

Establishing a Foundation for Medicaid's Role in the Adoption of Health Information Technology:

Opportunities, Challenges, and Considerations for the Future



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Executive Summary

Recent advances in health information technologies (HIT) and health information exchange (HIE), in concert with Federal initiatives aimed at establishing standards for HIE hold great promise for improving healthcare quality, effectiveness, and efficiency for all Americans. Yet concerns have been raised that Medicaid programs – the largest purchaser of healthcare for low income and vulnerable populations in the United States – are at risk of being left behind in this information revolution unless key issues are addressed in a timely manner.

This report summarizes the findings of an Agency for Healthcare Research and Quality funded project conducted from October 2005 through August 2006. The goal of the project was to clarify the key issues and challenges for Medicaid's participation in HIT and HIE efforts, and to present opportunities for State Medicaid agencies and researchers to leverage the potential of HIT and HIE to control costs and improve the quality of care for Medicaid recipients. Findings and recommendations in this report reflect the work of a national advisory committee comprised of Medicaid policy and HIT experts, literature and web reviews, interviews with State and Federal agencies, and feedback from an expert panel meeting held in May 2006.

Key Findings

1. There is considerable interest and drive to support HIT adoption and HIE from the Federal Government in order to improve the healthcare of all Americans.
 - a. As one of the largest healthcare purchasers, Medicaid has significant leverage to support HIT and HIE adoption.
 - b. Medicaid's participation in community and regional HIE will help facilitate system-wide adoption by key providers and payers/purchasers.
2. Medicaid populations are likely to experience significant improvements in healthcare quality and improved health outcomes with appropriate use of HIT and HIE.
 - a. For this to occur, adoption and use of HIT by Medicaid providers is essential.
 - b. Medicaid has the potential to promote and support HIT and HIE at provider sites through financial and regulatory means.
3. Medicaid agencies are likely to improve the efficiency of their operations and be in a position to better control costs by supporting provider adoption of HIT and HIE.
 - a. Medicaid is well positioned to make internal investments to facilitate HIE through existing Medicaid Management Information System (MMIS) mechanisms using the Medicaid Information Technology Architecture (MITA) initiative.
 - b. Because of the differences in State Medicaid agencies and their information systems, each agency will provide unique opportunities and challenges where experimentation may lead to innovative approaches to support the adoption and effective use of HIT and HIE.

4. In order for Medicaid agencies to achieve cost, efficiency, and quality improvements while promoting system-wide adoption of HIT and HIE, specific issues must be addressed, including:
 - a. Clarification of the business case for Medicaid’s participation in HIT and HIE initiatives from the administrative, clinical, and public health perspectives.
 - b. Guidance on the Federal financial participation resources available for Medicaid agencies in these efforts.
 - c. Clarification of the legal and regulatory opportunities and limitations regarding Medicaid’s use of HIT and HIE.
 - d. Development and demonstration of appropriate mechanisms that support HIT adoption for selected providers participating in the Medicaid program.

Needed Future Research and Policy Development

While addressing the policy needs of State and Federal agencies will be an ongoing process, further research and policy development will help to clarify specific issues regarding Medicaid and its potential investments in HIT and HIE. Some key needs for policy development and future research identified by panel participants include:

- a. The creation of an objective forum where lessons learned, new developments, and the opportunities/challenges in relation to HIT and HIE could be shared specifically by Medicaid agencies and other stakeholders from multiple States.
 - i. The forum should include public and private stakeholders.
 - ii. The forum should consider various topics relating to Medicaid and HIT/HIE, including but not limited to:
 - Medicaid claims and MMIS;
 - EHR and PHR initiatives relative to Medicaid;
 - HIE; and,
 - Program administration.
- b. The performance and dissemination of detailed economic and policy analysis from the Medicaid perspective in the following areas:
 - i. Economic analyses that include Federal financial participation (FFP) and MITA considerations in HIT/HIE implementation;
 - ii. More precise estimates of potential savings for Medicaid agencies from specific HIT/HIE initiatives;
 - iii. State level economic analysis that includes and goes beyond the Medicaid perspective (e.g. departments of mental health, departments of public health, other State efforts to address health costs and quality); and,
 - iv. Exploration of the population health opportunities that may be created by linking Medicaid and public health data sources.

- c. Research and development of best practices for the integration of behavioral health and other “high-risk” population data with HIE initiatives.
 - i. Pilot and evaluate HIT in community mental health settings and other specialized settings for high-risk populations.
 - ii. Survey and analyze “best practices” related to HIE and high risk populations.
- d. Research and development of methods and tools that use information created in clinical HIT systems to facilitate ongoing research, quality measurement, and quality improvement.

In summary, panel participants recognized the substantial opportunities and challenges that Medicaid agencies face in leveraging HIT and HIE to improve the quality of healthcare delivery and the efficiency and effectiveness of Medicaid agencies. Panel participants were grateful to AHRQ for creating a forum for exploring these issues. The full report which follows provides background information supporting the key findings and considerations for the future.

Introduction

The Agency for Healthcare Research and Quality (AHRQ) has been a key facilitator of the nation's strategy to improve the quality of healthcare by advancing the appropriate and effective use of health information technologies (HIT). As of August 2006, the AHRQ HIT initiative includes over \$160 million in grants and contracts to support and stimulate investment in HIT in 41 States, especially in rural and underserved areas. Through these and other projects, AHRQ is committed to identifying challenges in the adoption and use of HIT and health information exchange (HIE). AHRQ is also committed to addressing problems and supporting best practices for making HIT and HIE work to improve quality of care in real world settings.

Recent advances in HIT and the ever expanding use of the internet for non-health information exchange, along with leadership at the Federal level aimed at establishing standards for HIE, hold great promise for HIT to improve healthcare quality and efficiency for all Americans.

Concerns have been raised that Medicaid – the largest purchaser of healthcare for low income and vulnerable populations in the United States – is at risk of being left behind in this information revolution unless key issues are addressed in a timely manner. The purpose of this report is to summarize the issues and opportunities for Medicaid's participation in HIT and HIE efforts, and to present recommendations to researchers so they may help Medicaid agencies make more informed decisions as they consider ways to harness the potential of HIT and HIE to improve the quality of care for Medicaid recipients while controlling costs.

Methods

To accomplish the goals of this project, a national advisory committee of experts and policy leaders from Federal and State governments, policy organizations, Medicaid management information system vendors, and healthcare provider groups was convened to identify key issues for Medicaid agencies in regard to HIT and HIE (see Appendix A for a list of advisory committee members). The print and web-based literature were reviewed and interviews were conducted to identify the key opportunities and challenges for the participation of Medicaid agencies in HIT and HIE. Areas covered by the literature and web reviews and interviews include the use of HIT and HIE to improve quality of care for Medicaid recipients, efficiencies to be gained in Medicaid operations through the use of HIT and HIE, specific legal and regulatory issues for Medicaid agencies as they consider HIE, and potential financial incentives and non-financial supports for the adoption and use of HIT and HIE by providers who disproportionately serve Medicaid recipients.

For the purposes of this project, we use the definition of HIT proposed by the Office of the National Coordinator for Health Information Technology and the definition of HIE as proposed by the e-Health Initiative Foundation. We recognize that many definitions of these technologies are being used in the industry today, and that these represent very broad terms that include within them other specific technologies and business processes. The definitions are as follows:

Health Information Technology (HIT) - The application of information processing involving both computer hardware and software that deals with the storage, retrieval, sharing, and use of healthcare information, data, and knowledge for communication and decisionmaking (Brailer, 2004).

