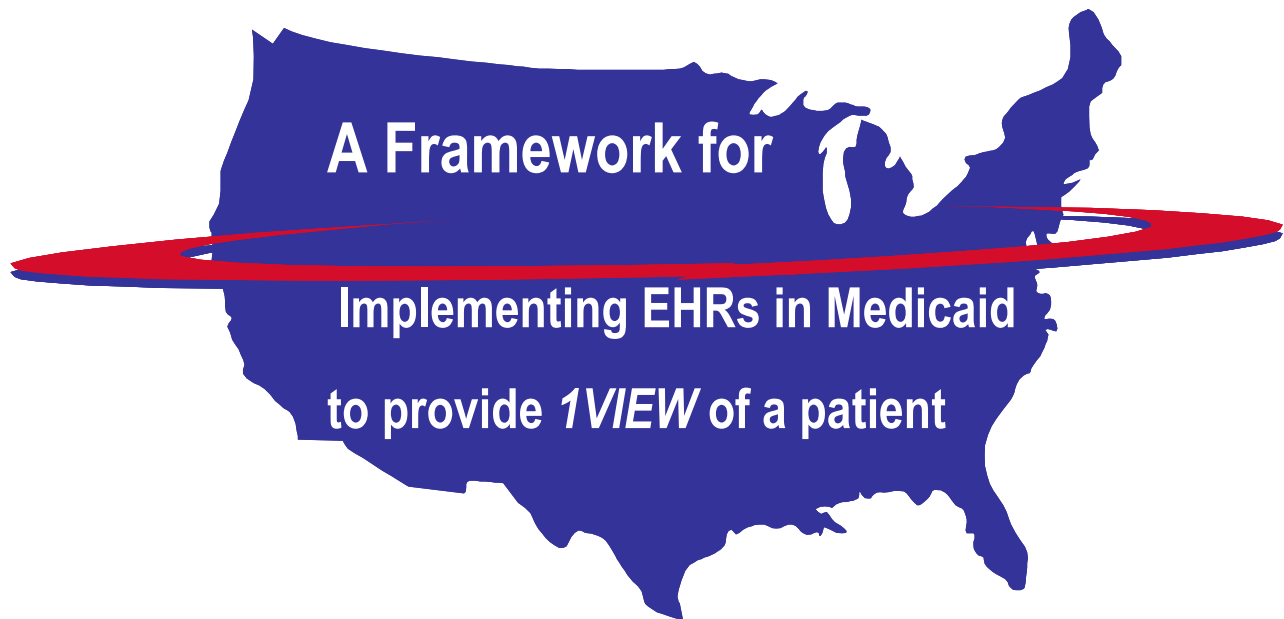**Electronic Health Record Workgroup Report**
National Association of State Medicaid Directors
February, 2009

By: Linda L. Schwank

IMPACT MEDICAID:
Leadership Needed to Adopt Electronic Health Records

A Framework for

Implementing EHRs in Medicaid

to provide *1VIEW* of a patient

NASMD

National Association of State Medicaid Directors

an affiliate of the American Public Human Services Association

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PREFACE – THE 21st CENTURY MEDICAID

Since the beginning of this decade, there is not a single state Medicaid program that has not had to confront the problem of significant Medicaid/SCHIP enrollment growth, unsustainable program cost escalation, and/or declining state revenues. Like the US health care system, state Medicaid programs are on a path to unsustainable cost escalation. Medicaid programs have met their state's health care coverage challenges by becoming health reform innovation laboratories. Unfortunately, most health reforms have only provided limited stop gap relief. Unless the underlying issues of health system inefficiency, cost accountability, quality of care variability, and inconsistent and suboptimal health care outcomes are addressed, we are going to become spectators or more likely victims of an inevitable health system meltdown. Let's be clear that without fundamental health system transformation and health care reform, and continual coverage Medicaid/SCHIP expansion is not financially sustainable by either the federal or states government.

There is a reason that America's health care system is the highest cost and one of the lowest performing health care systems among industrialized nations. In a nutshell, the US health care system is broken. All you have to do is ask anyone who uses the health care system and you will get an earful about the dysfunctional way the US health system operates. At every level of the health care system, there are systemic problems that are well documented. These systemic health care delivery system problems result in lower quality of care, higher than necessary medical costs, a loss of health system capacity, and a reduction in access to care. Medicaid is not immune to these problems; in fact, one could reasonably justify that Medicaid is both a victim as well as an enabler of the systemic dysfunction of the US health care system.

Fundamental focus of health system transformation must be the point of care. The point of care is where the patient's and the provider's individual "moment of truth" occurs. The optimal result of this "moment of truth" is a productive health care encounter between the patient and the provider. Unfortunately, our current health care systems have an unacceptably high propensity to break down at the point of care and provide less than optimal care, at these "moments of truth."

Optimal care occurs when the patient's health care delivery system provides both the evidence-based quality health care and the most cost effective level of care. Suboptimal care occurs when the health system provides neither quality of care nor cost effective care. The Medicaid health care system, like the broader US health care system, more often than not produces an alarming high percentage of sub-optimized health care encounters.

The components of US health care delivery system that must be part of this transformational change process, includes the payer or health plan, inpatient care system, ambulatory care providers, and ancillary support systems. Transforming a health care delivery system is the same as maturing the health care system. The transformational change process of health care systems means evolving from immature health system care delivery capability, with unreliable, inconsistent quality and cost performance, to mature high performing reliable health care delivery capability. Health system maturity is demonstrated by the health system's capability to consistently produce optimal health care encounters for each patient episode of care. The higher the percent of optimal health care encounters (for both cost and quality of care) the more mature health care system capability; the lower the percentage of optimal health care encounters the less mature the health care delivery system capability.

To transform a health care delivery system into a mature high performing health care system that is capable of consistently producing optimal health care outcomes requires health information technologies that provide:

1. The patient with their personal health information, that supports the patients active engagement in their healthcare treatment and self care management; and

2. Timely and complete healthcare information to the clinical provider, support evidence based clinical practice and informed provider decision making.

If the patient is informed, engaged, and active in their health care treatment and self care management, and the provider is prepared and knowledgeable about the patient health information and practices evidence-based medicine, then there is the maximum opportunity to produce an optimal health care encounter. This is the vision of the transformed health care delivery system.

For the Medicaid/SCHIP program leader who wants to transform their state's Medicaid program into a 21st Century Medicaid health care coverage system, we hope this document provides you with valuable guidance on value of electronic health records in health system transformation; as well as financial and programmatic strategies to drive widespread EHR adoption in your Medicaid/SCHIP provider networks.

THE PURPOSE

The purpose of this document is to provide a value proposition for the widespread adoption of electronic health information in Medicaid. This document will provide specific guidance to Medicaid leadership on the strategies and approaches to implement electronic health records that supports health delivery system transformation. The document includes a brief overview of health information technology as a whole is included as a baseline for terminology strategies contained in this document. Several achievement targets are highlighted to support this emphasis. This document provides tools to estimate Medicaid health system impact and detailed Medicaid electronic health record requirements.

HEALTH INFORMATION TECHNOLOGY (HIT) Introduction

The core purpose of interoperable HIT is to connect healthcare systems across entities to exchange data and images (enables one system to talk with another system). This framework can modernize the healthcare delivery system and includes four levels as defined by the Office of the National Coordinator, each with its own purpose:

- **Health Information Exchange (HIE**): Enables clinicians to quickly access shared health information across providers and facilities;
- **Electronic Health Record (EHR):** Facilitates care across organizations – it will connect them - and is primarily used to support continuity of care.
- **Electronic Medical Record (EMR):** Allows a provider access to patient and clinical information in their office.
- **Personal Health Record (PHR):** Consolidates information from multiple healthcare providers.

Interoperable HIT is the best tool available to fix our fragmented, archaic, and paper-based healthcare system as it transforms data into actionable knowledge to reach better outcomes. Medicaid cannot afford inaction.

EXECUTIVE SUMMARY

Overview

State Medicaid agencies must *promote the adoption of electronic health records to achieve a high-performing healthcare system and prevent the imminent healthcare financial crisis that is occurring*. At the current trending rates, state Medicaid agencies will **collectively be responsible for $250 Billion** to support our programs in 2014 – just FIVE years from today – twice our current contribution.[1] Since overall Medicaid spending grew at more than twice the rate of the general fund and with the passage of the Deficit Reduction Act, federal entitlement spending for Medicaid is becoming less dependable. This can eliminate health care for a significant portion of the population most in need.

Medicaid faces monumental expectations and challenges that cannot be met with the existing healthcare delivery system. Fundamental care needs are being neglected as Medicaid is continually expected to delivery higher quality care to more people but with fewer resources, which has resulted in:

- A growing and sicker population that requires more frequent and expensive treatment for longer periods of time;
- A system prone to medical errors, cost redundancy, fraudulent / excessive charges, and multiple, conflicting views of a patient's health; &
- The inability to effectively understand our population's health and difficulty in managing to a successful bottom line.

These issues are out of control, and the current archaic system of inefficient & cumbersome healthcare delivery cannot support current healthcare needs. To add more members to a broken system will only hinder the care providers can deliver as the current infrastructure is not designed to support today's healthcare needs. Collectively, these issues will prevent Medicaid from delivering on its mission to *provide quality healthcare to members by providing timely access to cost-effective services.*

Proposal

Preventing such a public demise is achievable by implementing cutting-edge technology to transform our healthcare system. Consider a healthcare world where quality information is readily available at the POC (point-of-care) before a treatment decision is made, & where a provider can have ***1VIEW*** of a patient's health information. This is only achievable through use of electronic health record systems (EHRs), which are not the driver but the solution.

