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Providing Better Care at Lower Cost: Building Maine's health data infrastructure to support financing and delivery system reform

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**Providing Better Care at Lower Cost: Building Maine's Health Data Infrastructure to Support
Financing and Delivery System Reform**

**Report of the Health Data Workgroup
to
Advisory Council on Health Systems Development**

**Office of the State Coordinator for Health Information Technology
Maine Center for Disease Control and Prevention
Maine Department of Health and Human Services**

March 2011

ACKNOWLEDGEMENTS

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EXECUTIVE SUMMARY

Maine needs a robust and functional health data infrastructure to support efforts by health care providers and purchasers to improve quality, address Maine's health care cost problems, and improve the health of individuals and populations through payment and delivery system reform. Although Maine has been a leader in building and using health data systems such as the hospital discharge data set and the all-payer claims database, new performance-based financing and delivery system arrangements are highlighting shortcomings in these systems and the need for a renewed vision of Maine's future health data infrastructure.

The *Health Data Workgroup* was created by The Advisory Council for Health Systems Development (ACHSD) to address the stated goal of the *2010 – 2012 Maine State Health Plan* to develop a "roadmap" for continuing to build Maine's health data, analysis and research infrastructure to support health care payment and delivery system reform. This report presents the Workgroup's recommendations. These recommendations focus on incremental steps needed to strengthen the capacity of Maine's health data systems to support the key functions integral to new healthcare financing and delivery arrangements. Each of the recommendations is followed by a discussion of priority needs identified by the Workgroup and selected findings from the Workgroup's background research and presentations to the Workgroup.

The Workgroup's deliberations and this report are by no means comprehensive. The urgency of private and public efforts to reform the financing and delivery of care in Maine drove the Workgroup to focus its work on the health data needs tied to these initiatives.

The recommendations are:

Recommendation #1: *Design a Strategy for Linking and Storing Clinical and Administrative Data*

Recommendation #2: *Develop Provider, Practice and Patient Identification and Data Linkage Strategies to Support Quality Improvement and Cost Management Uses of Health Data*

Recommendation #3: *Define Core Health Status and Population Health Data and Measures*

Recommendation #4: *Develop a Strategy for Building Maine's Capacity to Use Data to Inform Quality Improvement and Cost Management*

Recommendation #5: *Produce Regular Report(s) on the Performance of Maine's Health System*

INTRODUCTION: WHY HEALTH DATA?

Maine needs a robust and functional health data infrastructure to support efforts by health care providers and purchasers to improve quality, address Maine's health care cost problems, and improve the health of individuals and populations through payment and delivery system reform. Although Maine has been a leader in building and using health data systems such as the hospital discharge data set and the all-payer claims database, new performance-based financing and delivery system arrangements are highlighting shortcomings in these systems and the need for a renewed vision of Maine's future health data infrastructure. This report of the Health Data Workgroup summarizes the current state of Maine's data systems and recommends steps for improving their utility to address Maine's future health data needs.

For nearly a decade Maine has pioneered the development of innovative, data-dependent, public reporting and pay-for-performance initiatives to drive purchaser and consumer behavior toward better quality and efficiency. Recent innovative health systems delivery and financing initiatives include (1) Maine's *Patient Centered Medical Home Pilot* which became operational in January 2010 in 26 primary care practices, (2) developing Accountable Care Organization (ACO) Pilot(s), and (3) the implementation of a managed care approach with the MaineCare Program. In each of these initiatives, practices, providers and purchasers are depending on the availability of clinical and administrative claims data to demonstrate the impact and value of delivering healthcare services. Current health data systems have proven inadequate for this task.

As discussed in this report, clinicians, providers and purchasers do not have sufficient access to timely administrative and clinical data with which to manage care and costs. Nor do they have individual and population-level health status and behavior information to inform clinical and community health interventions, critical to inform Accountable Care Organizations. If providers are to be held financially accountable for improving quality, reducing costs and/or improving health status, it is essential they have the information they need to manage the care and costs of patients and populations. Likewise, consumers, purchasers and policy makers need information to inform purchasing and other decisions.

This report presents the Health Data Workgroup's recommendations to the Advisory Council on Health Systems Development (ACHSD) for addressing Maine's current and future health data needs. These recommendations are focused on incremental steps that are needed to strengthen the capacity of Maine's health data systems to support the key functions integral to new healthcare financing and delivery arrangements. Each of the recommendations is followed by a discussion of priority needs identified by the Workgroup and selected findings from the Workgroup's background research and presentations to the Workgroup. In addition to the formal recommendations of the Workgroup contained in this report, comments received from the Maine Health Management Coalition on drafts of the report suggested an additional recommendation that was not discussed by the Workgroup but is included in Appendix D.

The Workgroup's deliberations and this report are by no means comprehensive. As discussed below, the urgency of private and public efforts to reform the financing and delivery of care in Maine drove the Workgroup to focus its work on the health data needs tied to these initiatives. It is important to note that the Workgroup's deliberations coincided with an assessment by Deloitte Consulting, LLC of the current processes used to construct Maine's all-payer claims database. The

Workgroup purposely chose not to focus on the issues addressed in the Deloitte study, though we reference and summarize the study findings and recommendations in Appendix B.¹

THE HEALTH DATA WORKGROUP: COMPOSITION AND PROCESS

The Advisory Council for Health Systems Development (ACHSD) created the Health Data Workgroup to address the stated goal of the *2010 – 2012 Maine State Health Plan* to develop a “roadmap” for continuing to build Maine’s health data, analysis and research infrastructure to support health care payment and delivery system reform, workforce development and health system performance monitoring to improve health status.² In setting this goal, the Council noted the following:

1. The timeliness and efficiency of data from the all-payer data system has been a serious problem, limiting the utility and use of these data to support financing and delivery system operational information needs;
2. Statewide expansion of the Health Information Exchange (HIE) provides an opportunity to combine clinical with claims data for better understanding of healthcare quality and efficiency;
3. Maine’s capacity (at all levels of the health system) to use health data to drive decision making is limited; and
4. Maine lacks reliable data to identify, understand and address health disparities.