Health Information Exchange (HIE) - The mobilization of healthcare information electronically across organizations within a region or community. HIE provides the capability to electronically move clinical information between disparate healthcare information systems while maintaining the meaning of the information being exchanged. The goal of HIE is to facilitate access to and retrieval of clinical data to provide safer, more timely, efficient, effective, equitable, patient-centered care (eHealth Initiative, 2005).

Initial findings from the literature reviews and interviews were presented to an expert panel meeting held May 26, 2006 in Washington, DC (refer to Appendix B for the expert panel meeting agenda and Appendix C for a list of expert panel attendees). This report represents the distillation of the literature review, interviews, and discussion at the expert panel meeting. It is hoped that the identified opportunities and considerations will be of help to Federal and State policymakers as well as States involved in promoting improved quality of care through the appropriate use of HIT and HIE.

Background

Medicaid 101

Medicaid is one of the largest healthcare purchasers in the United States. In 2005 Medicaid served over 55 million Americans and spent more than \$304 billion on healthcare services (Kaiser Commission on Medicaid and the Uninsured, 2006). The Medicaid program is administered by States in partnership with the U.S. Department of Health & Human Services' (DHHS) Centers for Medicare and Medicaid Services (CMS). Medicaid covers healthcare services for a highly complex and vulnerable population that is subject to frequent and complex encounters with the healthcare system. Although there is overlap among Medicaid, commercial insurers, and Medicare in populations served, Medicaid covers a disproportionate share of low income families, pregnant women, and persons with severe disabilities and chronic medical and psychiatric conditions. Medicaid also covers the elderly in need of long term care, including those who are 'dually- eligible' for both Medicaid and Medicare services (Kaiser Commission on Medicaid and the Uninsured, 2004).

Medicaid covers many services - such as community-based supports and long term care - that are not typically covered by commercial insurers or Medicare. In addition, Medicaid expenditures are disproportionately greater for elderly and disabled adults than for non-elderly, non-disabled adults and children. This makes Medicaid the predominant purchaser of services in several provider settings, including nursing homes, community health centers, and public health hospitals, and for specific population groups (Kaiser Commission on Medicaid and the Uninsured, 2005).

The Medicaid Management Information System

The Federal Government first required States to implement Medicaid Management Information Systems (MMIS) in 1972. The MMIS was envisioned primarily as a claims processing engine to enhance States' ability to accurately pay Medicaid providers in a timely manner. States have had significant flexibility under Federal regulations to design their information systems around the specific needs of their programs. As Medicaid agencies evolved, supporting business applications were incorporated into many State's MMIS to address the issues of fraudulent claim

detection, coordination of benefits with other insurers, management reporting, and utilization review.

New technologies have extended the reach of MMIS. For example, claim history files have been accumulated into data warehouses and data marts for easier analysis. Data mining techniques have been found to be useful in identifying population characteristics. In addition, on-line analytical processing (OLAP) is frequently used in conjunction with the data mining activities of the MMIS for complex data analysis and time-series modeling and forecasting. Some States have also focused their MMIS investments on the development of consumer access portals, immunization registries, and e-prescribing capacities.

Medicaid agencies currently make significant investments in information technologies (IT) through their MMIS. In FY 2004, combined State and Federal spending for Medicaid IT investments were over \$2.7 billion (Centers for Medicare and Medicaid Services, 2006). MMIS systems developed and maintained by individual States are eligible for a 90 percent Federal financial participation (FFP) match on design, development, and installation and a 75 percent FFP for ongoing operational maintenance (42 U.S.C. §1396b(a)(3), 2004).

The evolution of 51 separate MMIS systems (one for each State and the District of Columbia) and multiple proprietary subsystems has resulted in a number of challenges as Medicaid agencies consider their involvement with a wider health information community. Within many Medicaid agencies, the dependence on multiple and often proprietary subsystems to accomplish necessary tasks has resulted in redundancies in processes and personnel. This has also made it difficult to exchange data within Medicaid agencies, with publicly funded healthcare programs, and with other State or private healthcare delivery systems. The inherent difficulties associated with data sharing by Medicaid agencies have driven CMS to invest in State MMIS modernization.

The Medicaid Information Technology Architecture (MITA) Initiative

To address the difficulties facing Medicaid information systems, CMS implemented the Medicaid Information Technology Architecture (MITA) Initiative in 2002. MITA, a collaboration among CMS, States, and other stakeholders, provides guidance for States reviewing their business priorities, planning future improvements, and acquiring technical applications that both meet their needs and are consistent with current and anticipated industry IT standards.⁸ MITA is aligned with the National Health Information Infrastructure (NHII; now known as the Nationwide Health Information Network, or NHIN), and is intended to foster integrated business and information technology transformation and improve the administration of Medicaid agencies.

MITA promotes the use and adoption of data and industry IT standards for MMIS modernization. These standards are meant to support interoperability and integration among State agencies, public and private purchasers and providers, and other stakeholders in order to address the real and perceived barriers for data sharing between these organizations.

CMS, through MITA, provides guidance for States to maximize the interoperability of their information systems within the framework of Federal Medicaid/MMIS requirements. One of the

⁸ For more information on MITA see: <http://www.cms.hhs.gov/MedicaidInfoTechArch/>; (Accessed August, 2006).

unique potential opportunities presented by MITA includes CMS support for infrastructure development that enables Medicaid to interact with HIE efforts such as regional health information organizations (RHIO)⁹ in order to share claims, eligibility, and clinical data.

Numerous Medicaid agencies have begun work on developing new Medicaid Management Information Systems (MMIS) that exchange some data with providers to, for example, exchange electronic eligibility and claims data and support immunization registries for broad community use. These advances in administrative IT systems represent an initial step in the modernization of Medicaid IT systems.

Recent Developments and Direction for HIT and HIE at the Federal Level

Federal leadership and support of healthcare innovations including information technologies has had an important influence on the movement toward the adoption of HIT and HIE. Many Federal agencies have demonstrated their recognition that HIT and HIE are valuable tools that can improve the quality of healthcare delivery to the nation's citizens, including the underserved.

In addition to their work to standardize and advance the architecture of Medicaid MMIS through MITA, CMS has been supporting HIT initiatives for healthcare quality improvement. In 2003 CMS began the Doctor's Office Quality (DOQ) project. The project was designed to develop and test a comprehensive, integrated approach to measuring the quality of care for chronic disease and preventive services in physicians' offices. One subproject, the DOQ - Information Technology (DOQ-IT) project, was a 2-year demonstration program to promote the availability of high quality affordable HIT in physician offices as a means of improving the quality of care and patient safety services provided to Medicare recipients. Physicians were provided technology implementation, planning, and workflow redesign assistance. Quality measures collected through the DOQ-IT program were reported back to the Quality Improvement Organization Clinical Warehouse (a central data repository). Participating physicians had the ability to access feedback reports on quality measures that allowed them to monitor their performance and receive comparison data (State and national) on DOQ quality measures. Although this demonstration program ended in 2005, CMS opted to continue the project due its success.

In January 2006, CMS awarded \$6 million in grants to conduct tests of electronic prescribing standards under the Medicare Prescription Drug Improvement and Modernization Act of 2003 (MMA). Most recently, through the Deficit Reduction Act (DRA), \$150 million has been made available over a two-year period for transformation grants for Medicaid agencies to promote the efficiency and effectiveness of their programs, with HIT specifically listed as a permissible use of the funds.

The Health Resources and Services Administration (HRSA) has been providing funding for telehealth and other related HIT through its Office for the Advancement of Telehealth since 2002. In 2005 HRSA created the Office of Health IT (OHIT) to promote the adoption and use of

⁹ The Health Information Management Systems Society defines a RHIO as a multi-stakeholder organization that enables the exchange and use of health information, in a secure manner, for the purpose of promoting the improvement of health quality, safety, and efficiency. See: http://www.himss.org/ASP/topics_FocusDynamic.asp?faid=143

HIT in the safety net. Their mission is to promote the adoption and effective use of HIT by safety net providers in order to improve access, quality, and patient outcomes. In addition, the OHIT administers the telehealth and health center controlled network programs.

