating back to the 1980's agencies, agencies were tethered to large, disconnected "legacy" transfer systems that took years to build, were outdated at implementation, and could not "speak" to one another. Programs were dependent upon the few staff who understood how these systems worked.

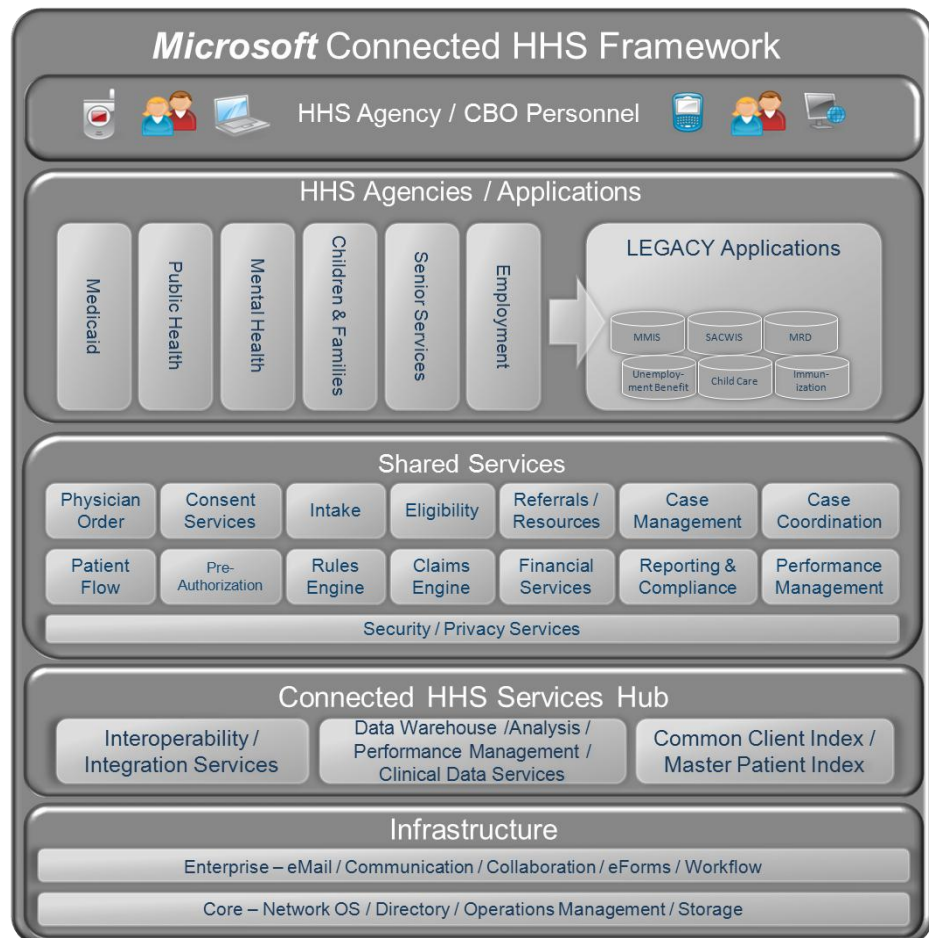
Advances in technology

By the year 2000 technologies no longer needed to be an impediment to HHS coordination. The emergence of Service Oriented Architectures (SOA) based on web services standards and Extensible Mark-up Language (XML) and the development of feature rich, Commercial-Off-The-Shelf (COTS) applications began to provide an opportunity for a rapid and flexible response to changing business requirements. Moreover the maintenance costs were borne by the vendor, and recovered through licensing fees, widely distributed across the marketplace, as compared to the burdensome costs borne by a single agency customer, associated with maintaining legacy systems.

This did not require ripping out and replacing legacy systems. Rather, a SOA approach could leverage information that had been locked away and enabled the connection of information and business logic across legacy systems.

The business and architectural vision supporting a consumer-centered, connected HHS ecosystem includes attention to business scenarios, entailing common processes and extensible technology solutions⁵.

Conceptually, a connected HHS framework demonstrates how interoperability and services can be deployed in the context of an IT architecture. Core infrastructure, with enterprise level communications,



collaboration and other services provide the stable building blocks that facilitate an agile applications environment.

The Connected HHS services hub enables interoperability across programs and systems through the deployment of web services provide the data services used for business performance management tools, and provide a unified view of clients, patients and resources across departments.

Technology solutions that support common business processes can be shared across multiple departments. The Shared Services layer provides extensible applications and loosely-coupled web services to be deployed across agencies targeting areas such as intake, pre-eligibility, referrals, case coordination, and security and privacy services. Shared services enable a flexible and rapid mechanism to implement process, program or legislative changes.

The Agency Applications layer has added value in the Connected HHS environment. Information that would have been stored away, in legacy systems can now be accessed through the connected services hub. New applications and functionality can be introduced through the shared services layer. Moreover, even within single departments, workers can derive more utility from their legacy system through increased data-access and analytics or by implementing a new, simplified or web-enabled user-interface that utilizes the existing business logic and data in a legacy system. Workers are freed-up to spend more time with clients by leveraging richer information and collaborating with others involved with their clients, anytime, anywhere through a variety of tools including Smartphone, PDA, kiosk and Tablet PC.

