

**Health Information Exchange:
A Strategic Plan for Oregon**

Draft

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**For release by the
Oregon Health Authority
and
Health Information Technology Oversight Council**

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EXECUTIVE SUMMARY

HEALTH INFORMATION EXCHANGE AND THE HEALTH OF OREGONIANS

Health information exchange (HIE) is a key building block for system improvements to enhance population health and to improve the health care delivery system. The inconsistent and fragmented nature of patient records is a highly visible example of the problems caused by the U.S. health care system's reliance on multiple, disparate players in a complex health system. Sharing patient information in a secure, efficient manner has the potential to substantially reduce costs, waste and consumer heartache. It will support efforts to track patients' medical outcomes, reduce errors and make medical processes more efficient. It can empower consumers to better understand their own health, choose high-quality providers and make healthier choices. And information sharing can vastly improve public health agencies' ability to track disease and combat chronic illness leading to improved population health.

The transformation of the health system, with health information technology (HIT) at its core, is already underway. The HIE effort will involve broad engagement from the public and private sector, providers, health plans and consumers. And once designed, Oregon's health information exchange approach will require flexibility and ongoing refinement. Oregon's history of strong civic engagement throughout the state will serve this process well.

OREGON HEALTH REFORM, HEALTH INFORMATION TECHNOLOGY AND HEALTH INFORMATION EXCHANGE

Oregon has long been in the forefront of innovation in health care delivery, access and technology, dating back to its groundbreaking Medicaid waiver design with the Oregon Health Plan in 1987 and continuing to 2009, when the state Legislature approved an ambitious health reform law (House Bill 2009). Oregon's new law anticipated many of the innovations contained in the federal recovery law (American Reinvestment and Recovery Act) that same year and in national health reform (Patient Protection and Affordable Care Act) a year later. The central role of health information technology in improving access, quality and value in the health care system has been a thread running through Oregon's health reform, with one tangible result being the creation of the Health Information Technology Oversight Council (HITOC) to guide these efforts within Oregon.

One of HITOC's early focuses has been the creation of a strategic and operational plan for HIE within Oregon. This opportunity came about after Congress made the acceleration of health information technology an urgent priority in early 2009; it included the HITECH Act as part of its economic recovery legislation. Ultimately this resulted in federal grant funding for the nation's states and territories to lead the planning of health information exchange, and the creation of this strategic plan.

The work of organizing electronic health information exchange in Oregon is advanced by the health system planning processes that have already taken place and in particular by the strong participation by average Oregonians along with health industry stakeholders throughout the state. This plan builds on those efforts over the past several years, along with existing health information infrastructure in both the private sector and within government.

Oregon's leadership has established three main goals for health care system improvement:

- Improve the lifelong health of all Oregonians;
- Increase the quality, reliability and availability of care for all Oregonians; and
- Lower or contain the cost of care so it is affordable to everyone.

Oregon's approach to statewide health information exchange will include nurturing a new and growing marketplace of local and regional health information organizations (HIOs), setting and monitoring standards to ensure the security of personal health information, developing an accreditation program to ensure health

information exchange with a common set of rules, providing valued centralized services and filling the gaps in availability to rural providers and other identified stakeholders.

Oregon is using a phased approach to HIE to allow flexibility to adjust over time to new federal rules, marketplace evolution and real-world lessons learned. It will establish a non-profit, public-private state designated entity (SDE) to carry out this work after a sustainable financing plan has been developed and appropriate legislation has been passed.

VISION

The core of this work centers around the Oregon Health Authority's vision of healthy Oregonians and the three key goals: improved patient experience, improved population health, affordable health care.

Oregon Health Authority Vision and Mission:

Healthy Oregonians

Helping people and communities achieve optimum physical, mental and social well being through partnerships, prevention and access to quality, affordable health care.

Proposed HIE Mission:

Information, when and where it is needed, to improve health and health care.

Given the complexity of this effort—which includes a rapidly changing regulatory, economic, political and technical environment—the stakeholders, planning team and HITOC have developed a strategy that includes the following key elements:

- A phased approach to planning and implementation
- Oregon Health Authority in a role of facilitation, coordination, communication and oversight
- Adherence to federal standards and certifications as they evolve and the development of Oregon-specific standards, certifications and accountabilities
- Collaboration and support of HIE efforts underway through local health information organizations

OVERARCHING IMPERATIVES

- Establish a governance structure that achieves broad-based stakeholder collaboration with transparency, buy-in and trust.
- Set goals, objectives and success measures for the exchange of health information that reflect consensus among the health care stakeholder groups and that accomplish statewide coverage of all providers for HIE requirements related to meaningful use criteria.
- Ensure the coordination, integration, and alignment of efforts with Medicaid and public health programs.
- Establish mechanisms to provide oversight and accountability of HIE to protect the public interest.
- Account for the flexibility needed to align with emerging nationwide HIE governance that will be specified in the future.
- Incorporate national and state health reform goals.

GOALS OF HEALTH INFORMATION EXCHANGE

- To ensure patients have safe, secure access to their personal health information and the ability to share that information with others involved in their care.
- To engage in an open, inclusive, and collaborative public process that supports widespread electronic health record (EHR) adoption and robust, sustainable statewide coverage.
- To improve population health.
- To improve health care outcomes and reduce costs.
- To integrate and synchronize the planning and implementation of HIE and health IT in the public and private sectors, including Medicaid and Medicare provider incentive programs, the Regional Extension Center, local and regional HIOs and other efforts underway.

- To ensure accountability in the expenditure of public funds.

Objectives and deliverables in achieving HIE capacity and use

Phase	Objectives	Deliverables
One	<ol style="list-style-type: none"> 1. At least one intrastate and one interstate data usage and reciprocal sharing agreement (DURSA) have been dually executed. 2. Phase 2 services reviewed, finalized and communicated to stakeholders. 3. Phase 2 services requirements definition process is completed. 4. Review Stage 1 Meaningful Use criteria and develop a strategy to adjust course, as needed. 5. Strategy for meeting the HIE needs of underserved areas is developed, reviewed, and approved. 6. Sustainable business plan for SDE developed, reviewed, and approved. 7. Consumer and provider education programs developed and announced. 8. HIE Participant Certification and Accreditation Program announced. 9. At least one HIE participant has applied for certification through the HIE Participant Certification and Accreditation Program. 10. One HIE participant exchanges data with an external HIE participant within the state of Oregon (i.e. HIO-to-HIO exchange). 11. Legislative changes necessary to implement consent model are identified and bills drafted. 12. HIE Participation Survey/Study initiated. 13. Define and begin transition of HIE operations to SDE. 14. HIE Participation mapped to Triple Aim/other measurable goals for HIE 	<ol style="list-style-type: none"> 1. Intrastate and interstate DURSAAs created, reviewed and finalized. 2. List of Phase 2 business support and technology service offerings and associated fees created, reviewed and finalized. 3. Requirements documents for Phase 2 services created. 4. Meaningful use criteria review process document created. 5. Strategy for meeting the HIE needs of underserved areas created, reviewed, and finalized. 6. Sustainable business plan for SDE created, reviewed, and finalized. 7. Consumer and provider education programs defined and documented, including topics and timelines. 8. HIE participant certification program documented and finalized. 9. Standards for HIE participant certification program chosen. 10. Document detailing laws pertaining to consent including identification of the law/statute, reconciliation with consent model and changes needed created, reviewed and finalized. 11. Transition plan for HITOC-to-SDE developed, reviewed, and accepted. 12. Measures and benchmarks for HIE participation and impact defined. 13. HIE participation study/survey program parameters and deliverables defined and documented. 14. Success criteria for HIE participation defined and reviewed.
Two and Ongoing	<ol style="list-style-type: none"> 1. Complete transition of HIE services and programs operation to the SDE. 	<ol style="list-style-type: none"> 1. Consumer and provider education program materials finalized.

	<ol style="list-style-type: none"> 2. Consumer and provider education sessions have been conducted and programs are in review based on feedback. 3. Development and rollout of Phase 2 services. 4. At least one HIE participant is successfully certified. 5. At least one additional HIE participant applies for certification. 6. Success metrics for HIE participation defined. 	<ol style="list-style-type: none"> 2. Project plans for Phase 2 services created and published. 3. Plan for follow-on services defined and reviewed (offerings, scope, timing). 4. Process to monitor, measure, and assess gradual attainment of benchmarks identified in Phase 1. 5. Process for assessing use of HIE services defined. 6. List of additional services to be offered by SDE defined and reviewed including costs, timelines, and financials.
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HIGHLIGHTS OF STRATEGIC PLAN DETAILS

Environmental Assessment

- Oregon has several large health systems that are actively pursuing health information exchange.
- 65% of Oregon physicians work in practices with EHRs, well ahead of the national average.
- There are a growing number of local HIOs within the state whose work needs to be supported.
- The interstate sharing of electronic health information is supported by the fact that Oregon’s health care markets already extend across state borders through consumer choice, large hospital systems, health plans and current data sharing agreements.

Governance

- HITOC, reporting to the Oregon Health Authority, is the body that provides oversight for health information technology issues.
- Oregon’s HIE approach will be conducted in phases to allow for careful planning, input and strategic adjustment as elements of the plan are carried out.
- HITOC will serve as the governance entity for HIE during the first phase.
- The statewide infrastructure for carrying out the goals of HIE in Oregon will be developed with the core tenets of efficiency and flexibility and will leverage and support existing resources within the state.
- The statewide infrastructure for carrying out the goals of HIE in Oregon will be as minimal as possible and will leverage and support existing resources within the state.
- Oregon will designate a public/private, non-profit entity to take on statewide HIE governance and operational duties during the second phase.

Finance

- Recent state and federal health reform efforts have created imperatives and some short-term financing sources to accelerate the adoption of EHRs and health information exchange among health care organizations and providers.
- Priorities in designing ways to pay for exchange include maximizing meaningful use for providers, being equitable among stakeholders in costs and benefits, utilizing user fees and ensuring those fees have broad benefit.
- State contracts can be modified to provide incentives for providers and payers to participate in exchange.
- Specific financing sources for HIE could include Office of the National Coordinator for Health Information Technology (ONC) Cooperative Agreement funds, Medicaid 90/10 money, stakeholder contributions and revenue from services.

Technical Infrastructure/Business and Operations

- The first phase of operations will have HITOC, as the initial governance entity, establish standards and requirements for statewide HIE.
- During the second phase a new public/private non-profit entity will be designated to implement and operate centralized services for exchange.
- The ongoing business will involve the identification of new services and ensuring that all centralized services are reaching unserved and underserved areas.
- This work will take place in concert with Oregon's neighbors: Washington, Idaho, Nevada and California.
- It will coordinate with administrative simplification efforts already under way.
- It will address the seven priority services identified by ONC.
- HIE standards and certification will be based on technical standards, criteria and frameworks that are nationally recognized and/or adopted by the U.S. Department of Health and Human Services.
- The Oregon HIE effort will align with the National Health Information Network (NHIN) and NHIN Direct, by adopting technology standards and business processes that are interoperable with NHIN Exchange and NHIN Direct processes and frameworks.

Legal and Policy

- A legal and policy workgroup will convene in Phase 1 of operations to examine state laws that define specially protected health information.
- An "opt-out with exceptions" consent model for the use and disclosure of protected health information will support broad exchange of information for quality, safety and efficiency, while excluding specially protected health information from HIE unless and until a patient chooses to include it. This policy will maintain current legal status quo for exchanging health information through non-electronic formats.
- This strategy addresses all eight of HHS' principles in its Privacy and Security Framework.
- Oregon's HIOs will be held to national standards, federal and state law.
- HITOC may act as an accrediting body for regional and local HIOs, though this will be studied during Phase 1.

HIT Adoption Strategies

- O-HITEC, Oregon's Regional Extension Center is working to support providers' adoption of electronic health records and achievement of meaningful use and is an important adjunct to health information exchange.
- Work is also under way to bring broadband capabilities to more providers and particularly to those in rural and other underserved areas through the work of Oregon Health Network and the Oregon Public Utilities Commission
- Efforts for HIE through local, regional and statewide entities will support EHR connectivity to data sharing, beginning with three priority services: electronic prescription transmission, summaries of care and laboratory test orders and results.

Coordination

- The Oregon Medicaid program's comprehensive planning work to develop a State Medicaid HIT Plan (SMHP) will be a natural coordination point with the statewide HIE effort.
- A wide variety of other state and federal programs touch on electronic health information exchange and will be part of a coordinated plan, including focused coordination with O-HITEC, Oregon's Regional Extension Center.
- HITOC and eventually the state designated entity will work with Oregon HIT workforce development programs.
- Oregon's health care markets extend across state borders so continued coordination with neighboring states will be a priority of this strategic plan.

Role of Consumers

- Security and privacy are important to Oregon consumers.
- The strategy takes into account the development of personal health records.
- A core HIE goal is to ensure patients have safe, secure access to their personal health information and the ability to share that information with others involved in their care.
- Access to accurate health information will help consumers make better decisions about their health care and lifestyle choices.

INTRODUCTION AND BACKGROUND TO OREGON HEALTH REFORM

Section Overview

- Oregon has a history of health care system innovation.
- The state has laid the groundwork for health information exchange through planning processes and comprehensive health reform legislation.
- Oregon will build on existing private electronic health information infrastructure and sharing efforts, leveraging capacity within state government as well.

Oregon has long been in the forefront of innovation in health care delivery, access and technology, dating back to its groundbreaking Medicaid waiver design with the Oregon Health Plan in 1987 and continuing to 2009, when the state Legislature approved an ambitious health reform law (House Bill 2009). Oregon's new law anticipated many of the innovations contained in the federal recovery law (American Reinvestment and Recovery Act) that same year and in national health reform (Patient Protection and Affordable Care Act) a year later. The central role of health information technology (HIT) in improving access, quality and value in the health care system has been a thread running through Oregon's health reform, with one tangible result being the creation of the Health Information Technology Oversight Council (HITOC) to guide these efforts within Oregon.

One of HITOC's early focuses has been the creation of a strategic and operational plan for health information exchange (HIE) within Oregon. This opportunity came about after Congress made the acceleration of health information technology an urgent priority in early 2009; it included the HITECH Act as part of its economic recovery legislation. Ultimately this resulted in federal grant funding for the nation's states and territories to lead the planning of health information exchange, and the creation of this strategic plan.

HEALTH REFORM IN OREGON

ARRA and the HITECH Act were game changers for states across the country, which were at various stages of promoting health information technology within the health care system to allow for interoperable health information exchange. Through its work approving forward-looking health reform, Oregon had a solid foundation for HIE planning when the federal ARRA legislation was passed.

Oregon's history of innovation in health care delivery, starting with the Oregon Health Plan (OHP), puts Oregon in a position of strength to use HIE as a tool to advance broader health reform efforts. The Oregon Health Plan was developed in the 1980s as a thoughtful solution to prioritizing services to the Medicaid population, and expanding access to a basic level of coverage for many more people. The development and maintenance of the Oregon Health Plan have involved the entire state, from the governor, Legislature and state staff, through the health provider community, insurers, employers and a large number of concerned Oregonians. With that experience as backdrop, Oregon's leaders, health care community and citizenry recognized in the late 1990s the serious structural problems of the entire health care system, from issues of quality and efficiency, to lack of coverage.

From this concern emerged the Healthy Oregon Act, approved by the Oregon Legislature in June 2007; it established the Oregon Health Fund Board, a citizen board of seven individuals supported by hundreds of volunteers serving on six committees and two workgroups with a charge to create a comprehensive plan to reform Oregon's health care system. The board's comprehensive action plan, "Aim High: Building a Healthy Oregon," lays out a blueprint for that reform effort.

Building a Healthy Oregon: The 7 Essential Building Blocks

1. Bring Everyone Under the Tent

The Vision <ul style="list-style-type: none"> Affordable Health Care for all Oregonians An Essential Benefit Package 	Stage I: 2009 Expansion Objectives <ul style="list-style-type: none"> Children <200%FPL Adults <100% FPL (< 185% with appropriate waiver) 	Stage I: 2009 Financing Plan <ul style="list-style-type: none"> Alternate Provider Taxes 	Stage II: 2011-2015 Expansions <ul style="list-style-type: none"> Premium Assistance Plan: Linked to cost containment & available funding
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2. Set High Standards – Measure and Report

Trusted Information <ul style="list-style-type: none"> Uniform, Statewide data (Quality, Clinical, Financial) 	Set High Standards <ul style="list-style-type: none"> Clinical Quality Measures Clinical Guidelines 	<ul style="list-style-type: none"> Population Health Targets Insurance Administration Practices 	Measure & Report <ul style="list-style-type: none"> Public Reporting to: Consumers, Providers, Purchasers, Insurers, Policy Makers
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3. Unify Purchasing Power

Coordinated Purchasing <ul style="list-style-type: none"> State & Local Governments Common Contract Standards Purchasing Cooperative 	Oregon Health Insurance Exchange <ul style="list-style-type: none"> Begin with current Individual Market Stage II, Individual Market: Guaranteed Issue, Premium Assistance 	Regulatory Options <ul style="list-style-type: none"> Review & Approve Insurer Administrative Expense Increases Set Ceilings on Provider Price Increases
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4. Stimulate System Innovation & Improvement

New Models of Care <ul style="list-style-type: none"> Integrated Health Homes Behavioral Health Integration End-of-Life Care 	Community-Based Innovation <ul style="list-style-type: none"> Community Collaboratives Community Safety Net Accountable Care Communities 	The Public's Health <ul style="list-style-type: none"> Healthy Oregon Action Plan Community-Centered Health Initiative Tobacco and Alcohol Taxes 	Medical Liability <ul style="list-style-type: none"> Medical Liability Reform Council 	Health Information Technology <ul style="list-style-type: none"> Widespread adoption of electronic health records Clinical decision support tools Statewide health information exchange Privacy and security of personal data
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5. Ensure Health Equity for All

<ul style="list-style-type: none"> Outreach and Education Translation Services Culturally Appropriate Disease Management Provider Recruitment and Training
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6. Train a New Health Care Workforce

<ul style="list-style-type: none"> Reliable Data Resources for Training Licensing Long Term Needs 	<ul style="list-style-type: none"> Recruit, Retain New Models Practice at "Top of License"
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7. Advocate for Federal Changes

<ul style="list-style-type: none"> Federal Laws Committee Recommendations Seek Opportunities under Federal Reforms
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Health Information Infrastructure Advisory Committee (HIIAC)

In parallel to the work of the Oregon Health Fund Board (OHFB), the Health Information Infrastructure Advisory Committee was established in May 2008 by Executive Order 08-09. It was tasked with making policy recommendations to: reduce barriers to health information exchange, while maintaining privacy and security of individuals' health information; establish an appropriate role for the state in maintaining and building health information infrastructure; facilitate the adoption of infrastructure standards and interoperability requirements; facilitate collaboration between statewide partners; and develop evaluation metrics to measure the implementation of health information technology and the efficiency of health information exchange in Oregon.

In November 2008, the HIIAC produced a report to the governor and the OHFB exploring challenges in the current health care system, opportunities to transform the system through wider adoption and utilization of HIT, and recommendations to facilitate and accelerate this transformation. Those recommendations were adopted into the OHFB plan for health reform and incorporated into legislative proposals for consideration by the 2009 Oregon Legislature.

Health Information Security and Privacy Collaboration (HISPC)

Even prior to these health reform actions, Oregon was active in a national effort to further health information policy. Oregon was involved with the Health Information Security and Privacy Collaboration (HISPC) from 2006 to 2009. Oregon participated in the HISPC Consumer Education and Engagement Collaborative. Working with seven other HISPC states (Colorado, Georgia, Kansas, Massachusetts, New York, Washington and West Virginia), Oregon contributed to the development of an educational resource toolkit for general use by other states and organizations to educate and engage consumers about Health Information Technology (HIT) and Health Information Exchange (HIE). When HIIAC was formed it took over this health information policy work.

HB2009

The Oregon Health Fund's report, "Aim High: Building a Healthy Oregon," including the work of HIIAC, was the foundation for major legislation before the 2009 Oregon Legislature. In June 2009, the Oregon Legislature passed HB2009 establishing the Oregon Health Authority (OHA) and Oregon Health Policy Board (OHPB), which are leading the work to improve the affordability and quality of health care for all Oregonians. The Oregon Health Authority is charged with focusing on quality, costs and the health of the population, using seven strategic building blocks for change (see illustration). This comprehensive health reform package incorporated specific elements around health information technology and health information exchange.

Health Information Technology Oversight Council (HITOC)

HB2009 also established the Health Information Technology Oversight Council (HITOC) to coordinate Oregon's public and private statewide efforts in health information technology, including electronic health records adoption, developing a strategic plan for a statewide system for electronic health information exchange, setting technology standards, ensuring privacy and security controls, and developing a sustainable business plan to support meaningful use of HIT to lower costs and improve quality of care. HITOC will also consider options to encourage provider adoption of EHR, and will work to support the Medicaid Transformation Grant and its health profile effort. HITOC will also help Oregon meet federal requirements so that providers may be eligible for millions of federal health information technology stimulus dollars. With the establishment of HITOC, the HIIAC concluded its work at its August 20, 2009, meeting.

The Legislature included a 2009-2011 budget of \$300,000 for the staffing and meeting costs of HITOC, allowing for early planning of health information exchange in Oregon to begin. The ONC cooperative funds also supported the HIE planning efforts. In addition, key stakeholders including the Northwest Health Foundation, Oregon Association of Hospitals and Health Systems and other health care stakeholders provided seed money. In addition to the \$8.58 million ONC cooperative agreement funds, more funding for implementation will be needed to ensure that statewide HIE is implemented and its full potential realized.

Both because of the critical role HIE can play in advancing health reform efforts, and because of the private, state and federal dollars available for HIE planning efforts, HITOC's initial focus has been on the development of Oregon's statewide strategic and operational HIE plans.

The approach envisioned by Oregon's leaders is to begin by building on the many investments in the building blocks of statewide HIE: the burgeoning local and regional HIEs, the vertically-integrated HIE within health systems, the investments in EHRs by Oregon hospitals and many clinicians, and the myriad public health information systems, from the Medicaid Management Information System (MMIS) to Oregon's immunization and communicable disease registries, in addition to numerous others. Oregon's strategic and operational plan seeks to protect these investments while working to ensure interoperability. HITOC, in collaboration with O-HITEC, the Regional Extension Center (REC), will employ a staged approach to working with HIE stakeholders to bring their systems into compliance with meaningful use requirements, as these rules become more stringent over time. For providers not connected to a regional or local HIE or a health system, HITOC will develop a strategy for broader adoption—to fill in geographic gaps and support providers serving vulnerable populations to ensure that these populations benefit from HIE.

The planning and implementation activities to be funded by this cooperative agreement are expected to have a substantial positive impact on health, health care quality, costs, and coordinated care. The strategies set forth in this plan would use ONC funding to support the Oregon Health Authority's efforts to develop and advance private, secure, standards-based statewide HIE and to support Oregon's health reform goals.

GOALS AND STRATEGIES

Section Overview

- Oregon's leadership has established three main goals for health care system improvement: population health, patient experience with care and lowering costs.
- Oregon's approach to statewide health information exchange will include nurturing a new and growing marketplace of HIOs, setting and monitoring standards to ensure the security of personal health information, developing an accreditation program to ensure health information exchange across geographic and institutional boundaries with a common set of rules, providing valued centralized services and filling in the gaps in availability to rural providers and other identified stakeholders.
- Oregon is using a phased approach to HIE to allow flexibility to adjust over time for new federal rules, marketplace evolution and real-world lessons learned.
- The state HIE effort will leverage and support existing capabilities both within existing agencies and organizations and in the marketplace.
- It will designate a non-profit, public-private entity to carry out this work after a sustainable financing plan has been developed and appropriate legislation has been passed.

HEALTH STATUS, CONSUMER EMPOWERMENT, LOWERING COSTS

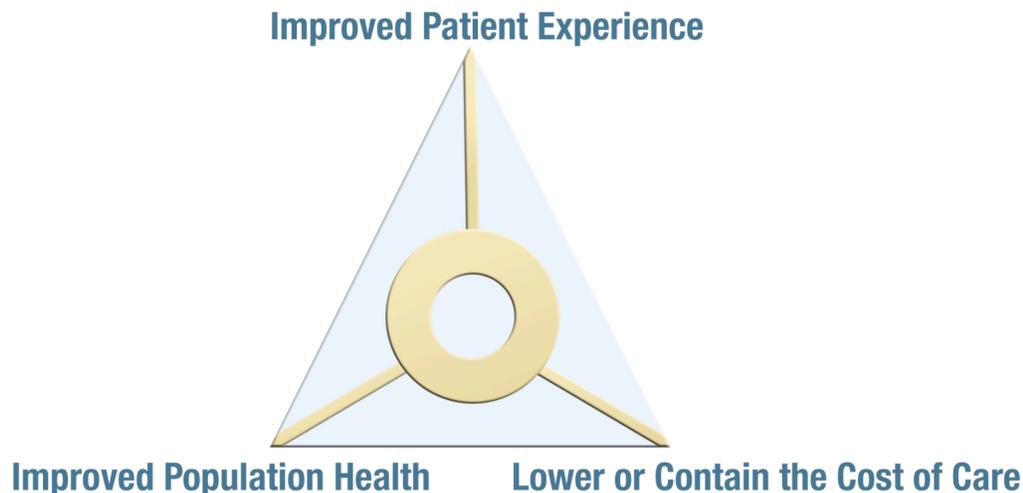
Health information exchange (HIE) is a key building block for health care system improvement to enhance population health. The inconsistent and fragmented nature of patient records is a highly visible example of the problems caused by the U.S. health care system's reliance on multiple, disparate players in a complex health system. Sharing patient information in a secure, efficient manner has the potential to substantially reduce costs, waste and consumer heartache. It will support efforts to track patients' medical outcomes, reduce errors and make medical processes more efficient. It can empower consumers to better understand their own health, choose high-quality providers and make healthier choices. And information sharing can vastly improve public health agencies' ability to track disease and combat chronic illness leading to improved population health.