Widespread adoption of EHRs is how Medicaid can survive - *we can't continue to add members to an inefficient system and expect improved quality of care and managed costs* without change*. This initiative is not about technology – it's about how technology can help solve our business problems. As a 21st century Medicaid agency, we must turn the data in our organizations into actionable information to change health outcomes. Consequently, we recommend that State Medicaid agencies establish a strategy to enable high-volume Medicaid providers to adopt, secure, & implement EHRs by:

- Advocating to congress for MITA* to support EHR adoption efforts;
- Identifying a key leader to establish & implement a state-specific EHR adoption strategy (can include incentives, direct grants, or other options);
- Including public health agencies in EHR adoption plans & efforts to access data for improved public health protection & disaster responses;

- Promoting development & acceptance of standards for electronic sharing of data.

Widespread implementation of EHRs will enable data exchange among providers and agencies who serve our population, which is crucial to successful management of the population's health. To not do anything other than business as usual is easier short-term. However, once the funding expires the status quo will require research and intense effort to identify new sources of funding and answers on how to care for more members than funds allow. In the end, inaction is no solution at all. No matter how it happens, Medicaid needs EHRs implemented now.

Note: MITA (Medicaid Information Technology Architecture)- is a Federal initiative " intended to foster integrated business and information technology transformation across the Medicaid enterprise to improve the administration of the Medicaid program"). It provides a framework, processes, and planning guidelines to help each Medicaid agency meet MITA objectives while addressing their own needs.

Summary

The benefits of EHR adoption outweigh the risks. EHRs enable the usage of consistent quality metric reporting & use of decision-support tools to allow providers & Medicaid to meet the demands of the current healthcare arena, to measure critical progress toward goal attainment, & to exchange patient data. This interoperable infrastructure is key as it allows enterprises that use the analytical value / functionality / output of the EHR to realize savings by producing:

- Risk Modeling – based on population variables (by disease, medication, age);
- Access to population statistics to identify individuals for broad interventions;
- Clinical analytics; &
- Practice-specific / Population Health Reports.

Collectively, EHRs will help to transform care & our bottom line. Now is the right time. The longer the healthcare industry is paralyzed by the EHR concept, the greater the delay to savings. If an EHR can offer up to even 2% administrative costs &/or up to 3% pharmacy cost reduction, isn't it worth it?

INTRODUCTION

A healthcare financial crisis is imminent without severe action from state Medicaid agencies. At the current trending rates, state Medicaid agencies will **collectively be responsible for $250 Billion** to support our programs in 2014 – just FIVE years from today – twice our current contribution.[1] Do you have that level of funding? Our continued downward spiral to depths similar to the current financial / mortgage industry will eliminate health care for a significant portion of the population most in need. Preventing such a public demise, however, is achievable by leveraging cutting-edge technology to transform our medical system & our bottom line. To do anything less is negligence.
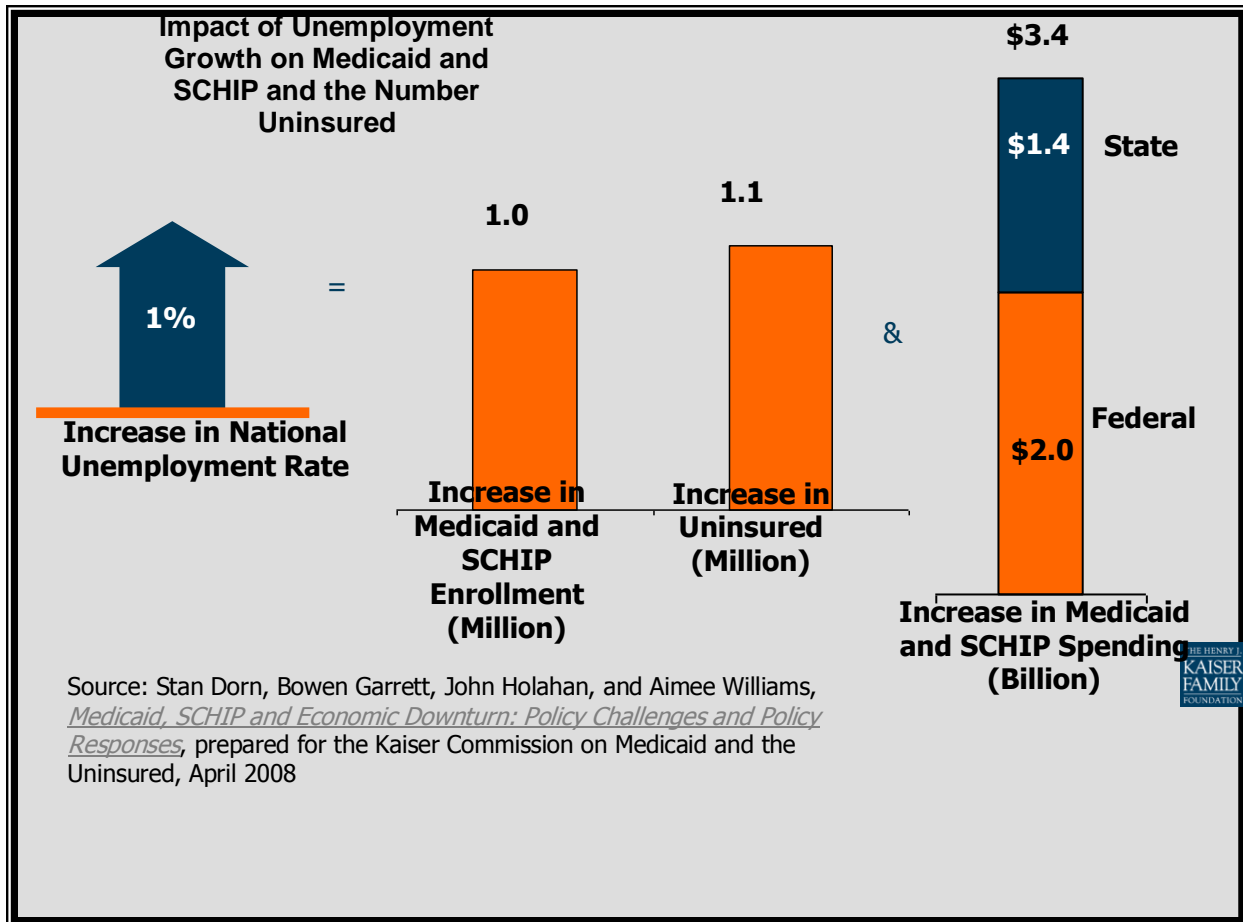
Widespread adoption of electronic health records EHR, which will provide **1VIEW** of a patient's health record, will enable providers to deliver better access to higher quality care at a better price. This is the only way for Medicaid to achieve its goals as we can't continue to add more members to an inefficient system and expect improved quality of care and managed costs. Significant change is required - & that change is the implementation of EHR systems across our provider base. No matter how it happens, it has to happen - now. This initiative is not about technology – it's about how technology can help solve our business problems to prevent Medicaid bankruptcy.

OVERVIEW

Today, healthcare is slow, cumbersome, fragmented, & expensive, which makes efficient use of limited resources difficult. To change this environment, we need to better understand the more prevalent & significant issues that have impacted or contributed to this result. These include:

1. Increased demand for services among current, aging beneficiaries. More than 60% of Medicaid members have at least once chronic or disabling condition & almost 50% has a second. [2]
2. The % of uninsured is increasing, as is unemployment – every 1% increase in the National Unemployment Rate ➔ 1M increase in Medicaid members & 1.1M increase in the uninsured, which result in a $3.4B total increase for Medicaid (including an increase of $1.4B in state spending).[3] in 2006, 41% of the uninsured postponed seeking care due to costs. (16)
3. Increases in cost of services provided - hospital cost inflation; drug costs.
4. Federal mandates / Legislative Changes - pressure to reduce the # of uninsured while funding restrictions continue.
5. General aging / changing / growth of the population.
6. Chronic diseases are appearing in younger people – in part due to a lack of adequate care (need strategies to reduce the occurrence and subsequent costs of preventable diseases).[1]

Impact of Unemployment Growth on Medicaid and SCHIP and the Number Uninsured

$3.4

$1.4 State

1.0   1.1

1%

=   &

Increase in National Unemployment Rate

Increase in Medicaid and SCHIP Enrollment (Million)

Increase in Uninsured (Million)

Federal

$2.0

Increase in Medicaid and SCHIP Spending (Billion)

Source: Stan Dorn, Bowen Garrett, John Holahan, and Aimee Williams, *Medicaid, SCHIP and Economic Downturn: Policy Challenges and Policy Responses*, prepared for the Kaiser Commission on Medicaid and the Uninsured, April 2008

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KAISER FAMILY FOUNDATION

7. Chronic disease prevalence is increasing & accounts for 2/3 of Medicaid cost increases & 83% of Medicaid dollars.[1] There is also an increase in preventable chronic diseases – especially diabetes & obesity – at younger ages.
8. Medical Advances - diseases are not cured but are treated, & these longer life expectancies create higher healthcare costs. Healthcare for a 65 yr old till death at age 70 avg. $88K vs. healthcare for the same 65 yr old till death at 90 avg. $240K5 = additional $152K for ONE PERSON![1] Improved pharmacology & emerging technologies also cost more.
9. Inflation & operating costs - Administrative costs are almost 6% of our budgets.[4]

ALL of the above lead to increased use of more expensive services. Without significant changes or management efforts, these trends will consume more funds than available. To prevent this, Medicaid needs tools to help manage these events, which is why EHR adoption matters to Medicaid. It's not about implementing the latest technology - *it's about using HIT to better manage our resources.*

ENVIRONMENTAL SCAN

Need for Change

Medicaid's success is threatened without changes in the tools we use to manage our population's health as we strive to meet the increasing demands of our aging & changing population & to address their needs for better access to quality & affordable healthcare. To address this threat, Medicaid agencies need to control costs while improving access to quality of care while also encouraging members to participate more in the management of their own health care. Since the number of uninsured Americans is increasing, which directly impacts the number of persons on Medicaid, and since nationwide three of four uninsured adults 50+ did not use preventive services – the financial risk to Medicaid as these people move into the Medicaid arena increases.[5] Also consider the complexities of a Medicaid population – demographics range from low-income members to pregnant women to the elderly and individuals with disabilities – and the eligibility requirements of the more than 30 categories of acute and long-term care services. This certainly identifies Medicaid as a complex client for the many providers and health insurers who interact with our information systems hourly.