The focus of the Health Data Workgroup was to:

- Develop an action roadmap to move Maine toward a health data infrastructure that supports quality improvement and cost management;
- Develop a vision for Maine’s health data and data use infrastructure; and
- Identify gaps in data collection and availability and barriers to data analysis and utilization.

Chaired by former state Rep. Anne Perry, who was also a member of the ACHSD, the Workgroup was convened in September 2010 and met monthly over the next four months. (For a complete list of Workgroup members see Appendix A.) At its first meeting the Workgroup reviewed its charge, the tasks assigned to it, and quickly recognized that it could not address all aspects of Maine health data infrastructure and needs. Therefore it chose to focus its work on envisioning a health data infrastructure that could support the data needs of financing and delivery system reform initiatives such as the Patient Centered Medical Home Pilot, ACO Pilots, and the state’s Medicaid managed care initiative. In doing so, the Workgroup observed that:

- Health systems and accountable care organizations need new mechanisms to continually gather, assess and act on real-time data to measure costs, provider performance, quality and outcomes;

¹ Deloitte Consulting, LLC. (2010). *MHDO Assessment and Recommendations*. [Presentation]. MHDO Board meeting. (2010, November 24). Augusta, ME.

² Advisory Council on Health Systems Development (2010, July) *Maine State Health Plan 2010 – 2012* Governor’s Office of Health Policy and Finance, Augusta, ME. (p. 41)

- Delivery systems, purchasers and payers need timely data to formulate and evaluate new payment methodologies and calculate population risk;
- Consumers need information about provider performance, outcomes and cost;
- Policy makers need comprehensive data on healthcare system efficiency and effectiveness; and
- Public health systems need data to inform community health strategies, address specific community needs, evaluate public health program services, and support surveillance of emerging public health issues.

The Workgroup’s deliberations focused on a set of underlying questions:

1. What are the core functions and operations for which health data are needed and what data are needed?
2. Are these data currently available and accessible and if not, why not? and
3. What strategies might be targeted for addressing gaps and barriers in Maine’s current health data infrastructure?

To inform itself and fulfill its responsibilities the Workgroup structured its subsequent three meetings around presentations from the different perspectives of those involved with health care financing and delivery system health data. This included providers and purchasers and public and private data producers. The presentations highlighted key issues and priority needs for strengthening Maine’s health data systems. The presentations included: Barbara Crowley MD, Maine General and Frank Johnson, Director of the Maine Office of Employee Health and Benefits who discussed their plans for an ACO Pilot; Tony Marple, Director, MaineCare who discussed the data needs associated with the Medicaid program’s move to managed care; Barbara Sorondo MD, Eastern Maine Health who discussed the vision for the Beacon Project; and Elizabeth Mitchell and Ted Rooney, representing the Maine Health Management Coalition who discussed the data needs associated with the state’s ACO pilots. The data producer presentations included: David Vincent, from the Maine Health Data Organization; Jim Harrison, CEO, Onpoint Health Data; and Devore Culver, CEO, HealthInfoNet.

From these presentations and Workgroup discussions a set of recommendations were developed to meet the priority needs that were identified. These recommendations and the priority needs that led the Workgroup to them are summarized in the following section.

ADDRESSING MAINE’S CURRENT AND FUTURE HEALTH DATA NEEDS: PRIORITY NEEDS AND NEXT STEPS

The Health Data Workgroup recognized early in its deliberations that developing a detailed “roadmap” for the design and operation of a future health data system was ambitious given the available resources and short timeframe available for this effort. In addition, there are still many unknowns. With the rapidly evolving thinking about ACOs and other models of health care financing and delivery, as well as the changing landscape of administrative and clinical health data aggregation and use, it is not entirely clear who will need what data, who will generate what data, and how data can or should be accessed by all of the stakeholders (e.g. providers, plans, purchasers, consumers). In some cases data will be accessed on a “real time” basis through business arrangements between providers and plans to support clinical and administrative functions. In others, retrospective clinical and/or administrative data will be needed to track performance and inform decision making at all levels of the system.

Given these realities, the Workgroup's recommendations are aimed at establishing reasonable next steps to begin to address the priority health data needs that were identified. It was also felt that there are robust private sector data initiatives that could be taken advantage of in a public-private partnership to both maximize impact and reduce duplication of effort.

Recommendation #1: Design a Strategy for Linking and Storing Clinical and Administrative Data

The Office of the State Coordinator for Health Information Technology should work with an appointed group of private and public stakeholders to develop a feasibility analysis and business plan for a permanent data warehousing capability/system with a report by 12/30/2011.

Background and Discussion: The Workgroup believes strongly that integrating clinical and claims data will be vital to monitoring and evaluating the quality, cost, and health improvement performance of Maine's health system and its component parts. To this end, an immediate and priority need is to assess and propose a plan that builds on existing capabilities and systems for efficiently and cost-effectively linking clinical and administrative data in a secure manner that enables appropriate users to access those data on a timely basis to support clinical, management/operational, policy, research and other functions.