Increasing demand for interoperability

Advancements in technology coincided with industry demands for increased interoperability and coordination among agencies. The tragic events of 9/11 emphasized the need to connect public health, and homeland defense information across programs. Hurricanes Katrina and Ivan further underscored the need to electronically exchange prescription drug and immunization histories of children who were relocated from Gulf States. Government and commercial markets increasingly focused upon the development of electronic health records. Policy initiatives supporting the development of interoperable systems emerged among agencies and programs. The Centers for Medicare and Medicaid Services (CMS) provided leadership in this regard. It's Medicaid Information Technology Architecture (MITA) and Medicaid "transformation grants" offered models to achieve efficient and flexible technology solutions that enable administrative simplification, increased access, and improved outcome measurement.

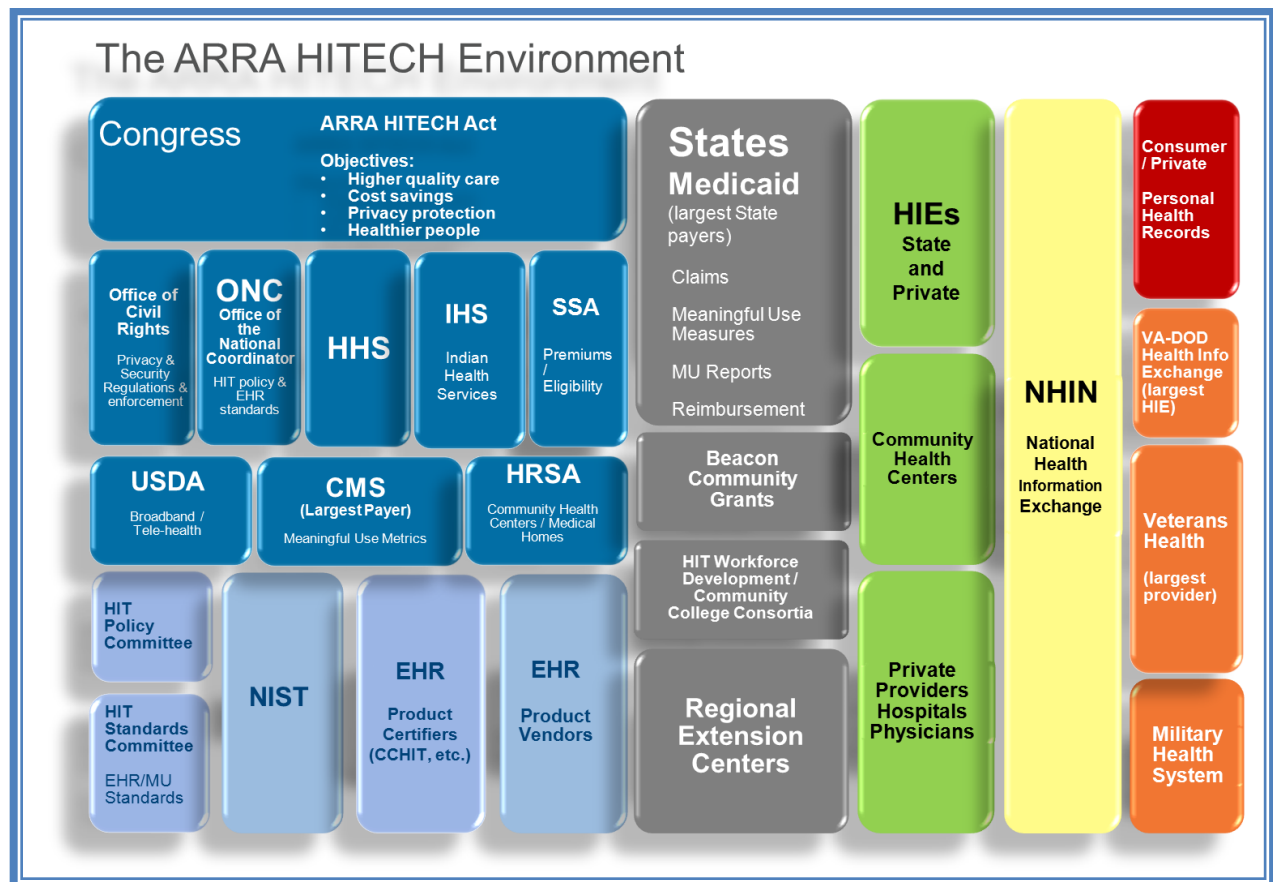
The results were the development of models of shared services. Technology tools such as a common client index were implemented to identify common consumers across programs. Case coordination tools to track and integrate services for high risk consumers were introduced. Legacy systems, agencies modernized them and connected them to shared services through connected services hubs. Data warehousing, data aggregation and other analytic tools were used for both planning and implementation of services. Personal health records were adopted. Models of community care including common referral and eligibility were implemented. Connected HHS business and technology roadmaps and business transformation models were established.

A State of Urgency: 2009

In January 2009, the nation’s Governors annual “state of the state” addresses were weighted by the condition of the national economy. Terms such as “incapacitation,” “emergency” and “state of crisis” described the state of affairs. The Governors forewarned that their states would experience fiscal instability for two to three years.

There was increasing awareness that health care in the country was in a state of crisis; and contributing to its economic woes. Health spending had reached 17.9% of GDP, and had grown 18% since 2003. Medicaid expenditures were growing at nearly 8% per year. Health delivery was disconnected and inefficient. The results were duplicative spending, disconnected decision making and administrative waste. There were no clear measures of effectiveness. The relationship between spending and outcomes was ill defined. Fifteen percent of the population (46 million) was uninsured and that number was rising. These persons continued to show up in crowded emergency rooms, free-care pools, and social service programs.

Congress and the Executive began the process of grappling with measures to address the financial crisis and strategies to improve the delivery of health care. With the passage of the HITECH Act⁶ they reached consensus on the importance of health information technology as a predicate to addressing key pillars underlying the health crisis including access, quality and efficiency.