Providing care for this population becomes more expensive as diseases remain undetected or not cared for in the early, less expensive stages, & the administrative work becomes overbearing. Per the State Scorecard, there is a direct correlation between the rate of potentially preventable hospital use & cost of medical care - the higher the medical care costs the higher the rate of preventable hospital admissions. [5] Actual care costs are soaring at rates that will significantly impact our ability to meet these needs, especially as the Federal deficit increases & budgets tighten. These severe restrictions demand innovative tools / methods to ensure Medicaid remains a viable source of healthcare for the vulnerable populations who depend on us – the system as it exists today is not built to meet the demands of a more complex, and information-intensive healthcare delivery system. Consequently, Medicaid needs to change how it manages costs while improving the quality of care, which ultimately means Medicaid must:

- Make disease prevention & management programs a high priority
- Decrease the number of medical complications resulting from medical events
- Develop programs that ensure better health outcomes
- Ensure care is accessible to members
- Provide evidence-based treatment guidelines at the point-of-care (POC).

Overall, Medicaid spending grew at >twice the rate of the general fund (FY04-FY05 state general funds grew by 2.8% compared with state Medicaid growth of>10%).[1] The Deficit Reduction Act could further impact federal entitlement spending for Medicaid. If these trends continue, state Medicaid agencies nationwide will **collectively be responsible for $250B** to support our programs in 2014- just FIVE years from now - *twice our current contribution*.[1] This puts our financial future at extreme risk – thus the need for transformation.

Percent Change in Medicaid Spending & Enrollment, FY 2001-2009
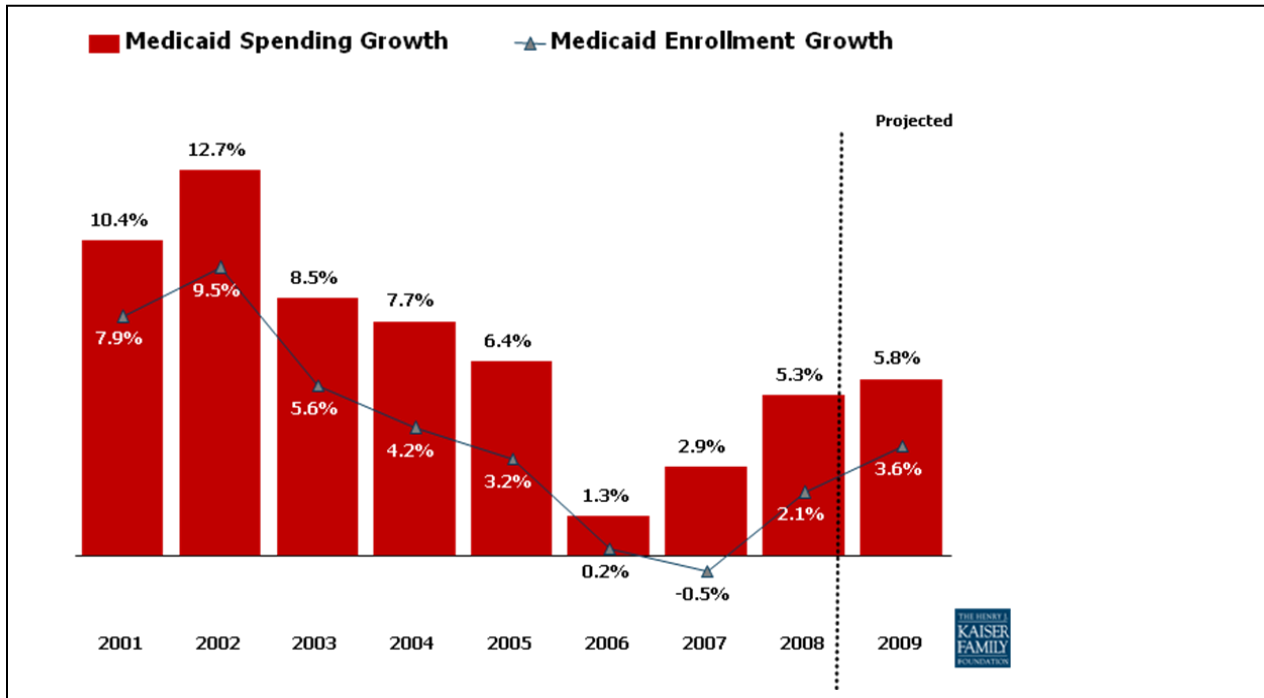
Notes: Enrollment % changes from June to June of each year. Spending growth percentage changes in state fiscal year.
Source: KCMU survey of Medicaid Officials in 50 states and DC conducted by Health Management Associates, October 2007.
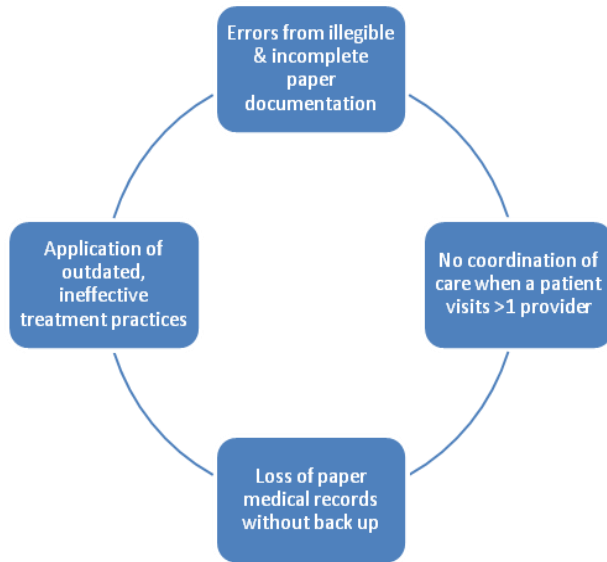
Without action, costs will continue to rise, performance measures will not be met, & members will not receive the care they need. This downward spiral will continue until Medicaid can no longer function financially. The only way to stop the negative spiral is to utilize HIT – the first step to becoming a 21st Century Medicaid - as Medicaid cannot achieve its metrics without it.

As-Is Environment

Today, a visit to a medical provider generates a stack of paper documents with a subset of a patient's actual health history, which can be unsettling for a patient. It could be 20% or 50% but it's almost guaranteed not to be 100% accurate or complete, or even legible. While each office will have their own forms & format / process for data capture, it's essentially the same information collected across providers (most of the variation is based on provider specialty), captured on paper from the patient while in the waiting room.

Once returned to the office staff, the papers are added to a patient's chart – another paper folder – which may be reviewed & then given to the provider. This process repeats itself as the patient, & hopefully their chart, works its way through the clinicians & administrative personnel to be changed, updated, reviewed, copied, etc. If a script or test is required, another paper-generated process ensues, & may require handling by multiple staff to capture all the latest treatment/coverage information. If another provider calls re: the same patient, the chart must be found & the process repeats, often making the chart unavailable for treatment purposes. This disjointed process prevents providers from using timely, accurate data for high quality patient care.

Without improvements, the following situations will continue to repeat & infect healthcare delivery:

Errors from illegible & incomplete paper documentation

No coordination of care when a patient visits >1 provider

Loss of paper medical records without back up

Application of outdated, ineffective treatment practices

> *Good patient information should not be a luxury to care providers, but it is when information is all paper-contained & not shared across entities.*

Since medical history information is difficult to collect & assimilate, more complex to navigate & share, & extremely important for quality care delivery to occur, change and tools are needed to allow coordination / continuity of care, improved access to quality care, & administration management.

To-Be Environment

To become a 21st Century Medicaid means one must achieve 21st Century healthcare quality, which is signified by the following being available:

- *1VIEW* of a patient's health record

- Positioned to easily adapt to changing healthcare demands of our aging population

- Control over costs & cost drivers

- Providers are held accountable for cost & quality results

- A high satisfaction rating from members & providers, &

- Adoption of disease management & wellness management programs

Such healthcare quality cannot happen in today's Medicaid arena. Costs are increasing at an alarming rate, and populations are living longer, often with chronic conditions that require more complex, expensive treatment for longer time periods. Providers are inundated with administrative minutia that can be difficult to navigate for reimbursements or even worse, to provide adequate care. These variables are out of control, and the current archaic system of inefficient & cumbersome healthcare delivery cannot possibly support today's needs of our diverse populations. To add more members to this already broken system will only hinder the care providers can deliver as the current infrastructure is not designed to support today's healthcare needs.

Fast forward to an electronic world where quality information is readily available at the POC before a medical treatment decision is made. Technology can produce this change so when the patient enters the provider's office, the power of the EHR has already provided the bulk of their health history, plus the following, in minutes vs. hours or days:

- Time saved by not having to pull (or find) a paper chart that may be out of circulation due to administrative tasks – *it's accessible in the care room*

- Ability to view past diagnostic & treatment services – and reduce costs & medical errors as complete patient information at the POC helps avoid adverse medical events & prevent re-prescribing treatments, tests, or prescriptions - crucial for patients with multiple providers.

- Access to information on disease prevention, management, or the latest evidence-based treatment options

- Ability to verify plan coverage and prior authorization rules – in seconds vs. hours – which can reduce fraud and abuse.

- Ability to send supporting documentation for prior authorization and billing purposes electronically.