Maine has a strong administrative health data foundation on which to build: Maine has been a leader in developing hospital inpatient and outpatient all-payer claims databases (APCD) and developed an early reputation for its use of hospital data for understanding variations in health care utilization and outcomes. Currently, Maine's in-patient and outpatient hospital data and the all-payer claims database are produced, "warehoused," and overseen by a structure that includes the Maine Health Data Organization (MHDO) and Onpoint Health Data (through a collaborative Data Processing Center). Several recent reports, including the Maine Quality Forum/ACHSD study on the cost drivers in Maine's health system³ and Onpoint's three-state comparison of health care utilization and costs⁴ have demonstrated that administrative claims and the APCD are powerful tools for describing patterns of healthcare, quality and cost across payers, providers, geographic areas and populations in the state.

Our administrative data systems and structures that support them need improvement.

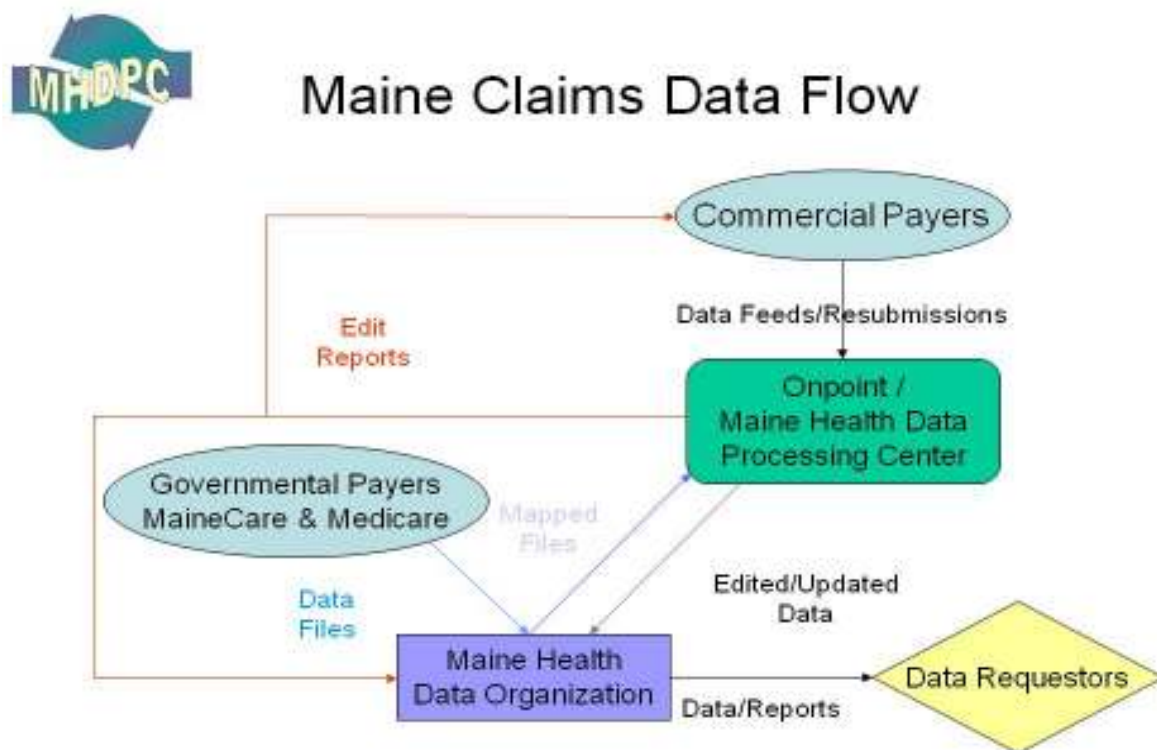
Maintaining and improving Maine's all-payer claims database is essential to achieving a high-performing health information system. The Workgroup heard presentations from the MHDO and Onpoint Health Data (Onpoint) that describe the **current** process for collecting and aggregating the claims information that comprise this database (see Figure 1).⁵ In this structure, claims data are submitted to Onpoint/Data Processing Center which aggregates the claims into a data file that is submitted quarterly to the MHDO for further processing.

³ Advisory Council on Health Systems Development. (2009, April). *Report to the Legislature from the ACHSD, Health Care Cost Drivers in Maine: Report and Recommendations*. Augusta, ME.

⁴ Finison, K. (2010, June). *Tri-State Variation in Health Services Utilization and Expenditures in Northern New England*. Onpoint Health Data. Manchester, ME.

⁵ Vincent, D. (2010). *Maine Health Data Organization Data Collection Overview*. [Presentation]. Health Data Work Group. (2010, November 16).

Figure 1



A recent report by Deloitte Consulting (and summarized in Appendix B) highlights some of the efficiency and timeliness challenges in Maine’s APCD system. Although the MHDO and Onpoint/ Data Processing Center have implemented many of the Deloitte recommendations with improvements in performance, there are additional efficiencies (e.g. limiting reporting health plans) that are needed to improve the utility of the APCD system.

The Workgroup heard from presenters that the current APCD system does not provide timely, actionable information to clinicians, provider systems, or purchasers. Specifically, health providers in ACOs or in any at-risk contract arrangement need timely access to the administrative claims information that can help them manage care and financial risk. One solution discussed by the Workgroup was that an at-risk organization, trying to manage financial risk, will need access to claims data as soon as they are available for the month to assess financial position by analyzing the data to estimate actual spending to-date and projected spending for claims not yet paid (“Incurred but not received” or IBNR). Ideally, clinical and health system/ACO decision making will be supported by both “real-time” data (available shortly after close of month) and retrospective data (12 months with complete claims). Note that the timeliness considerations for “real-time” data are new requirement for a different sort of data – immediate, minimally processed, incomplete data for financial management and monitoring. The inability of the current APCD to meet this real-time requirement is not a reflection on that database, which has been designed to address retrospective analytical needs, but it does highlight the need for an expansion of the uses and requirements of a future APCD that will require re-visiting data submission timing and formats.