The transformation of the health system, with health information technology (HIT) at its core, is already underway. The HIE effort will involve broad engagement from the public and private sector, consumers, providers, and health plans. And once designed, Oregon's health information exchange approach will require flexibility and ongoing refinement. Oregon's history of strong civic engagement throughout the state will serve this process well.

Statewide HIE fits well into the goals Oregon's leaders have established for health policy; specifically:

- Improve the lifelong health of all Oregonians;
- Increase the quality, reliability and availability of care for all Oregonians; and
- Lower or contain the cost of care so it is affordable to everyone.

Oregon Health Authority Triple Aim Goal



1. Improve the lifelong health of all Oregonians
2. Increase the quality, reliability, and availability of care for all Oregonians
3. Lower or contain the cost of care so it is affordable to everyone

Exchange of health information will improve population health by supporting initiatives to improve the quality of care, such as coordinating the care of a growing population of people with chronic diseases that must be closely followed. It will improve the patient experience by reducing the need for consumers to fill out duplicative medical forms and giving their new providers a head start with their medical histories. And HIE is particularly promising with respect to the dollar savings it could offer to stakeholders across the board, from consumers avoiding unnecessary duplicative tests to emergency departments providing more efficient care with information from previous patient histories. Overall, the financial savings from the widespread adoption of HIT could be substantial: net savings of \$1 billion to \$1.3 billion per year within a dozen years in Oregon alone.¹

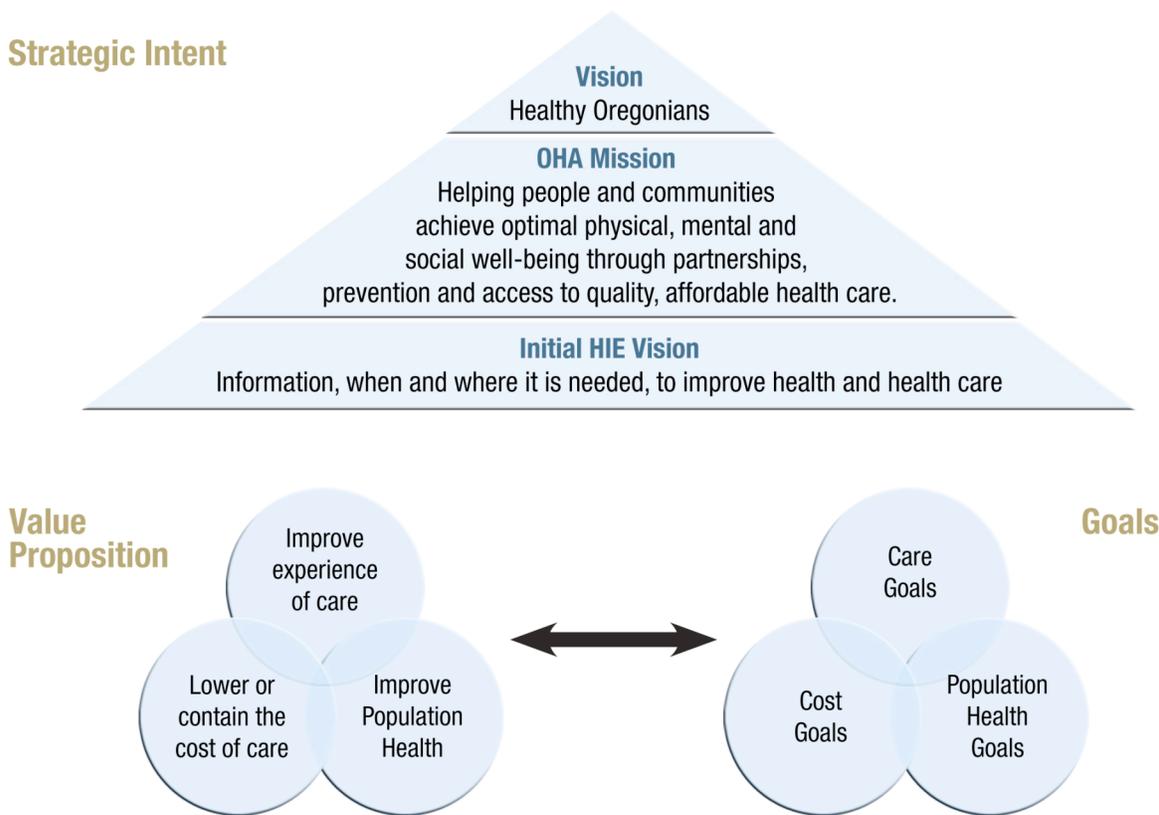
This plan rests on several key choices that reflect Oregon's approach to improving health care and the unique HIT community that already exists in this state:

- Oregon has a vibrant and innovative community of health information exchange entrepreneurs, as reflected in the large turnout at our health information organization (HIO) stakeholder summit (about 60 attendees) and the strong response by Oregon organizations to the federal Beacon Communities Program grant opportunity to support investments in health information infrastructure (there were six applications from Oregon-based groups in the first round).
- Any effort by the Oregon Health Authority to further HIE should support this developing marketplace rather than imposing a new structure from above that may stifle or compete with existing and potential local HIOs. Any organization growing from this state-level HIE initiative should provide services that support existing HIOs and fill any gaps in service, particularly for target populations.

¹ Witter DM, Ricciardi T. Potential Impact of Widespread Adoption of Advanced Health Information Technologies on Oregon Health Expenditures. Prepared for the Oregon Health Care Quality Corporation and the Office of Oregon Health Policy and Research. September 2007.

- Because HIE is a relatively new, complex and fast-changing concept, Oregon’s plan should be nimble enough to change with local and national conditions. It must also be able to adjust to changing federal rules, many of which are not yet written. To allow for such flexibility, this plan envisions a phased planning and implementation process that will allow for adjustments at each stage should conditions warrant.

VISION



The core of this work centers around the Oregon Health Authority’s vision of healthy Oregonians and the three key goals: improved patient experience, improved population health, affordable health care .

Oregon Health Authority Vision and Mission:

Healthy Oregonians

Helping people and communities achieve optimum physical, mental and social well being through partnerships, prevention and access to quality, affordable health care.

Proposed HIE Mission:

Information, when and where it is needed, to improve health and health care.

Given the complexity of this effort—which includes a rapidly changing regulatory, economic, political and technical environment—the stakeholders, planning team and HITOC have developed a strategy that includes the following key elements:

- A phased approach to planning and implementation
- Oregon Health Authority in a role of facilitation, coordination, communication and oversight

- Adherence to federal standards and certifications as they evolve and the development of Oregon-specific standards, certifications and accountabilities
- Collaboration and support of HIE efforts underway through local health information organizations (HIOs)

OVERARCHING IMPERATIVES

- Establish a governance structure that achieves broad-based stakeholder collaboration with transparency, buy-in and trust.
- Set goals, objectives and success measures for the exchange of health information that reflect consensus among the health care stakeholder groups and that accomplish statewide coverage of all providers for HIE requirements related to meaningful use criteria.
- Ensure the coordination, integration, and alignment of efforts with Medicaid and public health programs.
- Establish mechanisms to provide oversight and accountability of HIE to protect the public interest.
- Account for the flexibility needed to align with emerging nationwide HIE governance that will be specified in the future.
- Incorporate national and state health reform goals.

GOALS OF HEALTH INFORMATION EXCHANGE

- To ensure patients have safe, secure access to their personal health information and the ability to share that information with others involved in their care.
- To engage in an open, inclusive, and collaborative public process that supports widespread EHR adoption and robust, sustainable statewide coverage.
- To improve population health.
- To improve health care outcomes and reduce costs.
- To integrate and synchronize the planning and implementation of HIE and health IT in the public and private sectors, including Medicaid and Medicare provider incentive programs, the Regional Extension Center, local and regional HIOs and other efforts underway.
- To ensure accountability in the expenditure of public funds.

Phase 1

Phase 1 anticipates building on and supporting efforts underway to strengthen the foundation for ubiquitous use of electronic health information exchange. During Phase 1, the stage will be set for a robust process to develop and implement standards, certifications, accountabilities and timelines that will assist the acceleration of the ability for providers to achieve meaningful use and improve the health of Oregonians.

HITOC will provide governance at this phase. Technical elements in this phase include selection and adoption of standards for HIE and planning for potential technology and support services. This phase also includes a rollout of an accreditation program for HIOs. These standards set the stage for information exchange at a broad level. The development of a privacy and security framework for HIE and a sustainable financial model are priorities in Phase 1. Strategies for meeting the HIE needs of underserved areas and populations will be developed.

Workgroups will be formed to develop policy recommendations, evaluate finance options and establish measurable outcomes for key activities. Workgroups and advisory committees may include, but are not limited to, Legal and Policy, Consumer Engagement, Financial Sustainability Planning, Certification and Standards, and Local HIO Consortium. Continuing stakeholder engagement is a core value and continues to be a priority during this phase. Ongoing coordination will take place with: regional and local HIOs; Oregon Health Authority efforts such as Medicaid, public health and other grant activities in process; O-HITEC (Oregon's REC), workforce, broadband and other grant activities supporting HIT and HIE.

Phase 2

Phase 2 supports rapid expansion of HIE throughout the state by supporting existing and developing HIOs, Phase 2 would include the designation of a non-profit state designated entity (SDE) to serve in a governing capacity; this will also require an approved financial sustainability plan and legislative approval to serve as a central contracting

agency, among other functions. Implementation and operation of centralized services will occur as necessary to ensure successful statewide HIE and to address gaps, both geographic and within vulnerable populations. Privacy and security efforts will be enhanced as determined in Phase 1. Additional technology services and technical support services may be offered as needed.

Ongoing

Phase 2 will be evaluated and the non-profit will be expanded as needed to support robust HIE in the state. Additional services may be offered to cover gaps and underserved areas, depending on the success and the stability of the regional approach.

Continuous improvement

It is important to provide measurable success outcomes and indicators of progress. The HIE effort has the potential to accelerate reform. This will occur through technology innovation, market disruption, regulatory and cultural change. To understand if the effort is successful, rigorous and ongoing evaluation must occur so course corrections can be made. Beginning in Phase 1 health outcome targets will be defined. Using the data available, an assessment and evaluation process will be created.

Table 1. Objectives and deliverables in achieving HIE capacity and use

Phase	Objectives	Deliverables
One	<ol style="list-style-type: none"> 1. At least one intrastate and one interstate DURSA have been dually executed. 2. Phase 2 services reviewed, finalized and communicated to stakeholders. 3. Phase 2 services requirements definition process is completed. 4. Review Stage 1 Meaningful Use criteria and develop a strategy to adjust course, as needed. 5. Strategy for meeting the HIE needs of underserved areas is developed, reviewed, and approved. 6. Sustainable business plan for SDE developed, reviewed, and approved. 7. Consumer and provider education programs developed and announced. 8. HIE Participant Certification and Accreditation Program announced. 9. At least one HIE participant has applied for certification through the HIE Participant Certification and Accreditation Program. 10. One HIE participant exchanges data with an external HIE participant within the state of Oregon (e.g. HIO-to-HIO exchange). 11. Legislative changes necessary to implement consent model are identified and bills drafted. 12. HIE Participation Survey/Study 	<ol style="list-style-type: none"> 1. Intrastate and interstate DURSAs created, reviewed and finalized. 2. List of Phase 2 business support and technology service offerings and associated fees created, reviewed and finalized. 3. Requirements documents for Phase 2 services created. 4. Meaningful use criteria review process document created. 5. Strategy for meeting the HIE needs of underserved areas created, reviewed, and finalized. 6. Sustainable business plan for SDE created, reviewed, and finalized. 7. Consumer and provider education programs defined and documented, including topics and timelines. 8. HIE participant certification program documented and finalized. 9. Standards for HIE participant certification program chosen. 10. Document detailing laws pertaining to consent including identification of the law/statute, reconciliation with consent model and changes needed created, reviewed and finalized. 11. Transition plan for HITOC-to-

	<p>initiated.</p> <ol style="list-style-type: none"> 13. Define and begin transition of HIE operations to SDE. 14. HIE Participation mapped to Triple Aim/other measurable goals for HIE 	<p>SDE developed, reviewed, and accepted.</p> <ol style="list-style-type: none"> 12. Measures and benchmarks for HIE participation and impact defined. 13. HIE participation study/survey program parameters and deliverables defined and documented. 14. Success criteria for HIE participation defined and reviewed.
Two and Ongoing	<ol style="list-style-type: none"> 1. Complete transition of HIE services and programs operation to the SDE. 2. Consumer and provider education sessions have been conducted and programs are in review based on feedback. 3. Development and rollout of Phase 2 services 4. At least one HIE participant is successfully certified 5. At least one additional HIE participant applies for certification 6. Success metrics for HIE participation defined. 	<ol style="list-style-type: none"> 1. Consumer and provider education program materials finalized. 2. Project plans for Phase 2 services created and published 3. Plan for follow-on services defined and reviewed (offerings, scope, timing). 4. Process to monitor, measure, and assess gradual attainment of benchmarks identified in Phase 1. 5. Process for assessing use of HIE services defined. 6. List of additional services to be offered by SDE defined and reviewed including costs, timelines, and financials.

NEEDS OF TARGET POPULATIONS

Health information exchange cannot be focused only on easy-to-reach and easy-to-serve populations. In fact, certain groups have an even greater need for coordinated care than others. Oregon’s HIE strategy will keep these groups in mind at each stage of planning and implementation. These include:

- Medically underserved
- People covered under Medicaid
- Newborns and children
- The elderly and disabled
- Those with mental and substance abuse disorders
- Native Americans
- Parolees

ENVIRONMENTAL SCAN OF OREGON'S HIE READINESS

Section Overview

- Oregon has large health systems that are actively pursuing health information exchange.
- 65% of Oregon physicians work in practices with electronic health records, well ahead of the national average.
- There are a growing number of local HIOs within the state whose work needs to be supported.
- The interstate sharing of electronic health information is supported by the fact that Oregon's health care markets already extend across state borders through consumer choice, large hospital systems, health plans and current data sharing agreements.

As a recognized leader in health information technology adoption and reform of its health care delivery system, Oregon has a robust foundation upon which to build comprehensive statewide health information exchange (HIE). Supported by the rapid adoption of HIT among Oregon's health systems, hospitals, and ambulatory care providers, a promising opportunity has emerged to advance intra- and interstate HIE. Given Oregon's history as an innovative state for its health reform policies and a recognized national leader for a number of its health IT initiatives, the state was well-positioned when the federal HITECH Act became public law in 2009 as part of the federal stimulus package, the American Reinvestment and Recovery Act (ARRA).

OREGON LANDSCAPE

Oregon is the ninth largest state, geographically; has the 27th largest population, with approximately 3.8 million residents; ranks 39th in population density; and is bordered by four states: Washington, California, Nevada, and Idaho. Oregon has significant geographic diversity, including highly urban, rural and remote areas, each with highly varying degrees of HIT capabilities.

Oregon population trends and demographics

- Oregon's population is 3.8 million (July 2009) and has grown an average of 1.9% since 1990.
- Total health care spending in the state for all payers—public, private and individuals—was about \$19 billion in 2008.
- Hospital care spending growth has averaged 8.2% from 2000 to 2009.
- On a per-capita basis, Oregon state budget health expenditures have increased 55% overall from 1998 to 2003 compared with 48% nationally.
- Between 1999 and 2007, employer-sponsored health insurance premiums increased 114%, while household earnings increased 27%.
- Although the cost of health care is increasing, the quality of care delivered is inconsistent and demonstrates increased spending does not equal improved quality of care. The Commonwealth Fund State Scorecard ranked Oregon health care quality 36th in the U.S.
- Oregon ranks 45th in the U.S. in access to care, which includes measures of uninsurance, access to primary care and lack of access due to cost.
- With the median income of Oregonians just above 250% of the federal poverty level, more than half of Oregonians do not have adequate income beyond basic living expenses to pay for health care.

Oregon's health care facilities

- 23 federally qualified health centers (FQHCs) with 155 sites in Oregon.
- 53 rural health clinics in Oregon.
- 58 general acute care hospitals (ACHs). In 2009, they accounted for more than 347,000 inpatient discharges and more than 8.4 million outpatient and emergency visits.
- 25 critical access hospitals (CAHs) out of a total of 58 acute care hospitals in the state.
- 9 multiple hospital systems representing 35 hospitals from the subset of 58 ACHs.
- 7 health systems in Oregon, which include hospital operations and medical group practices or employed physicians and other clinicians.
- In 2007, Medicare and commercial/other were the two largest payers at Oregon hospitals. Medicaid accounts for 11% of total charges in Oregon hospitals.
- Since 2000, there has been a more than twofold increase in the number of ambulatory surgery centers licensed in Oregon (from 32 in 2000 to 80 in 2008).
- In the past 10 years, the number of licensed beds in nursing facilities has decreased by 12%. The number of licensed beds per 1,000 adults 75 years of age and older decreased by 24%.

Table 2. Hospital Inpatient Discharges, Outpatient Visits and ER Visits: CY2009

Oregon Hospital Inpatient Discharges, Outpatient Visits and ER Visits: CY2009						
	Total	Other Plan Payers	Kaiser	Medicare	Medicaid	Uninsured
Inpatient Discharges	347,116	121,936	10,067	138,284	55,684	21,145
Discharges with an ER service	171,617	57,120	9,067	72,985	23,488	8,957
Outpatient ER Visits	1,082,383	479,572	34,368	376,761	119,369	72,313
Total ER Encounters	1,254,000	536,692	43,435	449,746	142,857	81,270
Outpatient Visits	7,184,863	3,285,460	5,100	2,581,125	817,775	495,404

Source: Total data for the 58 Oregon hospitals from Hospital DataBank CY2009 data courtesy of the Oregon Association of Hospitals and Health Systems.

Health insurance marketplace

Approximately 1.44 million or 38.1% of Oregonians are covered by commercial/state regulated health insurance plans. Approximately 499,000 or 13.2% of Oregonians are covered by large group self-insured health plans. Medicare and Medicaid cover about 902,000 or 16.4% of Oregonians. The Office for Oregon Health Policy and Research estimates that in 2008 there were 637,000 or 16.8% of Oregonians without health insurance. That leaves a residual of about 213,000 or 5.5% of Oregonians with some unknown form of health plan coverage. The 2008 data include about 118,000 children without health insurance. The Healthy Kids program, part of HB 2116 passed by the 2009 Legislature, should lower the number of uninsured children dramatically. Table 3 shows Oregon health insurance enrollment data for 2008 as reported by the Oregon Insurance Division, Department of Consumer and Business Services.²

² Health Insurance in Oregon, January 2010, Department of Consumer and Business Services, January 2010, Data from Figure 2-1. Available at http://insurance.oregon.gov/health_report/3458-health_report-2010.pdf.

Table 3. Oregon Health Insurance Enrollment, 2008

Oregon Health Insurance Enrollment, 2008		
	Population	% of Population
Oregon population, 2008	3,791,000	100.0%
	Enrollment	% of Population
Commercial/state regulated insurance		
Individual	201,000	5.3%
Portability	21,000	0.6%
Small group (2-50)	254,000	6.7%
Oregon Medical Insurance Pool	15,000	0.4%
Large group	727,000	19.2%
Associations and trusts	222,000	5.9%
Subtotal covered under state regulation	1,440,000	38.1%
Large group self-insured	499,000	13.2%
Subtotal commercial and self-insured	1,939,000	51.3%
Federal health care programs		
Medicare	584,000	15.4%
Medicaid	418,000	11.0%
Subtotal covered under federal regulation	1,002,000	26.4%
Uninsured	637,000	16.8%
Subtotal – identified categories	3,578,000	94.5%
Residual – unspecified – unknown coverage	213,000	5.5%
Total Oregon Population	3,791,000	100.0%

HEALTH CARE MARKET READINESS ASSESSMENT

The 2009 Oregon Ambulatory EHR Survey Report indicates 65% of Oregon clinicians work in practices or clinics where electronic health records (EHRs) are present, compared with 44% nationally. Overall, many health systems and provider groups have already demonstrated interest in, adoption and use of EHRs; they have collaborated with providers and community organizations around HIE and supported a range of health IT applications intended to improve care coordination, quality, and patient safety.

Oregon’s current HIE efforts fall broadly into two categories: (1) those carried out by large health systems, affiliated providers, and hospitals, and (2) local or regionally driven efforts that aim to ensure availability within particularly densely populated regions in Oregon. Within both of these categories is the recognition that a number of Oregonians and health care providers who reside and work in the rural regions of the state must not be left behind. Also critical for the state’s successful implementation of statewide HIE is coordination with adjacent states to ensure connectivity and interoperability.

HIE capacity and resources: ONC priority areas

Over the past decade, a number of efforts around electronic health information exchange have emerged, referred to as state, local and/or regional health information organization (HIO) initiatives. These initiatives have been focused on particular HIE services in particular geographic areas. As of 2010, six initiatives, in varying stages of development, were exchanging some clinical information in Oregon. However, these initiatives are focused primarily on development, organization, and pilot testing of programs and services. There are additional planned

HIOs in Oregon but because of their widely varying size, type and approach, this plan will refer to them as a group in general terms.

The Office of the National Coordinator for Health Information Technology (ONC) has identified seven key priority areas of HIT intended to promote its meaningful use. Prior to passage of the HITECH Act; Oregon was already actively working on developing a number of these key functions, partially reflected in passage of Oregon House Bill 2009.

These functions are noted briefly here and expanded upon in the technology infrastructure section.

Electronic Eligibility & Claims Transactions

The 2009 Ambulatory EHR survey indicated that 80% of clinicians covered by the survey were in practices with an electronic practice management (EPM) system. Nearly all EPM systems have electronic claims submission capabilities. Oregon plans to create a comprehensive data collection program of all claims paid by all health care payers.

Electronic Prescribing & Refill Requests

As of December 2008, 4.4% of prescriptions in Oregon were routed electronically and approximately 15% of physicians were identified as routing e-prescriptions.

Prescription Fill Status and/or Medication History

According to SureScripts 2009 State Progress Report, Oregon ranks favorably against national statistics. Recent trends indicate significant numbers of physicians and providers have initiated electronic prescribing. For example, growth in prescriptions routed electronically between 2007 and 2008 was 180%.

Electronic Clinical Laboratory Ordering & Results Delivery

The majority of Oregon's health care providers can but do not necessarily send and receive clinical laboratory results electronically. Surveys have shown that this capability tends to be more with medical practices owned or operated by multi-hospital health systems and among all commercial laboratories.

Electronic Public Health Reporting

Approximately 80% of communicable disease reporting occurs electronically to local health departments from 12 clinical laboratories and the Oregon State Public Health Laboratory. These reports flow into the recently upgraded Oregon Public Health Epi-User Systems (ORPHEUS) and are the basis of reporting to the Centers for Disease Control and Prevention (CDC).

Quality Reporting Capabilities

Several organizations in Oregon are involved in quality reporting. The Oregon Health Care Quality Corporation (Q-Corp), a non-profit organization and a federally-designated Chartered Value Exchange, is a significant contributor to the state's quality reporting capacity and efforts. Since 2005, the Oregon Rural Healthcare Quality Network (ORHQN) has operated as a non-profit collaborative of 25 small rural hospitals and rural health care community stakeholders. Also, Acumentra Health is the state's federally-designated Medicare Quality Improvement Organization (QIO), as well as the External Quality Review Organization for Medicaid (for both Oregon and Washington).

Clinical Summary Exchange for Care Coordination & Patient Engagement

Electronic exchange of clinical information for coordination of care currently occurs primarily within a limited few health care systems (e.g. Kaiser Permanente NW, PeaceHealth, Providence). A key component for clinical summary exchange involves promoting the necessary technical requirements required for supporting the evolving national CCD, CCA and XML exchange standards. These goals can be achieved by assisting statewide HIE efforts, including connectivity with NHIN Exchange and NHIN Direct, as they become fully operational.

EHR adoption

Oregon is able to report detailed information about the status of EHR adoption because of its investment in recent surveys of various types of providers. The following details some of these findings.

Health system and hospital adoption

The highest penetration or rate of adoption in the state is found in hospitals and large health systems. In 2009, there were nine multi-hospital health systems with 35 hospitals. Among these 35 hospitals, 30 have implemented EHR systems. By early 2010, seven health systems had robust deployment of EHRs that are certified by the Certification Commission for Health Information Technology (CCHIT) covering 27 of the 35 hospitals. Among five of the remaining hospitals without an EHR, three of these hospitals have formal plans to implement within the next 24 months. The remaining two hospitals plan to implement within the next two to five years. It is expected that all five of these hospitals will accelerate their implementation timelines due to recent changes in federal policy.

The majority of Oregon's 58 acute care hospitals, including the 25 critical access hospitals use EHRs. Forty-seven of Oregon's 58 ACHs either already have in place or plan to implement an EHR in 2010. These hospitals represent 95% of Oregon ACH discharges (2008 figures). EHRs operated by ACHs are provided by nine vendors, whose products are CCHIT-certified. Of the remaining 11 acute care hospitals without EHRs, all have indicated plans to implement within the next one to five years. Seventeen of Oregon's 25 CAHs operate an EHR. These hospitals represented 76% of Oregon CAH discharges (2008 figures). Among EHRs operated by the CAHs, not all of the vendor products/versions are certified. Of the eight remaining critical access facilities without EHRs, all eight indicated being less than two years away from implementation.