The above occurs while the patient is still in the provider's office, drastically increasing the value of that information. Best of all, one system can (& should) be used for Medicaid & non-Medicaid members within a practice. The gap between today's process for care and tomorrows is significant, & this needs to be closed. An EHR can close this gap.

Today, managed care plans and providers struggle to get timely reimbursements from Medicaid. EHRs can help alleviate this issue, which could encourage Medicaid provider participation and directly impact member access to care – a core Medicaid goal. If EHRs can enhance the healthcare delivery system, the prevalence of poor quality of care & lack of access should diminish. Collectively these results enabled by EHRs will allow funds previously spent due to system inefficiencies to be used for program improvements & improved patient care.

At the end of the day, providers should wonder what healthcare would be like *without EHR*s.

Medicaid Environments
Electronic Health Record systems have been utilized by providers since the 1990's, and the technology has made huge strides in ease of use and affordability. The importance of EHRs is acknowledged by almost all 50 states as most have already initiated some electronic health strategies.

Both private and public funding has enabled early adopters to implement EHRs and to test how EHRs can help achieve higher quality of care and efficiencies. Recently CCHIT revealed that over 90 initiatives totaling >$700M in EHR adoption incentive programs have been issued *since 2006.* More are needed – for initial implementations and maintenance. Some medical liability carriers have offered financial incentives while still other organizations have assisted providers with implementations or referrals to quality information resources.

This document lists a fragment of current activities, at a high-level by state, as a resource of where to look for information based on type of EHR program.

Arizona - AHCCCS is launching a joint purchase program for small to medium size practices that enables them to buy into a web-based EHR for a monthly fee. The more established HIE project was funded by a $12M CMS grant to launch an Arizona HIE. Early pilot results are extremely positive.

Colorado - The State is focused on development of interoperable state health information networks.

California – The State has a goal to implement HIE by 2016, and it intends to finance improvements using an HIE for the safety net providers and those in underserved areas by 2014.

Florida - The Florida Agency for Health Care Administration (AHCA) funded, & tested, a web-based EHR with localized Medicaid providers. Based on those results, they're expanding the program statewide to include access to lab and radiology information / results.[6]

Massachusetts—In August, 2008, the legislature approved a requirement for hospitals and community health centers to implement EHRs throughout the State by 2015. Even before that timeframe, the State allocated $20M as initial funding to require these same institutions adopt CPOE systems.[7]

Michigan – Michigan is using an EHR system developed locally for community mental health agencies and some primary care facilities. A collaboration group oversees the opportunities for development and what modules / efficiencies can be shared across agencies. Each participating agency pays a one-time start-up fee, ongoing monthly fees for hosting/ development, and part of new development costs.[8]

Minnesota – Recently passed legislation that requires all physicians be interoperable by 2015 in preparation for the Federal government initiatives.

NYC – Primary Care Information Project (PCIP) - A $27M community EHR project started in late 2007 extends public health-oriented EHRs to 1,500 Medicaid providers, established a disease management & preventative care system, and links public safety net providers to an HIE. NYC has invested $100M to create an HIT infrastructure for use in their wide network of public medical facilities. Initial funding was provided under a federal waiver to implement mandatory Medicaid managed care in New York.[9]

Pennsylvania – A pilot EHR was deployed to a group of providers and hospital emergency departments with the intent of reducing redundant testing and unnecessary admissions. Early pilot results after almost one year indicate medical costs for inappropriate and duplicated care declined.[5]

Texas - Back in 2006, the Texas Health Care System Integrity Partnership was created to design a governance structure for a new public-private collaborative to promote a better health care system. This structure focused on the need to establish an HIE for laboratory data and medication histories and to promote the need for standards for various components of HIE / EHR.

Utah – In 2008 Utah committed to develop standards for health insurance applications and compatible electronic systems while establishing standards health insurer products will need to meet.

Washington State – The Northwest RHIO, which serves patients in the Pacific Northwest & parts of Canada, has all participating providers use one HIT-EHR system that allows healthcare data sharing for >2.6M patients.

West Virginia – Brought together all stakeholders to work with the public insurers; reached agreement that systems be able to talk to one another. They're able to offer incentives as part of their Health Improvement Program.

Realizing the national importance of EHR adoption, there exist several bills on the congressional table that, if passed, can impact EHRs. See the Appendix for this information.

PROPOSED SOLUTION

Solution Overview

Budget cuts, more restricted eligibility rules, and payment or coverage adjustments will not provide quality care for Medicaid members, nor will it encourage provider participation. The pool of primary care providers has been declining and to negatively impact their reimbursements will not help. The last option - to *provide more efficient service delivery* – can help meet Medicaid goals and encourage provider EHR adoption. Partner with your providers to help them adopt EHRs - this is 'how' this gets done. EHRs help providers comply with external information requirements (i.e. prior authorization) more easily while improving the continuity of care with less administrative time. This leads to the following Value Proposition:

> *Value Proposition:* **Providing healthcare providers with 1 VIEW of a patient's health through interoperable EHRs can reduce administrative costs by 2-3%, reduce clinical costs by 2-3%, & achieve quality patient care by enabling providers to access current administrative, patient, & clinical information at the point of care, creating efficiencies & better cost management over three years.**

Agency Goals and Performance Targets

To create the needed environment of quality care at an affordable price requires high-level goals and performance targets and metrics, which address the question 'What can Medicaid achieve with less funding and resources while care demands grow?'

While it can be difficult to fully quantify, an analysis of some Medicaid data identified *duplicate prescriptions, unnecessary & repetitive tests, fraudulent claims due to inaccurate eligibility data, & lack of access to recent patient histories as factors that increased costs*. Even without full quantifiable analysis, this data supports EHRs as an effective solution to 'how' Medicaid can achieve its goals and performance targets, including:

> *Fortunately, an EHR is structured to support a 21st Century Medicaid's goals through more timely use of clinical & administrative data & resources.*

Goal 1: Reduce Medicaid administration costs by 2-3% this year.

Need to Achieve	Performance Metrics	How EHRs Help
- Lower administrative costs - Increased claim approvals on 1st submission	- Improved admin/efficiencies to reduce claims & business process cycle times & per transaction for admin. activities (claims, eligibility screening)	- Fewer claim submission errors - Simpler/ more efficient prior-authorization & referral processes - Less staff time reviewing medical records, & copying, faxing records & approvals - Reduce medical errors due to medical eligibility fraud.

Goal 2: Reduce clinical costs by another 2-3%.

Need to Achieve	Performance Metrics	How EHRs Help
Fewer emergency dept. visits - Lower pharmacy costs - Fewer lab & imaging costs - Decreased long-term care costs	- # of ED visits / 1000 - Decreased pharmacy PMPM - Lower Diagnostic PMPM - Lower cost overall for LTC PMPM: higher % of LTC members in home & community-based settings	- Reduction in Rx errors - Elimination of redundant & unnecessary tests & care; - Reduced ED visits for non-emergency & preventable situations, & - Clinical coding error

Goal 3: Achieve quality of care

Need to Achieve	Performance Metrics	How EHRs Help
Fewer emergency dept. visits - Lower pharmacy costs - Fewer lab & imaging costs - Decreased long-term care costs	- # of ED visits / 1000 - Decreased pharmacy PMPM - Lower Diagnostic PMPM - Lower cost overall for LTC PMPM: higher % of LTC members in home & community-based settings	- Timely medical information access - Increased access to preventive health information - Better care coordination between PCPs and behavioral healthcare providers - Access to the latest evidence-based treatment options at the POC

Some factors that influence Medicaid's ability to achieve its goals include the current level of Rx management & EHR penetration rate, & a population's 'access to care' patterns & demographics. Widespread adoption of EHRs is needed to meet these goals & enable providers to deliver better access to higher quality care at a reasonable price. EHRs can use data electronically captured to pinpoint & measure where achievements occur, identify progress made or is needed, & where rewards / incentives can be applied.

IMPLEMENTATION

State Medicaid agencies need a strategy to enable high-volume Medicaid providers to adopt, secure, & implement EHRs. This strategy should identify the agencies goals for EHR adoption and how it plans to lead and support providers as they adopt EHRs. Use the information and resources in this document as collectively, it provides the framework for EHR adoption in Medicaid, including the benefits, which have become increasingly apparent as evidenced by this recent statement from President Obama.

It's not necessary to help all providers initially. Medicaid's plan on how to lead and support their providers needs to include a process to **identify the initial adopters**. Find your project champions and support them with **guidance, direction, and resources to help manage the EHR adoption process** – from the initial assessment (to determine if it will provide the desired benefits) through the implementation and evaluation.

> "To improve the quality of our health care while lowering its costs, we will make the immediate investments necessary to ensure that within five years, all of America's medical records are computerized. This will cut waste, eliminate red tape and reduce the need to repeat expensive medical tests. But it won't just save billions of dollars and thousands of jobs, it will save lives by reducing the deadly but preventable medical errors that pervade our health care system." [17]

Medicaid EHR Adoption Goals

As goals are set, it's critical to first understand most EHR benefits are more quantifiable (percent of improvement, staff reductions, cost avoidance) than quantitative (hard dollar savings) and **they must drive the likelihood of adoption.** Reasonable starter goals should target the high-volume providers (those with **>**30% of their patients as Medicaid) as your initial adopters, such as:

> **Goal 1: 5-10% of Medicaid's high-volume* providers will implement an EHR with at least basic functionality* within the next 12 months.**

> **Goal 2: 50% of the remaining high-volume Medicaid providers will implement within the next 15-24 months.**

> **Goal 3: The remaining high-volume providers will implement an EHR within the next 24-36 months.**

Also consider providers whose Medicaid members have multiple conditions. EHR value is maximized on patients with chronic conditions & diseases as they may use >1 provider in different clinical settings. Since >60% of the Medicaid population has at least one chronic condition, the value for these members who frequent the healthcare system is dramatic.[2] This multiplies the potential for error & consequently for value.