In addition to the work of the MHDO, DPC, and Onpoint in building and maintaining Maine's APCD, Maine's data users, notably the Maine Health Management Coalition (MHMC) has pioneered the aggressive use of the APCD and other data to improve the quality and efficiency of the care purchased by its members. Looking to the future needs of ACOs and other financing and delivery system initiatives, the Coalition is developing a strategy to make administrative data available to providers and purchasers on a more "real-time" basis with analytic tools and systems that facilitate data use.

Figure 2 represents the Workgroup's attempt to describe a future administrative and clinical data linkage and use strategy for Maine's health data infrastructure that capitalizes on Maine's existing all-payer claims database, the increasing adoption of electronic health records in the state and our expanding Health Information Exchange. Electronic health record systems (EHRs) and Health Information Exchange (HIE) in Maine are making clinical data increasingly available and accessible to clinicians and provider organizations. These data, in combination with tools such as disease registries, are enabling providers to manage the care of individual patients as well as populations of patients with chronic conditions such as diabetes and asthma.

Integration of clinical data from the Health Information Exchange will support efforts to improve healthcare effectiveness and efficiency. As EHRs and HIE systems become standard throughout the health system, the aggregation, integration and reporting of linked clinical and administrative claims information becomes possible. Such aggregation is often referred to as "data warehousing" which can be done both privately and publicly. In the limited examples we have of health systems that link clinical and claims data these systems have proven exceptionally valuable to clinicians, provider organizations and others concerned with tracking and understanding the various dimensions of system performance, including quality and costs. With over 850,000 lives in Maine's Health Information Exchange (HealthInfoNet), Maine is among the few states with the real prospects of utilizing and linking the clinical and administrative data to support these core functions, although a comprehensive clinical data set is still years into the future.

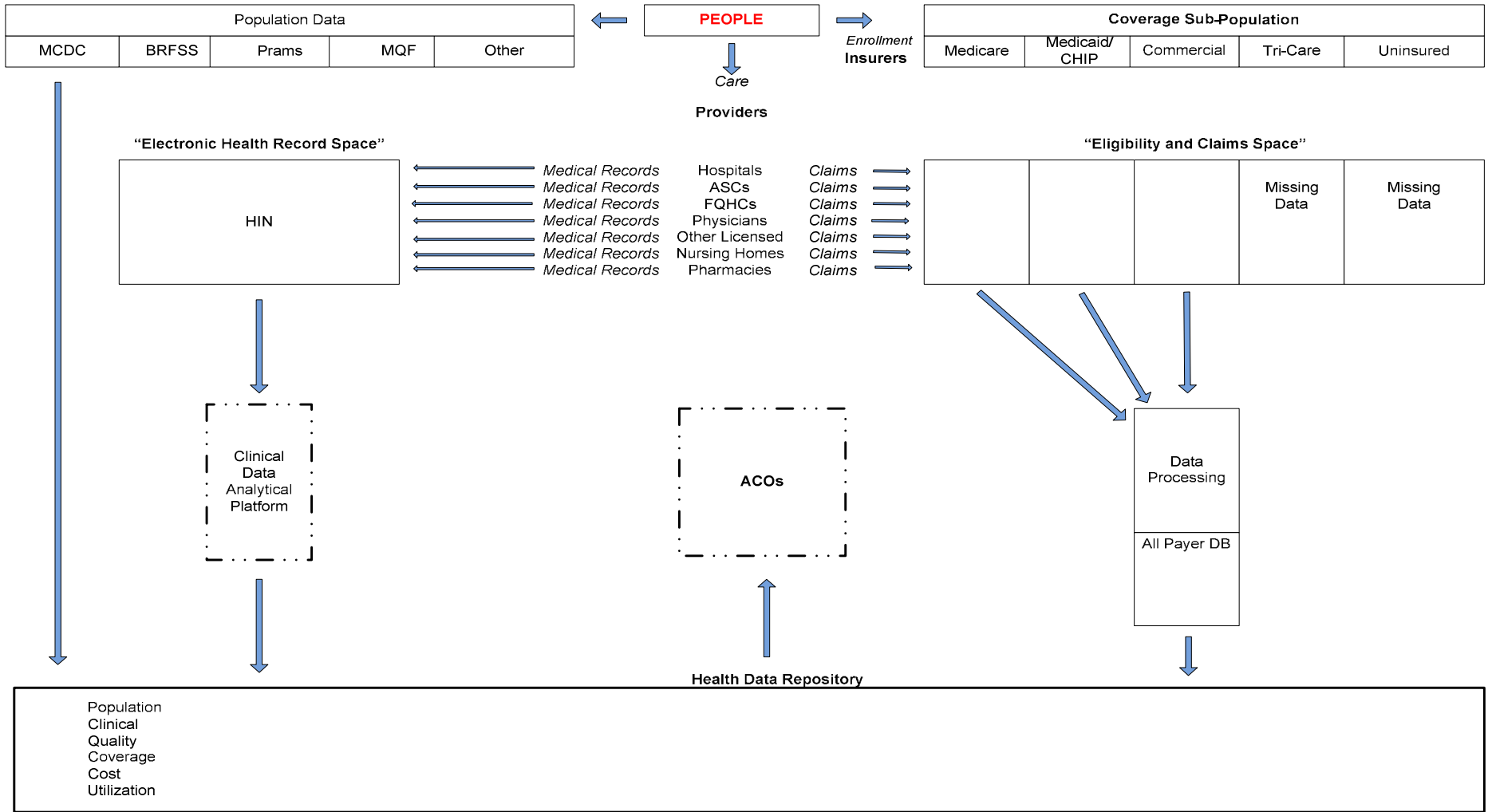
The architecture of such a system will be complex with privacy, cost and other considerations that must be addressed. Among the many questions to be addressed are:

- How can this data warehousing be done to achieve efficiencies for public and private users?
- Where will the data reside?
- Will the data aggregation and storage warehousing be a public, private, or public-private function?
- How will data standards, access procedures and policies, and data privacy policies be enforced?