Ambulatory care providers

A considerable number of Oregon's ambulatory practices actively use EHRs, remaining well ahead of the national ambulatory rate for EHR adoption. As of 2009, 65% of Oregon clinicians (physicians, nurse practitioners and physician assistants) worked in practices or clinics where EHRs were present, compared with 44% nationally (CDC-2009)³. Higher EHR adoption rates occur in large ambulatory practices, practices with multiple locations, and multi-specialty or mixed primary care practices. As found in a number of other states, adoption rate varies widely depending on the size and ownership of the practice, as well as geographic location.

Table 4: EHR Adoption in Oregon by Ambulatory Practice Type	
Private practices owned by physicians:	38% of the physician-owned/operated practices, serving 54% of clinicians, are using an EHR, ranging from 26% for solo practices to 68% for practices with ten or more clinicians.
IHS/Tribal clinics	Among Oregon's 11 tribal and Indian Health Service (IHS) Clinics, five tribal clinics use the IHS Electronic Health Record graphical user interface (GUI) application in providing patient care.
Community Health Centers	Approximately 60% of Oregon's federally qualified health centers/safety net clinics operate an EHR.
School-based health centers	Approximately 23% of the 44 school-based health centers use EHRs.
Behavioral Health	Rate of adoption is assumed to be low (< 20%).
Long-term care	Rate of adoption in nursing homes and long-term care facilities is relatively low compared to the state average for EHR adoption among ambulatory care providers.
County Health Departments	Four county health departments in Oregon operate EHR systems.

³ Hsiao CJ, Beatty PC, Hing ES, Woodwell DA, Rechtsteiner EA, & Sisk JE. Electronic medical record/electronic health records use by office-based physicians: United States, 2008 and preliminary 2009. Health E-Stat. National Center for Health Statistics, December 2009. http://www.cdc.gov/nchs/data/hestat/emr_ehr/emr_ehr.pdf.

Hospitals and ambulatory providers with EHRs

Higher rates of EHR adoption in Oregon are found among the following hospitals and non-hospital providers:

Provider Type	Table 5. Higher Rates of EHR Adoption in Oregon
<i>Acute Care Hospitals</i>	47 of Oregon's 58 acute care hospitals (ACHs) either have or are implementing EHRs by mid-2010, representing 95% of Oregon ACH discharges in 2008.
<i>Critical Access Hospitals</i>	17 of Oregon's 25 critical access hospitals (CAH) operate an EHR, representing 76% of 2008 Oregon CAH discharges.
# of Clinic Sites	Practices with more than one location have higher rates of EHR adoption (range of 40% for two locations to 69% for five or more locations).
<i>Larger Practices</i>	Practices with 50 or more clinicians (79% adoption rate) and practices with 5-9 clinicians (50% adoption rate) have higher rates of EHR adoption.
<i>Specialty Care Providers</i>	Multispecialty and mixed primary care practices have higher EHR adoption rates.

Hospitals and ambulatory facilities with certified EHRs

An important aspect of the environmental assessment is determining the percentage of EHR systems in Oregon that are CCHIT-certified. As of 2009, there were 81 vendors in Oregon providing EHR systems. Among these 81 vendors, 16 vendors provide EHRs for 90% of clinicians in Oregon that actively use an EHR. The majority of these vendors operate CCHIT- certified systems. Findings from the 2009 Oregon Electronic Health Record Survey of Ambulatory Practices and Clinics indicate that 87.6% of the 5,139 clinicians surveyed work in organizations using EHR products that are part of certified product lines. A number of reported EHR system replacement projects are currently underway, substantially increasing the use of certified EHRs. The number of Oregon hospitals and ambulatory providers using non-certified EHRs is relatively low. The 2009 EHR survey indicated that only 250 out of 2,265 clinician practices with EHRs potentially will need to replace or upgrade existing EHR systems in order to qualify for ARRA incentive payments.

Summary of hospitals and non-hospital providers in Oregon currently using CCHIT-certified EHR vendor/products:

- 81 commercial vendor/product lines in use in Oregon.
- Eight vendor/products are used by 83% of clinicians.
- All 47 Oregon hospitals with EHRs use a range of CCHIT products.
- 81% of practices and clinics with EHRs (88% of clinicians) use a product where one or more versions in the product line have received certification from CCHIT.

Basic and fully functional EHRs

Levels of EHR functionality provide one tool to assess the state’s potential ability to demonstrate meaningful use and qualify for Medicare or Medicaid incentive payments. The overall rate of EHR adoption among all surveyed respondents in 2009 by level of functionality is shown in the table below.

Table 6.
Oregon and National Adoption Rates in Ambulatory or Office Based Settings

	Any EHR System ⁴		“Basic” ⁵ EHR System	“Fully – Functional” ⁶ EHR System
	2006	2009	2009	2009
Ambulatory or Office Based Practices				
Oregon Clinicians⁷	52.8%	65.5%	48.3%	32.2%
National Physicians	29.2%	43.9%	20.5%	6.3%
Oregon to National Ratio	1.81	1.34	2.36	5.11

Source: Office for Oregon Health Policy & Research, Oregon Electronic Health Record Survey of Ambulatory Practices and Clinics, 2006 and 2009. Hsiao CJ, Beatty PC, Hing ES, Woodwell DA, Rechtsteiner EA, Sisk JE. Electronic medical record/EHR use by office-based physicians: United States, 2008 and preliminary 2009. Health E-Stat. National Center for Health Statistics, December 2009.

Table 7.
Overall EHR adoption rates by organizational type and functionality

Organizational type (# of clinicians)	Type of EHR				
	Any	Have at least Nearly Basic	Have at least Basic	Have at least Nearly Fully Functional	Have Fully Functional
Clinician organizations (4,177)	54.2%	40.9%	30.9%	24.9%	8.8%
All organizations (7,845)	65.5%	55.4%	49.4%	45.6%	32.5%

⁴ Any EHR includes any type of EHR self-declared by a survey respondent. This includes self-developed systems. Capabilities include electronic charts, test ordering and reports management, e-prescriptions, consultation referrals and reports, clinical decision support, disease management support and quality reports.

⁵ DesRoches CM, Campbell EG, Rao SR, Donelan K, Ferris TG, Jha A, Kaushal R, Levy DE, Rosenbaum S, Shields AE, Blumenthal D. EHRs in ambulatory care – a national survey of physicians. N Eng J Med 359:1 July 3, 2008, 50-60. A Basic EHR System is defined as including all of the following functional components: patient demographics, patient problem lists, electronic medication lists, clinical notes, order entry management of prescriptions, and viewing capability of laboratory and imaging results (reports).

⁶ DesRoches. A Fully Functional EHR System is defined as including the basic system functionalities as clinical notes of the medical history and follow-up, ordering of laboratory and radiology tests, electronic transmission of prescriptions and orders, and electronic return of images. Fully functional also includes clinical decision support with warnings of drug interactions or contra-indications, highlighting of out-of-range test levels and reminders regarding guideline-based interventions or screening.

⁷ Clinicians include physicians, physician assistants, and nurse practitioners in ambulatory practices.

Approximately 89% of organizations with an EHR report their system providing “basic capabilities” (i.e. to support basic functions of reviewing chart information, notes and lists; update and review medication lists; and update and review problem lists). About two-thirds of Oregon medical practices, representing between 70% and 90% of clinicians actively using an EHR, report their systems providing “full functionalities.” Finally, 97% of practices/clinics with an EHR also have an electronic practice management system. Of interest is that EPM systems⁸ are present in practices/clinics serving more than 80% of clinicians.

Nursing and long-term care facilities

A variety of licensed nursing and long-term care facilities operate in Oregon, providing care and assistance for individuals needing help with activities of daily living, medication administration and personal care. The Department of Human Services’ Seniors and People with Physical Disabilities Division (SPD), identify the following types of long-term care facilities: nursing facilities (NF), residential care facilities (RCF) and assisted living facilities (ALF).

According to official licensing data from the SPD Division, Oregon had 140 nursing facilities with a licensed capacity of 12,403 beds at the end of 2008. Sixty-three (63%) percent of nursing facilities have fewer than 100 licensed beds and the average number of licensed beds is 89. Official licensing data listed 205 ALFs and 227 RCFs, as of December 31, 2008, with 105 endorsed Alzheimer’s care units (ACUs) within ALFs and RCFs. The total licensed bed capacity in ALFs and RCFs were 13,816 and 8,607, respectively, with 3,673 beds endorsed for Alzheimer’s care. Facility size varies greatly with most having fewer than 100 licensed beds; more than two-thirds of ALFs had a capacity between 50 and 99; and most RCFs and ACUs had a capacity between 20 and 49.

Although technology adoption is widespread throughout these facilities, their readiness for EHR adoption is uncertain at best. The majority of the state’s NRs, RCOs, and ALFs currently use computers to support billing and other administrative functions that relate to reimbursement and certification requirements. But this does not necessarily indicate a clear readiness for EHR implementation. A national survey of nursing homes across the United States indicated that approximately 20% have electronic capabilities. An informal assessment in Oregon, however, indicates less than 10-15% of the state’s long-term care facilities use EHRs. Currently, no state-specific data is currently available to accurately assess EHR adoption rates among long-term care facilities in Oregon. During Phase 1 and within the coordinated planning for a State Medicaid Plan, additional surveying will take place within the long-term care system.

EXISTING AND PLANNED LOCAL HIOS

In Oregon, a number of HIO activities are supported by private, non-profit and public sector organizations. As of February 2010, there were several HIOs considered as operational or soon-to-be operational. Concurrently, there are eight health systems in Oregon currently offering limited HIE services among hospitals, affiliated clinics, and/or providers. These efforts are at different stages of maturity and focus on a range of exchange activities. Although several HIOs are operational and have started to provide value-added services, only a couple of these organizations are close to providing comprehensive exchange services. However, the six Beacon Community Grant applications submitted from Oregon in the first round of funding demonstrate there is a strong culture within the state for community collaboration and a growing commitment within several Oregon regions to invest significant resources toward HIE.

As Oregon’s providers continue to focus their efforts on achieving meaningful use (MU) objectives, it seems reasonable to anticipate that local HIOs within the state will both increase services and expand geographically, primarily driven by designated medical service area(s). The technologies and exchange connections already in use

⁸ Electronic practice management system capabilities include patient scheduling, registration, eligibility, coverage, contracts, billing, electronic claims submission, claims tracking, accounts receivable, workflow management tools and reports.

may serve as models and offer solutions for HIE for other HIOs to build upon. At present, however, only a small percentage of eligible providers in Oregon have access to HIE services offered through a regional or local HIO.

This is a working list of operational and/or planned HIOs in Oregon. For a more complete analysis see Appendix D:

- Bay Area Community Health Agency (BACHA)
- St. Charles Health System
- Douglas County Independent Practice Association (DCIPA)
- Gorge Connect
- Jefferson HIO
- Our Community Health Information Network (OCHIN)
- PeaceHealth
- Portland-Vancouver Metro HIE
- Salem Area Community Health Information Exchange (SACHIE)

Within the public sector, Oregon's Department of Human Services operates and maintains dozens of information systems. Efforts are underway to integrate many IT systems, supported in part by a State Medicaid Health Information Technology (HIT) Plan. The purpose of this plan is to build a Shared Services Architecture (SSA) health IT infrastructure that will support meaningful use by both providers and consumers (please see the Oregon Medicaid HIT Planning Advance Planning Document, 2010)⁹. Major state IT systems include but are not limited to: Medicaid Management Information System (MMIS), all-payer, all-claims database (APAC – under development), various public health IT systems such as the Immunization Information System (Alert), Oregon Electronic Laboratory Report (ELR) project, and communicable disease reporting system. There are also 34 county health departments, all of which have some level of IT capacity and information exchange capability¹⁰. Leadership, vision, oversight, coordination, and finally integration of existing and planned IT systems within and across state agencies is critical.

All-payer health care claims data reporting program

Under HB2009, the Oregon Legislature established a health care data reporting program by the Office for Oregon Health Policy and Research to create a comprehensive data collection program of all claims paid by all health care payers. The All-Payer, All-Claims (APAC) data will provide information for policy and analytical purposes covering services across all health care settings. Once fully implemented and in operation, Oregon's all-payer, all-claims database will provide utilization data, outcome information, and cost/payment information on a statewide basis. APAC also represents an important data resource with significant implications for HIE planning and development as well as monitoring eligibility for Medicaid incentive payments. APAC data could potentially represent a relatively low-cost approach for developing a master provider index as well as patient record locator and look-up services to support statewide HIE services and local HIOs. Determination of eligibility for Medicaid incentive payments for the meaningful use of certified EHRs also requires information about the percentage of Medicaid beneficiaries under care by the eligible professional. The APAC could provide data for the numbers of Medicaid and total patients for monitoring achievement of the eligibility thresholds.

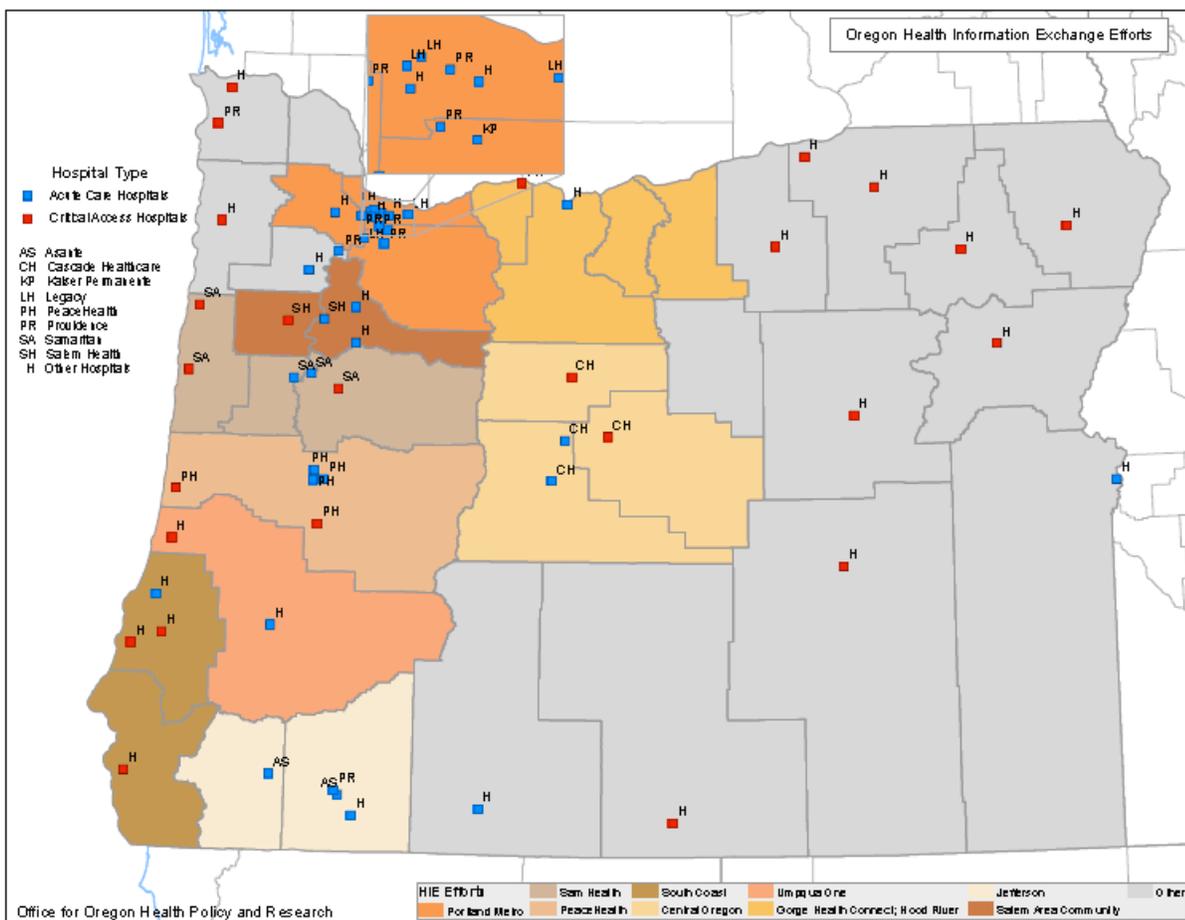
HIO capacity

Each year, the number of active and planned HIOs in the state increases. Developing a strategy for how best to support and expand existing resources to accelerate intrastate and interstate HIE connectivity is vital. Summarized below is information on existing and/or future planned HIO efforts within Oregon.

⁹ State of Oregon, Department of Human Services (2010). Oregon Medicaid HIT Planning Advance Planning Document (HIT P-APD). Submitted to and Approved by the Centers for Medicare and Medicaid Services.

¹⁰ Citation: HITOC (2010). Public Health and Health Information Exchange: A Survey of Oregon's Local Health Department. Prepared by the Office for Oregon Health Policy and Research.

Oregon’s existing HIOs are noteworthy for a number of reasons including geographic coverage, types of services offered, and level of support by community stakeholders. Many of these efforts are predominantly overseen by boards of directors or advisory groups comprised of local stakeholders, health care leaders and representatives of organizations who are, or plan to participate in intrastate HIE. By and large, HIOs have organized with the mission to improve health care in each of their communities achieved through increased health IT adoption and HIE. Moreover, although these efforts share a common mission, they do vary in community history, selected technology, design and infrastructure, stage of development, and demonstrated ability to exchange clinical data. They exhibit the following characteristics as well: high-levels of community engagement and stakeholder buy-in, shared commitment to interoperability and enabling value from widespread HIT adoption, and pursuit to develop a sustainable business model.



Implementation efforts

As of February 2010, there were several operational or soon-to-be operational HIEs in Oregon. The range of supported health IT applications and coverage areas include urban and rural portions of the state (for a detailed assessment of each HIO, please refer to appendices). Types of organizations actively committed to supporting HIOs include health systems and hospitals, IPAs, county health departments, and community health centers, among others. The majority of Oregon’s HIOs are hospital systems and affiliated practices; a few have established connectivity with local providers and community-based practices.

Future planned HIO connectivity includes hospitals, tribal clinics, federally qualified health centers, rural health centers, the Veterans Administration Medical Center in Portland and VA satellite clinics.

Beacon Community Program

A relatively large number of lead organizations, six in all, submitted proposals for the initial Beacon Community Grant Program. Although none were selected in the highly competitive national field of 130 applications, all six applicants provided a rigorous assessment and detailed plans on how each of these initiatives could improve and enhance HIE efforts within their respected communities, and that work will be useful in the continuing evolution of HIE in Oregon. The range of initiatives proposed were outstanding and if implemented would significantly enhance Oregon’s capacity around information exchange and help advance state health care reform goals. The state’s Beacon Community applicants were:

- St. Charles Health System (formerly Cascade Health Care Community)
- Community Health Alliance
- PeaceHealth Oregon Region
- Asante Health System: Jefferson HIE
- Portland-Vancouver HIE
- Physicians Choice Foundation: Salem Area Community Health Information Exchange (SACHIE)

These applications and other promising initiatives in Oregon offer a picture of the kinds of issues data exchange entrepreneurs are working on:

- Closing many of the existing gaps around EHR adoption found in the diverse community settings in Oregon;
- Expanding use of EHRs to achieve improved patient care coordination within and across community providers, hospitals, and health systems;
- Commitment to strengthening and fostering high rates of participation in local HIOs;
- Leveraging HIE to reduce health disparities experienced by rural and vulnerable Oregonians, often through enhanced use of telehealth and telemedicine, disease registries, and other health IT applications;
- Establishing HIE networks in rural counties that currently have very limited HIE capability; and
- Supporting and broadening patient-centered medical home models and primary care access through new and expanded HIE activities.

Health systems, integrated delivery networks and hospitals

The movement toward sharing health information is most prevalent within the networks of hospitals and providers established by health systems (or IDNs) in the state. A number of Oregon’s health systems operate one or more hospitals, system-owned medical groups, affiliated medical groups, home health agencies, and skilled nursing facilities, among others. These health systems support the use of health IT applications across the various settings in which they operate, working to improve the interoperability and exchange of information within existing service delivery centers and across multiple care settings. These organizations are already well integrated and achieve HIE within their enterprises. Larger health systems will likely set the benchmark for participation by the smaller hospitals and provider groups.

A number of IDNs have developed HIE capacities, providing their constituent physicians, hospitals, and ancillary service providers the ability to exchange health information electronically. It is important to recognize, however, that a limited number of these IDNs could potentially support all meaningful use criteria for stage 1. A few loosely affiliated, community-based provider organizations have also begun to develop some HIE capacity. It is recognized that IDNs are essential to participation in statewide HIE activities, within and across the state.

Table 8. Oregon’s Integrated Health Systems

Asante Health System	Operates two hospitals in Jackson and Josephine Counties.
St. Charles Health System	Operates four hospitals in central Oregon.
Kaiser Permanente	Operates one hospital in Portland and clinics in the Portland metro area, Salem, and southwest Washington. Kaiser also has facilities in California, Colorado, Georgia, Hawaii, Maryland, Virginia, Washington DC and Ohio.
Legacy Health System	Operates four hospitals in the Portland metro area, one hospital in Clark County Washington and clinics in the Portland metro area, Woodburn, and southwest Washington.
PeaceHealth	Operates four hospitals and medical group practices in Lane County. PeaceHealth also has facilities in Alaska and Washington.
Providence Health and Services	Operates eight hospitals across the state of Oregon and medical groups in the Portland area, north coast and southern Oregon. Also has facilities in Alaska, California, Montana and Washington
Salem Health	Operates two hospitals in Marion and Polk Counties.
Samaritan Health Services	Operates five hospitals and medical group practices in Linn, Benton and Lincoln Counties.

Imaging collaborations and exchange (PACS)

A number of hospital and imaging centers are collaborating to facilitate the availability and electronic exchange of medical images in Oregon. The following organizations represent imaging collaborations and exchange initiative in the state:

Table 9. Oregon’s Imaging – PACS Collaborations

Table 9. Oregon’s Imaging – PACS Collaborations	
Asante Health System PACS Collaboration	Provides PACS services for hospitals in Grants Pass and Medford, and Oregon Advanced Imaging.
Cascade Medical Imaging	Provides imaging and PACS services for central and eastern Oregon, covering 33,000 square miles; serving more than 300,000 people.
Oregon Community Imaging	A cooperative arrangement between an imaging center and local hospital to facilitate the access and exchange of medical images with an imaging repository for participating practices in Salem, Oregon.
Samaritan Health PACS	A system used as a common imaging repository by five Samaritan Health Services including five hospitals and their affiliate practices and clinics located in three counties.
South Coast	A community PACS serving three different hospitals in southern Oregon.

Beyond the capacity that health systems, IDNs, hospitals and PACs have established around specific HIE efforts, other organizations are also actively pursuing and developing of HIE capabilities.

GOVERNANCE

Section Overview

- The Health Information Technology Oversight Council, reporting to the Oregon Health Authority, is the body that provides oversight for health information technology issues.
- Oregon's HIE approach will be conducted in phases to allow for careful planning, input and strategic adjustment as elements of the plan are carried out.
- HITOC will serve as the governance entity for HIE during the first phase.
- The statewide infrastructure for carrying out the goals of HIE in Oregon will be developed with the core tenets of efficiency and flexibility and will leverage and support existing resources within the state.
- Oregon will designate a public/private, non-profit entity to take on statewide HIE governance and operational duties during the second phase.

The state of Oregon has been laying the groundwork for statewide health information exchange (HIE) governance for many years. In May 2008, Governor Theodore R. Kulongoski signed Executive Order 08-09 establishing the Health Information Infrastructure Advisory Committee (HIIAC).¹¹ HIIAC was created to make recommendations that leverage health information technology (HIT) investments across the state of Oregon to:

- Reduce barriers to health information exchange, while maintaining privacy and security of individuals' health information;
- Establish an appropriate role for the state in maintaining and building health information infrastructure;
- Facilitate the adoption of health information infrastructure standards and interoperability requirements;
- Facilitate collaboration between statewide partners; and
- Develop evaluation metrics to measure the implementation of health information technology and the efficiency of health information exchange in Oregon.

In October 2008, HIIAC produced a report to the governor and the Oregon Health Fund Board (OHFB) exploring challenges in the current health care system, opportunities to transform the system through wider adoption and use of HIT, and recommendations to speed this transformation. Those recommendations were adopted into the OHFB plan for health reform and incorporated into legislative proposals.¹²

In June 2009, the Oregon Legislature passed a sweeping health reform bill – House Bill 2009. This bill incorporated the vision of HIE in Oregon laid out by HIIAC, as well as a broadly developed, coordinated and streamlined approach to health care delivery in Oregon (see the background section above for further detail on HB2009).

OREGON HEALTH AUTHORITY (OHA) ESTABLISHED

HB2009 established the Oregon Health Authority (OHA) and the Oregon Health Policy Board (OHPB) as the governance bodies for all health-related activities in Oregon. The nine-member, citizen-led Oregon Health Policy Board is appointed by the governor and confirmed by the state Senate.

¹¹ Executive Order No. 08-09: <http://www.oregon.gov/OHPPR/HIIAC/ExecutiveOrder2008.pdf>

¹² Health Information Infrastructure Advisor Committee Report to the Oregon Health Fund Board, October 2008. http://www.oregon.gov/OHPPR/HIIAC/Final_HIIAC_Report.pdf

The OHA is being set up as an umbrella health agency with direct authority over those state agencies focusing on health including the Division of Medical Assistance Programs, Office for Oregon Health Policy and Research, Public Health Division, Addictions and Mental Health and a number of others. The new Department of Human Services (DHS) will include the Children, Adults and Families Division (CAF) and Seniors and People with Physical Disabilities Division (SPD).