President Bush announced his support for the widespread adoption of electronic health records (EHR) in 2004 when the executive branch began a ten-year HIT plan to support standards development, undergo a Federal Government review of existing HIT programs, and provide limited funding for HIT. The Office of the National Coordinator (ONC) for HIT, a sub-cabinet level position within the Department of Health and Human Services (DHHS), was created by Executive Order at this time.

In July 2004, David Brailer, the first appointed National Coordinator, and Tommy Thompson, then Secretary of DHHS, released *The Decade of Health Information Technology: Delivering Consumer-centric and Information-rich Healthcare Framework for Strategic Action* (Brailer, 2004). This national strategic framework outlined the four sequential goals of the Office of the National Coordinator for HIT (ONC) and DHHS in regard to HIT: inform clinicians; interconnect clinicians; personalize care; and, improve population health.

Also in 2004, AHRQ awarded more than 100 research grants to evaluate specific applications of HIT and their impact on healthcare quality, and five State demonstration contracts to support the development of Statewide or regional health information exchanges. In addition to this funding for HIT and related efforts, AHRQ created a National Resource Center for Health Information Technology that provides significant research and informational resources to AHRQ contractors and grantees as well as the general public.¹⁰

Since the release of the national strategic report, new initiatives in DHHS, in collaboration with other Federal agencies, have been advancing the recommendations from the framework. In 2005, DHHS provided \$48.5 million in contracts intended to promote the use of HIT. Much of the funding has come from ONC to address standards harmonization processes, compliance certification, Nationwide Health Information Network Prototypes, measurement of the adoption of HIT, and convening activities.

In 2005, AHRQ awarded an \$11.5 million contract to RTI International to assist States in assessing variations in business practices and policies related to privacy and security in health information exchange and developing solutions and implementation plans. The Privacy and Security Contract, co-managed by ONC, received an additional \$5.3 million from ONC in 2006 to expand the work at the State level.

On September 13, 2005, DHHS Secretary Mike Leavitt announced the creation of the American Health Information Community advisory body to incorporate public and private sector input and recommendations on how to make health records digital and interoperable, and on how to assure the privacy and security of the electronic exchange. The advisory body has formed six workgroups that focus on consumer empowerment, chronic care, electronic health records, biosurveillance, and confidentiality, security, and privacy. The charter of these workgroups is to make recommendations “that will produce tangible and specific value to the healthcare consumer

¹⁰ See: AHRQ National Resource Center for Health Information Technology: <http://healthit.ahrq.gov>

that can be realized within a one-year period,” (American Health Information Community, 2006). On August 22, 2006, President Bush signed an executive order calling for the adoption of HIT and quality and price transparency for Federal Government sponsored healthcare programs (The White House, 2006).

Other Federal agencies have begun initiatives related to the national health information strategy, supporting HIT and HIE as tools for improving the quality of healthcare. Although it goes beyond the scope of this paper to describe these activities in detail, it is clear that the Federal Government recognizes the potential impact of HIT and HIE on the delivery of healthcare and is willing to support innovation through the use of these tools.

Key Opportunities for Medicaid Through HIT and HIE

The following section outlines the potential positive impacts of advanced HIT and HIE on Medicaid populations and programs as identified through the literature review, advisory committee members, and expert panelists.

Improving the Quality of Care for Medicaid Recipients

Medicaid recipients are often in poorer physical and mental health condition than populations covered through commercial insurance (Hadley & Holahan, 2003). Over 60 percent of Medicaid recipients have at least one chronic or disabling condition. Almost half of the recipients have been diagnosed with a second chronic or disabling condition (Allen, 2000). A significant number (up to 25 percent as measured by claims) of Medicaid recipients have a mental health or substance abuse disorder (Garis & Farmer, 2002). Because of the high level of disease burden, Medicaid patients’ utilization rates of health services are substantial (Garis & Farmer, 2002). These high rates of service utilization result in the potential for increased risk of medication errors and other types of medical errors. As a result of their socio-economic circumstances, additional burdens on many Medicaid recipients negatively impact their receipt of healthcare services as well. Due to the eligibility structure of Medicaid, some Medicaid recipients “churn” in and out of Medicaid eligibility status, moving from uninsured, to commercially insured, to Medicaid eligible, and back. This and other factors often lead Medicaid recipients to seek healthcare services and medications at multiple sites of care, compromising the accuracy and completeness of healthcare records.

Advanced HIT and HIE have the potential to mitigate some of the challenges faced by Medicaid recipients and providers, and to improve the quality and outcomes of healthcare services. Although few peer-reviewed studies have focused specifically on the ability of HIT to improve quality of care for Medicaid-eligible populations, potential improvements can be inferred from studies involving broader populations, as well as from non-published experiences in the field. The potential improvements in healthcare delivery and quality for Medicaid recipients with the appropriate use of advanced HIT and HIE include:

Improved Information Availability at the Point of Care. As stated above, many Medicaid recipients receive healthcare services at multiple sites of care and experience frequent changes in coverage and eligibility status. This is a difficult issue for clinicians as they may not have access to needed information at the point of service. Advanced HIT use at the provider site with fully interoperable HIE among providers, purchasers, service delivery organizations, and other

healthcare institutions such as laboratories, radiology centers, and pharmacy benefit management organizations (PBMs), has the potential to make essential clinical and coverage information accessible at the point of care.

EHRs and other advanced clinical HIT systems have the potential to integrate patient specific data with medical information derived from evidence-based guidelines, increasing the likelihood that Medicaid recipients receive the most appropriate care. HIT applications such as e-prescribing, for example, would then allow the clinician to send specific prescriptions to the pharmacy. HIE between Medicaid agencies and providers would allow providers to access specific program information such as pharmaceutical drug lists, program guidelines, and electronic prior approval information. HIE will increase the likelihood the appropriate covered medications are prescribed and facilitate the comprehensiveness of care, from the Medicaid, the clinician, the pharmacy, and the patient perspectives.

Improved Chronic and Preventive Care. Evidenced-based guidelines have increasingly become the focus of quality improvement efforts. Yet studies have shown that these guidelines are not widely used (McGlynn et al., 2003). Advanced HIT with clinical decision support systems (CDSS) incorporate current evidenced-based guidelines for preventive care and treatment of chronic diseases and have the potential to substantially improve compliance with recommended care for Medicaid recipients. The difficulty of detecting early-stage chronic conditions, combined with the high costs and the challenges of advanced treatment, highlight the potential impact of HIT and HIE in this area.

The appropriate use of advanced clinical HIT systems facilitates comprehensive screening and chronic disease monitoring for all populations. For the pediatric population, particular capacities of HIT include developmental monitoring and tracking of immunizations, tests, and other orders required under Early and Periodic Screening, Diagnostic, and Treatment services (EPSDT).