Given the complexity of these questions, the Workgroup has suggested that the Office of the State Coordinator for Health Information Technology take the next step of developing a feasibility analysis by December 30, 2011 that would (1) evaluate existing state and local data aggregation and storage strategies and models, (2) identify technical issues and approaches, (3) assess privacy and other political and policy considerations, (4) estimate costs and assess funding approaches, and (5) recommend next steps. A combination of existing federal and state funding as well as private support should be sought for this study.

Figure 2

Current and Potential Architecture for Maine's Health Data System



Legend: = Current Resource = Resource Idea

Recommendation #2: Develop Provider, Practice and Patient Identification and Data Linkage Strategies to Support Quality Improvement and Cost Management Uses of Health Data

The Office of the State Coordinator for Health Information Technology should convene a Subcommittee of the Health Data Workgroup to evaluate barriers and approaches to provider and patient identification and data linkage and make recommendations to the MHDO, DPC, Legislature (and/or others) to enable provider, practice, and patient identification and data linkage within a secure privacy framework. A report on the results of the Subcommittee's work should be made to the Office, the ACHSD and other appropriate bodies by September 30, 2011.

Background and Discussion: Quality improvement and managing costs requires that data be linked across individuals and providers (over time) to (1) attribute physicians to practices, (2) attribute patients to providers and practices, and (3) identify patients across providers (and time). According to Maine's administrative data producers, MHDO and Onpoint, the inability to match providers to practices and patients to providers (and over time) causes delay and adds expense to the process of developing Maine APCD. All agree that some form of Master Patient and Provider Identifiers is a goal for the future. These problems are national in scope and are the subject of considerable study and attention both federally and by many states.

How does this barrier affect efforts to improve quality and manage costs? From the provider perspective, if the data cannot accurately link the particular provider to the service provided, ACOs will not be able to evaluate performance or track costs per provider in a large practice or health organization. Patients see multiple providers at various sites and over long periods of time. The system's inability to identify the same patients across providers and over time hampers the ability to draw meaningful conclusions about how people are receiving care and increases the likelihood of service duplication and overuse of resources.

Maine's administrative data producers have identified some key issues regarding provider attribution. Some of these matters are technical within the MHDO system, such as lack of consistency in the health care service provider files between MHDO and Onpoint. Other obstacles relate to lack of any uniformity among organizational charts and identities of providers; and lack of ability to track providers moving among different practices. Administrative data producers believe a master provider ID system and the development of a statewide physician directory to group crosswalk would enhance linkage. The statewide clinical Health Information Exchange, HealthInfoNet, currently manages a comprehensive master patient and provider index. The opportunity to connect the administrative and clinical databases provides a benefit that, if done properly, could address the attribution issue.

Provider attribution and patient identifiers are a focus of several national initiatives. The Office of the National Coordinator for Health Information Technology has established an HIT Policy Committee whose purpose is to develop policy recommendations for a national health information technology infrastructure. Part of their efforts to address provider directory requirements at the national level includes providing guidance around best practices for data accuracy to states that are moving forward on this issue. Through participation in these national initiatives Maine will stay informed about how to address these problems and understand how Maine laws regarding licensing, for example, may need to be updated to improve more accurate provider identification.

Because the Workgroup was not able to fully explore the problems or options for addressing them, it believes that the Office of the State Coordinator for Health Information Technology should convene a subcommittee of the Health Data Workgroup to formulate specific recommendations to address these provider and patient identification and data linkage problems related to the administrative data producers and the clinical data producer - HealthInfoNet. To ensure the acceptability and feasibility of those recommendations, key provider, consumer and other stakeholders and organizations should be involved.

Recommendation #3: Define Core Health Status and Population Health Data and Measures

The Office of the State Coordinator for Health Information Technology should convene a subcommittee of the Workgroup (by 6/30/2011) to identify a set of core health status/population health data and measures that can be used by providers, purchasers, the public health system, the ACHSD and others to monitor and improve the health of individuals, communities and populations.

Background and Discussion: The Workgroup believes there is a need for a core set of measures (and related data) that can be used by clinicians and the public health system to monitor and improve preventive health services, health behaviors, health status and the social, community, and environmental determinants of health. The Workgroup was impressed by presentations from ACO pilot sites, the Beacon Community and others that emphasized the need for such information to manage quality and health care costs.

In addition to the hospital data, all-payer claims, and HIE data, Maine has multiple other sources of publicly acquired data that are highly relevant to data users but are largely uncoordinated and inaccessible. These include data from Maine CDC, DHHS MaineCare, behavioral health and other offices in DHHS. The state also conducts population surveys such as the Behavioral Risk Factor Surveillance System (BRFSS) and the Children's Health Insurance Program (CHIP) survey which collect a variety of data on health status, health risks and behavior; Maine CDC Pregnancy Risk Assessment Monitoring System (PRAMS); and other instruments collect data on healthcare access and health workforce.

Importantly, the Maine CDC was recently awarded a five-year public health infrastructure development grant that will contribute to making many of these population health data more accessible to users. Increasingly private health care providers and the public health system understand their mutual dependence and need for bilateral flow of information to strengthen the population's health. Providers have become far more aware than in the past of the importance of population health data as a guide and tool for the management of their own patient population panels. However, provider access and selection of relevant public health data for clinical and practice management needs remains poorly understood. The Health Data Workgroup heard from practitioners about gaps in measurement of outcomes, including inadequate reporting on functional status and health-related quality of life. While population health data on prevention is common, data on healthy lifestyles and social determinants is not widely available. The lack of information on ethnic and racial minority status is also of particular concern.