. Initially, the director of the Oregon Department of Human Services (DHS) is simultaneously serving as the leader of both DHS and the new OHA during the transition period of one biennium. The OHA is set to officially become separate from DHS in early July 2011, but shared services between the two agencies, including information technology are being developed.

HB2009 also created the Health Information Technology Oversight Council (HITOC) to coordinate Oregon's public and private statewide efforts in health information technology including electronic health record (EHR) adoption and the development of statewide electronic health information exchange (HIE) capacity and operations. The council is comprised of 11 voting members appointed by the governor and confirmed by the state Senate, representing the public and private sectors, specifically reflecting the geographic diversity of Oregon, including health care consumers, providers, and privacy and information technology experts. Current council members come from across Oregon, from Portland, Oregon's largest city, as well as from Sublimity, a town with just over 2,000 residents. This broad geographic representation ensures that the interests of every region of Oregon, a large and mostly rural state, are taken into account in HITOC's decision-making process.

HITOC

HITOC is an advisory body to the director of OHA and provides regular updates to OHPB to ensure the coordination with other health reform initiatives. As described in HB2009, HITOC's initial responsibilities included:

- Setting specific goals for the state related to HIT use, and developing a strategic plan to meet these goals;
- Monitoring statewide progress in achieving these goals and providing oversight for the implementation of the strategic plan;
- Maximizing the distribution of HIT resources across the state;
- Creating and overseeing a public-private purchasing collaborative to help providers identify high-quality electronic health record products and support services and obtain more affordable rates for these products and services. This collaborative would include primary care providers, practices serving a large percent of Oregon Health Plan patients, and small and rural practices;
- Identifying and selecting industry standards for HIT products and services promoted by the purchasing collaborative;
- Developing strategies to leverage community resources to further expand HIT adoption;
- Educating the public and providers about the risks and benefits of HIT investments;
- Coordinating health care sector activities that promote adoption of HIT and achieve HIT interoperability;
- Supporting and overseeing the implementation of a personal health records bank for Oregon Health Plan recipients and assessing its potential to serve as a building block for a statewide health information exchange, ensuring that patients' health information is available and accessible, that the exchange would apply only to patients who choose to participate, and providing meaningful remedies if security or privacy policies are violated;
- Determining a fair and appropriate method for reimbursing providers who utilize HIT; and
- Exploring the option of establishing an HIT loan program and possibly implementing such a program.

Some of HITOC's original responsibilities will be tasked to other entities, for example, Oregon's Regional Extension Center will work to create and oversee a public-private purchasing collaborative to help providers identify high-quality electronic health record products and support services and obtain more affordable rates for

these products and services. Other responsibilities are evolving due to the dynamic and evolving HIE marketplace.

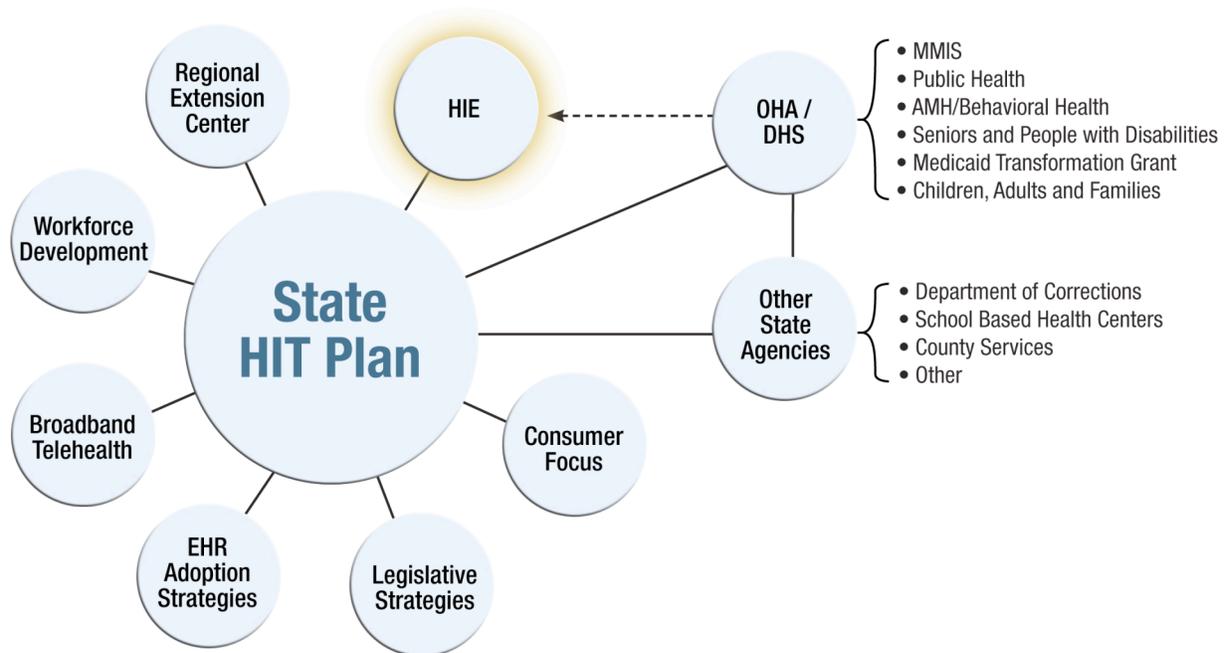
A director was appointed to oversee the work of HITOC and guide the council. Carol Robinson was named as the HITOC director. Prior to her appointment, Ms. Robinson served as the interim director of the Oregon Health Fund Board managing the efforts to enact HB2009 during the 2009 Oregon Legislature. Previously she was the executive director of the Oregon Health Forum and publisher of Oregon Health News,, where she worked closely with OHFB to solicit public input on the health care reform plan resulting in HB2009. Prior to that position, Ms. Robinson served as the director of public relations and development for the Oregon Business Association and as legislative coordinator for the Coalition for School Funding Now. Due to the significant responsibilities placed on the HITOC director and the recognition of the critical importance integrating planning efforts across both public and private sectors, Ms. Robinson was also named as the state coordinator for health IT for Oregon. Currently the position resides within the Office of Oregon Health Policy and Research (OHPR). The office serves in an advisory capacity to OHPB, OHA, the governor and the legislature. Ms. Robinson reports directly to the administrator of OHPR.

HITOC held its inaugural meeting in October 2009. At this meeting the council was provided an overview on the current state of HIT and HIE in Oregon (including the past work of HIIAC), the significant investments being made by the federal government in HIT/HIE and the opportunities they represented for the state. During this meeting the HITOC developed and refined its bylaws and policies and were briefed on its (and any sub-workgroups formed within HITOC's) public meeting requirements.¹³

Because of the short timing of the HIE Cooperative Agreement and the recognition of HITOC that the HIE strategic and operational plans required by ONC need to serve as the foundation for all HIT and HIE activities within Oregon, HITOC took on oversight of the strategic and operational planning process as its first order of business. The council is building on the previous efforts of HIIAC and the Health Information Security and Privacy Collaborative (HISPC).¹⁴ Since October, HITOC has been publicly meeting monthly with a primary focus on assuring a structured and representative development of the state's HIT/HIE strategic and operational plans. The figure below shows the framework by which HITOC and staff have been developing the HIT/HIE strategic and operational plans.

¹³ Note all HITOC and HITOC workgroup meetings are public meetings subject to all public meeting and notice laws and regulations under Oregon statute.

¹⁴ With the establishment of the HITOC, the HIIAC concluded its work at its August 20, 2009 meeting. For more information on the Oregon HISPC activities, see: <http://www.oregon.gov/OHPPR/HISPC.shtml>



STRATEGIC WORKGROUP

To assure that the strategic and operational plans have the appropriate level of detail and are truly representative of the complex set of stakeholders involved in HIT and HIE across Oregon, HITOC created the Strategic Workgroup in December 2009. The charge for this workgroup was to make recommendations and provide expert advice to HITOC on the content of its state HIT/HIE strategic and operational plans.

Phased Approach to HIE Governance

Convening in January 2010, the HITOC Strategic Workgroup agreed that the governance structure for statewide HIE operations in Oregon should build on the current oversight and advisory structures already in place and codified in HB2009. Workgroup members recognized that Oregon should not immediately pursue the creation of a statewide health information organization because of the strong local HIE planning efforts underway, the rapidly changing regulatory, economic, political and technical environment and the lack of a sustainable business model for HIE. Instead, the state will begin by implementing a governance model that builds directly on the HIE organizations that are already in place. In time, after a business model that allows for a sustainable oversight mechanism is developed, a transition between governance models will occur. Thus, Oregon's governance model will include two distinct phases that will build the foundation for ongoing work. The timing of the transitions between phases will be dependent on a number of factors currently under review, including the development of a financial sustainability plan and necessary legislative approvals. The phases of operational HIE governance are described below in Table 10.

Table 10. The Three Phases of Oregon Statewide HIE Governance and Operations

<p>Phase 1</p>	<p>The state will develop and set HIE policies, requirements, standards and agreements through the existing HITOC and OHA mechanisms. Specific policies could include:</p> <ul style="list-style-type: none"> • Privacy and security requirements for appropriate exchange and use of health information • Appropriate standards for data exchange • Operational requirements for HIE that will allow providers to report on and receive payment for meaningful use • Architecture, business, and sustainability requirements • Public health reporting • Other data and reporting requirements deemed necessary by HITOC and OHA <p>These policies, requirements, and data standards, will be used to hold regional and local HIOs accountable through accreditation for appropriate implementation of HIE. Regional and local HIOs identified in Oregon will maintain their own and separate governance structures but will take on additional responsibility to implement HIE in the state of Oregon for:</p> <ul style="list-style-type: none"> • Striving to achieve statewide HIE coverage • Demonstrating operations and interoperable connectivity to state government and the Nationwide Health Information Network (NHIN) • Other requirements as appropriate to be determined as part of Phase 1
<p>Phase 2</p>	<p>A non-profit state designated entity (SDE) will be designated and will serve as a central contracting point for data use and business associate agreements with regional and local HIOs and data providers. The SDE will implement the policies and requirements developed during Phase 1 and will be responsible for ongoing governance. The new state designated entity would be charged to develop “light” operational capacities for provider and patient authentication/look-up capacities, reporting etc. This entity may enter into a contract with OHA with funds from the HIE Cooperative Agreement to accomplish this implementation. Specific roles of the SDE will include:</p> <ul style="list-style-type: none"> • Convening and coordinating with regional and local HIOs • Implementing statewide standards and policies developed during Phase 1 • Advising and providing support to regional and local HIOs on HIE architecture • Establishing privacy and security requirements, standards, and procedures, operations, sustainability, and other functional needs of HIOs • Assuring statewide HIE coverage through two possible mechanisms: <ul style="list-style-type: none"> ○ Internal HIE operations, and ○ Local/community HIO compliance <p>Regional and local HIOs will be held accountable for appropriate implementation of HIE through certification and accreditation policies of the SDE. These regional and local HIOs will serve as local governance entities responsible for:</p> <ul style="list-style-type: none"> • Convening and coordinating with local HIE stakeholders • Interfacing with and providing connectivity to all data providers in the regions covered • Demonstrated operations and connectivity to the SDE and state government agencies and statewide HIE operations and the Nationwide Health Information Network (NHIN) (architecture to be determined in subsequent planning processes) • Requirements for business and operations, sustainability, local governance, privacy and security individually required of HIOs
<p>Ongoing</p>	<p>If regional and local HIOs are not able to cover geographic gaps in statewide HIE coverage, the SDE may develop “heavier” operations to provide clinical and administrative HIE supports that cover these geographic gaps.</p>

The first phase of governance will use the existing HIE policymaking apparatus of HITOC and OHA. HITOC will continue to review and make recommendations on the breadth of policies encompassing the five domains cited by the ONC to OHA, which has ultimate authority for approval. The implementation of HIE will occur primarily at

the local level, executed by the existing HIOs in Oregon and others should they emerge. Accountability will be set through the public sector policy and rule-making authority of the OHA as well as the contractual requirements set forth by the governance entity, which will be HITOC at the start and in Phase 2 a public/private non-profit state designated entity (SDE). It is critical that all stakeholders have a place at the table in shaping HIE policy in Oregon and therefore the data providers and HIOs are provided an opportunity to provide public input to the HITOC at each monthly meeting and through ongoing workgroups that will be established in Phase 1.

In Phase 2 the SDE will be designated and will serve as a central contracting point for data use and business associate agreements with regional and local HIOs and data providers. The SDE will implement the policies and requirements developed during Phase 1 and will be responsible for ongoing governance. The SDE may enter into a contract with OHA with funds from the HIE Cooperative Agreement. Regional and local HIOs will be held accountable for appropriate implementation of HIE through certification and accreditation policies of the governance entity.

HITOC and HITOC staff will continuously monitor the progress of all HIE efforts in Oregon. One of the critical interdependencies recognized by HITOC is the challenge of developing a sustainable business model for statewide HIE operations. As a result, HITOC is pursuing a phased-in approach to statewide HIE governance and operations with contingency planning to address the evolving relationships and sustainable operational needs of the HIE stakeholders participating. Should the Phase 2 governance model not develop in a manner that incents participation and full statewide HIE capacity (i.e. HIE is not accessible in all regions of Oregon), then the SDE could develop a “heavier” operational capacity to support the full scope of HIE operations within the geographic regions not covered by regional and local HIOs.

ACCOUNTABILITY/TRANSPARENCY

One of HITOC’s core values is working in an open, transparent manner and that will continue as Oregon implements statewide HIE. In Phase 1 HITOC will continue as the governing body, and there will be an assessment of HITOC’s membership to assure adequate representation of all stakeholder sectors. Regular communication and coordination with stakeholders have been a key element of the work around HIE planning, even before the establishment of HITOC, and that will continue. At each governance phase, there is a commitment to representative membership from public and private stakeholders on all governance bodies and committees with regular open meetings. HITOC’s monthly meetings are open to the public and bound by Oregon’s public meeting laws. All public meetings have notices posted with an agenda ahead of time. In addition, an email notification is sent out to more than 900 stakeholders. Any workgroups convened by HITOC, including the Strategic Workgroup that operated during the development of the HIE strategic and operational plans, are also bound by public meeting laws and follow the same procedures as HITOC.

Over the past year, HITOC has convened multiple stakeholder in-person meetings, all of which have been open to the public and posted on the website; also, invitations have been emailed to more than 1,000 stakeholders.

STAKEHOLDER ENDORSEMENT

Throughout the development of the HIE strategic and operational plans there have been regular opportunities for stakeholder input. Multiple stakeholder webinars were held between late February and early June, attended by approximately 140 people. These webinars provided updates on the planning process and solicited input on the recommendations of the Strategic Workgroup through questions, comments and exit surveys. Responses consistently indicated that the recommendations of the workgroup were directionally correct.

In April 2010, HITOC convened representatives from all organizations involved in local HIOs in Oregon. More than 60 people from 40 organizations attended, and provided input to the strategic and operational plans. This group met again via webinar in June to review the strategic plan and, in general, agreed that the recommendations of the Strategic Workgroup were directionally correct.

POTENTIAL RISKS IN PLAN

A number of issues have been identified as “potential risks” to Oregon’s strategic plan for achieving statewide HIE. These issues are partially the result of factors whose outcomes are difficult to predict including pending federal regulations, the role and impact of the National Health Information Network (NHIN), a maturing HIO marketplace, and unresolved financial factors and models around sustainable HIOs in Oregon and nationally. The potential or pending risks will be closely monitored in the phased approach, particularly early on.

Some of these risks could involve:

- Continued evolution of NHIN Exchange’s role and NHIN Direct’s architecture
- Unidentified and unresolved legal statutes that potentially hinder and/or restrict interstate data exchange;
- Continued fragmentation of the health care market, resulting in limited HIE and interoperability among regional providers; and
- Sustainability and longevity of an emerging yet underdeveloped HIO marketplace.

Subsequent project phases will address these issues and develop appropriate solutions to resolve these issues and any others that emerge during Phases 1 and 2. See Appendix E for a complete list of potential risks and mitigation strategies.

DRAFT

FINANCE

Section Overview

- Recent state and federal health reform efforts have created imperatives and some short-term financing sources to accelerate the adoption of EHRs and health information exchange among health care organizations and providers.
- Priorities in designing ways to pay for exchange include maximizing meaningful use for providers, being equitable among stakeholders in costs and benefits, utilizing user fees and ensuring those fees have broad benefit.
- State contracts can be modified to provide incentives for providers and payers to participate in exchange.
- Specific financing sources for HIE could include Office of the National Coordinator for Health Information Technology (ONC) Cooperative Agreement funds, Medicaid 90/10 money, stakeholder contributions and revenue from services.

HIE FINANCING ISSUES

Financing is a major issue in achieving the widespread adoption and use of health information exchange services in Oregon and other states, and difficulties with it have waylaid many previous attempts at organizing HIE around the country.

Traditionally, community and state efforts to develop HIE services have faced financing issues related to both startup financing and paying for sustainable ongoing operations. There is general agreement about the potential economic benefits of HIE, such as:

- Improved coordination, continuity and quality of care,
- Reduced costs from unnecessary/avoidable services due to missing information, and
- Improved efficiencies for physicians, hospitals, health plans and patients.

Nevertheless, translating these benefits into startup and ongoing financing has proved difficult. Indeed, efforts to develop the Metropolitan Portland HIE (MPHIE) in 2007 and 2008 did not move forward in part due to difficulties in developing a balanced and sustainable financing plan. As demonstrated in the original MPHIE planning effort there is often a fundamental misalignment of costs to develop and operate HIE services versus the distribution of the savings and benefits that result from robust HIE services.

Starting in 2009, the federal stimulus law (American Reinvestment and Recovery Act, ARRA), Oregon health reform efforts and federal health reform efforts have been significantly modifying the dynamics related to financing HIE services. Those efforts include:

- ARRA-funded HIE cooperative agreements to states for HIE and health information technology planning and development
- Expected roles for states or state designated entities (SDEs) in developing or facilitating HIE services
- Medicare and Medicaid incentive payments for the meaningful use of certified electronic health records (EHRs) including phased-in expectations regarding HIE capabilities and use

- ARRA-funded Regional Extension Center Cooperative Agreements to encourage and support the adoption of certified EHRs and the demonstration of meaningful use by providers including health information exchange
- Adoption of House Bill 2009 by the 2009 Oregon Legislature to establish the Oregon Health Authority to advance Oregon’s health reform efforts
- Federal health reform under the Patient Protection and Affordable Care Act (PPACA)

These collective efforts create imperatives and some short-term financing sources to accelerate the adoption of EHRs and health information exchange among health care organizations and providers.

The short-term financing through ARRA is particularly helpful. The funding lends itself to addressing financing needs for start-up capital and short-term operations. However, the funding levels are not sufficient to address the full-scope of start-up financing or short-term operations. Additionally, financing sources need to be identified for ongoing sustainability.

FINANCING PLAN GOALS (OR STRATEGY)

Paying for health information exchange has been a topic for conversation among members of Oregon’s Health Information Technology Oversight Council (HITOC) and its Strategic Workgroup from the beginning of the strategic plan’s development. Central to the discussion is the difficulty to developing sustainable financing that is equitable to all parties.

The goals in developing an Oregon HIE financing plan are to:

1. Design financing mechanisms that incentivize and accelerate the adoption of EHR and HIE services that maximize the attainment of meaningful use by Oregon providers and broader health reform goals.
2. Design financing mechanisms that recognize the equitable distribution of costs and benefits among various stakeholders including past and planned investments required to achieve the widespread adoption and use of EHR and HIE services.
3. Design financing mechanisms that are sustainable into the future that recognize the financing of the wide spectrum of services needs including connectivity and services to other states and nationally.
4. Use service fees (e.g., transaction fees, subscriptions, participation fees) to the maximum extent possible that are related to the value propositions for the HIE services.
5. Use broad-based assessments to finance HIE services that broadly benefit the community (i.e. utility services) only to the extent that services fee mechanisms are not feasible or equitable.

Consideration of these goals must also recognize two realities. First, Oregon’s strategy to encourage the development of HIE services through regional and local HIOs means that each local HIO will need to develop sustainable financing sources within each local market. Statewide services can facilitate local efforts and potentially minimize some operational costs for local HIOs. Second, there are a number of efforts competing for the same pool of resources. In addition to local and statewide developments, these efforts include Oregon’s Regional Extension Center (O-HITEC), broadband infrastructure deployment through Oregon Health Network and workforce training and development. As each component seeks both start-up and sustainable resources, they will to some extent be drawing from the same finite pool of available resources. HITOC will have an important role in overseeing the most effective use of resources for achieving Oregon’s health reform goals.

CREATING REVENUE STREAMS FROM VALUE PROPOSITIONS

Health information exchange services are typically a mix of two service types:

**See Appendix F
for full list of
value
propositions by
stakeholder.**

- Service components that offer a strong direct value proposition to one or more segments of participants. These services are able to support revenue streams through transactions fees, service subscriptions and similar mechanisms.
- Service components that offer indirect or broad-based value propositions to the community as a whole. These services often do not directly lend themselves to financing from fees and subscriptions revenue streams. Other financing mechanisms such as grants, stakeholder contributions or assessments, and tax revenues may be needed to meet these financing needs.

ENHANCING DEMAND FOR CARE COORDINATION AND INFORMATION EXCHANGE

The creation of the Oregon Health Authority by HB2009 by the 2009 Legislature was, in part, aimed at improving the alignment and leveraging of the purchasing power of state-financed health care programs in order to achieve Oregon's health reform goals. State-managed or financed health care programs exist in:

- Public Employee Benefit Board (PEBB) contracts and manages health and related benefit plans for state employees and dependents. Approximately 127,000 individuals receive benefits through PEBB plans.
- Oregon Educators Benefit Board (OEBB) contracts and manages health and related benefit plans for most of Oregon school district employees and dependents. About 153,000 people receive health benefits through OEBB plans as of March 2010.
- Oregon Health Plan (OHP) covering Medicaid includes fee-for-service coverage and coverage through managed care organizations (MCOs). About 525,000 individuals were covered by OHP in April 2010.
- Public Employees Retirement System (PERS) Health Insurance Program offers health insurance coverage for PERS retirees, spouses and eligible dependents.
- Oregon Medical Insurance Pool (OMIP) is the high-risk health insurance pool for the state to cover adults and children who are unable to obtain medical insurance because of health conditions. About 14,500 individuals received coverage through OMIP as of December 2009.
- Family Health Insurance Assistance Program (FHIAP) is a state program that helps uninsured Oregonians buy health insurance and provides subsidies to help pay the cost of health insurance premiums. About 6,600 individuals received coverage through FHIAP as of April 2010.
- Oregon Health Insurance Exchange: Under HB2009 the Oregon Health Authority is charged with developing a plan for creating a Health Insurance Exchange approach for presentation to the Oregon Health Policy Board and submission of legislation to the 2011 Legislature.

Each of these programs involves contractual arrangements with health plans and provider organizations that can be used to further participation in health information exchange within local communities, regions and the state. As the Oregon Health Authority addresses state health services procurement, specifications for contracts can be modified to create the expectation that health plans and providers will participate in HIE activities to improve the coordination of care. During the implementation phase, HITOC staff will work with the programs under OHA to identify requirements to be built into the procurement process. The goal for implementation timelines for HIE-related requirements in the procurement process is to align them with the timelines for demonstration of meaningful use by providers.

HITOC staff and OHA will work with business groups, third-party administrators and the Oregon Coalition of Health Care Purchasers (OCHCP) to encourage their members to understand and adopt the health information exchange and continuity of care specifications in health plan purchasing arrangements. OCHCP is a non-profit organization of public and private sector organizations with a mission to improve purchasers' ability to contract for high quality and cost-effective health care for their employees or members.

POTENTIAL HIE FINANCING SOURCES

A number of financing sources are potentially available for financing HIE development in Oregon, including:

- Oregon's ARRA HIE Cooperative Agreement for \$8.58 million over four years. This strategic plan and subsequent plan updates address priorities for the use of those funds to maximize the widespread adoption and use of HIE services in Oregon at both the local HIO and state levels.
- Medicaid funding related to ARRA with 90% federal funds, 10% other funds is providing \$3.53 million for Oregon Medicaid planning related to EHR adoption, Medicaid incentive payment program development and HIE participation. Medicaid funding (90/10) is expected for implementation and operational financing that will include resources to support ongoing HIE participation related to Medicaid beneficiaries.
- Stakeholder financing from health plans (e.g., commercial plans, self-insured plans, Medicaid managed care organizations, Medicaid fee-for service), employers and other purchasers, and providers (e.g., hospitals, health systems, physicians and other practitioners and practices).
- Participation and service revenues related to state-level services and operations are anticipated that may include fees such as HIO and provider certification, transaction fees, subscriber fees, connection and/or connectivity service fees.
- Development of HIE-related services that generate add-on revenues beyond the core services to support health information exchange.
- Other financing mechanisms such as grants, stakeholder contributions or assessments, and tax revenues may be needed.

It is likely that the short- and long-term financing of Oregon HIE services will require the use of all of these potential financing mechanisms. The challenge is in the mix and balance of all these sources.

FINANCING SUSTAINABILITY PLAN UPDATE

The annual update to the Oregon strategic and operational plans due in February 2011 will include an expanded and updated HIE sustainability plan. The sustainability plan will include the results of the Phase 1 developmental activities to:

- Refine the statewide HIE services plan, technical architecture and expected operating costs.
- Identify the financing mechanisms for the planned statewide HIE services including
 - start-up financing from ARRA and other sources
 - initial operations financing that is likely a blend of funding from ARRA and other non-recurring sources as well as initial operational revenues
 - ongoing operations financing that is likely a blend of operating revenues and some level of assessments among stakeholder beneficiaries
- Identify the HIE services and costs that can support value-based pricing via fees for specific services, transactions fees and service subscriptions.
- Identify the broad-based value/utility HIE services and costs that do not lend themselves to the pricing of specific services.
- Identify options and recommendations for financing the utility HIE services including consideration of:
 - cross-subsidies generated from specific service fees, transaction fees and service subscriptions
 - voluntary contributions from various stakeholder groups such as payers, purchasers and providers
 - assessments (non-voluntary) to various stakeholder groups such as payers, purchasers and providers
 - other direct or indirect subsidy mechanisms to support the cost of HIE services
- Assess the willingness of stakeholders to provide contributions and pay for HIE services through the governance entity and local HIOs.
- Specify the planned pricing models for statewide HIE services and the projected revenues to support a sustainable financing plan.