Lastly, a phased approach to implementation helps ensure support resources are available. Reflect this in the Medicaid EHR Adoption goals.

*Note: Basic EHR functionality includes: tools that support elimination of paper charts; computer-supported prescribing; & paper-to-computer workflow progression.

Provider EHR Adoption Goals

Once the targeted providers are identified, Medicaid should support them from the initial assessment through the implementation – either with staff access or identification of external resources (see Appendix). Ideally, help ensure they take time to establish goals for their EHR efforts – this is often when provider value is exposed. This critical step will also set the stage for success or failure and can help ensure providers avoid being one of the up to 50% of EHR implementations that have failed.[10] Proper goal setting helps providers:

- Understand how an EHR works and the changes it will bring
- Determine what they expect an EHR to provide their practice & what functions are needed
- Better evaluate how a product matches their needs

Since Medicaid's focus is forever on providing quality care, we must support providers as they work to adopt EHRs. In addition to advocating for funding and resources, Medicaid should offer assistance through resources such as the *Draft High-Level EHR Provider Outline* presented in Exhibit C.

EHR Functionality

EHRs can be elaborate or basic. The more elaborate functionality typically creates the greatest enhancements in workflow and patient care but take more time to implement. Integration of practice management systems within the EHR will increase EHR adoption over time, especially as more sophisticated components are utilized (ECDS). From the start, help your providers understand that, long term, an EHR should contain the following components, even if they're not all implemented initially:

<div align="center">

EHR COMPONENTS

</div>

-	**Eligibility verification / inquiry**	-	**Clinical decision support**
-	**E-Prescribing & Medication Lists (fill history & Rx history)**	-	**Practice management that may include scheduling, billing**
-	**Health history & Problem lists**	-	**Case management**
-	**Lab tests – orders and results**	-	**Clinical encounter management**
-	**Radiology orders & results & images**	-	**Analytics & Reporting**
-	**Referral & Prior Authorization management**	-	**Preventive care / patient education tracking**

Additionally, it's imperative that an EHR also provide the following:

- Capability that allows multiple separate organizations to identify a patient correctly;
- Reporting capabilities that allow extraction of data for analysis – custom & standard ad hoc reports;
- Ability to provide summaries – Continuity of Care Record (CCR), Continuity of Care Document (CCD), &/or Care Record Summary (CRS).

If a practice management system is in place, the EHR must be integrated to maximize its value & to not duplicate work as one goal of an EHR is to provide **1 VIEW** of data across providers / entities.

BENEFITS & BARRIERS ANALYSIS

As recent as June, 2008 physicians who implemented an EHR system were satisfied with it, per a national physician survey reported in the June edition of Th*e New England Journal of Medicine.*[11] Functionality specifically highlighted that physicians were content with include:

Clinical decision tools;	Timely access to medical records;	Ability to communicate with other providers & patients;	Ability to provide chronic-illness care that met guidelines.	Avoidance of medical errors & being able to implement preventative care;	Rx refill tools;
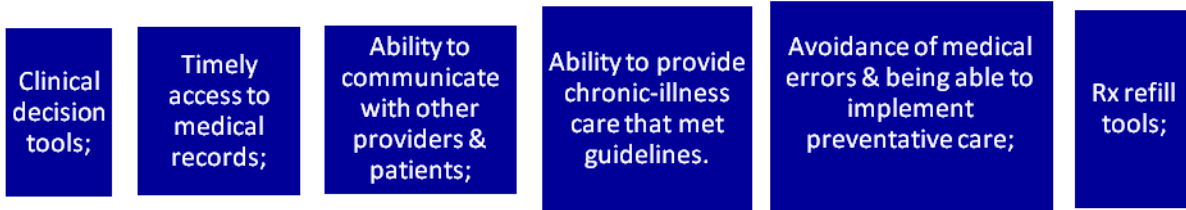
Many providers do ultimately see value in EHRs. However, as with any new tool or procedure, there is an initial learning curve. Medicaid's opportunity is to identify ways to help providers expedite the learning curve to maximize the benefits of EHR adoption.

BENEFITS

The benefits of EHR adoption outweigh the risks. While information technology (IT) is needed to manage ever-changing privacy laws, business needs, & medical technology advances, most of the benefits of interoperable EHRs focus on data, financial, administrative / organizational, and clinical value.

<mark>While conclusive research is not widely available, some studies have shown an EHR & data sharing can.</mark>

Data Value

Medicaid stands the most to gain from improved quality of care, reduction in duplication of tests & services, & the prevention of chronic disease & unnecessary hospitalizations resulting from medical errors & unattended diseases - all achieved through the sharing of good data. Providers initially gain value through office efficiencies (enhanced workflows, decreased paperwork) and improved decision-making options at the POC while positioning themselves for quality reporting & P4P programs.

Constant pressures to reduce costs & improve quality care increases the need for well-managed data. Medicaid, with their providers, can use EHRs to exchange patient data through an interoperable infrastructure that enables:

▪ Accelerated turn-around times on time-intensive, paper-based processes (PA, referrals);	▪ Access to new medical protocols previously not available for years – at the POC;
▪ Better coordination of personalize care;	▪ Minimized duplicative treatments and tests;
▪ Access to comprehensive patient information;	▪ Accelerated distribution of research & evidence-based medicine.
▪ Reduction in medical errors;	▪ Ability to monitor patient compliance
▪ Support of illness prevention;	

Stream-lined workflows such as on-line appointment scheduling can help providers build better patient compliance & relationships and make monitoring of health status & events easier. These tools also

capture quality data and can eliminate or reduce phone calls to and from the front office staff. Lastly, there is enterprise-level value for those organizations which more aggressively use the analytical component of the EHR through:

- Risk Modeling – based on population variables (by disease, medication, age)
- Access to population statistics to identify individuals for broad interventions
- Clinical analytics
- Practice-specific / Population Health Reports

Each component takes us one step closer to a high-performing healthcare system. The longer the healthcare industry delays the adoption of the EHR concept, the greater the delay to benefit realization. If an EHR can offer up to just 2% administrative costs &/or up to 3% pharmacy cost reduction, isn't it worth it?

Financial Value

EHR systems that include computerized ordering functionality & decision support tools may decrease medication, lab, and radiology costs from reduced occurrences of office visits & hospitalizations if they help alleviate adverse drug events. While most of the savings noted to date are through the electronic prescribing function, the trickle-down effect of poor medication choices generate events that affect the other arenas – these are simply more difficult to isolate & quantify. Other influencing factors include the percentage of patients under capitation agreements, population demographics & their healthcare behaviors, and the degree of managed care in a practice.

Evidence of hard-dollar savings from EHRs is not available due to the newness of the technology, the immaturity of the market, & the slow adoption rate. The opportunities identified here are from the available research, are typically acceptable throughout the literature, and were extrapolated for illustrative purposes only as quantifying them with hard dollar savings is still a work in progress.

FINANCIAL OPPORTUNITIES - ILLUSTRATIONS:

ASSUMPTIONS:		
Population:	10,000	*[A Random Population # for illustration only]*
12 Months Program Costs:*	$51,525,424	*[Avg Medicaid cost/person based on 2006 data of $304B paid for 59M persons x the Random*
PMPM:	$429	*Population #]*

MEDICAID IMPACT by Service Category					
SERVICE CATEGORY:	**PHARMACY**	**PHYSICIAN / LAB / XRAY**	**EMERGENCY DEPT**	**ADMIN COSTS**	**TOTAL these 4 Categories**
Assumed cost distribution % by Service Category*	*5.5%*	*3.8%*	*(assumed 6.5% of members used ED once w/avg. cost of $1000)***	*5.7%*	
Costs by Service Category:	$2,833,898	$1,957,966	$650,000	$2,936,949	$5,441,864
Savings by Service Category:					
IF saves X% by Service Category:	**Savings by Service Category / Savings by PMPM**				
0.5%	$14,169	$9,790	$3,250	$14,685	$27,209

	$ 0.12	$ 0.08	$ 0.03	$ 0.12	$ 0.35
1.5%	$42,508	$29,369	$9,750	$44,054	$81,628
	$ 0.35	$ 0.24	$ 0.08	$ 0.37	$ 1.05
3.0%	$85,017	$58,739	$19,500	$88,108	$163,256
	$0.71	$ 0.49	$ 0.16	$ 0.73	$2.09

12 Months of Program Costs = the Avg. Medicaid Expenditure/Person x a population # (costs are from 2006 data from kff.org)

** Percentages based on Federal Distribution of Costs of $304B paid in 2006 (from kff.org).[16]

The above chart presents *a **high-level illustration*** of opportunities in four service categories based on broad assumptions. States should use their own data to estimate their opportunities (this tool will be available on www.nasmd.org).

One Case Study listing the value of an EHR in a Texas Medical Clinic was recently released by CCHIT. This 140 provider full-service practice identified actual transcription cost savings by using the EHR's reporting capability to be $100 - $142 per month per provider. Other savings identified include time saved from not having to pull or find charts, from viewing all lab results and imaging studies online, from answering patient calls the first time with immediate chart access, and from processing their 15K prescriptions / month correctly the first time, which eliminated phone tag and follow up calls.[13]

The savings potential is too significant to ignore – even half these savings justify immediate Medicaid action.

Lost Savings
Conversely, the lost savings is what is paralyzing. The lack of EHR adoption with your provider base can result in:

1. **Lost revenue as eligibility for pay-for-performance and other programs will not occur.** Lack of program participation will add up over time – and result in lost liability insurance discounts and other benefits not yet identified.