Although the Workgroup was impressed with presentations that identified the need for population health data and measures and was interested in emerging work nationally to develop relevant, practice-level measures, such as the Patient Summary Reports of the Dartmouth Spine Center that

are used to develop and revise care plans and monitor the impact of care for individual patients,⁶ the group felt more work needs to be done to identify the core public health measures that will be instrumental in assisting providers as benchmarks for their own patient management decisions. The Workgroup noted that some of this work has begun in Maine. The community health needs assessments conducted by the Healthy Maine Partnerships and other health systems could inform the question of what specific population-level data will be needed by providers in the ACO world and how it will be used. In addition the standard reports that are being used by the Health Districts (see Appendix C) provide an important start on linking health service and population data.

In addition, the Maine Health Management Coalition's Pathways to Excellence program is developing system performance measures including outcomes, cost and utilization. The MHMC is partnering with The Dartmouth Institute, funded by a RWJF grant, to develop and report Dartmouth's emerging set of Accountable Care Organization metrics. These include both population health as well as clinical metrics. In addition to a public private partnership opportunity with a well-established multi-stakeholder process, this would be a good opportunity to connect what is happening in Maine with national efforts

Recommendation #4: Develop a Strategy for Building Maine's Capacity to Use Data to Inform Quality Improvement and Cost Management

The Office of the State Coordinator for Health Information Technology should collaborate with stakeholders and the state's universities to assess and develop strategies for enhancing the capacity of clinicians/providers, purchasers and others to use data and analysis to inform clinical and system quality improvement and cost management efforts.

Background and Discussion: With the development of new financing and delivery models that demand accountability and performance, clinical providers and systems (and others) will become increasingly reliant on their ability to use clinical, administrative claims, and other information measure and assess performance and make clinical, administrative/financial and other decisions to address identified gaps in quality and/or cost performance. It turns out, however, that very few clinicians and administrators are actually trained in how to use data and information for these purposes. Moreover, we know very little about the capacity needs among health plans, state government and research organizations.

To address this gap in analytic workforce in the short term, many health organizations have sought external sources for data analytics either by contracting with insurance companies or other organizations with more robust capacity so that they can use the data efficiently to improve quality and control costs. While these measures satisfy the immediate needs of the larger scale organizations with sufficient resources, the long term solution for Maine may be to grow and strengthen the analytic workforce needed to support an increasingly data driven health system.

With limited, graduate-level education programs in Maine in the health services and public health fields, it is important that what resources we have be targeted to the priority needs of helping Maine improve the performance of its health system. It is critically important therefore that our public and private educational institutions examine the need and potential for building the capacity of health professionals for effective use of health data to inform decision-making and action.

⁶ Rooney, T. (2010). *MHMC – PTE Objectives*. [Presentation]. Health Data Work Group. (2010, October 26).

Recommendation #5: Produce Regular Report(s) on the Performance of Maine's Health System

ACHSD should work with the private sector to prepare a template for and schedule and produce statewide and regional health system performance reports with funding from multiple sources (e.g. philanthropy, purchasers, and government).

Background and Discussion: Measuring and tracking the cost, quality and health improvement performance of our health system is vital to undertaking steps to improve performance. System accountability requires routine performance measurement.

In order to improve quality and the health of Maine citizens and address Maine's health care cost problems, we need to understand the nature, scope and severity of the performance problems and gaps and the underlying or contributing causes. The Maine Quality Forum/ACHSD "cost drivers" study highlighted the need for and value of regular health system performance monitoring data to track trends in (1) health status and other population health indicators, (2) health spending, costs and utilization relative to specific benchmarks, (3) health access and disparities, and (4) patient safety and quality. From that report, there has been a more focused effort to identify and address the high use of hospital emergency rooms in Maine.⁷

Because data and information can inform and drive decision-making and action, the Workgroup believes that it is essential for Maine to develop a set of routinely produced performance reports that reflect agreement on what should be measured, how, why and how often. To this end, the Workgroup is recommending this first step of developing a framework for performance reporting that builds on national performance reports (e.g. The Commonwealth Fund's State Health Scorecard and RWJF's County Health Rankings) and makes effective use of Maine's current and future health data infrastructure.

⁷ Advisory Council on Health Systems Development. (2009, April). *Report to the Legislature from the ACHSD, Health Care Cost Drivers in Maine: Report and Recommendations*. Augusta, ME.

Appendix A

Health Data Workgroup Members

ACHSD members:

Rep. Anne Perry, *District 31, Chair*

Jim Highland, *President, Compass Health Analytics*

Gail Dana-Sacco, *Director, Wabanaki Center, University of Maine*

Josh Cutler, MD, formerly *Director, Maine Quality Forum; currently Maine Health*

Andrew Coburn, *Research Professor, Chair, Health Policy and Management, Population Health and Health Policy Program, Muskie School of Public Service, University of Southern Maine*

Other Members:

Jim Leonard, *Director, Office of the State Coordinator for Health Information Technology*

Karynlee Harrington, *Executive Director, Dirigo Health*

Al Prysunka, *Executive Director, Maine Health Data Organization*

Jim Harrison, *President, CEO, Onpoint Health Data*

Tony Marple, *Director, Office of MaineCare Services*

Lisa Tuttle, *Metrics Analyst, Department of Health and Human Services*

Dora Mills, MD, *Director, Maine Center for Disease Control and Prevention*

Ted Rooney, *Project Leader, Robert Wood Johnson/Aligning Forces for Quality*

Elizabeth Mitchell, *CEO, Maine Health Management Coalition*

David Winslow, *Vice President of Financial Policy, Maine Hospital Association*

Gordon Smith, *Executive Vice President, Maine Medical Association*

Katherine Pelletreau, *Executive Director, Maine Association of Health Plans*

Barbara Crowley, MD, *Executive Vice President, Maine General*

Ronald DePrez, *Director, Center for Community and Public Health, University of New England*