TECHNICAL INFRASTRUCTURE

Section Overview

- The first phase of operations will have the Health Information Technology Oversight Council (HITOC), as the initial governance entity, establish standards and requirements for statewide health information exchange (HIO).
- During the second phase a non-profit public/private entity will be designated to implement and operate centralized services for exchange.
- The ongoing business will involve the identification of new services and ensuring that all centralized services are reaching unserved and underserved areas
- This work will take place in concert with Oregon’s neighbors: Washington, Idaho, Nevada and California.
- It will coordinate with administrative simplification efforts already under way.
- It will address the seven priority services identified by ONC.
- HIE standards and certification will be based on technical standards, criteria and frameworks that are nationally recognized and/or adopted by the U.S. Department of Health and Human Services.
- The Oregon HIE effort will align with the National Health Information Network (NHIN) and NHIN Direct by adopting technology standards and business processes that are interoperable with NHIN Exchange and NHIN Direct processes and frameworks.

An important question in the creation of a health information exchange governance entity is how it would interact with existing data sharing entities in Oregon. The planning effort considered options within a continuum of activity using a “light touch” working model and a highly centralized statewide health information organization (HIO) working model as a comparison for planning and discussion. In the planning process there was consensus on a third or hybrid model that would best fit the needs of Oregon, which has a vibrant and growing local HIO community that should not be stifled, but which could use the support of certain specific statewide services. The proposal features point-to-point connectivity, with the governance entity providing centralized services required for health information exchange (HIE) (participant and provider registries, trust services, etc). The planning process concluded that a centralized service should be provided to the local HIOs to more easily allow for the reporting of public health and quality measures. A phased approach to certification was chosen to allow existing and planned HIOs time to adapt their solutions, as needed, to meet the certification criteria:

- Phase 1 – Selection and adoption of standards and requirements
- Phase 2 – Implementation and operation of centralized services
- Ongoing – Operation of centralized services to cover unserved and underserved areas, if needed

STATEWIDE APPROACH

The governance entity will implement services in a phased approach that matches the phasing of the governance rollout. Initially, the services offered will be in support of aligning the existing and planned local and regional activities within the state of Oregon and in partnership with our border states: Washington, Idaho, Nevada and California. The first phase will be one of standardization and alignment of existing HIE efforts within the state: regional and local HIE efforts and efforts within health information organizations. Additionally, the first phase will include the definition and requirements phases of technology and support services to be developed and

operated by the governance entity and in service of the regional and local efforts. The second phase will be the implementation phase of the technology and support services and continued operation of the certification program. Additional work in this phase will include the examination of additional services to be offered by the governance entity in order to achieve financial stability and/or fill gaps in geographic participation or technological service offerings. Ongoing operation will involve the implementation of additional services and support as defined in Phase 2.

High-priority HIE services

High-priority HIE services were identified by the Strategic Workgroup through a process of presentation and feedback. These high-priority services are grouped by phases.

In Phase 1, these services will be defined as follows: Definition of standards and processes to ensure communication and format of health care information will be consistent across and between HIOs in the state. The governance entity will choose nationally recognized standards and processes. Once these standards and processes have been determined, the governance entity will develop a certification program by which all HIOs in the state of Oregon will be certified. The local HIOs will have a defined period of time in which to achieve this certification once the parameters of the program have been defined and the certification program has been launched.

During the initial planning process, the Strategic Workgroup identified high-priority HIE services as those that would facilitate and support health information exchange activities within the state of Oregon. These services were reviewed and approved by HITOC. During the next phase of this program, HITOC, or a special workgroup appointed by HITOC, will define the requirements for these high-priority technology services to be implemented and operated by the governance entity.

Medium-priority HIE services

While Phase 1 activities will define in detail technical services and their implementation priorities, a set of services have been identified for potential implementation alongside or subsequent to the high-priority HIE services. These services focus on additional facilitation of HIE within the state but are not required to enable HIE. These are listed on page X.

ELECTRONIC ELIGIBILITY AND CLAIMS

Almost all of Oregon's hospitals have patient accounting and billing systems that generate electronic claims from their internal systems or contract with a billing services provider or clearinghouse. The 2009 Ambulatory EHR survey indicated that 80% of clinicians covered by the survey were in practices with an electronic practice management (EPM) system. Nearly all EPM systems have electronic claims submission capabilities. An unknown number of practices contract with a commercial billing service or clearinghouse that generates electronic claims.

Administrative simplification efforts in Oregon

Two major efforts are underway regarding the administrative simplification of health care administrative transactions. Both initiatives are aimed at increasing adoption and use of electronic eligibility and claims transactions, standardization of forms and processes, simplification efforts and best practice standardization—all directed toward improving efficiencies for providers and health plans.

In May 2008, the Oregon Association of Hospitals and Health Systems, the Oregon Medical Association and Regence Blue Cross/Blue Shield of Oregon convened an administrative simplification summit of hospitals, physician practices and health plans to determine the level of interest by providers and health plans in working collaboratively to address administrative simplification efforts. Following a series of meetings, administrative simplification was formalized as one of four key areas of focus for the Health Leadership Task Force (www.HealthLeadershipTaskForce.com). The HLTF was commissioned in summer 2008 at the request of the

business community (Oregon Business Council, Associated Oregon Industries, Oregon Business Association and the Oregon Coalition of Health Care Purchasers, to develop ways to keep increases in health care costs and premiums closer to the Consumer Price Index. Since fall 2008, three administrative simplification subgroups (claims, eligibility and credentialing) have been working to identify improvements that will result in more efficient use of health care administrative resources. The current status of these efforts is:

- Increased use of websites for eligibility and claims information: Eight Oregon insurers are moving forward with offering a single sign-on capacity to providers by late 2010/early 2011. This single point of entry will allow physicians and hospitals to log in once and access these multiple health plans they do business with. This approach is consistent with the single sign-on portal (OneHealthPort) service in Washington State that several of the health plans are already participating in.
- Enhanced health plan website functionality: The claims/eligibility subgroup has recommended additional capabilities be added or modified to allow greater use and increased efficiencies based on best practice statements developed for each of 75 elements. Health plans are reviewing the recommendations for implementation.
- Common credentialing: The credentialing subgroup has recommended a single source responsible for maintaining documents and obtaining primary source verification that would be used by all credentialing entities for each type of licensed provider. A small group is evaluating implementation options.
- Participation in OHPR Administrative Simplification Work Group: Representatives of the HLTF Administrative Simplification committee are participating in the OHPR Administrative Simplification Work Group that was created under House Bill 2009 of the 2009 Legislature.

HB2009 included provisions that

- Authorize the Oregon Department of Consumer and Business Services (DCBS) to establish administrative rules applicable to health insurers licensed by DCBS that incorporate standards developed by the Office for Oregon Health Policy and Research (OHPR). This rulemaking authority will establish uniform standards for insurers around standards for eligibility verification, claims processing, and payment and remittance advice transactions.
- Require OHPR to convene a stakeholder workgroup to develop uniform standards for health insurers licensed in the state, including but not limited to eligibility verification, health care claims processes, payment and remittance advice.

The OHPR Administrative Simplification Work Group

(<http://www.ohpr.state.or.us/OHPPR/HEALTHREFORM/AdminSimplification/AdministativeSimplificationWorkgroup.shtml>) was convened in early 2010 and developed a strategy for the standardization of electronic transactions by administrative rule and consistent with emerging national standards.

The work group collected data from a number of health plans and provider organizations and developed current usage estimates of various administrative transactions.

Table 11.

Transaction Types	Hospitals	Physician Practices	Payers
Eligibility Verification			
- Estimated % electronic	40%	10%	71% combined
- Estimated % web	40%	60%	
- Estimated % phone	20%	30%	29%
Claims Submission			

Transaction Types	Hospitals	Physician Practices	Payers
- Estimated electronic	90%	77%	80%
Claims Status Inquiry and Response			
- Estimated electronic	0%	0%	37% combined
- Estimated % web	50%	33%	
- Estimated % phone	50%	67%	63%
Remittance Advice			
- Estimated electronic	80%	20%	15%

The workgroup goal and strategy recommendations adopted on May 11 and June 1, 2010 are to:

Goal: Reduce system costs and provider resources devoted to administrative transactions between payers and providers of care.

Strategy:

- Standardize electronic transactions by administrative rule, using multi-stakeholder developed products that are being used elsewhere already and are likely to be consistent with an emerging national standard. *(Rationale: There is significant risk in waiting for federal operating rules because they are phased in over a very long time period and it is unclear the federal operating rules will achieve the simplification necessary to reduce cost.)*
- Phase in requirements for both providers and payers to do business electronically. *(Rationale: Experience in the Medicare program suggests this can be done by providers when tools are provided and change required.)*
- Time the transition to fully electronic transactions to
 - Realize savings for providers, payers and purchasers in the short term.
 - Coordinate with provider, payer, and clearinghouse work to retool systems to comply with the HIPAA 5010 transaction standards that become effective January 1, 2012.
 - Coincide with the timing of Medicare requirements to go all-electronic.
 - Ensure that by complying with Oregon requirements, providers will increase opportunities for Medicare and Medicaid incentives for achieving meaningful use of health information technology.
- Encourage and support private sector collaborative innovation in other areas of administrative simplification.
- Provide for an ongoing public sector role to ensure that efforts to reduce administrative costs continue and are effective.

Recommendations:

1. Oregon should adopt the Minnesota approach to standardization and automation.
2. Oregon requirements for standardization and automation should be phased in.
3. Oregon should lead and not wait for the federal government to standardize HIPAA transactions.
4. Technical assistance to providers will be important to help providers take full advantage of administrative simplification opportunities.
5. Ongoing public-private partnerships should continue to identify success, challenges and opportunity for future administrative simplification

Key Implementation Elements

1. Standardization and automation of insurance transactions.
 - The Department of Consumer & Business Services (DCBS) should adopt by administrative rule uniform companion guides for eligibility verification and claims submission in 2011 and payment

remittance advice in 2012 and require insurers to use them for their electronic transactions beginning in 2012.

- DCBS’s rule should require insurers to process eligibility inquiry (270/271) , claims (837), and payment remittance advice (835) transactions electronically on a phased-in basis—setting the dates for each transaction to “go all-electronic” about a year after a uniform companion guide is adopted in Oregon. Funds transfer and claims status inquiry (276/277) transactions should go all-electronic in January 2014, after uniform rules have been adopted by US HHS.
2. Application of the standardization and automation requirements to all payers.
 - The Oregon Legislature should enact legislation in 2011 giving DCBS authority to establish uniform standards for health care administrative transactions to all payers—including third party administrators, and self-insured plans and to collect data from them to monitor progress and identify future opportunities.
 - DCBS should extend the rules adopted in Phase 1 to all payers.
 - The Oregon Health Authority as a payer should align with the rules established for insurers in Phase 1 by DCBS and implement these standards in its contracts with Medicaid managed care organizations, Medicaid providers, and others as applicable.
 3. Ongoing public/private collaboration on administrative simplification efforts.
 - The industry should bring forward its recommendation to develop a single sign-on to health plan web portals and a single source for information used in physician credentialing. In addition, the industry should identify and develop additional opportunities for standardization.
 - The Insurance Commissioner and the director of the Oregon Health Authority should take joint responsibility for continued progress toward greater administrative simplification. They should carry out these responsibilities in collaboration with providers and payers, collecting data to evaluate progress; establishing priorities, goals, benchmarks, and timelines; and using rulemaking authority as necessary.

Table 12. Proposed Oregon timeline for standardizing HIPAA electronic transactions and going all-electronic

	Eligibility Inquiry and Response (270/271)	Claims (837)	Remittance Advice (835)	Electronic Funds Transfer
Period for industry review of Minnesota companion guides ends	1/1/2011 (end of Q4 2010)	7/1/2011 (end of Q2 2011)	1/1/2012 (end of Q4, 2011)	Not applicable
DCBS rule-making to adopt uniform companion guide completed	4/1/2011 (end of Q1 2011)	10/1/2011 (end of Q3 2011)	7/1/2012 (end of Q2 2012)	Not applicable
Date that uniform guide standards must be followed for electronic transaction	1/1/2012 (end of Q4 2011)	10/1/2012 (end of Q3 2012)	7/1/2013 (end of Q2 2013)	Not applicable
Date when all transactions must be processed electronically	7/1/2012 (end of Q2 2012)	1/1/2013 (end of Q4 2012)	10/1/2013 (end of Q3 2013)	1/1/2014 (end of Q4 2013)

Related State Laws

HB2009, 2009 Legislative Session:

Section 1192 and 1194 regarding Uniform Standards for Health Insurers

SECTION 1192. The Director of the Department of Consumer and Business Services may establish by rule uniform standards applicable to health insurers licensed by the Department of Consumer and Business Services that incorporate the standards developed by the Office for Oregon Health Policy and Research pursuant to section 1193 of this 2009 Act.

SECTION 1193. (1) The Office for Oregon Health Policy and Research shall convene a stakeholder workgroup to develop uniform standards for health insurers licensed in this state, including but not limited to standards for:

(a) Eligibility verification.

(b) Health care claims processes.

(c) Payment and remittance advice.

(2) The Office for Oregon Health Policy and Research shall report on progress toward the development of uniform standards under subsection (1) of this section to the appropriate interim committee of the Legislative Assembly no later than October 1, 2009.

ELECTRONIC PRESCRIBING AND REFILL REQUESTS

Approach

Electronic prescribing (eRx) in Oregon is widely handled through providers' EHRs and standalone modules. Oregon's high level of EHR adoption and the increased use of eRx in the last two years support continued reliance on the direct interactions between prescribers and pharmacies. Meaningful use criteria for eligible professionals establish the expectation that certified EHR systems have the capability for electronic prescribing. Provision of eRx application services and infrastructure through local HIOs or the governance entity is not currently considered a priority that would accelerate eRx adoption and use. However, the HIOs will need to interoperate with electronic prescribing and fulfillment related to compilation of medication histories. Progress in eRx adoption will be closely monitored as part of Oregon's HIT and HIE overall efforts including the potential that HIO services may provide services to further eRx adoption and use. HITOC and, later, the state designated entity (SDE) will support and facilitate adherence to transaction and data standards for electronic prescribing.

Background

In a statewide environmental assessment of HIT capabilities, the overall adoption rates of eRx in Oregon were outlined¹⁵. The Surescripts State Progress Report on Electronic Prescribing¹⁶ report as of December 31, 2008, shows that Oregon ranks favorably against national statistics. Anecdotal information from providers and pharmacies notes that substantial numbers of physicians and providers have initiated electronic prescribing in 2009.

¹⁵ Oregon Health Information Technology Environmental Assessment, Feb. 2010. Accessed at http://www.oregon.gov/OHPPR/HITOC/docs/Oregon_HIT_EnvironmentAssessment20100209.pdf.

¹⁶ The Surescripts reports are available at <http://www.surescripts.net/e-prescribing-statistics.html>.

Table 13. Surescripts State Progress Report on Electronic Prescribing

	Oregon 2006	Oregon 2007	Oregon 2008¹⁷	Oregon 2009¹⁸	U.S. 2009¹⁹
Physicians routing e-prescriptions at year end	1.04%	5.71% (381)	15.43% (1,030) Rank =11	36.93% (2,464)	About 25% of all office-based prescribers
Community pharmacies activated for e-prescribing	65.41%	70.88% (426)	76.86% (475) Rank =27	87.85% (528)	About 85%
Prescriptions routed electronically	0.10% Rank =38	1.65% Rank =18	4.39% Rank =15	16.22%	Almost tripled over 2008
Patient visits with a prescription benefits request	2.00%	1.96%	7.86%	34.09%	More than tripled over 2008
Patient visits with a prescription benefit response	0.29%	0.87%	4.37% Rank =19		
Patients with available prescription information available from payers	0.00%	48.45%	55.83% Rank =36	58.56%	
Prescription history information delivered to prescribers	State-level data not available	State-level data not available	State-level data not available	1.88%	Increased 5-fold over 2008 to 81 million

The 2009 Oregon Ambulatory EHR Survey highlights

- 65.5% of clinicians covered by the survey work in practices with an EHR system.
- 76% of surveyed ambulatory practices and clinics with EHRs (87% of clinicians) are able to generate printed prescriptions from their EHR systems.
- 57% of surveyed ambulatory practices and clinics with EHRs (74% of clinicians) are able to electronically transmit an electronic prescription to a pharmacy.
- 64% of surveyed ambulatory practices and clinics with EHRs (83% of clinicians) have an electronic interface to pharmacies.

State Law Status

"Oregon Pharmacy law permits electronically transmitted prescriptions for non-controlled substances by practitioners licensed within the state. OR. Rev. Stat. Ann. § 689.005(31) (2007); OR. Admin. R. 855-006-0015(1) (2009); OR. Admin. R. 855-019-0210(6) (2009). Electronically transmitted prescriptions for controlled substances are not allowed, unless they are permitted by federal regulations. OR Pharmacy law generally adopts federal regulations with respect to requirements for controlled substance prescriptions. In addition, OR uses the federal schedules of controlled substances. OR. Admin. R. 855-080-0085 (2009); OR. Admin. R. 855-080-0020 (2009). Prescriptions received electronically may be retained electronically. OR. Rev. Stat. Ann. § 689.508 (2007); see also OR. Admin. R. 855-041-0060(1)(a)

¹⁷ Oregon data for 2006-2008 from Surescripts State Progress Report on Electronic Prescribing, available at <http://www.surescripts.com/e-prescribing-statistics-charts.aspx?name=OR2009>, accessed March 26, 2010.

¹⁸ Preliminary Surescripts data for 2009.

¹⁹ Surescripts press release, March 2, 2010 available at http://www.surescripts.com/container_pdf.aspx?name=downloads/Surescripts_Releases_2009_National_Progress_Report.pdf

(2009)”

HB2009

SECTION 297. ORS 414.327 is amended to read:

414.327. [(1) *The Department of Human Services shall seek a waiver from the federal Centers for Medicare and Medicaid Services to allow the department to communicate prescription drug orders by electronic means from a practitioner authorized to prescribe drugs directly to the dispensing pharmacist.*]

[(2)] The [Department of Human Services] **Oregon Health Authority** shall adopt rules permitting [the department] **a practitioner** to communicate prescription drug orders by electronic means [from a practitioner authorized to prescribe drugs] directly to the dispensing pharmacist.

PRESCRIPTION FILL STATUS AND/OR MEDICATION FILL HISTORY

Approach

Prescription fill status is primarily an interaction between the provider’s EHR and the pharmacy. Most pharmacies currently do not provide fill status back to prescribing providers. The most reasonable approach to keep prescribers informed about the fill status of prescriptions would seem to be some type of electronic notification confirming that prescriptions were filled and picked up by the patient and/or notification that prescriptions were not picked up after some period of time. The role for HIOs in this feedback loop from pharmacies to prescribers is unclear. Progress in developing a mechanism to provide fill status feedback will be monitored as part of Oregon’s HIT and HIE overall efforts to include the potential that HIO services may provide services to fill status. HITOC and the SDE will support and facilitate adherence to transaction and data standards for electronic prescribing and fill status notifications.

MEDICATION FILL HISTORY

Approach

Medication history information is primary information used by clinicians in the assessment and treatment of patients. The reconciliation of current medications is an integral part of most clinical service encounters. The first source for medication history information is the patient medical record and information supplied by the patient. Information may also be available in the medical records of other health care providers and in databases of pharmacy benefit managers, health plans and others. Retrieval of medication history information from multiple providers and data sources is a health information exchange service that will need to be developed to assure that complete medication history information can be available to clinicians.

Compilation of medication fill histories from multiple sources of data is a service that would include access information through local HIOs and a governance entity. In Phase I, further planning will consider strategies for retrieving medication history data from multiple EHRs, the Oregon-controlled substance database, all-payer, all-claims data base and the Medicaid Management Information System.

Background

The 2009 Oregon Ambulatory EHR Survey highlights

- 65.5% of clinicians covered by the survey work in practices with an EHR system.
- 93% of surveyed ambulatory practices and clinics with EHRs (95% of clinicians) included functionality in the EHR systems to review and update medication lists.

Oregon Capabilities

The 2009 Legislature enacted Senate Bill 355 that establishes a Prescription Drug Monitoring Program (PDMP) to address prevention of prescription drug diversion by providing a tracking system that tracks dispensing of

Schedule II-IV prescription drugs. PDMP implementation planning has important implications for HIE planning related to medication history data.

ELECTRONIC CLINICAL LABORATORY ORDERING AND RESULTS DELIVERY

Approach

The workflow and transactions involved in laboratory ordering and results delivery are primarily handled through direct relationships between providers and commercial or hospital laboratories as well as the Oregon State Public Health Laboratory. These transactions are increasingly brokered electronically by the provider EHR and its lab interface. Oregon's high level of EHR adoption and willingness of commercial and hospital laboratories to electronically process orders and reports support continued reliance on these health information exchange functionalities. Provision of laboratory ordering and reporting services and infrastructure through a local HIO or a governance entity are not currently considered a priority that would accelerate the electronic laboratory transaction adoption and use in most communities. Progress in clinical laboratory electronic transactions adoption will be closely monitored as part of Oregon's HIT and HIE overall efforts. During Phase 1, HIO roles in provision of electronic laboratory ordering and reporting for small hospitals and rural providers will be evaluated. Phase 1 will also consider coordination strategies involving the local HIOs, Oregon Electronic Laboratory Reporting (ELR) of the Oregon Public Health Division and the Oregon State Public Health Laboratory. HITOC and the SDE will support and facilitate adherence to transaction and data standards for lab ordering and reporting.

Background

The majority of Oregon's ambulatory providers can send and receive clinical laboratory results electronically. The following is a summary of provider groups able to send and/or receive electronic laboratory order and reports as of early 2009. As EHR adoption continues to rise, the number of electronic laboratory orders and reports will continue to go up.

The 2009 Oregon Ambulatory EHR Survey highlights

- 65.5% of clinicians covered by the survey work in practices with an EHR system.
- 75% of surveyed ambulatory practices and clinics with EHRs (87% of clinicians) are able to enter and review lab orders.
- 48% of surveyed ambulatory practices and clinics with EHRs (69% of clinicians) are able to electronically place lab orders.
- 72% of surveyed ambulatory practices and clinics with EHRs (91% of clinicians) have an electronic EHR – laboratory interface.

The Oregon State Public Health Laboratory (OSPHL) provides laboratory testing services related to communicable diseases and newborn metabolic screening. In addition to supporting local health departments and agencies, OSPHL provides testing services to several other states including:

- Newborn metabolic screening: Alaska, Hawaii, Idaho, New Mexico and Nevada.
- Communicable disease testing: Hawaii, Montana, Washington plus a mutual assistance agreement with Alaska.

The OSPHL existing Laboratory Information and Tracking System (LITS) supports basic electronic ordering and reporting but lacks critical features required to support high volume laboratory operations and Centers for Disease Control and Prevention (CDC) requirements. OSPHL has issued a request for proposal for a replacement Laboratory Information Management System (LIMS) capable of expansion and integration with the Electronic Laboratory Reporting program, CDC and community partners using HL7 interfaces furthering broad-based user access and providing additional functionality to meet OSPHL needs. The replacement LIMS system should be operational in early 2011.

Oregon Capabilities

Currently, the capabilities for the state of Oregon include:

- Commercial and most hospital laboratories providing services to ambulatory practices are able to receive electronic laboratory orders and provide electronic reports based on industry standards. Labs have implemented standard interfaces to/from most EHR vendor systems used by practices referring specimens. Commercial labs provide secure website access for submission of orders and retrieval of lab results that can be used by practices with and without EHRs.
- Of the 47 hospitals in Oregon with EHRs, 43 hospitals have electronic laboratory results included in their EHR system and/or either fully or partially implemented CPOE for laboratory services.
- Laboratories express high interest in electronic information exchange to/from physician EHRs. The major issue is protracted EHR adoption in physician practices.
- Medical practices owned or operated by multi-hospital health systems in Oregon have electronic ordering and results report through health system EHRs. Many affiliated practices have comparable access. The major health system laboratories provide secure website access for submission of orders and retrieval of lab results comparable to commercial laboratories. Several hospital labs have implemented standard electronic interfaces to/from a number of EHR systems.
- The Oregon Electronic Laboratory Reporting (ELR) project is a long-term effort of the Oregon Public Health Division to convert major labs, county health departments, and the state health department to electronic data interchange. In this system, the ELR functions as an electronic hub to accept, translate, process, and route electronic HL7 messages containing lab and clinical data²⁰. The ELR system currently receives data daily from 12 clinical labs in addition to the Oregon State Public Health Laboratory (OSPHL).

ELECTRONIC PUBLIC HEALTH REPORTING – REPORTABLE CONDITIONS

Approach

All Oregon physicians, other health care providers and laboratories are required by Oregon law (statutes and administrative rules) to report certain diseases and conditions to local health departments that in turn provide reports to the State Public Health Division. Information on reportable conditions from laboratories is increasingly being submitted electronically to the Oregon Public Health Division's Electronic Laboratory Report (ELR) system and into Oregon Public Health Epi-User Systems (ORPHEUS). As of September 2009, the Oregon State Public Health Laboratory and 13 commercial and hospital laboratories departments electronically submit information on reportable conditions to the ELR system. The goal is to electronically interface all Oregon laboratories to the ELR within the next several years. In essence the ELR system already has statewide HIE functionality serving laboratories and county health departments that could be extended to physician practices, clinics and other providers.