The ARRA HITECH ecosystem includes an array of federal and state agencies, public and commercial payers, providers, and related stakeholders. These range from standards authorities such as the National Institute of Standards and Technology (NIST); to government regulators and payers such as the Centers for Medicare and Medicaid Services (CMS), and state Medicaid agencies; to regional extension centers and community college HIT workforce training programs; to providers who are connected through health information exchanges to the national health information network.

The primary goals of HITECH are to enable the adoption of health information technology and the exchange of health records. The policy considerations that support these are multiple including realizing efficiencies, expanding access, improving outcomes, involving consumers and their families, and ensuring privacy and security. There is the expectation that technology can help reduce the costs of health care. Connecting information and services should expand access to underserved populations. Care coordination should improve outcomes. Privacy, security and financial sustainability should be addressed through planning requirements. Workforce development, training, research, community care models, telehealth models, and broadband expansion are all intended to facilitate transformation of the market. .

The Act emphasizes underserved populations. It provides more than \$17 billion in funds to Medicaid and Medicare providers to adopt Electronic Health Records. It offers a loan program to assist providers to purchase health information technology. It provides nearly \$600 million for the creation of seventy regional extension centers (RECs), to offer “technical assistance, guidance and information on best practices to support and accelerate health care providers’ efforts to become meaningful users of Electronic Health Records”.⁷ Each REC will serve at least 100,000 primary care providers.

The Office of the National Coordinator will provide \$220 million to fifteen regions, for “Beacon Community Cooperative Agreement” program.⁸ The purpose is to achieve “measurable improvement” in health care “quality, safety, efficiency and population health” by the development and strengthening of communities’ health IT infrastructure and health information exchange capabilities.

The Act emphasizes access through coordination of community care. There is \$1.5 billion for Community Health Center capital programs including health information technology. Likewise HITECH recognizes the need to connect information and services to rural areas. More than \$4 billion is allocated for broadband and \$2.5 billion for telehealth programs.

To achieve its transformative goals HITECH recognizes the need to develop the health IT workforce. The Office of the National Coordinator will provide \$70 million to 5 regional community college consortiums each consisting of approximately 70 Community Colleges to rapidly implement an education program for professionals in health care. Intensive training will be directed to information management redesign specialists, clinician/practitioner consultants, implementation support specialists, implementation managers, and technical/software support staff.

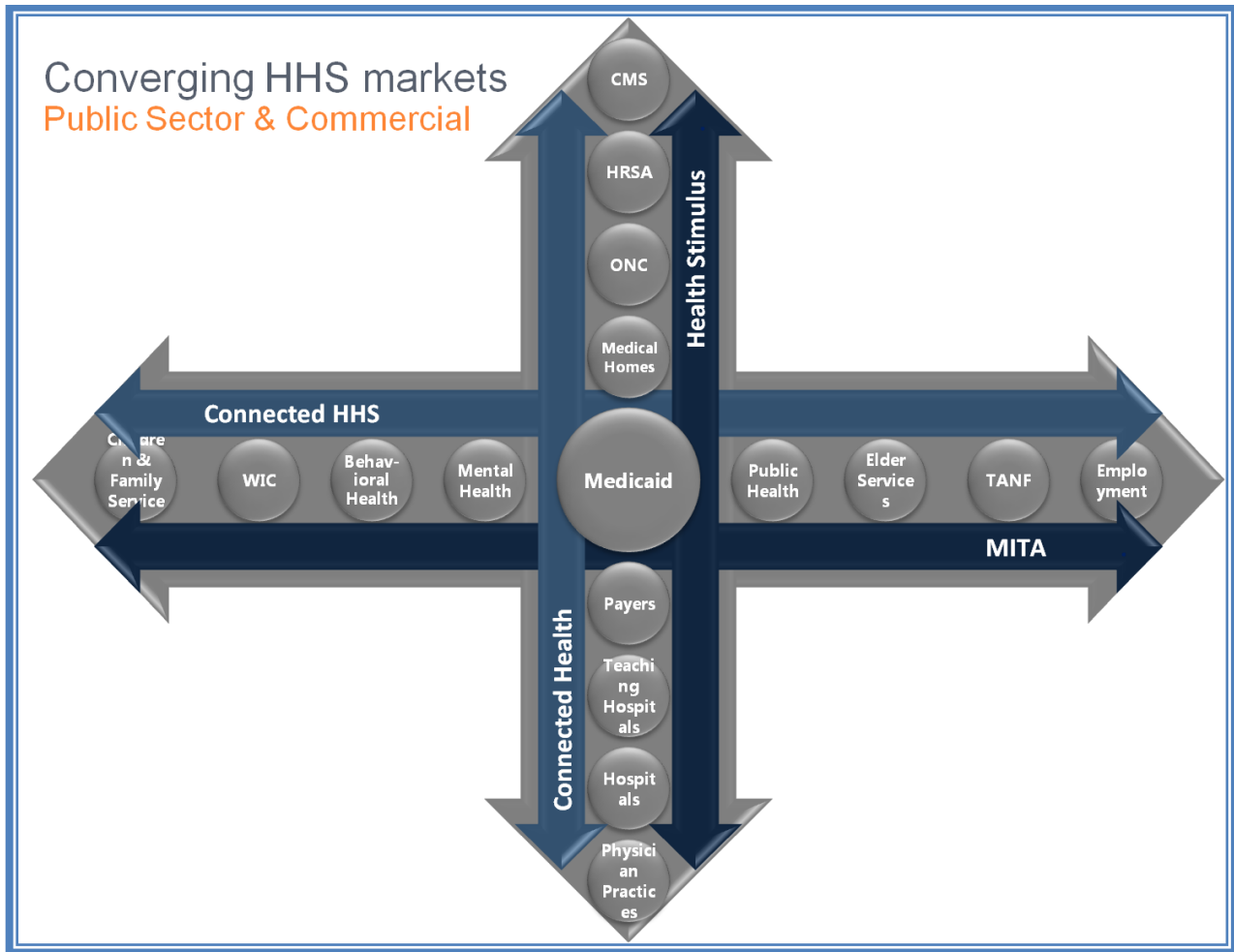
HITECH ACT (\$25+ billion)