2. **Impaired ability to work with practices with EHRs.** Practices without EHRs have limited access to recent evidence-based information, which can hinder measuring and improving quality, increasing efficiency, and providing better care.

It will also impact access to quality providers. A core Medicaid goal is to improve access to care yet a decreasing pool of primary care physicians will create restrictions. The PCP spends tremendous resources processing paper - for more restricted payments. Now they are expected to measure & report the quality of care provided. Working with Medicaid needs to get easier, and one way is to decrease administrative overhead to create more time for patients. As workflows become more efficient, the return on investment increases.

Administrative / Organizational Value
EHRs replace paper-based medical records, which can be fragmented, hard to read / find, & incomplete. An EHR provides *1VIEW* of up-to-date information, stores it efficiently with simple access from any location, and makes it shareable. This accelerated ability to share information can significantly impact the time spent on administrative tasks. If we can verify eligibility, medication history, & best practices

electronically at the POC, we will have eliminated one opportunity for medical errors, which are responsible for 98,000 preventable deaths / year.[12]

Part of the delay in EHR adoption is an incomplete understanding of its value. One little publicized benefit is when staff, data, and processes under-perform but are then maximized by office efficiencies & staff effectiveness (better use of their clinical skills). One of the largest costs in provider practices is labor for basic office functions – so reduce these costs and save resources, a quantifiable benefit.

Improve a provider's revenue by decreasing administrative work – take the prior authorization process, which is a time-consuming, paper-based hassle. Common research indicates it can take one office staff member (at $12/hr or $1 for 5 minutes) up to 2-3 hours to complete one referral. *With an EHR, staff time (in this example) is reduced to < 5 minutes, at a new cost of $1 – compared to $24 - $36 PER referral.*

Clinical Value

According to e-Prescribing and the Medicare Modernization Act of 2003[18], EHR systems can decrease serious medication errors, increase formulary adherence, and significantly impact public health. Trends on diseases, treatments, outcomes, etc. can be more easily identified using aggregated data from a wide spectrum of patients. This information can be used by a provider to tailor a treatment plan – especially valuable for patients with >1 chronic condition. Also, emergency dept. providers will have fast access to a Medicaid patient's history to maximize treatment options in a short period of time.

Immediate access to millions of medical research records will enable more rapid learning / sharing of new research information to improve the quality of patient care. This is priceless for the small practice and/or rural provider without an immediate peer network available for consultation. *Access to the latest research results while the patient is in their office is significant for the rural provider.*

Value Framework

As staff time is freed up, additional patients can be seen, which generates increased revenue with less overhead. This occurs predominately when the EHR includes a practice billing system. It facilitates savings by more accurately capturing charges & by reducing manual data entry; therefore reducing manual data entry errors. The value achieved with an EHR is directly connected to the functionality implemented.

VALUE FRAMEWORK	
Financial	**Clinical**
Cost Reductions / Avoidance:	**Quality of Care Improvements**
• Eliminate duplicate &/or unnecessary tests (Medicaid) & chart pulls & paper costs (Provider)	• Documentation quality - legible, organized, complete, and timely (Provider)
• Reduces adverse medical events which trigger additional healthcare services (hospital & ED admissions, new scripts if conflicts w/prior medications) (Medicaid)	• Decision-making - more informed thru access to evidence-based best practices at POC (Provider)
• Fewer claim denials increases turnaround time on claim payments	• Clinical notes - management of medication, allergy, & problem lists, & efficient chart signing (Provider)
• Reduced fraud from false claims, bad data, ineligible persons	• Interface with other information systems, registries
	• Faster diagnoses & treatment of chronic conditions

Cash Flow / Enhances Revenue	Improved Outcomes
• Additional revenue from improved accuracy re: charge capture / coding for billing & < fraud (Provider, Medicaid)	• Reduction in medical errors (Medicaid)
• TAT from incurred charges ➔ claim submissions improved (Provider)	• Support of illness prevention & disease management - including health screening reminders & preventive tests (MC)
• Reduces transcription & copying costs (Provider)	• Communication of discharge instructions to PCPs can impact adherence to follow-up care instructions
	• Reduction of inappropriate/outdated therapies w/ECDS tools
Productivity Gains	**Risk Management**
• More time for patient care – could boost # of patient visits / day - through Process Improvements / re-structuring to increase office efficiency (Provider)	• Increased ability to comply with ever-changing legal requirements (data security, patient access requirements) (Provider, Medicaid)
• Tools for enhanced reporting	• Possible positive impact on medical malpractice insurance (Provider)
Administrative / Organizational	
• Immediate access to eligibility, plan coverage, & program rules information decreases paperwork & time for authorizations; decreases claim fraud (Provider, MC)	• More efficient business process (Provider, Medicaid)
• Less pulling & filing of patient charts (Provider)	• Quick access to treatment protocols & prevention reminders (Provider)
• Faster access to patient data (Provider)	• Direct access to critical eligibility & coverage information / rules (Provider)
• Reduces phone tag time commitments (w/patients & other providers) (Providers)	• Improved compliance with chart requests & chart audits (Provider)
• Less time looking for patient information, charts, tests	• Lower transaction costs for administrative activities (claims, eligibility screening)

The level of functionality implemented is a practice decision and should be determined after a needs assessment is completed.

Value Illustration – E-Prescribing
One of the key EHR functions that provide significant value is e-prescribing. Its levels of functionality drive the value returned, as is noted in scenarios below.

All options start with - E*lectronic creation of a new Rx*

Option A: Basic electronic prescribing. It may take 2-4 hours of staff time for back & forth phone calls.
1. Print the Rx; the patient physically takes it to the pharmacy. Enter refills and changes into the EHR by hand. Some value, but limited.
2. Print the paper Rx & fax to the pharmacy. Refills are manually updated.
3. Use a fax server that sends the electronic Rx to the pharmacy; updates are manual.
4. The EHR software sends the electronic Rx directly to the pharmacy's computer system, & they respond the same way - NO PAPER or FAXES!
Value is nominal

Option B: Enhanced e-Rx functionality. It's faster but it still requires manual work & phone call follow up.
1. Print the paper Rx & fax to the pharmacy. Refills are manually updated.
2. Use a fax server that sends the electronic Rx to the pharmacy; updates are manual.

3. The EHR software sends the electronic Rx directly to the pharmacy's computer system, & they respond the same way - NO PAPER or FAXES!
Value is noticed but not significant

Option C: Full E-Rx. All transmission / decisions are made electronically – when the script is entered.
1. The EHR software sends the electronic Rx directly to the pharmacy's computer system, & they respond the same way.* NO PAPER or FAXES!
Value is significantly greater than Option A or B.

The above savings to the provider are process-based. With Option C, nurses & office staff are freed from searching for patient charts, from phone tag with the pharmacist, health plan, & the patient (to identify the right prescription with the needed authorizations). These indirect costs in a practice are eliminated. Medicaid receives value by having the formulary / preferred product identified and dispensed.

Note: The ability to send and receive data electronically is required by both the provider & the data exchanging entity.

Unfortunately, just as benefits from EHRs are plentiful, so are barriers to EHR adoption.

BARRIERS

Primary
Some barriers are perceived and some are real – either way, these must be shattered. The research overwhelming identifies cost as the primary barrier to physician support of EHRs. However, the EHR implementation rate is – according to the 2006 Executive Summary of *Health Information Technology in the United States: the Information Base for Progress* - centered on four factors, which are:

- **Financial –** incentives & barriers: hardware & software costs, maintenance, upgrades, potential replacement before value returned, the lack of adequate funding and resources, & ongoing technical support for users.
- **Laws / Privacy** – legal and ethical issues related to patient data security, access rights, & confidentiality; concern about newly created legal exposures, concern over the potential legal burden of compliance, & meeting HIPAA requirements. (Ex: Who's liable during a data breach?)
- **Technical** – concern once purchased, it will be outdated; functionality; quality; ease of use (user interfaces); possible lack of integration w/other applications; lack of understanding of how to analyze system options (what exactly do I need?); lack of standards; disconnect re: who should pay;
- **Organizational** – 'how' to address business process changes / impact; training needs (time & resources); what functionality is needed; how to move paper into electronic format;

One other significant barrier is structured data entry (SDE) as it lacks flexibility to capture narratives (i.e. patient stories) in a way that providers find trustworthy & accurate. Drop down boxes with pre-determined values can encourage providers to channel patients into familiar classifications while discouraging the consideration of more esoteric (lower prevalence) conditions. Free form text has significant advantages over SDE as it reveals the clinical reasoning behind a diagnosis / treatment plan

by communicating more information more succinctly. There are also elements of medical record documentation that require writing, such as history of patient illness, to meet the level of service that is charged.

So how to blend consistent notes capture needed for back-end reporting with useful clinical analysis needed at the POC? As the EHR industry matures, the gap between reporting (P4P, quality metrics using standards for diagnoses, treatments, and complaints) and an accurate clinical analysis at the POC will diminish. To accelerate this, most EHRs have revisable templates to initially provide some data structure but also allow revisions.

Start your providers using structured data with some free-form text to help them embrace SDE. With use and time, they should see the value of SDE so when the more complex functionality is needed, compliance with the greater documentation required to maximize ECDS and measure quality should occur. The incentive of using clinical performance data for quality improvements or P4P programs may not be enough if the SDE hurdles remain.