Submission of information on reportable conditions by physician practices, clinics, hospitals and other providers utilizes a paper-based Confidential Oregon Morbidity Report that is submitted by mail or fax to local health departments. Oregon's high level of EHR adoption and the meaningful use criteria to electronically submit public health reports creates the opportunity to develop an electronic transaction process between providers and local health departments and/or the Public Health Division. The goal is to encourage providers to submit reports directly from certified EHR systems from physician practices, clinics, other eligible professionals and hospitals. Simplification of the workflow and submission process for providers is expected to increase the completeness and timely submission of reports. The Public Health Division is developing plans for submission of provider reports as electronic transaction into ORPHEUS.

Submission of communicable disease reports through local HIOs may be a useful service to community providers depending on how the local HIOs evolve. Progress in public health electronic transactions adoption will be

²⁰ DHS HIT Scan September 2009 Final Draft.

closely monitored as part of Oregon’s HIT and HIE overall efforts. During Phase 1, HIO roles in supporting electronic reportable condition transactions will be evaluated. During Phase 1 strategies will be considered to maximize the use of the ELR system for laboratories. HITOC and the SDE will support and facilitate adherence to transaction and data standards for public health reporting.

Background

ORHPEUS is a joint database development and integration effort co-sponsored by the Acute and Communicable Disease Prevention (ACDP) and HIV, Sexually Transmitted Disease and Tuberculosis (HST) programs within the Office of Disease Prevention and Epidemiology (ODPE) in the Oregon Public Health Division. ORPHEUS is an integrated electronic surveillance system intended for local and state public health epidemiologists and disease investigators to efficiently manage communicable disease reports. ORPHEUS receives communicable disease data from laboratories through the Electronic Laboratory Reporting (ELR) system and from local health departments. It provides communicable disease reporting to the CDC via Public Health Information Network (PHIN) Messaging System.

The Electronic Laboratory Reporting (ELR) project is a long term effort of ODPE/ACDP to convert reporting from major labs, county health departments and OSPHL to secure electronic data interchange. The ELR functions as a secure electronic hub to accept and process HL7 messages containing laboratory and clinical data, and route the transformed data to state program area systems, including ORPHEUS, and to local health departments. The ELR system currently receives laboratory results of interest from the OSPHL LITS and commercial and hospital laboratories. Implementation of the OSPHL LIMS in early 2011 will further enhance the HIE functionality of OSPHL interfaces to the ELR, ORPHEUS and other systems.

Oregon Capabilities

The ELR system receives laboratory results (as of late 2009) from the following:

- OSPHL
- 13 in production status
- 4 laboratories in testing or review

The ELR system supports a number of electronic data interchange projects including multiple disease registries and the Communicable Disease (CD) Database System, a distributed database system used by 22 of the largest population counties. The local health departments transmit data extracts that the ELR system automatically collects and processes.

State Law Status

Oregon Revised Statutes chapters 431 and 433 include provisions regarding the reporting of communicable diseases.

Oregon Administrative Rules Chapter 333 provides for the Investigation and Control of Diseases including:

- Division 17 – Disease control definitions and investigation
- Division 18 – Disease reporting
- Division 19 – Investigation and control of diseases

Also see: Oregon Disease Reporting at <http://www.oregon.gov/DHS/ph/acd/reporting/disrpt.shtml>

ELECTRONIC PUBLIC HEALTH REPORTING – IMMUNIZATIONS

Approach

Oregon Immunization ALERT, a statewide immunization information system developed to achieve complete and timely immunization of all Oregonians, was implemented in 1996. County health departments submit immunization information electronically through the Immunization Registry Information System (IRIS). An

upgraded ALERT Immunization Information System (ALERT IIS) will be available in mid-2010 that combines ALERT and IRIS into an integrated system with web-based online data entry, additional electronic data transaction capabilities, expanded data management and reporting capabilities to support a lifelong immunization record. Using Medicaid Transformation Grant (MTG) funds, additional bi-directional interfaces within ALERT IIS are being implemented to facilitate the increased use of electronic transactions in the system. The Medicaid Transformation Grant project is also being used to support the development, deployment and operations of interfaces in several provider EHR systems serving Oregon Medicaid recipients, specifically foster children.

ALERT IIS functions are being developed to support bi-directional electronic transactions with many provider EHR systems, especially larger provider organizations and health systems. The potential roles of local HIOs in supporting transactions and queries between providers and ALERT IIS are yet to be considered. Such services through local HIOs may be useful to community providers depending on how the local HIOs evolve. Progress in electronic transaction adoption will be closely monitored as part of Oregon's HIT and HIE efforts. During Phase 1, HIO roles in supporting electronic immunization data submission and retrieval will be evaluated. HITOC and the SDE will support and facilitate adherence to transaction and data standards for immunization reporting.

Background

Oregon Immunization ALERT is a statewide population-based immunization registry system developed to achieve complete and timely immunization data of all Oregonians. ALERT originally focused on ages 0 – 18 years but has been expanded up to age 23. While ALERT is accepting data for all ages, full functionality for all ages is dependent on future funding. ALERT receives data from both private and public health care sectors. Private providers submit immunization information to ALERT through the electronic transfer of records or submitting hard copy/bar code data. County health departments submit immunization information electronically through the Immunization Registry Information System. ALERT continually merges all of the data to create a complete immunization record.

An upgraded ALERT Immunization Information System will be available in mid-2010. The upgraded system:

- Merges the IRIS tracking records at local health departments with the original ALERT system implemented in 1996 into the new ALERT IIS,
- Provides web-based online data entry to replaces paper submission of data, and
- Enables users to enter historical immunization for patients of any age, update demographic and vaccination information, order state-supplied vaccine, track and balance inventory, run reports and generate reminder or recall letters.

ALERT is available to many types of providers as “authorized users”. Under the enabling legislation for ALERT (ORS 433.080) “provider” means a health care provider licensed to provide health care services in Oregon, managed health care system, health maintenance organization, health service contractor, insurance carrier and the Division of Medical Assistance Programs (DMAP).

Oregon Capabilities

As of September 2009, ALERT was receiving data from approximately 550 primary and secondary sources across Oregon. Approximately 80% of immunization data is submitted electronically from EHR or claims systems. ALERT also exchanges data with several large health systems. ALERT's secure website averages more than 25,000 successful searches per month from over 6,400 users. The vast majority of queries occur online, although phone and fax services are used by many providers, schools and child care centers.

State Law Status

- [Oregon Revised Statutes 433.235 through 433.284](#)
 - [College Immunization Law 433.282 through 433.284](#)
 - [College Immunization Law Brochure](#)

- [Administrative Rules 333-050-0010 through 333-050-0140](#)
- [References for Administrative Rules 333-050-0010 through 333-050-0140](#)
- [OAR 333-050-0120](#) (Primary Review Table) (pdf)

Also see: Oregon Disease Reporting at <http://www.oregon.gov/DHS/ph/acd/reporting/disrpt.shtml>

QUALITY IMPROVEMENT (QI) MEASUREMENT & REPORTING

Most of the quality improvement that is expected to result from the implementation of EHRs and HIE will occur within the individual organizations that deliver health care to patients, through improved access to information. To measure and ensure this quality improvement, which is a central aim of both the federal government's and our own state's health reform goals, Oregon will continue to build upon our existing state-of-the-art quality measurement and reporting initiatives. This section addresses Oregon's experience with cross-stakeholder quality reporting, and a proposed next step to enhance this work using the new ARRA resources to report quality metrics from physician office EHRs.

Oregon has extensive experience managing and coordinating multi-stakeholder quality reporting activity (see Appendix G), including addressing issues related to patient privacy and competition between business entities. This takes place within state government, such as the Oregon Health Policy and Research Office's hospital quality metrics and the Oregon Patient Safety Commission's medical errors reporting. It also occurs across deliverers of a single setting of care, such as the Oregon Association of Hospitals and Health Systems quality metrics website and the Portland Independent Provider Association's (IPA) quality reporting system. There is also coordination across diverse settings using a single source of information such as Medicare data aggregated by Acumentra and commercial insurers' claims aggregated by The Oregon Health Care Quality Corporation (Q-Corp).

Experience has shown us that public, multi-stakeholder quality reporting requires work in two areas. First is the highly political process of determining who and what should be measured and reported. Numerous decisions must be made such as measure definitions, minimum denominator sizes, statistical reliability and setting of benchmarks. These decisions must balance the public and purchasers' right to know with the health care providers' right to fairness. The second area of work is the technical effort needed to get information out of diverse data sets in a standardized way and delivered with appropriate protections of privacy and security to an entity that can aggregate and report the data.

Oregon is already aggressively pursuing improvements in quality reporting. An Oregon Quality Improvement Pilot Project, coordinated through Q-Corp, will assure that we make progress toward three compelling imperatives encompassed by Oregon's quality reporting initiatives: 1) Improving health care services that lead to healthy populations; 2) Reducing waste and improving the efficiency and value of care delivered to patients; 3) Translating quality information to patients in order to engage them in managing their own health and health care. The main thrusts for health care reporting in Oregon are public accountability and clinical quality improvement. Measurement and reporting activities come together to support the Oregon Health Authority's "triple aim" of lifelong health, quality of care, and lowering costs.

Whereas insurance claims and billing information have been available for the creation of metrics, these necessarily reflect the *processes* of health care as opposed to measuring the *outcomes* of care delivered to patient populations. The administrative information obtained for quality measurement is also not as current as desired.

Oregon intends to leverage and augment an existing quality measurement initiative (described below) based on claims data, with a planned effort to include clinical quality measures drawn from provider EHR systems. One significant barrier is that physicians do not have time to attend to a variety of new initiatives; technical infrastructure is needed to facilitate data transfer from prospective participants to the quality initiatives.

It is also desirable that physician quality measures be delivered by one standard and/or source. During Phase 1, a clinical quality measurement pilot (described below) will be funded through the ONC Cooperative Agreement, with an independent evaluation process. Subsequent planning efforts will then determine the best approach for large-scale implementation of clinical quality measures and reporting from EHR, local HIOs, and/or the governance entity.

Oregon's existing QI measurement pilot project

The Oregon Health Care Quality Corporation (Q-Corp), a non-profit organization and a federally-designated Chartered Value Exchange, is a significant contributor to the state's quality reporting capacity and efforts. In February 2010, the Q-Corp launched a new online resource that allows Oregonians to compare the quality of primary care provided in about 300 doctors' offices across the state. This resource is a component of the Partner for Quality Care initiative that has been the primary focus of Q-Corp for several years under the Aligning Forces for Quality Care collaborative of the Robert Wood Johnson Foundation.

The publicly available data consist of national and local comparisons on nine standards of primary care. The information is drawn from administrative claims data of eight health plans, including Oregon's largest Medicaid managed care plan. The selection of measures has been based on national standards of the National Quality Forum (NQF), and these were further adapted to Oregon's environment and vetted by stakeholders to ensure more complete and open collaboration. Currently 16 metrics are available from claims information (Appendix G). These overlap with seven of the 29 (24%) meaningful use measures. There are 10 plans participating in the second data set. Patients and purchasers can use the site to determine if their doctors' offices perform better than average, average, or below average, in comparison with other practices in the state. Doctors can use the site to help assess what is working in their own practices, as well as how they compare to their peers. To our knowledge, Oregon is the only state with a web-based interactive process with medical providers to effect quality improvements based on quality measures.

While this has been a great first step for Oregon, administrative claims data have limitations. For example, while it is useful to measure that a clinic performed a test to assess blood sugar control (based on claims data), it is equally if not more useful to know if the blood sugar is actually controlled (based on clinical data). The Oregon Coalition of Health Care Purchasers (OCHCP) is interested in working with Q-Corp to expand the project to include clinical outcomes data. This requires submission of data by medical groups from their electronic medical records systems, registries, lab systems, or other sources.

The Q-Corp, in collaboration with OCHCP and the state of Oregon, intends to conduct a pilot project to transition from purely administrative and process measures data to outcomes using clinical information from physician EHRs. The pilot will begin with 12 medical groups that have indicated a willingness to participate. An additional 18 measures are planned from clinical EHR data (41% overlap with MU measures). In total, 14 of 29 (48%) MU measures are planned either from administrative or clinical data. Oregon intends to incorporate clinical data into the pilot project in 2011 via summary statistics from practice clinical data, which will be widely available in 2012 for broader QI efforts. The Q-Corp data warehouse is intended to act as a web-accessible resource, which is capable of being incorporated into a statewide HIE, or alternatively, maintaining separate bidirectional communications with it.

Table 14. Phasing of Pilot Project

Phase	Capabilities & Milestones	Time Frame
Current	Quality measures from administrative claims data, eight health plans, business associate agreements (BAAs) executed, workgroups & governance established, data warehouse built & populated, public reporting on partnersforqualitycare.org , provider reporting and feedback on secure portal.	Current
1	Contracts with 12 medical groups (providers) to submit clinical data from EHR, establish clinical measures workgroup, develop BAAs with providers, final selection of measures, secure a vendor, submission of summary statistics by providers, based on clinical information from EHR.	2011 pilot, 2012 widely available
2	Providers access portal to view comparison information, pilot enhanced administrative data (claims + labs).	2012
3	Develop and pilot data transport infrastructure and tools for EHR, integrate measures with existing portal, create data validation methods, pilot initial quality measures based on detailed patient level clinical and administrative data from across the providers and plans.	2012 pilot, 2013 widely available
4	Audit implementation, analysis and summary of audit findings, provider feedback, comparative analysis of results based on claims versus claims plus EHR data, findings, recommendations, and lessons learned.	2013

By incorporating clinical information from physician EHRs into the quality management workflow, and creating the means for physicians, patients, and purchasers to easily access metrics based on clinical guidelines, Oregon will have moved its health care QI capabilities to the next level. Physicians will be able to assess and manage their own patient populations more easily. Patients will have better information about care they are receiving, become more informed and active participants in their own care, and will have indicators of which providers are meeting QI goals. Purchasers will have better information about the value and quality equation, helping to drive care to the better providers. Oregon is well positioned to capitalize on federal initiatives to drive quality in health care.

Children’s Health Improvement Consortium

The Tri-state Children’s Health Improvement Consortium (T-CHIC) is an alliance between the Medicaid/CHIP programs of Alaska, Oregon, and West Virginia formed with the goal of markedly improving children’s health care quality. The Oregon-led consortium is working on a Children’s Health Insurance Program Reauthorization Act (CHIPRA) Quality Demonstration to demonstrate the unique and combined impact of patient-centered care delivery models and health information technology (HIT) on the quality of children’s healthcare, as measured by a variety of indicators.

Specifically related to HIT, the project aims to determine the level of feasibility for providers to report on CMS’ recommended set of pediatric core measures through data captured in EHRs, as well as to determine the impact that these systems have on children’s health outcomes. Alignment of T-CHIC activities with both national and state HIT development will be ensured through coordination of efforts with HITOC and the state Medicaid HIT Planning Advance Planning Document (HIT P-APD). As development of these programs moves forward, they will be integrated with quality measurement and reporting efforts to the greatest extent possible.

CLINICAL SUMMARY EXCHANGE FOR CARE COORDINATION AND PATIENT ENGAGEMENT

Approach

Care Coordination: Care summaries from provider EHR systems will be accessible through the direct exchange between provider organizations via clinical messaging, and accessible via local HIOs and the governance entity

on an as-needed basis. Patient engagement will be addressed by ensuring that provider EHR systems can provide care summaries to patients on a routine basis.

During both Phase 1, and Phase 2, there will be a process to monitor the development and emergence of clinical summary exchange capabilities within regional and local HIOs. Strategies will be developed and deployed to accelerate clinical summary exchange, if needed.

Background

In a statewide environmental assessment of HIT capabilities, clinical summaries in Oregon were outlined²¹. Electronic exchange of clinical information for coordination of care currently occurs primarily within a limited few health care systems (e.g. Kaiser Permanente NW, PeaceHealth, Providence). A key component for clinical summary exchange involves promoting the necessary technical requirements required for supporting the evolving national CCD, CC4 and other XML exchange standards. These standards will help enable secure, timely, and reliable exchange of electronic health information in the state. Use of certified EHRs and state accreditation of HIOs will allow for a flexible system to meet the needs of Oregon residents by facilitating exchange of clinical summary information, enhance care coordination, and increase patient engagement. These goals can be achieved by assisting statewide HIE efforts, including connectivity with the National Health Information Network (NHIN) and NHIN Direct, as they become fully operational. Widespread exchange of clinical information for care coordination is understood as an important component in our Strategic Plan.

Oregon capabilities

Portland-Vancouver Health Information Exchange: The eight health systems (Providence, Kaiser Permanente, Southwest Washington Medical Center, Oregon Health and Science University, OCHIN, Legacy Health, Adventist Health NW, and Tuality Healthcare) in the Portland-Vancouver metropolitan area are partnering to create a federated health information exchange.

Building on standard XDS.b functionality being deployed in or as an adjunct to their EHR deployments, the partners have agreed on a point-of-care “pull” model for exchange of patient clinical records. This is expected to go live in phases, with the first data exchange occurring between the Epic customers in mid-2010 and with Providence’s HIE by the end of 2010.

Related state laws

HB2009 includes SECTION 1161. Section 21, chapter 18, Oregon Laws 2008, is amended to read:

<in part>

Sec. 21. (1) There is established a grant program to improve access to and the effectiveness of health care delivery for families.

(2) The goals of the program are to:

- (a) Improve preventive health services;
- (b) Increase access to appropriate, affordable and efficiently delivered primary care for families;
- (c) Provide new access to health care for children;
- (d) Explore alternative models for reimbursement of health care services; and
- (e) Collect information to allow for an evaluation of each grant-funded project.

(3) The [Department of Human Services] **Oregon Health Authority** shall award grants for two projects. One of the grants shall be awarded for a project that predominantly serves a rural area as defined by the Office of Rural Health.

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²¹ Oregon Health Information Technology Environmental Assessment, Feb. 2010. Accessed at http://www.oregon.gov/OHPPR/HITOC/docs/Oregon_HIT_EnvironmentAssessment20100209.pdf.

. (C) Coordinated care that links patients to comprehensive services in the community, including specialty care, mental health care, dental care, vision care and social services;
 (D) Provider accessibility through the use of telephone and electronic mail, and the removal of transportation, language, cultural and other barriers to timely care;
 </IN PART>

APPROACH FOR LEVERAGING EXISTING REGIONAL AND STATE EFFORTS

Assessing HIE capacity

To assess existing and planned HIE efforts within Oregon, an environmental survey was commissioned by HITOC in fall 2009. This survey yielded a wealth of information that was used to inform HITOC of what type and where HIE was occurring or planned, and where gaps existed in HIE coverage. [See Appendix D for a list of current and planned HIOs and Appendix H for details on the environmental scan.]

Also, in April 2010, a statewide HIE summit was held in which HIOs were invited to present information about their plans and progress to date. HITOC and later the SDE will work in coordination with efforts underway; administrative simplification, All-Payer, All-Claims Database, and the Oregon Health Authority and DHS Shared Services Architecture to leverage and avoid duplication of efforts and services offered.

Assessment of future HIO activities in Oregon

Oregon has a number of additional proposed HIO initiatives; all in various stages of planning and/or development, primarily in the initial exploration and/or planning stages. Some of the proposed initiatives have the potential to serve as pilots for how best to achieve interstate HIE.

The success of these initiatives is likely to depend on their ability to address a number of complex and interdependent problems, concurrently, including developing interoperability, building public trust, assuring stakeholder cooperation, and developing a sustainable financial model. Lessons from unsuccessful HIO efforts in other states will be used to help guide Oregon's multiple HIO initiatives. The effort will also glean best practices from Oregon's own regional and local HIOs and share them. Long-term and sustainable revenue will be of keen interest as this issue represents one of the most salient barriers around HIO development. Of concern is that while these planned HIOs show considerable promise, some lack the necessary funding to develop economies of scale and create necessary revenue streams.

Coverage gaps by region

Partially as a result of Oregon's geographic size and distribution of health care market service areas, there are a number of gaps in HIE coverage. Identified gaps are reported by regions and counties in the following groupings based on health care market areas. Specific regions in Oregon identified as not actively part of existing or planned HIE and/or HIO initiatives include:

Region	Table 15. Underserved and Unserved Counties (with population numbers)
Eastern Oregon	Baker (16,455), Grant (7,530), Morrow (12,485), Umatilla (72,380), Union (25,360), and Wallowa (7,115)
Southern/Central Oregon	Klamath (66,180), Lake (7,585), Harney (7,705), and Malheur (31,675)
Northwest Coastal Communities	Clatsop (37,695) and Tillamook (26,060)

HIO participation, stability and sustainability

The level of participation among health systems and HIOs has steadily increased. Larger integrated delivery systems and hospitals have begun to establish cooperative arrangements and/or operational agreements around the electronic exchange of patient information. As the number of these arrangements increase, the level of regional connectivity will potentially increase as well. Likewise, as the number of ambulatory providers with EHRs increases, so will the ability to exchange clinical information electronically. The critical issues of stability and sustainability, however, are difficult factors to assess. As the number of local and regional HIOs grows, it will be important for HITOC to closely monitor the financial sustainability of these entities. This oversight capacity will be achieved through the state's HIO accreditation/certification process.

Results of the environmental scan illustrated that there is a vibrant community of local and enterprise HIOs that are currently providing HIE services to their members. Also, the high rate of adoption of EHRs among providers across the state has helped shape the statewide approach to leverage existing capacity. The governance entity's approach to providing services capitalizes on these efforts by supporting their growth and expansion to include more participants and by providing support and services to facilitate HIE between these organizations rather than replacing them with a single, monolithic state-run organization with mandatory participation by all.

Involving Stakeholders

HITOC's Strategic Workgroup was used to engage HIE stakeholders and participants (among others) in the exploration and information gathering process for developing this strategic and operational plan. This stakeholder engagement process will continue throughout subsequent phases including the planning and rollout of services offered by HITOC/SDE.

Approach

To capitalize on existing investments of money and resources, Oregon will adopt a flexible, phased approach to the implementation of statewide HIE services. These services will facilitate HIE within and outside the state of Oregon and fill functional gaps within existing HIE efforts.

In Phase 1, HITOC will complete the definition of the HIE participant certification program. This program will be developed around a standards process also conducted in Phase 1. The standards process will involve the selection and adoption of statewide HIE interoperability standards, with nationally created and recognized technology and security standards as baselines. In addition, the governance entity will offer an open-source software reference implementation of a gateway based on these protocols and standards. That will allow HIE participants to either operate a version of this implementation or develop their own version and test it against the reference. The certification program will also define parameters around assessing the privacy policies of the HIE participants, the security processes and practices of the HIE participants, in addition to other aspects of the HIE participant business practices as deemed necessary by the governance entity to insure uniform communication and data transport between HIE participants.

The standards and certification program will also allow existing HIE efforts to continue to develop their own service offerings and implement their own internal processes without excessive involvement of the governance entity.

During Phase 1, HITOC will continue to plan the implementation of shared services that will facilitate HIE among participants. This planning process will establish requirements and definitions of these services and create an implementation and rollout timeline. The governance entity will consult with HIE participants to assist in prioritizing the services to be offered by the governance entity and to develop the business and technical requirements of each service. The governance entity will communicate progress of the development of these services to the HIE participants during the implementation and rollout phases. HIE participants are considered the key stakeholders and primary customer base for the HIE shared services offered by the governance entity. Other stakeholders who will be included through outreach efforts and progress updates include consumers and consumer groups, privacy advocates, and health care providers that are not eligible for meaningful use incentive payments. The governance entity may choose to contract out or

franchise the delivery of these services to an existing HIE participant if one is discovered to have these services already in place or the capability to deliver said services in an acceptable time frame.

The goal of any core services offered by the governance entity will be to facilitate and enhance the capabilities of Oregon HIOs and other HIE participants to perform HIE

The governance entity will also further assess the capabilities of HIE participants and define any functional gaps that the governance entity may offer in future phases. A continual process of “monitoring and adapting” the service offerings to be provided by the SDE, to ensure that all areas of the state have ready access to the critical services needed for HIE.

HIE standards and certifications

Selecting and adopting standards for statewide HIE and developing certification programs around those standards will be the primary goals of Phase 1. These standards and programs will focus on interoperability among participants in the HIE governance entity, such as local, enterprise, and state agency HIOs within the state; standards governing interactions between parties within a particular HIO is the bailiwick of that HIO. Baselines for the standards selection process and for requirements of the certification programs will include HHS-adopted and nationally recognized technical standards, criteria, and frameworks, such as NHIN Exchange and NHIN Direct, with adjustments as necessary to accommodate for modifications or new developments in pertinent areas like meaningful use requirements.

HIE standards

Potential baselines for statewide HIE interoperability standards include but are not limited to:

Transport

HTTP over TLS (HTTPS)

Messaging

SOAP v1.2 and/or RESTful-based messaging (possibly with Multipart MIME as in NHIN Direct), as specified in the NPRM

Document

Document standards as specified in the NPRM:

- HL7 Continuity of Care Document (CCD), Level 2 or higher, with potential further refinement as defined in HITSP C32
- ASTM Continuity of Care Record as defined by E2369 (CCR)

Vocabulary

Vocabulary standards as specified in the NPRM, such as:

- ICD-9-CM
- SNOMED-CT
- RxNorm
- LOINC

Security

- TLS v1.2
- X.509 – PKI functionality in support of HIE Participant authentication, and message encryption and signing.