EHRs: 17billion to Medicaid/Medicare providers for adoption of certified electronic health records	Broadband: 4.3 billion Telehealth: 2.5 billion for distance learning/telehealth grants	Community Health Centers: 1.5 billion for construction renovation and equipment including acquisition of HIT systems	ONC 1.8 billion HIE development: through cooperative agreement program Regional Extension Centers and National Resource Center Beacon Community Program EHR Loan Fund Workforce Training: Community College Consortia to Education HIT Professionals' Research and demo
Planning			
Cooperative Agreement Plan		State Medicaid HIT Plan	
States, or designated entities will develop and implement: <ul style="list-style-type: none"> • HIE data privacy/security requirements • Directories & technical services for interoperability • Coordinate with Medicaid and public health • Ensure an effective HIE governance • Convene stakeholders to build trust in and support a statewide approach. 		Include: 'Current As Is' environment; Future "To Be" environment; specific action to implement EHR incentive program; HIT Roadmap Integrate with the State HIT plan	

Two related planning processes will impact federal and state funding. The Office of the National Coordinator is requiring State HIE (Cooperative Agreement) plans,⁹ and the Centers for Medicare and Medicaid Services (CMS) is supporting State Medicaid HIT plans.¹⁰ States, or their designated entities will be expected to develop and implement data privacy and security requirements for Health Information Exchange; develop directories and technical services to enable interoperability; coordinate with Medicaid and state public health programs; ensure an effective model for HIE governance and accountability and convene health care stakeholders to build trust in and support a statewide approach.

Converging Markets:

The HITECH Act furthers the “convergence” of commercial and public sector health care markets. It creates the awareness, need, and opportunity for connecting public sector health and human services markets.



Convergence of Public Sector Health and Human Services markets: From 2000 – 2009 models emerged connecting health and human services. The HITECH Act will advance these developments. The CMS MITA architecture will inform shared services development across health and human services. Medicaid agencies will leverage data aggregation tools, and HHS Connected Services Hubs to integrate claims with clinical data with behavioral health and long term care agencies. A common client (or master patient) index will be employed both for health information exchange and for tracking and serving high-risk populations across multiple HHS programs. Community models of care that have evolved in education and human services programs will converge with health models such as Medical Homes.

Infrastructure and core shared services will be extensible and used for multiple purposes. Increasingly these shared services will be hosted in the cloud and even span traditional jurisdictional ownership. There will be breakthroughs on privacy use agreements, as well as model policy, regulation and practices to share information. The consumer will become more involved in decision making.

Convergence of Commercial and Public Sector Health Market

The HITECH ACT intersects public sector and commercial health information technology markets. This shifts roles, expectations of the various players and will take time to shake out.

In the previous decade, following the attention President Bush attached to health information exchange, state government officials put some focus on the topic. For the most part, however they kept an arm's length. They supported planning, and sometimes infused funds for pilots. But they were wary that sustainable business models were slow to surface and careful not to create an expectation that the state would provide long term financing for these efforts.

With the passage of ARRA the equation was changing. Now the \$17 billion for EHRs would flow through Medicare and Medicaid. State health authorities would have to approve regional extension center applications. In short the Government would be immersed in funding, oversight and regulation.

In many instances this has raised issues with a fractured provider market, and among existing RHIO collaborations. The former have been concerned about the increasing policy, regulatory and financing role of Medicaid; a payer which many have felt was woefully underpaying them. The latter have sometimes felt that the models they were working on for years might now be usurped by new funding and state strategies.

How this unfolds will begin with the HIE and SMHP planning processes, as the state and its designated entity convene stakeholders. Suffice it to say, health care, which has always been a high priority among Governors, will now receive greater attention. Cabinet secretaries and directors of Health and Medicaid will have even greater responsibilities that more directly impact the political and economic landscape. They will be managing an even larger portion of government and negotiating a health information exchange strategy with providers for which they are also payers.

HITECH Act impact on state officials

Governors: focus on role of state in planning and implementation; financial sustainability; federal policy and financing; economic development, and workforce.

Finance Directors: focus on state accountability for ARRA spending; financial sustainability; growth in Medicaid spending.

Health and Medicaid leadership: focus on more of consumers from declining economy and expansion of federal eligibility; accountability for ARRA HITECH expenditures; oversight of SMHPs; coordination with HIE plans, RECs and sister agencies.

Directors of Human Service Agencies: planning with Medicaid and SMHP; connect to community health with children's & other human services.

Universities: with more state health spending threatening higher education funding, will connect to workforce development models, engage RECs, focus on population health research.

CIO's: participate in SMHP and HIE planning; develop enterprise architecture, roadmap & shared services; serve as trusted advisor to business decision makers.