Reducing Medication Errors. Concern about medical errors and patient safety has been a top priority of health services research and a major impetus for the HIT movement. The IOM identified patient safety as one of the predominant healthcare issues facing the nation and stated that health information technology is critical to achieving safe, effective, patient-centered, timely, efficient, and equitable care (Institute of Medicine, 2001). There have been a number of studies demonstrating that computerized prescription order entry and e-prescribing by clinicians offers significant opportunity for improvement in appropriate prescribing and dosing.¹¹

Given the high burden of disease and utilization of services, Medicaid patients are at greater risk for experiencing medical errors. This risk may be especially true in long term care settings where Medicaid is the primary purchaser (Kaiser Commission on Medicaid and the Uninsured, 2005). The age and frailty of patients in these settings coupled with the high volume of medication use and complexity of drug interactions and side effects increases the risk of medication errors in these settings (Gurwitz et al., 2000). Advanced HIT in these settings, such as CPOE, has the potential to significantly lower the number of preventable medication errors in the future,

¹¹ For more information see: Bates DW, Leape LL, Cullen DJ, Laird N, Petersen LA, Teich JM, et al. Effect of computerized physician order entry and a team intervention on prevention of serious medication errors. *JAMA* 1998;280:1311-6., Bates DW, Teich JM, Lee J, Seger D, Kuperman GJ, Ma'Luf N, et al. The Impact of Computerized Physician Order Entry on Medication Error Prevention. *J Am Med Inform Assoc* 1999; 6:313-21.

particularly as the population ages over the next decade and more people enter the long term care system.

Coordinating and Integrating Care/Improving Access to Clinical Information.

Coordination of medical care has been defined as the “availability of information about prior problems and services and the recognition of that information as it bears on the needs of current care” (Starfield, 1998). Clinical Integration has been further defined as “the extent to which patient care services are coordinated across people, functions, activities, and sites over time so as to maximize value of services delivered to patients” (Shortell et al., 2000).

Coordination and integration of care is a significant challenge for Medicaid recipients who receive a broad array of services including chronic disease management, pharmaceutical management, mental health, substance use, and primary care. The lack of care coordination especially among multiple physical health, mental health, and substance use clinicians, results in care that may be duplicative, counter productive, and potentially harmful to “high-risk” populations.

- HIE efforts integrated with Medicaid agencies have the potential to link providers with information across sites and settings, and to make essential information available at the point of care for primary care clinicians, medical specialists, mental health providers, substance use providers, pharmacies, laboratories, and radiology.
- Integrated information is particularly useful when considering the prevalence of chronic conditions, mental health issues, substance abuse issues, and disability issues of the Medicaid population.
- Integration and coordination of care is especially important in the long term care setting where the population has diverse healthcare needs and transitions among acute care settings, residential facilities, and home and community based settings frequently occur.

Quality Monitoring and Program Improvement. Attempts to improve the quality of healthcare are currently hampered by the expense and delays associated with the extraction of clinical information from paper-based medical records. It is difficult to collect performance data at the provider, group, and organization level and to report results to relevant audiences to support ongoing quality improvement efforts. It is equally challenging for provider organizations and insurers to offer timely and meaningful feedback from clinical data sets, so that they can exert pressures for provider improvement (Berwick et al., 2003). These challenges are multiplied for the complex, difficult-to-manage, highly mobile, and potentially expensive Medicaid populations. Electronic data are essential if Medicaid and the Medicaid managed care organizations (MMCOs) are to increase their capacity for improving and managing quality of care and health outcomes at the population level.

Improving Efficiency and Saving Costs for Medicaid Agencies

The capacity of HIT and HIE to improve the efficiency and effectiveness of healthcare administration is especially salient for Medicaid agencies. Working within the broader context of a national healthcare information infrastructure, Medicaid agency administrators have the

opportunity to improve their administrative effectiveness to address a broad range of complex economic and programmatic challenges. Appropriate HIT and HIE policies could address many of the difficult operational issues facing Medicaid agency administrations at both the Federal and State level and could contribute to program sustainability.

Administrative Data (Claims and Eligibility) HIE. Cost savings for purchasers, providers, service delivery organizations, and other healthcare entities have been demonstrated through the electronic exchange of administrative information including claims and eligibility verification data. One study from the New England Electronic Data Interchange Network determined that the average labor and material cost of a single claim transaction submitted via paper and e-mail was \$5.00, whereas the same transaction exchanged electronically was \$0.25 (Halamka et al., 2005). Moving claims transactions to an electronic format creates a substantial savings over paper-based claims transactions.

The Utah Health Information Network (UHIN), a regional health information organization (RHIO)¹², developed over a decade ago out of the community health information network (CHIN) movement¹³, has been actively engaged in administrative health information exchange with multiple stakeholders in the State of Utah. The business model for their non-profit organization has been based on the demonstrated savings they have achieved by transmitting claims and eligibility verification information electronically. The Utah Medicaid agency is an active participant in UHIN and processes a majority of Medicaid claims through UHIN. Since their involvement in UHIN, the Medicaid agency has been able to redeploy 12 full-time employees from claims adjudication and eligibility verification to other essential programs.¹⁴

In addition to cost savings, additional efficiencies can be gained by Medicaid agencies through administrative HIE. One of the most apparent efficiencies is in the reduction of provider administrative burden. In interviews with providers regarding their interaction with Medicaid agencies, one of their primary issues, besides low payment rates,¹⁵ was the difficulty in doing business with Medicaid. The primary burdens cited were proprietary claims, claim attachment and remittance formats, the difficulties with prior approval, and Medicaid-specific provider credentialing. Administrative burdens - including the paperwork required of participating providers - have been correlated with low Medicaid participation by primary care providers (Berman et al., 2002).

The difficulty in managing healthcare issues for Medicaid covered populations coupled with potential administrative burdens make participation in Medicaid a difficult choice for some providers. If administrative burdens for providers are reduced through standardizing claims, eligibility, and other administrative processes, existing Medicaid providers may accept more

¹² The Health Information Management Systems Society defines a RHIO as a “multi-stakeholder organization that enables the exchange and use of health information, in a secure manner, for the purpose of promoting the improvement of health quality, safety, and efficiency.” See http://www.himss.org/ASP/topics_FocusDynamic.asp?faid=143

¹³ For more information on CHIN development see: Starr. P. Smart Technology, Stunted Policy: Developing Health Information Networks. Health Aff 1997 May/June;16(3):91-105.

¹⁴ Personal communication: Brenda Bryant, Assistant Director, Utah Division of Healthcare Finance, Utah Department of Health, May 26, 2006.

¹⁵ According to the Kaiser Commission on Medicaid and the Uninsured and Health Management Associates, in general across the nation Medicaid payment rates are lower than any other payer. In FY 2005 and 2006, forty-nine States froze Medicaid payment rates. For more information see: Vernon S, Gifford K, Ellis E, Wiles A. Medicaid Budgets, Spending and Policy Initiatives in State Fiscal Years 2005 and 2006: Results from a 50-State Survey. Kaiser Commission on Medicaid and the Uninsured. October 2005.

Medicaid recipients into their patient panels. In addition, affording all providers (Medicaid and non-Medicaid) a common, single access portal that standardizes processes and communication across all payers and purchasers, as demonstrated by the RHIO models, may increase the number of providers participating in Medicaid. Therefore, an integrated approach that reduces the administrative burden on all providers and supports the electronic exchange of administrative data can increase the availability of services to Medicaid recipients, reduce Medicaid program costs through transaction savings, and improve provider participation and satisfaction with Medicaid.

Clinical Data HIE. Discussions of HIT and HIE have progressed since the implementation of the Health Insurance Portability and Accountability Act in 1996. More and more focus has been paid to clinical health information collected at the point of care through electronic health records and other advanced clinical systems. The appropriate and efficient use of this data has demonstrated quality improvements and cost savings in controlled settings. Although very little research has been conducted to date to assess the opportunities for Medicaid agencies in regard to clinical HIE, the investment strategies and lessons of the private and commercial payers in clinical HIE demonstrate the potential for programmatic efficiencies and reduction in costs while supporting higher quality care (see Appendix D for details on the private commercial payer perspective).