HIE certifications

Technical criteria within the certification programs developed in Phase 1 will be derived using the standards selected in Phase 1. EHNAC technical HIE criteria as applicable will be used as a basis for development.

In Phase 1 the state will develop and set HIE policies, requirements, standards and agreements through the existing HITOC and OHA mechanisms. Specific policies could include:

- Privacy and security requirements for appropriate exchange and use of health information
- Appropriate standards for data exchange
- Operational requirements for HIE that will allow providers to report on and receive payment for meaningful use
- Architecture, business, and sustainability requirements
- Public health reporting
- Other data and reporting requirements deemed necessary by HITOC and OHA

These policies, requirements, and data standards, will be used to hold regional and local HIOs accountable through accreditation for appropriate implementation of HIE.

TECHNICAL ARCHITECTURE FOR EXCHANGE OF HEALTH INFORMATION

Overview

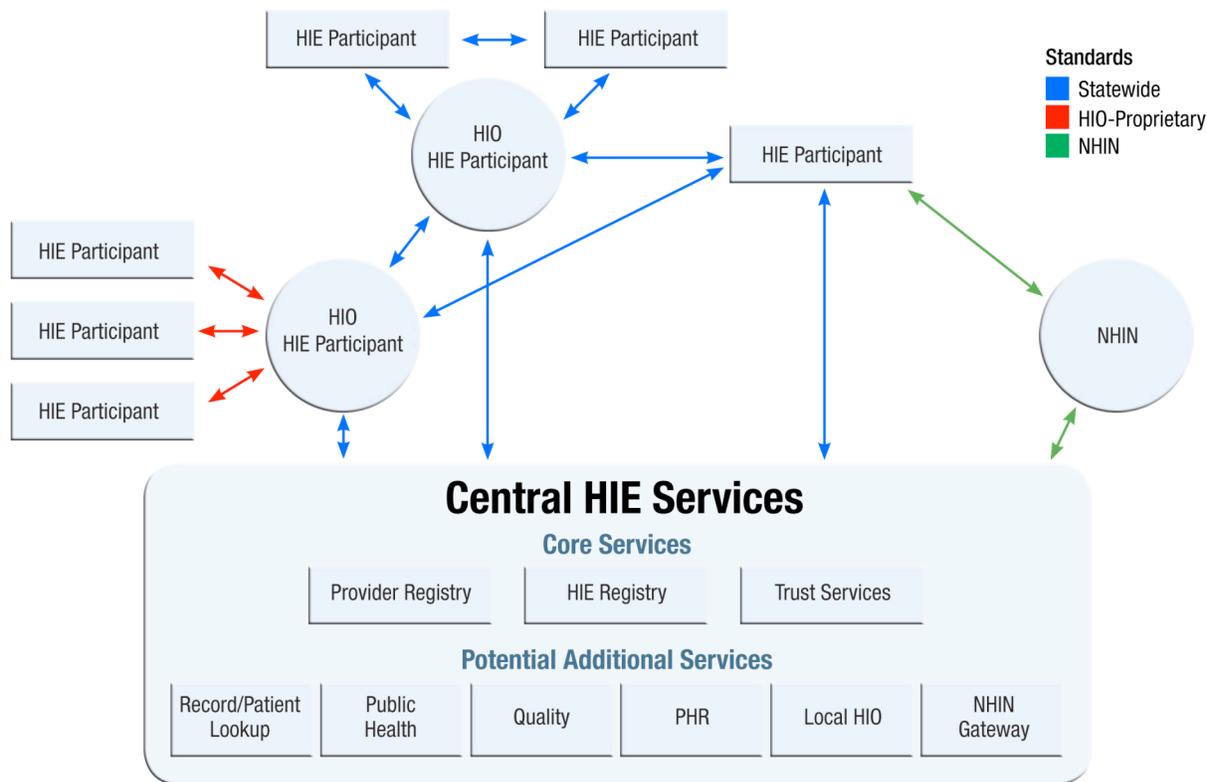
Oregon enjoys both a high adoption rate of EHRs by providers and a thriving and growing community of HIOs. These factors enable Oregon to propose a technical architecture model for statewide HIE that builds upon, bolsters, and enhances existing efforts as opposed to a top-down approach to building HIE.

Definitions of key terms used below:

Health information exchange (HIE) -- The electronic movement of health information between HIE Participants.
HIE participant -- Party that is the sender or recipient of exchanged health information (i.e., party that initiates a transaction or the party to which the transaction is directed). The party may be an organization (e.g., provider, diagnostic laboratory testing company, health plan, HIO) or part of an organization.

Health Information Organization (HIO) -- Organization providing oversight and governance of HIE between its members. Such organizations include regional or local HIOs, enterprise HIOs, state agency HIOs, and in Phase 2, the state designated entity (SDE).

HIE Service -- A software mechanism provided by an HIO, vendor, or other entity facilitating HIE by enabling access to one or more capabilities, along with its prescribed access interfaces, constraints, policies, and processes as specified by a service description.



This architectural model features a federated approach to statewide HIE, with HIE participants using a common set of agreed-upon standards to connect with one another and HIE between participants facilitated and enhanced by a number of central HIE Services. This approach accommodates three likely scenarios:

Scenario 1

Due to the developing community of HIOs within the state of Oregon, it is anticipated that many HIE participants will engage in HIE through participation in local and enterprise HIOs. As a result of internal adoption of HIO-proprietary HIE standards, some of these HIOs may choose to act as gateways for their constituents to statewide HIE.

Scenario 2

HIE participants may choose to participate in HIOs that adopt statewide standards for HIE (it should be noted that these HIOs may offer additional services utilizing standards outside those adopted statewide). In this case, these HIE participants could engage in HIE using statewide standards and the central HIE services, either through a gateway offered by their HIOs or directly.

Scenario 3

While many HIE participants may participate in local or enterprise HIOs, HIE participants are not required to do so. In this case, an HIE participant could directly engage in statewide HIE using statewide standards and central HIE Services.

Central core HIE services

A governance entity will offer a number of core services that provide lookup, routing, and trust mechanisms for information exchange between HIE participants. While detailed scope and specifications for these Central Core HIE Services will be determined in Phase 1 of statewide HIE, these services are anticipated to include the following:

HIE registry

The HIE registry is a directory of all HIE participants. This registry provides the necessary information to initiate routing and delivery of health information from one party within an HIE participant organization to another party within another HIE participant organization. While the registry itself could be comprehensive of all senders and receivers of health information exchange across Oregon, the registry potentially instead could support recursion and delegation to distribute responsibility for delivery and routing resolution to parties closer to recipients.

Provider registry

The provider registry is a comprehensive directory of all providers in the state. This registry enables matching between providers and HIE participants (i.e., it provides a mechanism to determine through which HIE participants information might be routed to a provider). The provider registry potentially could be a subset of the HIE registry.

Trust services

A set of trust services will be offered to support a "circle of trust" among HIE participants. At the core of these trust services will be certificate authority functions that the governance entity will use to issue digital certificates to certified HIE participants, and if necessary, to revoke them. HIE participants will use these services and their issued digital certificates to authenticate to Central Core HIE Services, encrypt communications, sign communications, and validate requests.

Potential additional central HIE services

In Phase 1, HITOC will examine the central HIE services the governance entity potentially could offer in addition to the central core services. Any additions would have to enhance statewide HIE and/or aim to support more cost-effective approaches to certain exchanges of information. These could include:

- Record or patient lookup services that, using provided demographics or other search parameters, enables discovery of HIE participants possibly storing pertinent health information.
- Facilitating bidirectional data exchange with public health that supports reporting and alerting.
- Facilitating bidirectional data exchange for quality reporting.
- Implementing personal health record (PHR) services for consumers in the state. Such services could range from providing central gateways that enable common mechanisms for provider EHR systems and/or HIE participants to interact with consumer data repositories (e.g., Google Health, Microsoft HealthVault, and others) to providing a central consumer-focused PHR system that ties into the fabric of statewide HIE.
- Providing local HIO-type services to providers or other entities not covered by local or enterprise HIOs. This might be done to address gaps in geographic and/or functional HIE coverage across the state.
- Operating an NHIN CONNECT gateway usable by HIE participants that did not have NHIN Exchange connectivity.

NHIN ALIGNMENT

Oregon recognizes that connectivity to federal agencies and other parties accessible via NHIN Exchange and/or NHIN Direct will provide value to Oregon's state agencies and other HIE participants. Further, Oregon acknowledges the efforts, both past and ongoing, that have gone into the development of NHIN Exchange and NHIN Direct. As a result, Oregon plans to assess these frameworks and their elements in Phase 1 for possible use within statewide HIE, resulting potentially in the adoption of one or both of NHIN Exchange and NHIN Direct as the standards and technical architectural model for statewide HIE.

Examination of potential baseline standards and HIE services

The potential baseline statewide HIE interoperability standards outlined earlier in this section are encompassed by NHIN Exchange and/or NHIN Direct, notably:

Transport standards -- HTTP over TLS (HTTPS) is used by both NHIN Exchange and NHIN Direct.
Messaging standards -- SOAP is used by NHIN Exchange and by NHIN Direct's IHE Implementation, REST is used by NHIN Direct's REST Implementation.

Document standards -- CCD falls within NHIN Exchange's Core Content Specification, and both CCD and CCR are document-types that can be transported by NHIN Direct per its Content Container Specification.

Security standards -- TLS and X.509 PKI are used by both NHIN Exchange and NHIN Direct.

The Central Core HIE Services proposed for statewide HIE are similar to services specified by NHIN Exchange and NHIN Direct:

HIE Registry is similar in purpose to NHIN Exchange's Service Registry and NHIN Direct's HISP Address Directory.

Trust Services noted provide equivalent functionality to NHIN Exchange's Security Infrastructure and would enable trust relationships per NHIN Direct's Basic Trust Model.

Connectivity to federal agencies and other parties using NHIN Exchange/NHIN Direct

Beyond the use of NHIN Exchange/NHIN Direct as frameworks, in part or in full, for intrastate interoperability, these frameworks will also be used within Oregon's statewide HIE to connect to federal agencies and other parties, including: veterans, Social Security Disability recipients, tribes, public health agencies, emergency preparedness and response agencies and community health network initiatives.

Currently, two of Oregon's HIOs -- DCIPA and OCHIN -- are implementing NHIN Exchange connectivity to the Social Security Administration; other HIOs are expected to follow. To further facilitate connectivity to federal agencies via NHIN Exchange, the governance entity may offer a central NHIN CONNECT gateway.

SERVICES TO CREATE EFFICIENCY ACROSS GEOGRAPHIES

As part of its phased approach to development of centralized services and support to existing HIE efforts, the governance entity will offer only those services that facilitate and support HIE. These services will include both technology-based services and support services for HIE participants. As part of the strategic planning process, several services were identified as "core" services that would facilitate HIE within the state, as well as lay the groundwork for interstate HIE.

Potential services to be provided by the governance entity that will create efficiency across geographies by tying existing HIE participants together and provide a common and standard way of sharing information and services to support the secure exchange of information with an effort to avoid major disruptions to HIE efforts currently underway. Potential services to create efficiency are listed below:

HIE standards and certification program and reference implementation: A program for defining HIE participant data exchange standards and certification of the implementation of those standards. The governance entity may provide a no/low-cost reference implementation of services that meet the defined set of standards for use by HIE participants.

Master provider/participant index: A centralized, standardized and comprehensive index of HIE participants within the state. Participants may include HIOs, independent provider groups or individual providers, hospitals, clinics, public health organizations, and health plans.

HIE trust services: A centralized service to support the secure transport of health information between HIE participants. ***Record locator service:*** A centralized query service that allows HIE participants to query other HIE participants regarding patient records. ***Public health exchange service:*** A centralized service that allows HIE participants to exchange public health information.

The final decision on which services will be offered by the governance entity will be determined through further stakeholder engagement and planning during Phase 1. The governance entity will continually monitor and adapt its existing and planned service offerings based on customer and stakeholder input. Additional services may be considered if they are discovered to be necessary, desired, and affordable.

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BUSINESS AND TECHNICAL OPERATIONS

Section Overview

- The statewide infrastructure for carrying out the goals of health information exchange (HIE) in Oregon will be developed with the core tenets of efficiency and flexibility and will leverage and support existing resources within the state.
- It will coordinate with parallel efforts to promote HIE within the Medicaid system.
- Oregon has strong health information workforce training programs in place that will help provide the expertise to carry out the goals of HIE.
- A program management strategy will be developed to ensure the efficient rollout of this strategic plan and resulting operations.

Oregon's approach to designing a governance entity is consciously phased to allow the existing marketplace of regional and local health information organizations (HIOs) to flourish. However, there are some tasks that the governance entity needs to adopt to respond to federal requirements, provide useful services to local HIOs or fill gaps in the marketplace.

This design assumes that certification and accreditation programs will be developed, first by Oregon's Health Information Technology Oversight Council (HITOC) and later by the state designated entity (SDE), envisioned as a public/private non-profit organization. These efforts will go forward with the leanest possible staffing, leveraging existing resources within the state. They will further leverage existing and planned efforts to facilitate health information exchange in Oregon, such as the All-Payers, All-Claims Database and Medicaid Provider Index.

PHASE 1 OFFERINGS AND ACTIVITIES

Offerings:

- Technical standards framework for health information exchange
- Certification of HIE participants for health information exchange

Activities:

- Planning for transition to non-profit SDE
 - Legislative framework approved
 - Sustainable financial plan

Selection of technical standards for health information exchange

Development of certification and accreditation programs

- Definition of requirements for Phase 2+ technology services
- Analysis of support services for HIOs

PHASE 2 STATE DESIGNATED ENTITY

The SDE would be developed during Phase 2. It is envisioned as a statewide, state-designated, non-profit organization.

Its tasks will be:

- To maintain and revise standards for and certification of health information exchange participants as needed
- To provide centralized health information exchange services as needed

- To provide support services for health information exchange participants

The SDE's customers would include HIE participants such as local HIOs, state agencies, physicians, hospitals and health plans.

Potential offerings during Phase 2:

- A statewide directory of HIE participants
- Trust services for health information exchange
- Query service for HIE participants to locate patient records (RLS)
- Services to facilitate exchange of public health and quality data
- Reference implementation for HIE participant connection
- Connection with the National Health Information Network via NHIN Exchange and/or NHIN Direct
- Legal toolset for HIE participants
- Resources or money to support connection of HIE participants

During Phase 2 the SDE would also implement other services identified during Phase 1, and explore potential services to be offered in the future.

POTENTIAL FUTURE OFFERINGS

The SDE could explore filling both geographic and functional gaps during its ongoing operations, and seek out opportunistic follow-on services.

The primary strategic approach to Oregon's business architecture and operations planning relies on the standards for health information exchange and certification for HIOs and other HIE participants. These standards will be essential to the effort's success. Each phase will include evaluation techniques that will evaluate the effectiveness of centralized services that support and promote HIE and provide value to stakeholders within the state. Finally, a sustainable financing model must be developed. The final list of services to be determined will be based on the financing model and further review of options and offerings.

BUSINESS AND TECHNICAL ALIGNMENT WITH MEDICAID, PUBLIC HEALTH

Plan for integrating MMIS with regional and local HIOs

It is anticipated that Oregon's Medicaid Management Information System (MMIS) will be able to support the bi-directional exchange of patient information with HIOs in Oregon. This will be achieved through local HIOs using central shared services supported by the governance entity that will be able to connect with Oregon's MMIS. In addition, we expect the accreditation process for HIOs and widespread adoption and use of certified electronic health record (EHR) systems will allow for increased information connectivity and information exchange between the state's MMIS and HIOs within Oregon.

Approach to meet HIE meaningful use requirements

Oregon's Medicaid HIT Planning Team, and more broadly, the Division of Medical Assistance Programs, will be responsible for the monitoring and administration of meaningful use criteria for providers who are eligible to receive meaningful use (MU) incentive payments. The Medicaid HIT Planning Team is actively working on and coordinating with HITOC and other key stakeholders to facilitate the program for administering MU incentive payments. One potential approach is to use the new MMIS to track and account for incentive payments. The activities that will be needed to establish the program for monitoring and administration of MU criteria will be set up through an ongoing participatory process that will incorporate input and feedback from all relevant engaged stakeholders.

In the end, our approach will be guided by the goal of ensuring that the greatest number of eligible providers can participate in HIE, achieved through ongoing coordination among HITOC, state Department of Human

Services/Oregon Health Authority and the Medicaid HIT Planning Team. We anticipate leveraging existing and planned technologies including MMIS and Medicaid Information Technology Architecture (MITA) to support Oregon providers serving the 430,000 clients of the Medicaid and Oregon Health Plan in qualifying and demonstrating meaningful use.

Plan for alignment with the state Medicaid HIT plan

The Division of Medical Assistance Programs, which manages Medicaid in Oregon, was integrally involved in the development of this Plan, including the DHS Deputy CIO for Medicaid's participation on the Strategic Workgroup. The State Coordinator for HIT and staff are closely working with the Medicaid HIT planning staff to ensure efforts are aligned. The plan for ensuring that the HIE Strategic plan aligns with the state Medicaid HIT Plan will be attested by having Oregon's Medicaid Director, Judy Mohr-Peterson, approve of the plan via a written endorsement letter (please see Appendix I).

Plan for alignment with public health in Oregon

Similar to the state Medicaid HIT plan endorsement process, Oregon's Director for the Division of Public Health, Mel Kohn, will provide written consent and endorsement of the state HIE plan. The plan supports the state's existing capacity to advance public health initiatives in Oregon by promoting widespread exchange and availability of health information among community health care providers and public health agencies, at both the state and local levels (please see Appendix H).

The Division of Public Health was integrally involved in the Strategic Workgroup for this plan and the State Coordinator for HIT will continue to work closely with the deputy chief information officer of the Division of Public Health and support staff to develop a comprehensive and integrated network for public health information exchange. HITOC will coordinate activities across state and local public health programs to avoid duplication of efforts and ensure support of a unified approach to bi-directional exchange of public health data.

HITOC will work in partnership with the state Medicaid director, the MMIS systems manager, director for public health, CIO for DHS/OHA, and other support staff as appropriate to make certain that the State's Medicaid Health IT Plan and public health initiatives are coordinated with the broader statewide plan for HIE. HITOC will continuously adapt its strategies to work with multiple statewide HIE initiatives.

OTHER BUSINESS AND TECHNICAL

Oregon anticipates the use of the National Health Information Network Exchange and NHIN Direct capabilities within its statewide HIE to connect to federal agencies and/or other states. Oregon HIOs (Douglas County Individual Practice Association and OCHIN) are implementing such capabilities, with connectivity to the Social Security Administration underway. HIOs that do not inherently have NHIN Exchange/NHIN Direct capabilities likely will follow this pattern. As this landscape evolves, the desirability and necessity of a statewide central NHIN Exchange/NHIN Direct gateway will be examined as a potential central HIE service.

COMMUNICATIONS

In Phase 1, regular HITOC communications will continue, including monthly newsletters distributed to almost 900 stakeholders and meeting material packets produced for the monthly HITOC meeting. There will also be regular communications with regional and local HIOs building on the work of previous meetings and webinars focused at that audience, including email updates, in-person meetings and webinars.

There will also be targeted communications incorporating provider adoption strategies developed in collaboration with the Regional Extension Center and the Medicaid HIT Planning efforts (P-PAPD.)

Moving into Phase 2, the SDE will develop a communications plan as part of its ongoing operational plan.

AVAILABLE HUMAN CAPITAL FOR HEALTH IT SERVICES/SUPPORT

HITOC and the Oregon Health Authority, in coordination with the Oregon Healthcare Workforce Institute, health professional schools and regional health care employers, will adopt a range of strategies to attract and retain the necessary human resources in all geographic areas of Oregon. One strategy will be to provide health IT training services and programs to rural providers and health IT professionals using Internet-based educational programs that could be completed online. Other strategies could include opportunities for working professionals to get training at community colleges. This workforce goal will be accomplished through the support and partnership of the Bellevue College Consortia, which will create non-degree training programs for five of Oregon's community colleges that can be completed within six months or less.

Such targeted educational programs could be tailored for professionals already working in underserved areas of the state and could help recruit newly trained health care professionals, clinicians, and health IT services and support professionals to work in underserved areas with the help of incentive programs. Distance learning non-degree training programs will support training of new health IT professionals, especially those already practicing in underserved geographic areas and rural health care settings.

Unfortunately, there is very limited data in Oregon regarding the state's existing health IT workforce. This is largely due to the complexity in classifying job titles such as clinician, office administrator or IT support staff. Every two years the Oregon Employment Department (OED) forecasts Oregon's employed workforce by occupation and industry. Because health IT professionals are counted within their occupation code such as physician, dentist, or nurse, there is no way to identify who is working in those roles as a health IT professional. Similarly, the OED's data on system administrators or computer support specialists do not identify who is working in the health care industry. The OED does identify health information managers and medical records technicians, but they are just a part of the total HIT workforce.

Also, IT workers who install EHR systems make up a transient workforce that moves in and out of jobs in the health care industry as system installation jobs open. Once systems are installed, these workers typically move on to other jobs across industries, so they are hard to count. Accurately forecasting Oregon's existing health IT workforce would require additional workforce studies. Moreover, good information on the existing supply would quickly be outdated with the recent, significant hiring occurring in this area due to the HITECH Act. Consequently, data collection efforts are mainly focused towards understanding Oregon's future health IT workforce.

VENDOR AND PROGRAM MANAGEMENT

The HITOC in Phase 1 and the SDE in Phase 2 will provide vendor and program management support for the planning and implementation of services. As part of the initial staffing, a full-time program manager will be hired. Once the definition phase of the services nears completion, the governance entity will add vendor management expertise. Depending on the number and complexity of programs and vendors, there may be one or more people filling these roles. Non-service programs, such as consumer outreach, HIE participant outreach, HIT purchase loan programs, and other programs that will facilitate HIE will have program management resources assigned.

Vendor management

Before and during Phase 1, HITOC will further define and finalize the set of services that it will provide to HIE participants within the state. As part of the definition of these services, HITOC may choose to solicit information and quotes from vendors who supply solutions that are compatible with the requirements. Until the SDE is established as a separate and independent entity from the state of Oregon (during Phase 2), all vendor information solicitation, engagement and management will occur through existing state of Oregon processes and resources.

During Phase 1, as part of the preparation for Phase 2, the SDE will develop the necessary processes and procedures for vendor management including preparing the necessary contracts and license transfers should the state of Oregon purchase any solutions or contract any services during Phase 1 that would need to be transferred from the state of Oregon to the SDE. Once the SDE is established as an independent entity, any contracts for services or licenses would be negotiated and executed between the vendor and the SDE, not with the state of Oregon.

The SDE would not be obligated to define processes that mirror those required by the state of Oregon, such as public competitive bidding, but may choose to do so if it serves the needs of the SDE and its constituents.

PROGRAM MANAGEMENT

Each program, whether outreach or service implementation, will have program management resources assigned. Each program manager will be responsible for two to three programs at any one time. This number of simultaneous programs has been shown to be the most effective. Each program manager will have relevant and related expertise in program management. Program management certifications are desirable, but not required, for a program manager filling this role. Each program manager will be responsible for establishing the requirements of a given program, creating the implementation and rollout schedule, communicating with program resources and stakeholders, updating the schedule, creating the risk and risk mitigation plan, and tracking overall program health. This program management approach applies to all phases of the SDE's existence and will remain consistent throughout.

Program management methodology

The program management methodology to be used for a given program will be determined by the program manager for that program. Program managers will be expected to use accepted best-practices.

There will be no single and mandated program management methodology or process, but the expectation is that, at a minimum, the following will be implemented for each program:

- A requirements phase and resulting requirements document
- A published implementation and rollout schedule
- A published communication plan
- Regularly scheduled update meetings
- Published risk and risk mitigation plans
- Regular program status updates

The process by which each of these items is generated, documented and communicated will be up to the individual program manager, with the approval of the program director or executive director of the SDE.

LEGAL AND POLICY

Section Overview

- A legal and policy workgroup will convene in Phase 1 of operations to examine state laws that define specially protected health information.
- An “opt-out with exceptions” consent model for the use and disclosure of protected health information will support broad exchange of information for quality, safety and efficiency while excluding specially protected health information from health information exchange (HIE) unless and until a patient chooses to include it. This policy will maintain current legal status quo for exchanging health information through non-electronic formats.
- This strategy addresses all eight of the principles in the U.S. Department of Health and Human Services’ Privacy and Security Framework.
- Oregon’s health information organizations (HIOs) will be held to national standards, federal and state law.
- Oregon’s Health Information Technology Oversight Council (HITOC) may act as an accrediting body for local HIOs, though this will be studied during Phase 1.

STATE LAWS

Oregon, through its participation in the Health Information Security and Privacy Collaborative (HISPC) project and under the direction of the Health Information Infrastructure Advisory Committee (HIIAC), undertook a detailed analysis of Oregon law as it affects health information exchange (HIE), and through this work identified a significant state law issue affecting health information exchange within the state. Oregon, like many other states, provides special protections for limited classes of health information (“specially protected health information,” or SPHI). The different classes of SPHI under Oregon law include genetics, mental health, alcohol and chemical dependency (also specially protected under federal law, 42 CFR pt. 2), HIV/AIDS, and health information about a minor (generally a minor 14 years of age or older and specific to alcohol and chemical dependency, birth control, mental health and sexually transmitted diseases). When health care information is specially protected, it generally requires a specific authorization from the patient for any release, including for treatment, payment, and health care operations.