Innovation 2010- 2014: *Achieving the “meaningful use” of technology through models of improved access, quality and efficiency*

With the focus and funding on health information technology we will see breakthroughs in areas that have in the past stymied interoperability, ranging from privacy restrictions, to lack of a common architecture, to disconnected service delivery.

Policy innovation:

Planning efforts reflect HITECH policy considerations, and the priorities of the states. An example is West Virginia’s HIT plan. The state has a history of collaboration among stakeholders. It has received recognition and awards from the federal government including five CMS Medicaid Transformation grants. It has implemented community care models, including medical homes. The state’s rankings in the Commonwealth Fund State Health Scorecard have improved dramatically from 42nd in 2007, to 35th in 2009.¹¹ The vision of the West Virginia plan “is to ensure a coordinated information technology infrastructure and delivery system is established that allows patients, families, communities and the health care system to collaboratively partner to improve the health and well-being of all West Virginians.”¹² The plan is built on five pillars including accelerating the adoption of HIT, fostering health information exchange, ensuring broadband infrastructure, developing the workforce, and ensuring financial viability and sustainability.

Planning efforts are occurring at local and regional levels. In November, 2009, community leaders in South Florida convened a roundtable discussion entitled: “How Medicaid Stakeholders Can Adapt, Survive and Thrive” to discuss federal and state health system changes affecting Medicaid providers in Miami/Dade.¹³ The goal was to sync the efforts of a wide range of community safety net providers, with state health planning efforts, and federal HITECH guidelines.

Privacy considerations must be addressed or they will inhibit information sharing. The tens of billions of dollars slated to fund HIT will expedite this. Consumers are concerned about the use of their health information.¹⁴ Planning will emphasize upon consent, and consumer involvement. Use agreements through legislation, executive order or initiative, or umbrella agency policies will be implemented. Model legislation includes the District of Columbia’s Fogel Family Preservation Case Coordination Act of 2009.¹⁵ Montgomery County Maryland’s Department of Health and Human Services is taking the lead in processes to facilitate service integration and requisite information sharing, while attending to privacy considerations.¹⁶

Consumer centric models will evolve. Providers will seek to demonstrate meaningful use of health information technologies that facilitate patient and family involvement in care. Emphasis upon prevention will require the consumer to take a more active part in monitoring health conditions and in the exchange of information. Moving personal health data, through consent models, into a personal health record will become common. Consider New York Presbyterian Hospital. Patients can log onto <https://mynyp.org/mynyp.aspx>, where noted heart surgeon Dr. Mehmet Oz, instructs them on how to access their personal health record to store health

information online, share it with families and clinicians, and learn about important health issues that can affect them and their families.

Economics of health care are a concern to Governors. Rising Medicaid spending is impacting resources for higher education and other services. Toward that end, state leaders are particularly interested in economic, education and workforce development. They will demand financial sustainability models for investments in health information technology including health information exchange.

Technology Innovation:

We are entering the era of the Digital Native - those that grew up with computers and the internet. They are used to and expect a technology enabled experience; to be connected in every facet of their lives. The digital divide is narrowing as connectivity becomes ubiquitous and alternate devices permeate. Phones, cameras, televisions, even automobiles are performing tasks that used to be the domain of a traditional “computer”. Rich, intuitive, connected devices are pervasive and available at commodity prices. Consider for instance a digital Glucometer or Blood Pressure device that used to cost \$900 or didn’t exist at all, can now be obtained for \$45 or \$50 and can be connected and monitored through a personal health record, at home for free. Advances in HCI (Human Computer Interfaces), wearable computers or wearable devices, and smart / connected implants such as heart pacemakers that can be monitored and even programmed remotely to adjust to the patient’s health conditions, are all a reality today. These connected, intelligent devices will soon be able to connect to a national health information network to enable seamless, efficient information exchange that will improve the quality and efficiency of care. This new health data liquidity will be further enriched by extending beyond traditional clinical data to include data that represents the “complete well-being” of the person or family. For example, there are efforts emerging that extend CMS’s MITA architecture into other domains such as child welfare, behavioral health and education. This is an efficient method of building off the foundational work of MITA to extend and augment the data thus enabling more comprehensive program offerings or new collaborative service delivery models – all to the benefit of the consumer or family.

From 2009 to 2014 we will experience the advent of Web 2.0 and the realization of the social, collaborative, multi-channel user experiences it offers:

- The web is a platform for hosted services and applications - software plus services will be delivered in the cloud not constrained to the desktop
- Cloud computing is maturing and becoming mainstream
- User-centric web-based communities, social-networking sites, video-sharing sites, wikis, blogs and mashups are becoming tools for information work and productivity
- The next generation of information exchange and consumption is emerging via the semantic web; where information is more discoverable, sharable, interoperable and trustable and via contextual architectures; where data can have different meaning, can be location aware, can participate in different workflows or have different trust and privacy parameters depending on the context in which

it is encapsulated – cloud-based applications can consume, inherit and act upon context

- Data is liquid; it is irrelevant “where” software or data is physically (with proper controls) regional, cross-domain, cross-jurisdiction sharing of software and data
- This will facilitate new exchanges of information – e.g. across the continuum of care, new “markets”, new services, new sustainability paradigms

The innovation that is manifest by Web 2.0 and emerging in Web 3.0 will enable new levels of patient and family involvement in their care, a core tenet of “Meaningful Use”. Medical homes, coordinated care teams, care panels and collaborative care models will be achievable as the industry realizes innovations in collaboration and social networking, software plus services, data-liquidity, multi-channel (multi-device) user experiences and contextual architectures.