Better Automation of the Prior Approval Process. Interoperable HIT and HIE can reduce or eliminate the paperwork and time associated with prior authorization (PA). PA is a timely and expensive task. PA is used to encourage appropriate use of medical services, including drug utilization. With access to an electronic health record, Medicaid could make more timely approvals by having the information needed to determine authorization for services more readily available. Some prior authorizations could be completely automated using simple decision trees, based on information in the medical records, such as laboratory or radiology results. This automation could increase the usefulness of PA, reduce administrative burdens on care providers, and reduce administrative costs for Medicaid agencies.

Improved Quality Measurement and Reporting. HIE between providers and Medicaid has the potential to minimize much of the data collection that is required for quality monitoring and improvement purposes. The need for expensive medical record reviews and other data gathering efforts would be reduced by installing effective systems for the exchange of clinical data. These systems would significantly reduce the administrative burden on both Medicaid providers and Medicaid agencies, and improve the timeliness and accuracy of data used for quality improvement purposes such as the Health Plan Employer Data and Information Set (HEDIS).

Improved Detection of Fraud, Abuse, and Inappropriate Care. The detection of inappropriate, wasteful, and fraudulent medical services is an ongoing issue for Medicaid agencies. Some States, such as Florida and Texas, are using their IT infrastructure to better detect fraudulent and abusive practices.¹⁶ Advanced clinical HIT at the provider site along with the appropriate interoperability to Medicaid agencies could facilitate real-time capture of data

¹⁶ See: "Annual Report on The State's Efforts to Control Medicaid Fraud and Abuse FY 2004 – 05" Submitted by: The Agency for Healthcare Administration and Medicaid Fraud Control Unit (MFCU) Department of Legal Affairs; January 2006 and "Texas Medicaid Fraud and Abuse Detection System Recovers \$2.2 Million, Wins National Award," Health Management Technology, Nov. 1999.

needed to detect fraud and abuse. This in turn could reduce Medicaid agency spending while improving care delivery.

An expanded body of research points to the potential for HIT to reduce inefficient, redundant, and duplicative procedures.¹⁷ It is apparent from this research that HIT enabled with the capacity for HIE with other providers and payers/purchasers has the potential to supply clinicians with better information that would result in reductions of unnecessary medical procedures and more effective medical care. The increase in effectiveness of care could then be translated into significant reductions in medical assistance payments for all payers including Medicaid agencies.

Reduction in Medication Costs Through Electronic Drug List Access and Generic Substitution. Medication costs have been an ongoing issue for Medicaid agencies. Although spending growth for Medicaid agencies has been below the private market in recent years, prescription drug spending in Medicaid grew at an average rate of 16.4 percent per year from 2000-2004 (Kaiser Commission on Medicaid and the Uninsured, 2006). This growth in drug spending will be difficult to sustain. The appropriate use of HIT may reduce drug spending significantly across the healthcare spectrum (Johnson et al., 2003). This reduction is possible if clinicians are provided with electronic access to Medicaid and other payer/purchaser drug lists and prior approval requirements along with decision support functions that incorporate generic substitution information. Facilitating this electronic access through a single common portal to all payers/purchasers may increase the likelihood of HIT adoption by providers by reducing their administrative burden.

Using Administrative Data to Improve Provider Efficiency and Effectiveness. In the absence of advanced clinical HIT systems at provider sites, payers and purchasers such as Medicaid can facilitate provider efficiency and effectiveness by providing clinically relevant claims data to providers at the point of care. There is a significant amount of clinically relevant data embedded in claims that would be useful to providers in the presence or absence of an advanced electronic health record (EHR). Fallon Community Health Plan, through their AHRQ-funded Secure Architecture for Exchanging Health Information project, demonstrates this usefulness.¹⁸ Using an internally developed IT application, Fallon provides weekly extracts of claims, diagnoses, procedures, and dates to each provider's rudimentary on-line electronic chart called Quick Charts. This system has demonstrated multiple benefits for the plan in supporting coordination of care, health maintenance and disease management, medication compliance, targeted quality improvement, and improved patient safety.¹⁹

Coordination with Public Health Efforts to Ensure Accurate and Efficient Population Tracking and Monitoring. Improved coordination and integration of data with public health and other public agencies has become increasingly important in the wake of hurricanes Katrina and Rita and the threats of terrorism. State Medicaid agencies have a significant amount of data that is currently being shared with public health agencies in many States. These data however, are not integrated or interoperable with other databases. Medicaid agencies have much to gain and contribute to a fully interoperable data exchange effort with public health agencies for both

¹⁷ See: Office of the National Coordinator for Health Information Technology, *Framework for Strategic Action*, 2004.

¹⁸ See: <http://www.safehealth.org/index.htm>, last accessed 7/06/2006

¹⁹ Personal communication with Larry Garber, MD Vice President of Safe Health and Medical Director for Informatics at Fallon Clinic.

the safety and monitoring of the population as a whole, and also for programmatic and policy development within Medicaid itself.

Regional and national public health initiatives incorporating an integrated IT infrastructure are currently underway. One example is the Centers for Disease Control and Prevention (CDC) Public Health Information Network (PHIN) project. The goal of PHIN is to link interoperable information systems across all the organizations that participate in public health.²⁰ Although the PHIN will focus on healthcare and health related data critical in times of public disease outbreaks or potential bioterrorist attacks, the infrastructure is usable for immunization registries and has the potential to be used to facilitate the day-to-day monitoring, tracking, and management of specific populations.

Using the Medicaid Managed Care Contracting Process to Promote HIT and HIE. Over 60 percent of Medicaid recipients were enrolled in managed care in 2004, up from only 9 percent in 1990 (Kaiser Commission on Medicaid and the Uninsured, 2005). The increasing use of managed care organizations by Medicaid agencies may represent an opportunity for Medicaid agencies to use the Medicaid managed care organization (MMCO) contracting process to support quality improvement and HIT adoption. MMCOs have the resources to develop organized programs that can harness HIT to address the needs of chronically ill and disabled patients. Through their contractual relationship with providers, MMCOs have the opportunity to collect data electronically on provider performance and utilization that can be fed back to clinicians or to provider organizations in which they work. MMCOs can leverage their relationships with providers to encourage evidence-based, guideline-directed care through linked information systems. MMCOs can also directly implement information systems that either integrate or supplement a clinician's internal administrative system to flag guideline-based care for patients. To improve the quality of care for Medicaid enrollees, State Medicaid agencies can build into contracts with MMCOs obligations to further the use of HIT and HIE by providers and healthcare systems.

Key Challenges Facing Medicaid Moving Forward

Medicaid, as one of the largest healthcare purchasers in the country, is uniquely positioned both to benefit from and to help support HIT and HIE adoption. Medicaid can also have a significant impact on the success of regional, State, and national initiatives to expand HIT and HIE.

Although quality and efficiency may significantly improve through the expansion and utilization of HIT and HIE, Medicaid agencies face several challenges in achieving this potential. Based on the input from our research and discussions with panel experts, this project has identified three major areas where work needs to be done to pave the way for the optimal use of HIT and HIE by Medicaid agencies. These areas include: a) clarifying the business case for HIE and HIT investments by Medicaid and identifying financial resources to do so; b) clarifying specific legal and regulatory issues that Medicaid agencies face in relation to their status as a public agency; and c) developing appropriate incentives for key Medicaid providers to participate in clinical HIT initiatives.

²⁰ See: <http://www.cdc.gov/PHIN/> last accessed 7/29/2006.