Garret Martin, *Associate Director, Maine Center for Economic Policy*

Nancy Kelleher, *Executive Director, American Association of Retired Persons*

Shaun Alfreds, *Chief Operating Officer, HealthInfoNet*

Elizabeth Neptune, *Manager, Project LAUNCH, Maine CDC, Office of Minority Health*

Peter Kraut, *Director of Public Policy, Maine Primary Care Association*

Barbara Sorondo, MD, *Director, Clinical Research Center, Eastern Maine Medical Center*

Carol King, *Corporate Director IS, Eastern Maine Health*

Tina Pettingill, *Executive Director, Maine Public Health Association*

Mike Delorenzo, *Private Consultant*

Alexander Dragatsi, *Program Coordinator, Maine Quality Forum*

Anne Rogers, *Manager, Data and Research, Office of Substance Abuse*

Jim Lopatosky, *Associate Chief Information Officer, Office of Information Technology, State of Maine*

Frank Johnson, *Executive Director, Office of Employee Health and Benefits, State of Maine*

Appendix B

MHDO Deloitte Study - Summary

Purpose of the Study: “to assess current claims data processing and recommend improvements....The study takes as a given existing relationships and focuses on improving current approaches rather than attempting to reinvent or re-envision MHDO.”

MHDO anticipates that the recommendations will allow them to:

- “Deliver on existing timelines, specifically providing commercial and MaineCare claims data within 90 days of the close of each quarter. Medicare data currently has a fixed two year time lag.
- Operate with greater transparency and accountability making it easier for board, staff and partners to address problems and manage change more effectively.
- Improve stakeholder communication and customer satisfaction.”

(Memo from MHDO Deloitte Study Steering Committee to MHDO Board re Study Summary, 12/2/10, p 1)

Assessment Report – Summary, Deloitte presentation to MHDO Board on 12/2/10

Findings

Process

- There are different data flow processes for commercial, Medicare and MaineCare data, due to the formats in which data is submitted resulting in added processing time for the claims from different sources.
- Medicare claims submissions are currently way behind in commercial and MaineCare claims collection schedule.
- An interface agreement which defines the details of data to be sent from Onpoint to MHDO does not exist. This has resulted in mismatched expectations and increased processing time for claims data.
- The project management discipline exists with limited maturity resulting in non-repeatable processes, unpredictable outcomes, varying expectations and lack of communication.
- The Data Governance structure currently does not exist resulting in non-standard processes, in-efficient processing.

Data

- Payers have raised concerns about inconsistencies in applying the rules for data collection and acceptance.
- The data is not delivered to stakeholders as per the communicated timelines.
- Some stakeholders want the claims data to be available sooner than the goal of 90 days after the close of quarter. As per the current processes, if the data is made available sooner than 90 days it will be an incomplete dataset – based on the analysis performed, only 50% of the claims are adjudicated within 1 month of service provided and another 35% in 2nd month. This is the limitation of claims data currently available to MHDO and if stakeholders are to use this data for analysis, they will need to allow for this limitation.

Technology

- The current MHDO architecture is a flat table driven structure, resulting in increased time to access the data.
- The automated quality checks are not performed by MHDO on the data received from Onpoint, which sometimes has resulted in iterative processing which has resulted in delays in providing the data to customers.

People

- There is no one person with the adequate time to lead the MHDO/OIT team on detailed operations and project activities from day-to-day perspective.
- The role definitions and associated responsibilities of Quality Assurance (QA) Analyst(s), Business Analyst(s) and Data Base Administrator (DBA) do not exist within the team. These are key roles for an organization like MHDO.

(Deloitte Consulting, LLC. (2010). Presentation slides 11 – 14)

Recommendations

Process

- Establish a leadership structure that facilitate collaboration among MHDO, Onpoint and OIT.
- Establish an interface agreement between MHDO and Onpoint.
- Implement project management processes.

Technology

- Implement dimensional Data Warehouse architecture.
- Implement bus-driven architecture.

People

- Implement an organization structure with Executive Director of MHDO to have overall responsibility and single line of accountability for the individuals in team.
- Establish a new position of Project Manager.
- Assign role of Quality Assurance (QA) Analyst(s) within existing team.
- Assign role of Business Analyst(s) (BA) within existing team.
- Assign role of Database Administrator (DBA).

(Deloitte Consulting, LLC. (2010). Presentation slides 17 – 19)

Deloitte Consulting, LLC. (2010). *MHDO Assessment and Recommendations*. [Presentation]. MHDO Board meeting. (2010, November 24). Slide 17 – 19.