Innovations in Financing:

There are two considerations here. The first relates to sustainability models for HIE. The second relates to rationalizing and then transforming government financing of technology across health and human services.

With respect to health IT adoption and Health Information Exchange, one option is a utility type funding model whereby a fee is attached to transactions, or consumer usage. Vermont, has instituted a health care information technology fund which is financed through an assessment of 0.199 of one percent of all health insurance claims for Vermont members.¹⁷

The government market may take a renewed look at rate setting commissions. Consider the one remaining commission, the Maryland Health Services Cost Review Commission (HSRCC), and any role it plays with regard to HIT sustainability.

There will be efforts to partially finance technology through realized savings in administration or operations. Efficiencies and improved outcomes through prevention, and primary care coordination will be illustrative.

The massive infusion of funds being introduced into the health information technology market will incent solutions that reduce HIT cost, through scale. Examples include low cost cloud based EHR’s and utilization of PHR’s.

The Government is spending billions of dollars on health and human services IT systems, whose disconnection impedes access, quality and efficiency of state and community services. The MITA architecture has introduced SOA in Medicaid and has established the foundation for the next wave of innovation. This will now become more extensible and leveraged in domains outside of Medicaid. It will bring to attention of the federal Office of Management and Budget (OMB) and Health and Human Services the need to rationalize IT spending – from multiple disconnected systems –to interoperable, connected ones supported by shared services. There will be calls for a common national health and human services business architecture and an alignment of policy and funding models.¹⁸ This will impact cost allocation. In the short term it will result in states submission of cross agency advanced planning documents being submitted to federal agencies.

Innovation – Connecting Health and Human Services

States and counties will conduct business and technology roadmaps to connect health and human services. Alabama’s Camellia Project¹⁹ is an example. So too is the roadmap undertaken in Montgomery County, Pennsylvania, by The Field Center for Children’s Policy, Practice and Research at the University of Pennsylvania with Stewards of Change, Microsoft Consulting Services and Motorola.

Data aggregation²⁰ and analytic tools will be leveraged to improve results, measure outcomes, and determine utilization of resources. Technology tools such as a common client index will be introduced to identify and track consumers and services across systems.²¹ Connected services hubs will be introduced to link disparate agencies’ systems. Kentucky, for example is employing a five year leveraged model of re-use of key enterprise functions including a connected services hub, a portal, identity management and security, document management, common client index, and development tools among Medicaid, public health, child support and health providers.

New models of service delivery including case coordination, co-location of services, and “No Wrong Door” approaches will multiply. Consider Nassau County New York’s case coordination approach including collocation of seven programs and twenty-five hundred staff.²²

Coordination of benefits will be emphasized. An example is the San Francisco Human Service Agency’s online screening and application process for health care and food assistance.²³ National models will include Single Stop Inc., which deploys technology including a benefits calculator as well as counseling staff, to assist consumers to access benefits such as food, health insurance, child care, and tax refunds.

Workforce development will be a priority. The Bill and Melinda Gates Foundation is focused on increasing the post-secondary graduation rate of students in the United States.²⁴ It is investing in technology related grants to Community Colleges to “fundamentally change how community college students are educated and ultimately, improve their graduation rates”.²⁵ The Office of the National Coordinator’s national effort to train health information technology professionals, through community colleges will begin in 2010.

Children’s services will continue to garner attention. Continuation of the children’s health insurance program will be a priority, as the insurance reform debates continue.²⁶ Models to coordinate education, public health, and human services will emanate. Kentucky’s K-Child approach creates a child’s electronic public health record starting with birth certificate, immunization and vital statistics information and connects state health agencies to birthing centers, Medicaid and children’s health providers.²⁷ California’s Blue Ribbon Commission on Children in Foster Care, and its Child Welfare Council are focusing upon data linkage strategies to coordinate services to children among systems including courts and social services.²⁸

Medicaid will play a central role in connecting commercial and public sector health information. The Alabama Medicaid Agency’s “Together for Quality” program connects Blue Cross Blue Shield and Medicaid with providers and will extend consumer access to their own health information. These efforts represent the success of Governor Riley’s administration’s focus on efficiency, access, and quality through accountable government, economic development, rural

education, IT development, and health and human services. By the fall of 2009, Alabama's citizen well-being ranking had jumped to 33rd in the Gallup Healthways Well-being Index.²⁹

Wisconsin's HIE Medicaid Emergency Department Linking Project pulls data from multiple systems—including hospital data, Medicaid claims data and prescription data - and integrates it so that physicians can easily use their existing workflow.³⁰ Providing a physician with patients historical view reduces orders for labs, imaging, medication and time to disposition.

New York's Department of Health is developing a patient centered State Medicaid HIT/HIE plan³¹. This will incent the adoption and meaningful use of HIT and support clinical practice workflow re-engineering. It will develop a continuity of care document (CCD) for each patient. It will improve care coordination through an interoperable health information exchange; patient safety through e-prescribing; and quality of care through patient-centered medical homes. Quality of care improvements will be documented by electronically reported clinically based quality metrics. The New York approach will leverage both an HIE and Personal Health Records. It will implement a Data Warehouse. It will develop models of connectivity among health provider and with other HHS agencies.

Efforts to expand access and reduce costs will focus upon consumers and agencies that are high recipients of Medicaid funding including mental retardation and developmental disabilities as well as behavioral health. The focus will be upon shared services, and integrated, enterprise approaches.³²

A priority will be long term care, in which post-acute patients who need to share information among family members and multiple providers including skilled nursing, long term care, rehabilitation therapy, assisted living, home health and hospice. Providers such as Golden Living Long Term Care are implementing models to integrate patient data from a range of providers, into a personal health record.³³ The goals behind this consumer centric approach are to improve outcomes, efficiencies and better manage chronic disease.