Clarifying the Business Case for Medicaid's Participation

Medicaid agencies are facing significant pressures at the State and Federal level to control costs. Yet the growing number of elderly and people with disabilities coupled with declining rates of employer-sponsored insurance are putting greater fiscal and programmatic demands on Medicaid enrollment (Weil, 2006). According to the Kaiser Commission on Medicaid and the Uninsured, all fifty-one Medicaid agencies implemented cost-control efforts in FY 2005. At the Federal level, the Deficit Reduction Act (DRA) and the FY 2007 proposed budget cuts are putting additional pressures on Medicaid agencies. Unlike commercial insurers, Medicaid has limitations in passing on additional costs to enrollees in the form of increased premiums, co-payments, or deductibles. During times of fiscal pressures, Medicaid agencies have the option to limit enrollment, limit benefits, adjust payments, or find more efficient and effective ways to deliver healthcare.

There are numerous competing demands for limited Medicaid resources. Medicaid agencies are trying to contain costs and improve quality while still offering as broad and robust coverage as possible. At the same time, the agencies are trying to update and improve their infrastructure, including IT systems. Efforts to address the intersection of Medicaid and HIT/HIE must consider these competing demands. Medicaid intersects with HIT and HIE in multiple ways, through their claims and eligibility processes, participating provider use of clinical HIT, stakeholder exchange of health information, and the administrative processes of the agencies themselves. Further analysis is necessary to address the business case for each of these and other HIT intersections with Medicaid.

Potential Resources for Medicaid's Involvement

There appear to be a number of potential mechanisms that CMS and State Medicaid agencies might use to support the adoption and effective use of HIT and HIE. MITA provides a roadmap for Medicaid IT transformation and promotes MMIS functionality that goes beyond traditional MMIS functions to include interoperability with other organizations. A particularly intriguing, yet unexplored aspect of MITA is the potential for Medicaid agencies to get enhanced FFP for HIE web-portal development. As RHIOs develop, the capacity of State Medicaid agencies to get an enhanced match (90 percent Federal /10 percent State) on the technologies used to provide access to the HIE portal may result in a fundamental reshaping of the current way in which HIE and the role of State government is viewed.

There are other examples of ways that States can use HIT as a tool to address longstanding issues in their Medicaid programs. CMS has been working with the CDC and States for years to implement immunization registries. These registries are eligible for a 90 percent match for the development and a 75 percent match for the operations. CMS also offers the same financing arrangement for lead screening and major disease States registries. These HIT projects may provide opportunities for States interested adding to their existing efforts in adopting HIT to improve the efficiency and quality of healthcare for Medicaid recipients.

CMS also supports contracts for research and development through their Office of Research and Demonstration Initiatives (ORDI) that are funded by the Federal Management Investment Board (FMIB). There may be mechanisms for FMIB and ORDI to begin to conduct projects that address some of the issues facing Medicaid as they consider their participation in HIT and HIE initiatives.

Recently, States have proposed using Section 1115 waivers as a way to create authorization to support HIT and HIE adoption with CMS funding. In the Massachusetts Section 1115 waiver which led to the State's health insurance reform, funds that were used to cover the cost of care for the uninsured were pooled into the Safety Net Care Pool (SNCP). CMS approved the State's request to use up to 10 percent of the SNCP for expenditures other than medical assistance payments such as infrastructure development. The State has considered using this financing authority to support HIT system procurement and implementation, but at this time has made no decision on the use of these funds.

New York has also used its 1115 waiver to promote electronic prescribing, electronic medical records, and RHIOs (Centers for Medicare and Medicaid Services, 2005). Federal budget neutrality requirements, however, constrain the utility of 1115 waivers in supporting HIT and HIE investments by Medicaid agencies. Since this mechanism supplies States with no additional Federal funding, States must be cautious in reallocating funds from other Medicaid programs to support HIT and HIE efforts.

The Deficit Reduction Act (DRA) contains a section that creates the Medicaid Transformation Grants – Section 6081. The Medicaid Transformation Grants total \$150 million over two years starting in FY 2007. Congress has authorized the DHHS Secretary to provide for payments to States for the adoption of innovative methods to improve effectiveness and efficiency in providing medical assistance. Examples of permissible use of these funds include methods for reducing patient error rates through the implementation and use of electronic health records, electronic clinical decision support tools, or e-prescribing programs (Public Law 109-171 Section 6081). Submissions of grant proposals were due in October 2006. DHHS will develop a method for allocating the funds among States, which would provide preference for States that design initiatives that target health providers treating significant numbers of Medicaid recipients. The method would also recognize States that have experienced a population growth since 2004.

In 2006, Congress approved a Health Information Technology Reserve Fund as part of the FY 2006 Budget Resolution. This fund will allow Congress to support healthcare IT projects and pay-for-performance projects without the normal requirements for offsets to pay for such investments. The reserve fund provides a five-year window to demonstrate savings from these projects, provided that such legislation would not increase the deficit for fiscal years 2006 through 2010 (Public Law 109-062).

There appear to be multiple fiscal options available by which Medicaid agencies and CMS might financially support HIT and HIE adoption. Guidance on the use of funding mechanisms as outlined here and elsewhere will support State Medicaid agencies as they develop plans for their involvement in HIT and HIE efforts.

Clarifying Legal and Regulatory Concerns

Medicaid agencies face complex legal and regulatory issues as they contemplate expanded involvement in HIT and HIE. How Medicaid-specific and more general privacy and security laws and regulations are applied in a health information age present a number of legal questions. For example, should Medicaid privacy standards conform to HIPAA? Do Medicaid agencies have a duty to examine healthcare quality information in program administration? Should a minimum health information data set be established for Medicaid? Should all Medicaid

participating providers be required to use health information technology, and should provider payment rules be clarified to permit coverage of capital and operating costs, particularly for safety net providers whose operations disproportionately depend on Medicaid revenue? What standards should be developed to guide data sharing among Medicaid agencies? What standards should be developed for agencies and programs with overlapping responsibilities with respect to Medicaid patients?²¹

Medicaid itself is not one agency, but fifty-one agencies across the country - each operating under its own State laws and regulations and Federal regulatory framework. These State specific Medicaid laws and regulations could add to the difficulty of HIT and HIE efforts that move beyond State borders. Projects are currently underway to study the privacy and security laws that vary from State to State. AHRQ has contracted with RTI International to help States address privacy and security policy questions affecting HIE.²² This contract is funding over 30 States as they identify variations in business practices and policies, identify desirable practices, participate in solution development, and develop implementation plans for addressing privacy and security concerns.

These projects represent the beginning of a comprehensive assessment of the health information privacy and security laws and regulations across the nation, including those related to the Medicaid program, and will inform the HIT/HIE community about better ways to support HIE while maintaining the safety, confidentiality, and security of sensitive health information for all citizens.

Mechanisms To Promote the Adoption of HIT and HIE by Medicaid Providers

Certain providers are particularly disadvantaged in their ability to pay for HIT. Community health centers (CHCs), long term care providers, as well as small provider groups serving Medicaid and the uninsured rely predominately on Medicaid revenue and receive little in commercial reimbursement. CHCs and small providers serving the indigent population must absorb significant amounts of uncompensated care and few are sufficiently capitalized to manage large scale HIT investments or have the ability to seek traditional sources of financing (Community Clinics Initiative, 2005). Current economic analyses suggest that the benefits of HIT do not necessarily accrue entirely to providers. Many benefits of HIT, like reductions in medical payments, have been said to accrue to the payers/purchasers of healthcare services, whether commercial, Medicare, or Medicaid (Johnson et al., 2003). To increase the adoption of health information technology, appropriate incentives are needed for all participants in the healthcare system.

Medicaid represents a natural leverage point for a national HIT strategy in many areas. Since Medicaid is such a large purchaser of healthcare in some settings, it can have an important role in influencing provider adoption of HIT. There are two types of assistance the Medicaid program could use to promote the adoption of HIT: direct and indirect financial incentives and non-financial supports.