Secondary
Some less invasive barriers that, when added to the larger barriers, can tip the adoption scale to no action, including:

SECONDARY BARRIER	EHR EFECT
Limited employee EHR knowledge and computer skills	Education & system exposure can improve / eliminate.
Support from medical staff (fear of increased workload & decreased productivity)	Reverts after use and training
Limited quality high-speed internet in rural areas	Reliable internet in rural areas is quickly improving.
Lack of clear goals for what the EHR needs to accomplish	Issue identification & workflow analysis can pinpoint areas EHRs can address.
Concerns on the quality/trustworthiness of data from other providers/ unfamiliar sources.	As with any new technology/procedure, use good judgment while data reliability improves

- Limited employee EHR knowledge and computer skills
- Support from medical staff (fear of increased workload & decreased productivity)
- Limited quality high-speed internet in rural areas
- Lack of clear goals for what the EHR needs to accomplish

Research indicates an initial productivity decrease, which reverts after training. Internet access in rural areas is becoming a smaller issue as reliable internet access in rural areas is quickly improving. Not so easy are the concerns that abound re: the quality and trustworthiness of the information documented from other providers or unfamiliar sources. As with any new technology or procedure, professional judgment must be applied while data becomes more reliable and trustworthy.

Technology

Introduction

To increase the EHR adoption rates among Medicaid providers, Medicaid needs to provide leadership, education, and funding direction to accelerate their understanding of how to advance healthcare using technology. The adoption of EHRs can best position us for the future as ***they facilitate the exchange of information across facilities***. When multiple information systems can do this seamlessly, they are interoperable. When they can't, the data - confined to one location - is inaccessible by others.

*Note: Refer to the Appendix for more information on health information technology.

Product Selection Considerations

CMS is starting to move states towards a standards-based, modern IT architecture that can link data from a variety of sources – from Medicaid claims to long-term care records to test orders & results - to provide ***1VIEW*** of a patient's health. It will take time & commitment & standards. Standards are the key to interoperability as they enable vendors to build their systems to be interoperable. They encode health information using a common "language" that multiple systems can read. An analogy is building a railway to connect two cities. Both cities must lay tracks using standards so the trains can cross boundaries. EHR standards share this concept - they ensure test results stored in a lab system can be safely accessed from another system. Standards and interoperability must be considered when evaluating EHRs. Also consider:

Minimum Selection Considerations - What an EHR Needs to Provide:

1. **Functionality** - *What the system will allow you to do, including*:
   – Create & manage patient medical records electronically
   – Automate office workflow & processes.

2. **Seamless Interoperability** - *Connects existing / disparate systems* based on a common / open architecture (technology & applications) to ensure data exchanges by:
   – Receiving / sending electronic health data to / from external entities (pharmacies or labs)
   – Using data transmission formats & standards through ONC to:
     – De-code the electronic data - so it can be received
     – Interpret the data - so it can be understood (identifies what tests a patient had & the resultant values)
   – Having a secure network capable of transmitting data in the volume & at the speed required to be useful

3. **Data Storage** - *Storage & use of data in varied forms* (medical records as text, reports, images) in a Data Center / Repository that is extremely reliable & available such as:
   – A PC / server within the facility
   – An external server accessed via the internet / web portal -

4. **Security** - *Safeguards / ensure patients' personal health information* with:
   – Single sign-on authentication to a portal / view
   – Access to an integrated view of a patient's data

While an electronic exchange of information across facilities needs the above to share information, many types of EHRs exist. The needs and goals of the provider must drive product selection. The Appendix offers additional information on technology options and factors to consider when evaluating EHRs.

Scenarios

The Medicaid model applied within a state can impact the type of infrastructure needed for EHRs. States may offer a broad managed care network, a network built on rural providers and small provider practices, or it may be one made up primarily of community health centers / safety net providers. Consequently, how facilities interact with and depend on one another for the continuity of care of a Medicaid member can drive the level of interoperability required.

Typically smaller practices or those in more rural areas lean towards an application service provider model or one that comes with a tremendous amount of technical support. This eliminates the need for the provider to maintain their network, application, data storage, etc. but the provider must still ensure they have sufficient network bandwidth to allow the efficient and quick transfer of data across facilities. Otherwise, slow data transfers will quickly discourage EHR use.

Financing

Financing is the single largest hurdle to provider adoption so Medicaid must help identify creative funding solutions to accelerate the adoption process. Recent information released from CCHIT revealed that over 90 initiatives totaling >$700M in EHR adoption incentive programs have been issued since 2006.[14]

Some strategies for financing include:
- Take advantage of federal programs that reward investment in healthcare infrastructure
- Provide assistance to high-volume Medicaid providers to secure public health grants.
- Align provider participation & compliance with rewards / incentives
- Encourage lower cost initiatives such as web-enabled systems that have lower out-of-pocket costs, require less technical knowledge, and that are faster to implement.

Additional strategies are included in 'Recommendations' found in the Summary Section of this document. Pursuit of these efforts in tandem may accelerate funding possibilities while Medicaid gets providers involved in the adoption efforts. This must happen early and often as Medicaid needs EHRs in their primary provider community now. Work with your providers and be rewarded with a provider community more inclined to support EHR adoption efforts.

SUMMARY

A continued investment in building a national electronic healthcare infrastructure is critical to fix the U.S. healthcare delivery system - it is also the key to achieving a high-performing healthcare system, critical for Medicaid's survival. Since Medicaid goal achievement is directly connected to EHR use by our care providers, a 21st Century Medicaid agency must get EHRs adopted by the provider community.

Recommendations

Given the current failure of the private sector to rapidly advance EHR adoption rates in the U.S., government action needs to spearhead these efforts through more grants / subsidies, mandates, and even critical policy decisions. It is recommended that Congress provide funds to CMS to provide loans and grants to fund EHR adoption & operations. However, since there is great variation in how states reimburse their Medicaid providers, this investment should be at the State Medicaid level.

The ability to exchange data among providers and agencies who serve our population is crucial to successful management of the population's health – all of which requires interoperable health information technology. To reach the goal of *1VIEW* of a patient's health, widespread adoption of EHRs must occur. This leads to the following recommendations:

Recommended for CMS:
- Fund Medicaid to allow rapid EHR adoption – including incentives for Medicaid agencies to achieve their metrics (hold them accountable for their performance);
- Accommodate states to provide low cost coalition / joint purchase software or strategies through MITA;
- Ensure graduate medical education programs require their residents to use EHRs;
- Access to capital funds for providers to invest in certified EHR systems.

Recommended for Medicaid Directors:
- Take leadership & responsibility to ensure your state achieves their new metrics;
- Develop a trategy for communicating – locally and nationally - the criticality of why Medicaid needs to promote EHR adoption, that includes:
  - Advocating to congress for MITA to support EHR adoption efforts;
  - Promoting interest in funding EHRs for Medicaid providers by distributing this document to key adoption leaders who will join your leadership efforts to promote development & acceptance of standards for electronic data sharing;
- Develop a state-specific EHR adoption strategy that includes a key leader to establish, implement, & promote EHR adoption statewide (strategies can include incentives, direct grants, or other options) by:
  - Establishing specific Medicaid EHR adoption goals & criteria for identifying your early adopters
  - Creating a plan to support providers throughout the EHR process that includes readiness assessment, short and long term goal setting, planning, implementation, evaluation tools, and other resources using staff or external sources such as those noted below;
  - Including public health agencies in EHR adoption plans and efforts to ensure access to data to improve public health protection & disaster responses;
  - Understanding state-specific data by isolating issues specific to your population
- Organize & participate in NASMD-sponsored leadership forums for Medicaid directors and their health plan leaders to promote, adopt, & deploy EHRs and to share best practices for applying EHRs in Medicaid environments;
- Work with the legislature to implement technology requirements that promote use of HIT/EHR such as:
  - All Medicaid and State employee prescriptions must be electronically prescribed by 2010; or

- o All health care claims for these populations must be submitted electronically by 3Q09 (Minnesota has similar legislation – including all physicians must be interoperable by 2015);
- Direct your providers to resources for EHR information and support, including:
  - o www.cchit.org – for a list of CCHIT-certified EHR vendors (an established & trustworthy source of information) and other critical EHR resources;
  - o The Agency for Healthcare Research and Quality (AHRQ) – contact them for technical assistance – available for Medicaid and SCHIP agencies looking to improve care delivery & coordination of care. http://healthit.ahrq.gov/Medicaid-SCHIP
  - o The Health Resources and Services Administration (HRSA) – locate the document they just published for safety net and ambulatory care providers on how to implement HIT. There's a resource toolbox to support you during EHR implementation, including the planning and evaluation steps. http://healthit.ahrq.gov/toolbox
- Get involved in the current legislation being proposed for HIT / EHR.

These combined efforts by the Federal and State governments are needed to achieve a high-performing healthcare system that enable the usage of quality metric reporting & decision-support tools, to measure critical progress toward goals, & to exchange patient data.

Conclusion:

While conclusive research may not be widely available, there is sufficient data and information to support the belief that the *benefits of EHR adoption outweigh the risks*. Since Medicaid stands to gain so very much - improved quality of care, reduction in duplication of tests & services, & possible prevention of chronic disease & unnecessary hospitalizations - Medicaid leadership must promote EHR adoption.

Additionally, Federal and State investments that enable Medicaid providers to adopt EHRs is a crucial step towards securing Medicaid's future. It would build the foundation for a 21st Century Medicaid agency where *better access to high quality care is available at a reasonable price*. This will achieve the goal to provide *1VIEW* of a patient's health – the key to many issues in healthcare today – and achieve a high-performing healthcare system.

APPENDIX

Appendix A – *Health Information Technology*

The adoption of EHR systems – the component that allows the full benefit of health information technology to be reached – can best position us for the future *as an EHR will facilitate the exchange of information across facilities.* A Federal EHR Objective states: "Adoption of interoperable HIT by providers and patients and its subsequent routine use are the critical foundations for transforming the current health care system to one that focuses on the patient while providing quality in an efficient manner." While achieving this objective will transform our medical system & our bottom line, we need more. We need to provide care at a better value than exists today. This is exemplified in President Bushes' executive order #13410 when he called for a better U.S. healthcare system which included the need to create EHRs by 2014. This vision was supported by multiple government and private sector initiatives to destroy barriers and to accelerate information sharing across entities.