Community care coordination models including medical homes, chronic condition management

Achieving access, efficiencies, and improved outcomes through models of “community care”

Medical Homes

Health Choice Network

- HCN is a national model of a successful collaboration of community health centers (CHCs) with 1.7 million patients.
- CHC’s provide Primary/Specialty care, Social Services Benefits, Oral and Vision care, Mental Health, School Health, Pharmacy, Labs and more.
- Maintains a centralized IT environment serving all center locations with links to pharmacies laboratories, local hospitals and the Medicaid eligibility system.
- More than 461 dental and medical providers are utilizing the Electronic Health and Oral Health Record system.

Coordinated Chronic Care

Univ. of Miami Miller School of Medicine

- Miller School of Medicine, Jackson Memorial Hospital, the city of Miami, Microsoft Corp. and Resolute Solutions Corp. are conducting a pilot and study aimed at changing the way primary care is delivered and how patients interact with their physicians using collaborative technologies.
- The initial focus of the study is diabetes management in Overtown, a predominantly African-American neighborhood in the city of Miami.
- A key feature is the creation of a feedback loop that allows patients to stay in touch with their primary care physicians. Each interaction between doctor and patient will be recorded to populate a database of compliance measures that, in turn, will be used to promote greater awareness and increased patient responsibility for chronic condition management.

Patient-Centered Collaborative Care

Commercial Health Plans and Payors

- Medical Home, Patient Centered Medical Home, Coordinated Care, Collaborative Care – since first defined by the American Academy of Pediatrics in 1967 has been gaining momentum.
- The National Committee for Quality Assurance (NCQA) released Physician Practice Connections®–Patient-Centered Medical Home (PPC-PCMH™), a set of voluntary standards for the recognition of physician practices as medical homes.
- Key tenets: Personal Physician, Whole-patient Oriented, Coordinated Care, Quality and Safety Assured, enhanced Access and value-based Payment. All of this connected and enabled by Health Improvement Technology
- More than 22 pilots are being conducted in 14 states including some of the major employers, insurance plans and payor groups across the United States, including Blue Cross-Blue Shield, UnitedHealth Group, CIGNA and Group Health.

and patient centered collaborative care, will continue to evolve. These efforts focus upon the whole person through primary care coordination, disease management and prevention, proximity to services and access to care.

Schmuland writes of “health improvement technologies” that support collaborative care models.³⁴

Medical homes include a primary care coordinator, who provides comprehensive care coordination across all health providers.

These types of approaches leverage technologies including collaboration tools, practice management tools, EHR’s, data aggregation and analytics, performance measurement, and personal health records. In many instances they include financial incentives for primary care providers. They serve as laboratories for sustainable business models for HIT investment by identifying efficiencies and improved outcomes through HIT adoption and care coordination.

Community care coordination models will intersect with human services and education. This

will occur in areas with high concentration of disadvantaged populations, and consumers of multiple services including behavioral health, education, courts and social services.³⁵

Where to look first for Innovation

Among the states, innovation is most likely to occur where it is most needed, is manageable, and where the stakeholders are most capable. The following factors that will influence information exchange and connected health and human services:

- Size of jurisdiction: the fewer the number of consumers, providers, payers, programs and other stakeholders the greater chance of consensus
- Stability of leadership: for instance length and remaining tenure of Governor
- Streamlined decision making among government decision makers
- History of success: as evidenced by factors such as measureable outcomes, improved objective rankings, government and foundation support
- Ability to implement financial sustainability models
- Urgency: influenced by costs, outcomes, well-being of consumers, access
- Involvement of Universities, Foundations, and researchers
- Economic and workforce development strategy
- Models that measure and improve outcomes

“The community” will provide laboratories for meaningful use and HIT adoption. Community colleges will provide workforce development. Community health centers and medical homes will coordinate care. Regional extension centers and Beacon Communities will support adoption of HIT and demonstrate health information exchange. These innovations will establish:

- Efficiencies
- Improved access
- Measureable Outcomes
- Prevention
- Coordination of individual, family and population health
- Extensibility to education and human services

¹ Presented at “From Field to Fed: An Interoperable Continuum of Care.” Stewards of Change and Yale School of Management, January 5, 2010.

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⁴ See , W. D. O’Leary, “Achieving the Consumer Centered, Connected Health and Human Services Vision.” *Interoptimability*, Stewards of Change/Yale School of Management, October, 2007.

⁵ O’Leary, W.D., and David Meyers, “Connected Health and Human Services” June, 2008. http://download.microsoft.com/download/2/5/0/250e30bf-0d81-4141-bf8f-4e4ad222bfd/Microsoft_Connected_HHS_Executive_Summary.pdf

⁶ That portion of the American Recovery and Reinvestment Act, of 2009 dedicated to Health Information Technology.