²¹ Personal communication with Sara Rosenbaum, JD and Patricia MacTaggard, MBA, May 26, 2006.

²² See: RTI International: <http://www.rti.org/page.cfm?objectid=0AD0F1AC-B38F-4286-92481FDE5E224511>

Financial incentives supporting the intersection of HIT and quality improvement have been explored in many of the 100+ pay-for-performance (P4P) programs currently underway across the country. However, Medicaid agencies have not participated to the extent of Medicare or commercial payers/purchasers. One of the largest Medicaid P4P initiatives in the country is the Local Initiative Rewarding Results (LIRR) project.²³ This program is one of seven within the Rewarding Results Program, a national initiative of the Robert Wood Johnson Foundation and the California HealthCare Foundation to test provider performance incentive strategies. The LIRR demonstrations exhibit early signs that the P4P concept can be successfully modified for use by publicly financed healthcare entities, and may serve as a model for future HIT P4P programs.

Medicare is beginning to use P4P as a way to stimulate HIT adoption. In its March 2005 report to Congress, the Medicare Payment Advisory Commission (MedPAC) recommended that CMS provide incentives for HIT adoption as a first step in introducing P4P for physicians in traditional Medicare. In 2006, the Medicare Care Management Performance Demonstration, a three year demonstration program mandated under Section 649 of the Medicare Modernization Act to promote the use of health information technology and improve the quality of care for recipients began. Doctors in small to medium sized practices who are participating in their State's Doctor's Office Quality-IT (DOQ-IT) program have to meet clinical performance measure standards to qualify for bonus payments. The demonstration is being implemented in California, Arkansas, Massachusetts, and Utah (Centers for Medicare and Medicaid Services, 2006).

Due to the financial pressures on Medicaid agencies as described above, indirect financial incentives and non-financial supports should not be overlooked or undervalued as a way for Medicaid agencies to support HIT and HIE. Indirect financial incentives include improvements that decrease the cost of doing business. Automatic enrollment of Medicaid recipients into MMCOs who meet and exceed certain quality parameters is one example.

Non-financial support of HIT and HIE include at a minimum, Medicaid agency participation in initiatives in States that are convening payers/purchasers and providers to discuss building RHIOs and other HIE efforts. State governments, particularly Medicaid agencies, have not consistently participated in these efforts (Rosenfeld et al., 2005). Collaboration within a region is critical, as most providers contract with numerous payers/purchasers.

Another non-financial support to promote HIT is the alleviation of some of the administrative burdens of providers. These technologies can provide solutions as simple as providing drug list information at the point of care and reducing the paperwork and time associated with prior authorization (PA). Electronic medical records and HIE between providers and Medicaid can also eliminate much of the data reporting required for quality improvement. Expensive medical record reviews and other data gathering efforts may no longer be needed, because much of this information will be accessible through the appropriate HIE.

²³ For more information see: http://www.chcs.org/info-url_nocat3961/info-url_nocat_show.htm?doc_id=214814 (Accessed August, 2006)

Considerations for the Future

As summarized in this report, there appears to be great potential for Medicaid agencies to promote better healthcare outcomes and programmatic efficiencies through the use of health information technology. Medicaid agencies support populations with complex medical needs through a publicly funded program that has evolved differently in every State across the nation. This report presents an initial review of the issues and opportunities for Medicaid agencies in the HIT revolution. As one of our expert panelists said:

I don't think we need another day [to review this], I think we need another month. Having spent most of my life on the Medicaid side, but feeling like I have a little bit of knowledge on the HIT side, if I were sitting in the Medicaid agency today I would just laugh because the gap between the vision that I am supposedly being sold and the practical reality of what I do everyday is so big. – Alan Weil May 26, 2006.

The expert panel has identified essential research and policy development that would be helpful in supporting Medicaid's involvement in HIT and HIE efforts and to facilitate the recognition of Medicaid agencies as essential stakeholders in the movement toward higher-quality, effective, and efficient healthcare through the use of HIT and HIE. The recommendations below represent the culmination of inputs, responses, and feedback from the interviews conducted throughout the progression of this project, the advisory committee, and the expert panel that met on May 26, 2006.

Needed Research and Policy Development

While addressing the policy needs of State and Federal agencies will be an ongoing process, further research and policy development will help to clarify specific issues regarding Medicaid and its potential investments in HIT and HIE. Some key opportunities for policy development and future research identified by panel participants include:

- a. The creation of an objective forum where lessons learned, new developments, and the opportunities/challenges in relation to HIT and HIE could be shared specifically by Medicaid agencies and other stakeholders from multiple States.
 - i. The forum should include public and private stakeholders.
 - ii. The forum should consider various topics relating to Medicaid and HIT/HIE, including but not limited to:
 - Medicaid claims and MMIS;
 - EHR and PHR initiatives relative to Medicaid;
 - HIE; and,
 - Program administration.
- b. The performance and dissemination of detailed economic and policy analysis from the Medicaid perspective in the following areas:
 - i. Economic analyses that include Federal financial participation (FFP) and MITA considerations in HIT/HIE implementation;

- ii. More precise estimates of potential savings for Medicaid agencies from specific HIT/HIE initiatives;
 - iii. State level economic analysis that includes and goes beyond the Medicaid perspective (e.g. departments of mental health, departments of public health, other State efforts to address health costs and quality); and,
 - iv. Exploration of the population health opportunities that may be created by linking Medicaid and public health data sources.
- c. Research and development of best practices for the integration of behavioral health and other “high-risk” population data with HIE initiatives.
 - i. Pilot and evaluate HIT in community mental health settings and other specialized settings for high-risk populations.
 - ii. Survey and analyze “best practices” related to HIE and high risk populations.
- d. Research and development of methods and tools that use information created in clinical HIT systems to facilitate ongoing research, quality measurement, and quality improvement.

Conclusion

As one of the largest healthcare purchasers in the country, Medicaid can have an influential role in the adoption of HIT and HIE. The capacity of HIT and HIE to improve the efficiency and effectiveness of Medicaid agencies is pertinent as they struggle with rising medical costs and increased enrollment. Many studies have explored the potential clinical benefits of HIT to improve the quality of care and increase the effectiveness of healthcare delivery. Although limited in scope, these studies point to significant positive improvements that are necessary in all facets of our healthcare system and which, when viewed from the Medicaid perspective, hold significant promise.

However, there are numerous challenges that Medicaid agencies face in relation to their participation in HIT and HIE efforts. Continued leadership, research, and resources are needed so that Medicaid can support and take advantage of the benefits that technology can offer to Medicaid agencies and the populations served by them.