Additionally, Secretary Mike Leavitt of the U.S. Department of Health and Human Services further supports this effort by driving a "Value Driven Health Care" initiative. Medicaid can improve the healthcare of our members by applying the four cornerstones of Value Driven Health Care:

> 1. **Interoperable Health Information Technology***:* an interconnected system of healthcare information across entities that will enable the exchange of clinical data, laboratory tests, & radiological images, ultimately resulting in quality of care improvements.

> 2. **Transparency of Quality***:* accessibility to information on the quality of care.

> 3. **Transparency of Cost***:* accessibility to information on the cost of care.

> 4. **Incentives for High Value Care***:* encouragement to Medicaid beneficiaries to pursue high value care, and incentives for healthcare providers to deliver high-value care.

Combined, these efforts set the healthcare bar tremendously high – improve healthcare by promoting & adopting HIT. It's needed to make personalized health care available and affordable - the end goal - as it is the framework to modernize the healthcare system. The four core technologies that combine to support HIT include:

HEALTH INFORMATION TECHNOLOGY (HIT) DEFINED

TERM	DEFINITION	USE / PURPOSE
HIE - Health Information Exchange	The electronic movement of health-related information among organizations according to nationally recognized standards.*	Enables clinicians to quickly access shared health information across entities,
EHR - Electronic Health (I)Records	Health-related information on an individual that conforms to nationally recognized *interoperability* standards and that can be created, managed, and consulted by authorized clinicians and staff across more than one health care organization.*	Used to facilitate care across organizations – it will connect them - & is primarily used to support continuity of care
EMR - Electronic	Health-related information on an individual that can be created, gathered, managed, and consulted by authorized clinicians and	Allows a provider access to patient & clinical information

Medical Records	staff within one health care organization. *	right in their office
PHR - Personal Health Records	Health-related information on an individual that conforms to nationally recognized interoperability standards and that can be drawn from multiple sources while being managed, shared, and controlled by the individual.*	Consolidates information from multiple healthcare providers.

Ref: Office of the National Coordinator, April 28 2008, Defining Key Health Information

To enable the needed data exchange, an EMR within a facility will allow the electronic exchange of data within that facility only. The EHR is needed to exchange that data with external entities (pharmacies, labs). [The terms 'EHR' and 'EMR' are often used interchangeably even though they are different. For this document, however, 'EHR' is used to encompass both internal & external data exchange across entities.]

Within HIT, there are multiple infrastructure options to consider. The one that is most appropriate for a facility will highly depend on the internal technology support system, the level of customization being requested, the local healthcare landscape, & the cost – not just implementation but maintenance. With technology & the high quality of the internet / networking continuing to excel, remote-hosted systems (if built on modern architecture) provide high quality products without the maintenance / update requirements. Look for vendors who offer monthly subscription fees and include the interfaces to the **major data sources within your state / geography** to ensure easier interoperability when accessing external data (i.e. lab results). This diminishes the add-on charges for development work. It's imperative, however, that providers clarify a vendor's definition of 'interfaces with others' to ensure the full functionality needed is included.

The chart below provides more details on several infrastructure options.

TECHNOLOGY INFRASTRUCTURE OPTIONS

Option	Considerations / Benefits / Costs
OPTION 1 **ASP Model (application service provider) – Remote hosted, subscription-based model, Collaboration / Joint Purchase**	The application runs on the ASP's computer system (server) & is built on internet standard architectural components.
	ASP provides a portal for user access to data that is maintained in their source system.
	Internet-based EHR system requires providers have computers w/broadband internet connections (wireless local area networks ideal) – *a greater concern for rural facilities that may not have sufficient internet capabilities yet.*
	Data will reside with the ASP, who will provide data real-time, but access to your own data may require you to go through channels to get it (qualify upfront who owns your data & what's involved in getting it electronically – especially important should a vendor change occur).
	The ASP manages & provides: data security (including role-based, single sign-on access to applications on workstations); privacy protection; disaster recovery; hosting, versioning, & maintenance of databases, additional application software (for internal workstations), middle-ware & interfaces to external entities (lab, pharmacy); & performs daily backup.
	Substantially reduces the start-up costs for the practice as costs are spread across clients.
	Requires fewer hardware components - is easier to maintain & upgrade & requires less in-house technology expertise.
	Reduced implementation & training times - uses web conferences &/or online discussion / training; takes advantages of economies of scale for better cost management
	The least complicated, least expensive, & fastest route to interoperability
OPTION 2 **Individual office but hosted off-site**	The application runs on an internal computer system (server)
	Data will reside with the ASP, or host company, but you may have to go through channels to get it
	Less start up time & costs vs. Traditional model (see #3)
	Cost of training & time commitment greater than ASP but less than Traditional (may still use web tools)
OPTION 3 **Stand-alone system w/in 1 office - hosted on own server (Traditional Model EMR)**	The application runs on an internal computer system (server) connected to the internet
	High cost to implement & maintain; in-house technical expertise can minimize support costs
	More individualized to own needs
	Longer implementation / training time commitment
	Data access is in your control – you access it whenever

APPENDIX B - *Proposed HIT / EHR Federal Legislation*[15]

1. *S. 1693 Wired for Health Care Quality Act 2008 (Sen. Edward Kennedy [D-MA]) - The goal is to support national adoption of and HIT system to improve the quality of healthcare provided in the U.S.*

2. *S. 2729 Ensuring the Future Physician Workforce Act of 2008 (Sen. John Cornyn [R-TX]) – The goal is to* amend the Public Health Service Act in order to facilitate HIT implementation by promoting HIT by enhancing federal privacy regulations & establishing more user / advisory groups while providing more financial support.

3. *H. R. 6345 Patient-Controlled Health IT Act (Rep. Charles Boustany [R-LA])* The goal is to create a demonstration program using financial incentives for citizens to create & use PHRs and to ultimately be able to link this information with an EHR system

4. *H.R. 6357 PRO(TECH)t Act of 2008 Rep. John Dingell (D-MI).* This bill proposes an amendment to the Public Health Service Act in order to further promote HIT adoption, to strengthen current federal privacy regulations, and to provide financial support resources and advisory groups – all with the intent of facilitating HIT implementations.

Appendix C – *Sample HIGH-LEVEL Action Plan*

Throughout the EHR adoption process, providers will need resources for project planning, guidance on technology options, and readiness-assessments. Provide them from within the agency or refer to verified external sources. Help them determine what they need, including if they can implement the EHR all at once or in stages. [Encourage them to avoid a hybrid (i.e. half the practice is automated and half is electronic) as it can create office confusion when a provider doesn't know which patients have an electronic vs. paper chart and results in duplication of effort and unjust, high dissatisfaction with the EHR]. AHRQ grants have found that an all-at-once approach works IF sufficient staff resources are available.

Be creative as you navigate the implementation needs & identify resources (maybe a university or non-profit). One AHRQ-funded health center got help from the Health Information and Management Systems Society (HIMSS) who provided volunteer EHR experts to design the architecture & implementation plans.

The Outline below highlights what's needed to initiate the launch of an EHR adoption effort. This can be a resource for your providers.

<u>DRAFT HIGH-LEVEL Provider EHR Outline</u>

1. Create a vision for where and how the EHR fits within the practice
    a. Determine what an EHR is to help achieve – this ensures the business strategy is right
    b. Understand the business processes, goals, benefits, risks, business changes, and how progress is measured
2. Complete a readiness assessment to ensure the practice will support an EHR
    a. Include methods on navigating and driving change.
    b. Analyze the business - Assess the readiness of the practice to adopt EHRs (including the affinity for adapting to new technology);
3. Set goals that include the benefits to the practice
    a. Example Goal 1: Free up nurses to provide more patient education on medications and patient conditions to decrease the medical errors due to prescription usage.
    b. Example Goal 2: Increase the percentage of children who receive 100% of their immunizations every year, according to established standards of care.
4. Determine requirements
    a. Analyze current workflows & identify needs - include common clinical &/or administrative problems – ask 'how can it be organized? How can the EHR improve the workflow? The gap between current workflows & needs will drive functionality needed. Pinpoint process inefficiencies, including decisional bottlenecks.
    b. List functionality that addresses business needs
    c. Use resources available on www.cchit.org and through your Medicaid organization to finalize
5. Evaluate vendors –
    a. Use the resources available on www.cchit.org – see their list of certified EHR vendors and other resources to aide in this process.
    b. View demonstrations of at least two vendors before making a selection
6. Create EHR migration, implementation, & training* plans
    a. Review the vendor provider plans & adapt as appropriate

  b. Define costs, timeline, resources needed internally to support the implementation - ensure the skill set includes workflow & process analysis, requirements documentation, technology familiarity, and sufficient resources are available when needed.

  c. Identify vendor-provided resources for migration of data and documents

  d. Manage the project in conjunction with the vendor -

7. Assess & Evaluate – Determine what worked, what met expectations, & what needs improvement. *.*

* Notes: Process redesign does not require expensive consultants or software, but it does require significant staff time and effort. Investing in process redesign on the front end of EHR projects will significantly pay off in the end. ***Do not underestimate the amount of training & support needed to help clinicians & staff transition from paper to electronic.***

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The National Association of State Medicaid Directors (NASMD) is a bipartisan, professional, nonprofit organization of representatives of state Medicaid agencies (including the District of Columbia and the territories). Since 1979, NASMD has been affiliated with the American Public Human Services Association (APHSA). The primary purposes of NASMD are: to serve as a focal point of communication between the states and the federal government, and to provide an information network among the states on issues pertinent to the Medicaid program.

> Widespread adoption of EHRs is how Medicaid can survive - *we can't continue to add members to an inefficient system and expect improved quality of care and managed costs* without change*.*

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