⁷ “HITECH Priority Grants Program: Health Information Technology Extension Program: Facts-At-A-Glance”, http://healthit.hhs.gov/portal/server.pt?open=512&objID=1331&parentname=CommunityPage&parentid=47&mode=2&in_hi_userid=11113&cached=true

⁸ “HITECH: Priority Grants Program: Beacon Community Cooperative Agreement Program: Facts-At-A-Glance;” http://healthit.hhs.gov/portal/server.pt?open=512&objID=1425&parentname=CommunityPage&parentid=2&mode=2&in_hi_userid=10741&cached=true

⁹ “HITECH Priority Grants Program: State Health Information Exchange Cooperative Agreement Program: Facts-At-A-Glance.” http://healthit.hhs.gov/portal/server.pt?open=512&objID=1333&parentname=CommunityPage&parentid=47&mode=2&in_hi_userid=11113&cached=true

¹⁰ See, CMS letter to State Medicaid Directors outlining State Medicaid HIT planning process, September 1, 2009. http://www.nasmd.org/home/doc/SMD090109_ARRA_HIT.pdf. See also, http://www.nasmd.org/home/doc/SMD090901_EnclosureA.pdf

¹¹ See, “The Commonwealth Fund, State Scorecard”, 2009. <http://www.commonwealthfund.org/Charts-and-Maps/State-Scorecard-2009.aspx>

¹² See “West Virginia Health information Technology Statewide Strategic Plan”, September 2009, <http://www.wvhealthimprovement.org/wvhii/Attachment443.aspx>

¹³ See, <http://www.medicaidstakeholders.org/>. Forum was sponsored by the Health Foundation of South Florida, United Way of Miami Dade County, Health Choice Network, and Prestige Health Choice;

¹⁴ Bosworth, Jone, M., J.D. “In Race to ‘Meaningful’ Health IT Use, National Privacy Policy Necessary.” *Published in primer, From Field to Fed*, Stewards of Change and Yale School of Management, January, 2010.

¹⁵ For model legislation, see the District of Columbia’s Fogel Family Preservation Case Coordination Act of 2009, <http://www.dccouncil.us/images/00001/20090629164318.pdf>;

¹⁶ Uma Ahluwalia, Uma, “Montgomery County DHHS: Confidentiality in a Multi-Service Agency”, PowerPoint presentation, Stewards of Change, “From Field to Fed” Conference, January 2010.

¹⁷ See http://hcr.vermont.gov/improve_quality/healthcare_IT_fund

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- ¹⁸ See, Rick Howard, "What Business Are We In," Published in primer From Field to Fed, Stewards of Change and Yale School of Management, January 2010.
- ¹⁹ See "Camellia Project: A Connected Health and Human Services Framework for Alabama" prepared by Microsoft Institute for Advanced Technology in Governments and Systems Engineering Inc., May 2007. See also, http://www.medicaid.state.al.us/documents/News/Transformation/Camellia_Project_CHHS_Framework_Final.pdf
- ²⁰ See for example, Amalga, <http://www.microsoft.com/amalga/default.aspx>
- ²¹ See for example, VisionWare MultiView, <http://www.visionwareplc.com/custom-home.cfm?CFID=3046977&CFTOKEN=22144619>
- ²² "One Place to Go", Governing Human Services, e-letter, July 2009, <http://www.governing.com/eletters/humanservices/2009/0907hslet.htm>
- ²³ See "San Francisco Residents Apply for Benefits Online", NWN corporation, <http://www.nwnit.com/success/articles/San%20Francisco%20Residents%20apply%20for%20Benefits%20on-line.asp>
- ²⁴ See, "With Their Whole Lives Ahead of Them", Public Agenda, Bill and Melinda Gates Foundation, <http://www.publicagenda.org/TheirWholeLivesAheadofThem>
- ²⁵ "Emerging Technologies Ready to Reshape Community Colleges:", Bill and Melinda Gates Foundation, December 3, 2009
- ²⁶ Berthold, Linda, "What's Next for Health Reform?:", The Huffington Post, December 28, 2009. http://www.huffingtonpost.com/linda-berthold/whats-next-for-health-ref_b_405133.html
- ²⁷ "Commonwealth of Kentucky Sets Out to Create a Statewide e-Health System" Microsoft Case Studies, 7/27/07, http://www.microsoft.com/casestudies/Case_Study_Detail.aspx?CaseStudyID=4000000314
- ²⁸ See ,Data Linkage and Information Sharing Committee, California Health and Human Services Agency; <http://www.chhs.ca.gov/initiatives/CACildWelfareCouncil/Pages/DataInformationandDataSharingCommittee.aspx>. See also, New California Child Welfare Council Created to Address Needs of Children, press release November 14, 32007; <http://www.chhs.ca.gov/initiatives/CACildWelfareCouncil/Documents/Child+Welfare+Council+Release.pdf>
- ²⁹ See, <http://www.ahiphiwire.org/WellBeing/Tools/Map.aspx>
- ³⁰ See Wisconsin Health Information Exchange, <http://www.whie.org/>
- ³¹ Figge, James J., M.D., M.B.A., "NY Medicaid's HIE/Enterprise Architecture: Using Recover Act (ARRA) Funding to Improve Care for Medicaid Beneficiaries" presentation, MMIS Conference, Chicago, Ill., 2009, http://www.mmisconference.org/MMIS2009_Presentations_PDFs/Tuesday/Value%20in%20Sharing%20Medicaid%20Data/Tuesday_ValueSharing_Figge_v2.pdf
- ³² See, Brande, Evan. "It's OK to Use Multiple Applications," Behavioral Healthcare, June 2009.
- ³³ Wagner, Mitch, "Microsoft Amalga Unifies Health Records", Information Week Healthcare, December 17, 2009. <http://www.informationweek.com/news/healthcare/EMR/showArticle.ihtml?articleID=222002454>
- ³⁴ Schmuland, Dennis, M.D., FAAFP, "Health Improvement Technologies", Health Management Technology, May 2009, http://www.healthmgtech.com/features/2009_may/0509_health.aspx