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Appendix A

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Appendix B

Agenda – Expert Panel Meeting – May 26, 2006 – Washington, DC

- 8:00 – 8:30am **Continental Breakfast**
- 8:30 – 8:40am **Opening Remarks**
Jay Himmelstein, MD, MPH
Center for Health Policy & Research
- Scott Young, MD
Agency for Healthcare Research and Quality
- 8:40 – 9:00am **Welcome and Presentation**
Carolyn Clancy, MD
Agency for Healthcare Research and Quality
- 9:00 – 9:30am **Perspectives from CMS**
Charlotte Yeh, MD
Centers for Medicare & Medicaid Services
- 9:30 – 10:00am **Perspectives from the Office of the National Coordinator**
Kelly Cronin
Office for the National Coordinator for HIT
- 10:00 – 10:15am **Expert Panel Introductions**
- 10:15 – 10:30am **Break**
- 10:30 – 12:15pm **Panel and Facilitated Discussion: HIT Initiatives and State Government**
Moderator: Scott Young, MD
- State Case Studies
 - Sheera Rosenfeld, MHS
Avalere Health
 - Rhode Island Experience
 - Amy Zimmerman, MPH
Rhode Island Health Information Exchange Project
Rhode Island Department of Health
 - Utah Experience
 - Jan Root, PhD
Utah Health Information Network
 - New York Experience
 - C. William Schroth, MBA
New York Intergovernmental HIT Work Group
New York Department of Health

12:15 – 1:00pm

Lunch Break

1:00 – 2:30pm

Panel: Establishing a Foundation for Medicaid’s Role in the Adoption of HIT

- Overview
 - Jay Himmelstein, MD, MPH
Center for Health Policy & Research
- “Using HIT to Improve Healthcare Quality for Medicaid Recipients”
 - Danny McCormick, MD, MPH
Cambridge Health Alliance and Harvard Medical School
- “Leveraging HIT to Improve Medicaid Agency Efficiencies”
 - Mark Frisse, MD, MBA
Vanderbilt Center for Better Health
 - Rick Friedman, MBA
Centers for Medicare & Medicaid Services
- “HIT Legal and Regulatory Issues in a Medicaid Context”
 - Patricia MacTaggart, MBA
EDS

2:30 – 3:45pm

Facilitated Discussion

Moving Forward in Establishing Medicaid’s Role in Supporting the Adoption of HIT

- Facilitated Discussion

3:45 – 4:00pm

Summary of Day and Next Steps

Appendix C

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Appendix D

The Private Commercial Payer Perspective on Medicaid and HIT

In analyzing how Medicaid might best leverage its investment in health information technology (HIT), it makes sense to evaluate what commercial carriers have done to address this issue and what they have learned. Because Medicaid continues to experience budget constraints and because commercial insurers have had more resources to invest, they tend to be ahead of Medicaid in deploying both administrative and programmatic information technologies. If commercial insurers have derived substantial benefits as a result of their investment in these information systems, there may be strong justification for greater investment by Medicaid. In addition, understanding which investments have provided the greatest benefit will help Medicaid understand how to allocate its resources most effectively.

A significant portion of early investments in HIT by commercial carriers have focused on improving administrative efficiencies and moving from paper-based transactions to electronic transactions. This movement includes electronic claims submission, eligibility verification, and detailed benefit information. These systems or applications substantially reduce the cost of transactions, thus improving administrative efficiency. Although there are efficiencies for both the providers and the health plans, the driving force behind these investments was clearly the savings that accrued to the payers—savings that were large enough to justify supplying the required technology in provider offices without charge, and in some cases incentives for adoption. For example, a typical phone transaction will cost a health plan \$4.00-\$8.00, while that same transaction accomplished electronically will cost the plan \$.10-\$.25. This reduction is a twenty-fold decrease in the cost of service. Even when the development costs are factored in, it is not hard to see that the return on investment will be significant. It is easy to understand why plans have often been willing to underwrite the provider investment in the technology required for the provider to interact with the plan electronically.

There is also significant variation in the sophistication of the applications developed and implemented by different payers. These differences are most likely related to each health plan's anticipated benefits for enhanced functionality, and the unique aspects of different markets, including the level of technology adoption and use by the provider community.

The advent of the Health Insurance Portability and Accountability Act (HIPAA) caused a significant leveling of payers' administrative HIT capabilities, although there clearly remains some variation. Health plans are trying to simplify the use of HIT for administrative purposes and to drive efficiency into the system both from transaction and service standpoints.

Moving beyond the traditional financial transactions, payers have also invested in technology to simplify the other aspects of provider relations including:

- Provider portals, which are taking the place of call centers or attempting to reduce the resources plans must devote to call centers
- Online credentialing
- Medical management transactions, including authorizations and certifications.

Again, these aspects represent an ongoing attempt to reduce administrative costs both for the plan and for providers.

In all of these administrative arenas, health plans have collaborated with varying degrees of success. In Massachusetts, the New England Health Exchange Network (NEHEN) created a collaborative membership-based administrative transaction infrastructure and gateway that allowed easy point-point connections with a common interface with no per-transaction charges. Massachusetts and other regions have implemented common eligibility portals and unified credentialing verification processes. As these systems are integrated into portals, their cumulative impact is to improve the quality of the information being transmitted, to improve the first-pass claims adjudication rate, and ultimately to reduce claims administration costs for all parties.

Key lessons from NEHEN include:

- Free is often not cheap enough. Providers may not be able to understand or assess the impact of administrative technology on their efficiency and may therefore be reluctant to adopt. Incentives may be required to drive adoption and to change the economic analysis for the payer.
- Providers want a single desktop. They will not use different technologies for each payer. The larger the universe of transactions captured by a technology, the greater the likelihood of adoption.
- Significant benefits are derived if payers collaborate on administrative transaction applications and technology.

The increase in medical inflation in the late 1990s, the advent of the Health Insurance Portability and Accountability Act (HIPAA), and the more universal use of electronic technologies for administrative transactions have shifted health plans' focus to technology to support clinical programs, particularly interactions with providers around these programs. There has also been investment in clinical applications used solely by medical practitioners, but which provide real-time information on plan rules, patient benefits, and safety checks.

Plans are also investing applications to segment their patient population and to identify disease management and case management candidates, including most recently predictive modeling programs. These programs are designed to allow plans to manage their members proactively and to prevent movement from low-risk to high-risk status. The programs represent the latest version of plan-based medical management (replacing utilization review as a primary management tool) and are typically implemented to work collaboratively with providers to manage high-risk members/patients.

Moving beyond their own walls, commercial carriers have begun making investments in provider-based HIT applications. Electronic prescribing, electronic medical records, and clinical decision support tools are the primary focus. Although these tools help providers be more compliant with plan rules, provide important safety and quality information at the point of care, and can be used across a provider's entire patient population, they tend to be couched more as quality initiatives than as efficiency initiatives. But they clearly have an impact on both, quality and efficiency.

From the health plan's perspective, improved compliance with plan rules, particularly formulary rules and promotion of generic utilization, results in significant savings and reduces the

administrative burden in the provider office, the pharmacy, and at the plan. Despite what appear to be compelling reasons for this type of investment on the whole, it is quite limited. Quantifiable benefits have not been fully documented, so the early investors are, to some extent, operating on a strong belief that the financial justification for these investments will be proven over time.

The latest investments that plans are making in the HIT arena are in Personal Health Records (PHRs). PHRs are being created from claims data as patient clinical summaries that can be supplemented with lab data and information from other results. In addition, patients can add information to the PHR. In areas where there is little electronic medical record (EMR) penetration, a PHR can provide information exchange benefits without the cost and difficulties associated with implementing a standard EMR. However, currently PHRs have some limitations. For example, standard claims lag time is an issue, and the details of how to handle a patient's move from one plan to another has not been fully worked out.

Despite these limitations, PHRs provide better information at the point of care than is typically available today. In addition, clinical summary-based PHRs act as a pseudo EMR, provide a mechanism to increase member/patient engagement, and provide decision support and other pertinent, current information to members in a customized manner.

As we look at commercial insurers' record of investment to create a plan for Medicaid HIT investment, it is important to understand where Medicaid is now with administrative technology capabilities and the potential benefits that will be derived from additional investment. The marginal investment that Medicaid needs to make to connect or integrate with an electronic infrastructure may be substantially less than the initial investments. Adding the Medicaid population to the patient denominator for which the technology applies is likely to create additional value for the other stakeholders, and adoption is likely to increase within the provider community, impacting all patients not just those of a particular payer.

-Robert Mandel, MD, MBA, Vice President of eHealth, Blue Cross Blue Shield of Massachusetts, May, 2006.

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