Appendix C - Maine CDC Health District Report Card

A Call to District Action: Linking Public Health Strategies to Reduction of Avoidable Hospitalizations			SAMPLE DISTRICT, MAINE (2010)		
GOALS: To reduce avoidable hospitalizations by 50% by 2015 (through prevention, proper management, and appropriate treatment of disease).					
Prevention Quality Indicators (PQI's) that measure the potentially avoidable hospitalization rates that are major cost drivers in the state of Maine:			Current Rates (Adjusted rate of admissions per 100K)	Goal (Reduction by 50% by 2015)	Cost savings in District given a 50% reduction by 2015
Respiratory Infections					
1	Adult asthma admission rate*		90	45	\$290,000
	Bacterial pneumonia admission rate*		420	210	\$1,200,000
	Chronic obstructive pulmonary disease admission rate*		325	163	\$925,000
Heart Failure					
2	Congestive heart failure admission rate*		416	208	\$1,050,000
	Hypertension admission rate*		28	14	\$85,000
Diabetes					
3	Diabetes short-term complication admission rate*		41	21	\$170,000
	Diabetes long-term complication admission rate*		89	44	\$400,000
	Uncontrolled diabetes admission rate*		7	3	\$10,000
	Rate of lower-extremity amputation among patients with diabetes*		31	15	\$150,000
Total potential cost savings for sample district:					\$4,200,000
Population Health Indicators: If these indicators are addressed comprehensively by the system, there will be a measurable reduction in the rates of avoidable hospitalizations.					
			Sample District	Maine	Goal (Movement of trend)
1.2.3	Percent of adults overweight or obese [2008]		55	62	↓
2.3	Percent of high blood pressure among adults [2008]		29	31	↓
2.3	Percent of high cholesterol among adults [2008]		40	41	↓
2.3	Prevalence of diabetes among adults (%) [2008]		9	8	↓
3	Percent of adults with diabetes who have received a Hemoglobin A1c test at least once yearly [2008]		92	93	↑
1	Percent of adults with asthma [2008]		10	10	↓
1.2.3	Adult smoking prevalence (% current smokers) [2008]		25	18	↓
1.2.3	Adolescent smoking prevalence, 6-12 graders (%) [2006]		15	14	↓
1.2.3	Percent of high school youth that are overweight or obese [2007]		27	26	↓
2.3	Previous 30-day alcohol use, 9th-12th graders (%) [2008]		34	35	↓
1	Percent of child and youth asthma, <18 years old [2007]		n/a	9	↓
1.2.3	Percent of adults reporting fair or poor health status in last 30 days [2008]		12	13	↓
1.2.3	Percent of adults with >=14 days of frequent mental distress in past month [2008]		9	10	↓
1	Percent ever had Pneumococcal vaccine, >=65 Years [2008]		60	72	↑
1	Percent, Influenza vaccine past year for adults >65 years [2008]		73	75	↑
1.2.3	Access to primary care physician (population to physician ratio) [2004]		1,008:1	978:1	↑
2.3	Percent of adults with a routine dental visit in past year [2008]		70	70	↑
1.2.3	Number of visits to KeepMEWell.org (count)		70	500	↑
Context: Socioeconomic status.					
			Sample District	Maine	
Total population [2008]			125,100	1,316,456	
Percent individuals living in poverty [2007]			10	12	
Population density (people per mi ²) [2008]			23	37	
Percent of population non-white [2008]			4	17	
Percent of population between the ages of 18-64 years old [2008]			63	65	
Percent 65 years and older [2005-07]			16	14	
Percent of adults with lifetime educational attainment less than high school [2000]			16	15	
Percent of householders >=65 Living Alone [2000]			11	11	
* Prevention Quality Indicator (PQI): Risk adjusted for age and sex, number of admissions per 100,000 population. Generated by the Maine Quality Forum using a tool created by the Agency for Healthcare Research and Quality (AHRQ). See back for further detail.					

Appendix D Additional Recommendations Received in Comment Period

Maine Health Management Coalition Recommendation: Initiate a 3 year public-private demonstration under Aligning Forces for Quality (AF4Q) and Maine's Chartered Value Exchange (CVE), with Robert Wood Johnson Foundation (RWJF) and Maine Health Access Foundation (MeHAF) support, to utilize Health Data Management Solutions (HDMS) to pilot the above recommendations.

The state should support a pilot effort, under the guidance of Aligning Forces for Quality and Maine's Chartered Value Exchange, with support from RWJF and MeHAF, to send all commercial, MaineCare, and Medicare claims directly to MHMC's data vendor, with appropriate state of the art controls on the appropriate distribution of that data to improve the health of Maine people and manage the cost of care. This demonstration would allow many of the needs cited in this report to be met much sooner, and provide some real world experience and learning to inform how Maine builds its data infrastructure.

Background and Discussion: The Maine Health Management Coalition Foundation, which is governed by private and public purchasers, physicians, hospitals, and consumers, has contracted with a data vendor (HDMS) for three years to provide health information management services to support its mission of improving the value of health care services for the people of Maine. HDMS is a state of the art data warehouse and distribution company, that has the ability to integrate different data sources (e.g. claims, clinical, health risk, etc.) and has a business intelligence functionality that allows users to access that data via a user friendly internet portal. (HDMS has been providing data management services to several Maine organizations for several years, including Maine Medical Center, Hannaford, and Unum.) By sending the full claims data directly to HDMS, they can combine it with clinical data from Healthinfonet and provider data from electronic medical records, as well as health risk data, and make it readily available to providers to use in managing and evaluating their care of patients. By using a strict hierarchy of controls, it allows physicians for example to see information directly on their patients, while restricting access to other users to just de-identified data. Appropriate access through an internet connection could be given to providers, purchasers, government agencies, health plans, researchers, consumer organizations, and any other entity(ies) engaged in improving the health of Maine people and managing the overall costs of care. This would give the State valuable time and experience to develop its health infrastructure as effectively and efficiently as possible.

Much of this work is conducted under the funding and guidance of the Robert Wood Johnson and MeHAF foundations. Both foundations support this work as they see it as one of the most promising efforts in the country to help communities to improve the health of their people while managing the costs of care. Currently in Maine, RWJF is funding the Aligning Forces for Quality initiative, which is led by Quality Counts with the Maine Health Management Coalition and Maine Quality Forum. Maine also has a Federally designated Chartered Value Exchange that includes those three organizations, along with the Office of the State Coordinator of Health IT, HealthinfoNet, MaineCare, and the Maine Health Data Organization. The various multi-stakeholder bodies involved in all these organizations could be effectively utilized to provide oversight to this demonstration.