The review and analysis of existing state law is an ongoing process. Oregon SPHI laws provide important protections. They also present technical difficulties and create interstate barriers that are becoming more significant as our population becomes increasingly mobile and delivery systems grow across state lines. Therefore, during Phase 1, the Health Information Technology Oversight Council (HITOC) will establish a Legal and Policy Workgroup to conduct an examination of state laws that define SPHI, in line with the recommendations made in Oregon’s HISPC Final Implementation Plan Report. This workgroup will review the appropriateness of these protections and the feasibility of implementing these protections in an electronic environment, with the possibility of legislative changes during later phases.

During Phase 1, HITOC will also work with legal counsel and, potentially, a specialized HIE Legal and Policy Workgroup to develop and implement legislation aimed at enabling and facilitating HIE in Oregon. The details of this legislation have not yet been determined, but could possibly include component elements common to such

enabling legislation that have been passed in other states, such as legal recognition of electronic medical records and disclosure of health information via health information exchange, and provisions for out-of-state disclosures.

PRIVACY AND SECURITY

Consent

The collaborative, public-private, multi-stakeholder HIE policy development process coordinated by HITOC has resulted in a broad consensus for a consent model for HIE in Oregon during Phase 1 of the statewide implementation plan. It is an “opt out” system for the use and disclosure of protected health information (for the purposes of treatment, payment, and operations), *with the exclusion of specially protected categories of health information*. In other words, HITOC proposes the status quo approach. Under this approach, information now available under the Health Insurance Portability and Accountability Act (HIPAA) and Oregon state law will be available via HIE if the provider is an authorized participant. Disclosure of specially protected information (e.g. HIV, behavioral health) would require the same special, specific consents that it does today. This ensures that there would be maximum availability of information for HIE, which would lead to increased and more rapid improvement in quality and efficiency. However, patients who wish to opt out of having their health information available may do so, and patients will also have the option to give express, written consent (in other words, to opt in) to the exchange of any or all categories of their specially protected health information via HIE.

This approach permits no more sharing of patient information through HIE than is permitted today. The difference from today’s paper-based system is that HIE will provide an electronic audit trail for patients to see who has viewed their files and essentially maintains the status quo as to privacy rights around health information sharing.

HHS Privacy and Security Framework

The HHS Privacy and Security Framework for Electronic Exchange of Individually Identifiable Health Information sets out eight principles to guide the actions of health care related persons and entities that participate in health information exchange. HITOC, as the oversight body for HIE in Oregon, will encourage adoption by all HIE participants of the principals outlined in the HHS Privacy and Security Framework, and will itself comply with those principles related to HITOC’s role in health information exchange.

The eight principles as outlined by HHS are: (1) individual access; (2) correction; (3) openness and transparency; (4) individual choice; (5) collection, use, and disclosure limitation; (6) data quality and integrity; (7) safeguards; and, (8) accountability.

(1) Individual Access and (2) Correction:

The first two principles, individual access to health information and providing an individual with the ability to correct errors in the individual’s information, will be the responsibility of the participants in health information exchange.

(3) Openness and Transparency:

HITOC is a citizen board that includes broad community representation. HITOC intends to provide education for both users of health information exchange and for individuals whose information may be the subject of disclosure through health information exchange. Education will include explanations of the right of an individual to opt out (or opt in for SPHI) of the system and the consent procedures.

(4) Individual Choice:

Health information exchange in Oregon will provide individuals with the ability to decide whether or not their information may be disclosed through an opt-out system for general (non-specially protected) health information, and opt-in for specially protected categories of health information. The governance entity will, then, ensure that the patient’s right to opt out/opt in has supporting processes and procedures to facilitate that right. We are planning to create the policies and procedures to afford this right to

individuals during Phase 1 of our statewide implementation plan through the Legal and Policy Workgroup. We will also determine the best methods to communicate the information to patients/consumers, including (but not limited to) the information being made available on the HITOC and/or Oregon Health Authority web site.

(5) Collection, Use, and Disclosure Limitation:

Participants in HIE will be required to adhere to certain policies, procedures, standards, and requirements as developed by HITOC. These requirements will include appropriate limitations, as defined by federal and Oregon state law, on the collection, use, and disclosure of protected health information.

(6) Data Quality and Integrity:

Data quality concerns the accuracy, currency, and precision of data, while integrity relates to how data maintains its conformity to rules and constraints over time. HITOC will develop standards and requirements for managing data quality and integrity according to the following guidelines:

- HITOC will define a proactive, ongoing data quality strategy;
- Data will be managed according to institutionalized rules, policies, constraints, and continual monitoring;
- Processes by which data are created, transformed and used will be streamlined and optimized to provide transparency and eliminate unnecessary waste;
- Published information will have a demonstrable audit trail relating to the source of the data and calculations performed on it, and;
- Problems, when identified, will be rectified at the source to eliminate the underlying problem.

(7) Safeguards:

A detailed description of the privacy and security safeguards is included in the operational plan.

(8) Accountability:

HITOC, through an accreditation program and/or contractual subscription or funding agreements, will define the system of accountability to ensure compliance with its policies, standards, and requirements, and will implement a system to monitor compliance and identify and resolve non-compliance.

POLICIES AND PROCEDURES

HITOC will establish a process, including workgroups, during Phase 1 for further development of policy guidance surrounding legal and policy issues, financial sustainability planning, certification and standards and others as needed. HITOC will also oversee the process to develop a validation framework for monitoring and assuring adherence to the policies that are developed through this process. HITOC is expected to require that participants in the statewide collaborative process bind themselves by contract and/or state accreditation to adhere to the statewide policy guidance that is adopted through the processes described above.

The policies developed by the HITOC will aim to achieve the following:

- Facilitate the flow of individual health information via HIE to improve the quality of health care while safeguarding the privacy of the information;
- Achieve clarity and uniformity in the application of privacy and security rules;
- Assure security in the exchange of clinical data;
- Harmonize Oregon law, court orders, regulations, guidelines, and federal law as they pertain to HIE;
- Coordinate Oregon's HIE requirements with evolving rules at the federal level; and
- Harmonize our HIE policies and procedures with those of neighboring states to facilitate efficient and increasing inter-state exchange.

For the HITOC Legal and Policy Workgroup, the immediate goal for Phase 1 is to develop trust and consensus around basic privacy and security principles, propose resolution to current legal issues inhibiting data exchange, and advance policies, processes, and forms for patient consent. Once these fundamentals are developed and implemented, the workgroup will develop policy solutions to more complex privacy and security issues, such as consent for secondary uses of data.

TRUST AGREEMENTS

Developing trust and clear expectations around data sharing among all HIE participants in Oregon is key to building successful statewide HIE. Trust agreements and data usage and reciprocal sharing agreements (DURSAs) are not currently uniform across HIE participants today, with the various covered entities and exchange organizations developing their own customized agreements. To streamline and facilitate efficient exchange of health information in Oregon, HITOC will engage stakeholders in developing a standard, uniform trust agreement and/or DURSA consistent with state and federal law to be used by all participants in Oregon HIE.

ACCOUNTABILITY AND OVERSIGHT

National standards, including but not necessarily limited to criteria established by the Electronic Healthcare Network Accreditation Commission (EHNAC), related to the domains of technical infrastructure, business and technical operations, and legal/policy, will be ‘baseline’ requirements for Oregon HIOs during Phase 1 of our statewide implementation plan. Additionally, any state-accredited HIO must meet the privacy and security requirements set forth by federal Law, including: HIPAA, the HITECH Act, the Office of the National Coordination for Health Information Technology, Centers for Medicare and Medicaid Services and any applicable Oregon State laws. To the degree that the federal government develops or updates requirements for connecting to the National Health Information Network (NHIN), a state-accredited HIO must be able to meet the requirements within some specified time frame.

HITOC could potentially act, during Phase 1, as the HIO accrediting body. If HITOC is to be the state body for accrediting local HIOs, then representation on the HITOC will be reconsidered and potentially modified to better represent these stakeholders. HITOC will also coordinate with our neighboring states as much as possible in order to harmonize accreditation criteria.

As staff gathers more information about the experiences of other states and our own experience with HIE, the ONC’s requirements, and the evolution of federal law and national standards, the effort can move forward during Phase 1 to further determine the following for implementation in Phase 2:

1. Adequate criteria for accreditation;
2. The most appropriate system for HIO accreditation;
3. Appropriate privacy and security enforcement mechanisms.

INTERSTATE AGREEMENTS

HITOC is currently in the process of investigating actual and potential barriers to interstate exchange, and setting up a process to coordinate with neighboring states (Alaska, Washington, Idaho, and California) to develop and harmonize policies and procedures to minimize and/or remove those barriers to facilitate interstate exchange. A proposal to launch the Pacific Northwest Health Policy Consortium and receive support services, including subject matter experts, was submitted to RTI in June and Oregon should know if it will receive that award in July. Oregon took the lead position in preparing the proposal. The proposed Pacific Northwest Health Policy Consortium will lay the groundwork for a common approach to information exchange among the five states, and will evaluate specific near term solutions in defined border markets as well as longer term opportunities for moving toward harmonization with national standards and the potential for a multi-state compact related to health information exchange issues.

STAKEHOLDER ENDORSEMENT

Stakeholders had several opportunities to provide input on the statewide policy framework, in addition to the general outreach during the comment period on the draft plan. In May 2010, HITOC sponsored an Oregon Consumer Privacy and Security Forum to engage consumers and key stakeholders in the strategic planning process. Panelists included representatives from AARP, Cascade AIDS Project and the American Diabetes Association. More than 150 stakeholders attended this meeting, and during table discussions and through individual input sheets there was general and widespread support and agreement that the plan is directionally correct; there was also support for the phased approach and general support for the proposed consent model of “opt out with exceptions,” with most people viewing it as the best option given existing Oregon state law around Specially Protected Health Information (SPHI). The valued input from this forum is integrated into the overall strategic plan and builds upon the principles put forward by the HISPC Action and Implementation Manual. A stakeholder webinar held in late April attended by more than 50 stakeholders provided an additional opportunity for stakeholders to provide input on the legal and policy domain. Respondents to the exit survey overwhelming indicated that they believed that the framework was directionally correct, and in particular that direction to begin with an opt out consent policy with exceptions.

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HIT ADOPTION STRATEGIES

Section Overview

- O-HITEC, Oregon’s Regional Extension Center, is working to support providers’ adoption of electronic health records and achievement of meaningful use and is an important adjunct to health information exchange (HIE).
- Work is also under way to bring broadband capabilities to more providers and particularly to those in rural and other underserved areas through the work of Oregon Health Network and the Oregon Public Utilities Commission
- Efforts for HIE through local, regional and statewide entities will support EHR connectivity to data sharing, beginning with three priority services: electronic prescription transmission, summaries of care and laboratory test orders and results.

CURRENT AND PLANNED HIT ADOPTION INITIATIVES

Electronic Health Record Adoption through Oregon’s Regional Extension Center

As Oregon’s Regional Extension Center, O-HITEC works collaboratively with stakeholders throughout the state to help providers meet the federal definition for “meaningful use” of their electronic health record (EHR) systems. To achieve its goals, the center will leverage the proven abilities of its two lead partners – OCHIN, the lead applicant, and Oregon Health and Science University, the foundational partner. The center will also benefit from the combined experience of several independent provider associations, rural research networks, academic institutions, and technical partners.

In addition to bringing EHR technologies to these providers, the center will participate in the development of interoperable health information technology (HIT) and health information exchange (HIE) systems and services to provide clinicians, health systems, and policymakers the information they need to advance the state of Oregon’s health care systems and infrastructure. The center will also collaborate closely with universities and community colleges to develop workforce-training programs designed to prepare more Oregonians for careers in this high-growth sector of our economy. Part of that collaborative approach has been working with Oregon’s Health Information Technology Oversight Council (HITOC).

HITOC, as the initial governance entity for HIE in Oregon, is actively engaged with O-HITEC senior leadership and management. For the past six months, the state director for HIT and support staff have participated in regular meetings to develop a collaborative relationship with O-HITEC and to plan a coordinated approach for developing HIT adoption strategies for the state’s providers. In addition, O-HITEC presents monthly updates to members of HITOC, setting the stage for aligned efforts across the state.

BROADBAND ACCESS AND TELEHEALTH

As a geographically large state with a small population, coupled with the fact that the majority of the state’s population resides within a defined geographic region, Oregon has encountered difficulties with the provision of high-quality, cost-effective broadband service both to health care providers and communities in general. The lack of broadband access in Oregon’s rural areas presents a particular challenge for HIT adoption and HIE. Oregon’s size and dispersed population in particularly remote regions has made construction of high-speed Internet (and intranet) connectivity not economically feasible in many cases. As described below, public and private sector

organizations are working together to deploy broadband and other telecommunication services to health care providers throughout the state, primarily in support of HIT adoption and information exchange.

Broadband network infrastructure

Oregon has a strong commitment to expand broadband access to all regions of the state, serving as a critical element of the strategic and operational plan for widespread HIE in Phase 1 and 2. There are two initiatives in the state actively assessing existing broadband access. HITOC and the state director are in active and ongoing discussion and coordination with OHN. During Phase 1, HITOC will coordinate with OHN efforts and long-term initiatives to help achieve the goals identified in Oregon's HIE strategic and operational plan.

OHN was created in the early fall of 2007 as part of the Federal Communications Commission's Rural Health care Pilot Program (RHCPP). In Oregon, OHN is the designated lead organization for expanding the telehealth network throughout the state. It is building broadband infrastructure across Oregon using a \$20.2 million federal subsidy to connect health care providers across the state. Participants range from large hospital systems to small rural clinics, tribal clinics, federally qualified health centers (FQHCs) and school-based clinics.

OHN's ongoing efforts will help identify places and provider types that do not have adequate broadband infrastructure. With the goal of narrowing the urban/rural gap in broadband, Oregon Health Network is a statewide initiative to provide network service for telehealth applications to health care facilities. The organization is also bringing broadband-grade service to health care facilities in rural areas, at a lower price than currently offered through the commercial marketplace, if offered at all.

As of March 2010, OHN had 12 active sites including three hospitals, four community colleges, an FQHC, and a county data center. A number of additional sites have contracted and funded with OHN including five integrated delivery networks, two hospitals, multiple FQHCs, and four additional community colleges. In the coming years, using federal and matching funds raised from multiple sources, OHN will build a strong broadband infrastructure and offer widespread access. OHN will expand broadband infrastructure in many underserved areas of the state and directly connect critical community providers to enhance health care delivery, education, workforce development, and public safety.

The second initiative is a broadband mapping project led by the Oregon Public Utility Commission (OPUC). The Oregon PUC is contacting the state's "community anchor institutions," including schools, hospitals, libraries, public safety agencies, and local governments. The information being collected is in response to the need to develop a congressionally mandated national map and will be used for an Oregon-specific map. These maps, when completed, will show where the state's broadband Internet services are located, and what speeds and types of service are being used. Oregon has contracted with BroadMap under a grant from the U.S. Department of Commerce's National Telecommunications and Information Administration (NTIA) on this effort. This initiative will help inform HITOC regarding availability of broadband services among Oregon's acute care hospitals and critical access hospitals, rural health centers, and FQHCs, among others. Information collected by Oregon PUC will provide a basis for evaluation and planning effort regarding broadband Internet access and service levels at hundreds of locations and communities throughout Oregon.

Together, these two broadband initiatives are providing ongoing information about infrastructure gaps and allowing HITOC to find ways to close those gaps in Phases 1 and 2 of the strategic and operational plan. Ultimately the goal is to ensure that both the middle and last miles of Oregon's broadband infrastructure are built throughout the state. Over the next three to five years, we expect all communities in Oregon to have access to broadband Internet, which will help support widespread HIE, facilitated by local and regional HIOs; making certain that providers and patients can engage in electronic exchange of clinical information to improve and support patient centered health care delivery. In summary, Oregon's strategy for broadband is to achieve 100% access and deployment to all provider communities. The strategy will include:

- Supporting accessible and affordable broadband services to all communities, in particular rural and remote communities.
- Ensuring adequate broadband infrastructure and Internet connectivity is available for all health care facilities including those currently without broadband access.
- Ensuring connectivity to local HIOs and the governance entity for Oregon's provider community.

Oregon's telehealth/telemedicine

A number of telehealth/telemedicine applications operate in Oregon. Notable projects include: pediatric intensive care video consultations and monitoring (OHSU and Sacred Heart), tele-genetics counseling (OHSU, Medford, Bend, and Boise but currently suspended until payer reimbursement is activated), psychiatric video consultations (OHSU, a prison and tribal clinic), specialty telemedicine consults (eastern Oregon and Idaho hospitals), cardiology Stemi consults and data transfers (southern Oregon hospital, EMS ambulance and emergency department), trauma consults to triage patient appropriately, pediatric and adult image interpretation and overreads (store and forward).

ADOPTION PRIORITIES AND ACTIVITIES FOR STATEWIDE HIE

For health information exchange to occur and meaningful use to be achieved, several key criteria must be met. First and foremost, a critical mass of health care providers must be using electronic health records, or be using some form of electronic communication of health care information, such as electronic prescribing. Beyond that, there needs to be sufficient penetration of broadband Internet connectivity to handle the transmission of health care information. Once these two pieces are in place, these systems need to be able to exchange data in a standardized format in a standardized way. As with computer peripherals, a centralized organization with representation from stakeholders must define and set the standards by which data is shared. Once the information is in electronic format, and a system to exchange the data is in place, a secure way to transmit the information to approved parties must be implemented to complete the health information exchange. These four items are the necessary backbone for creating a health care information super highway, and strategies to address each of them are core elements of this plan

EHR CONNECTIVITY TO HIE

For HIT and HIE to achieve meaningful and widespread use in the state of Oregon, the gaps in adoption and implementation of the necessary products and services to make HIE possible must be addressed. These include: reliable broadband internet access by HIE participants, electronic health records installed at the point of care (or at least a capability to generate electronic prescriptions, summaries of care and laboratory test ordering and reporting), capability to transmit and receive said data and information, and support for these services. These data must be in standardized format so that no HIE participant is left out of the exchange. The governance entity will work across organizations to achieve the highest level of adoption across the broadest audience. There are several initiatives within the state that have been funded through the federal economic stimulus law and other federal grant opportunities. (See Coordination section starting on page 80 for examples.) These initiatives, combined with this effort will serve to connect HIE participants.

HITOC has already begun engaging with the key stakeholders in these other programs to coordinate and get the biggest return on the dollars invested in the state of Oregon. HITOC and the Oregon Health Authority will continue to work with these other initiatives to ensure that all participants are served and that no participant is excluded based on size, location, or mission. During the initial phase, the organizations will communicate and coordinate their education and outreach to make sure that participants are receiving a consistent message about the roles and responsibilities of each of the organizations and which services each will be providing.

As each of these services matures, continued coordination and communication will be necessary such that the HIE participants are getting the services that they need in order to participate in HIE and achieve meaningful use of their EHR investments. As these investments are made, HITOC in Phase 1 and the SDE in Phase 2 will work with

its partners to ensure that HIE participants are able to meet at least one of the meaningful use criteria. To achieve the highest and broadest levels of participation HITOC will initially focus its efforts on making sure that HIE participants can, at a minimum, exchange the following electronically:

- Electronic prescription transmission
- Create and exchange summaries of care
- Order laboratory tests and receive results

Phased approach

Because of the already high rate of EHR adoption within the state and the designation of O-HITEC as the Regional Extension Center for Oregon to help providers in small clinics adopt EHR technology, the governance entity will focus its efforts on services that facilitate HIE. As part of Phase 1 of the governance entity's evolution, HITOC, or a special workgroup appointed by HITOC, will finalize and prioritize the services and support to be offered by the non-profit state designated entity (SDE) necessary to achieve widespread and meaningful use of HIT. Criteria for inclusion and prioritization of these services will include:

- Necessary for widespread HIE to occur
- Does not exclude a participant based on size, location or affiliation
- Is affordable to implement and support long-term
- Supports HIT adoption to achieve meaningful use

This process will be repeated throughout Phase 1 and subsequent phases as part of the SDE's "monitor and adapt" strategy for assessing and providing services for HIE participants to facilitate HIE within the state.

Achieving the results

Success metrics will be developed for each program and service. These metrics will be defined using industry-accepted processes and will be subject to stakeholder review. Once final, the program manager for the given program or service will be responsible for tracking and reporting progress of the program against these metrics. Communication of success and performance metrics will occur on a regular basis, as determined by the executive director of the SDE.

COORDINATION

Section Overview

- The Oregon Medicaid program's comprehensive planning work to develop a State Medicaid HIT Plan (SMHP) will be a natural coordination point with the statewide health information exchange (HIE) effort.
- A wide variety of other state and federal programs touch on electronic health information exchange and will be part of a coordinated plan, including focused coordination with O-HITEC, Oregon's Regional Extension Center.
- Oregon's Health Information Technology Oversight Council (HITOC) and eventually the state designated entity will work with Oregon health information technology (HIT) workforce development programs.
- Oregon's health care markets extend across state borders so continued coordination with neighboring states will be a priority of this strategic plan.

COORDINATION WITH STATE AND FEDERAL PROGRAMS

State and county agencies maintain a vast array and number of information technology applications and systems. The state of Oregon maintains dozens of IT systems that support health and social services programs with significant health information technology (HIT) components. Oregon's health information exchange (HIE) planning efforts have reviewed the IT applications operated by the state through the Oregon Department of Human Services (DHS).²² There are also a number of federally sponsored programs that will require coordination.

Medicaid HIT planning

The Oregon Department of Human Services, Division of Medical Assistance Programs (DMAP), within DHS/Oregon Health Authority, oversees the Oregon Health Plan, which is a public and private partnership that ensures universal access to a basic level of health care for Oregonians. In response to the opportunities defined by the American Recovery and Reinvestment Act (ARRA), an internal HIT environmental scan was undertaken by DHS. This comprehensive scan was executed to identify all DHS/OHA programs and associated computer applications, and then a prioritized approach was used to collect more information for the subset of these applications that would be most relevant for Oregon's HIE planning efforts.

The results of the DHS review show that development of a comprehensive HIE plan for Oregon will benefit from incorporating and leveraging existing and planned DHS HIT capabilities; however, these applications have been designed within the scope of each program, and it will require a significant effort to integrate these capabilities into HIE. DHS has key HIE capabilities such as the new Medicaid Management Information System (MMIS), which could serve as an HIE backbone. DHS has new capabilities for comprehensive client health management, such as the FamilyNet applications, and health records like the Behavioral Health Information system for Oregon state hospitals. Additional registry capabilities were identified, including the vital statistics system and the new Physicians Orders for Life Sustaining Treatment (POLST) system. Finally, DHS/OHA has good monitoring and surveillance capabilities through systems like the new ORPHEUS communicable disease application and the new prescription drug monitoring application.

²² For a comprehensive assessment of Oregon's Department of Human Services (DHS) Health Information Technology, please refer to the Oregon DHS HIT Scan Report 2009.

Oregon's Medicaid providers are ready for health information exchange. This is evidenced in that Oregon's Medicaid providers, in particular those working in Federally Qualified Health Centers, have adopted EHRs at a higher rate than Medicaid provider adoption rates found in other states²³. The strategic effort will focus on improving quality by building a health information infrastructure and exchange capability that supports the meaningful use of health information technology by both Medicaid providers and clients. An important initial step was approval by the federal Centers for Medicare and Medicaid Services of Oregon's Medicaid HIT Planning Advance Planning Document (HIT P-APD) in February 2010. Due to the strength of this application and its track record of innovation, Oregon was awarded one of the largest grants for states of its size.

State Medicaid HIT Planning, statewide HIE and meaningful use

Oregon is well positioned to advance statewide HIE and support meaningful use among the state's Medicaid providers. For example, Oregon is taking a comprehensive approach to its Medicaid HIT planning project including both internal and external initiatives. In addition to developing the Medicaid EHR Incentives Program, Oregon is undertaking a broad effort to encourage EHR adoption and develop the organizational and technical capacity within state HIT systems.

Integrated state IT architecture for shared health services

This latter planning will support the integration of current and future IT systems over the next five years that impact Medicaid providers and clients. Medicaid clients in Oregon are the largest consumers of nearly all other DHS/OHA services, including the provision of mental health; self-sufficiency; aged and physically disabled services; Women, Infants, and Children; child welfare; and food stamps. Integration of numerous DHS/OHA IT systems will help the state save money, improve health care and human services delivery, and improve the health of Oregon residents served by Medicaid and other DHS/OHA programs; all of which help to advance Oregon's triple aims. In the meantime, it is anticipated that these major state agency programs will function as local health information organization (HIO) nodes in the statewide HIE services architecture. Further, MMIS and Oregon's managed care organizations can be expected to be active participants in HIE²⁴.

MEDICAID HIT PLANNING PROJECT (P-APD)

As mentioned, Oregon has taken a comprehensive approach to the development of a State Medicaid HIT Plan (SMHP). The Medicaid HIT Planning Team is coordinating closely with the state HIE planning team, particularly around topical areas of overlap and leveraging resources. Oregon expects to submit its draft SMHP and Medicaid Implementation Advance Planning Document (IAPD) to CMS by October 31, 2010. As the SMHP and State HIE strategic plan are integrally linked, the Medicaid HIT Planning team will continue working closely with the state coordinator for HIT to ensure that the State Medicaid HIT Plan builds upon, enhances, and strengthens Oregon's strategic and operational plan for HIE. Collectively, these efforts are all designed to help achieve statewide HIE and support achievement of Oregon's overall goals for the health of its population.

Efforts included in Oregon's Medicaid HIT Planning project:

- Environmental Scan
- Vision
- Incentives program activities and roadmap including audit and oversight strategies
- Electronic health record (EHR) adoption initiatives:
 - Feasibility study and plan for an EHR loan program

²³ Hsaio CJ, Beatty PC, Hing ES, Woodwell DA, Rechtsteiner EA, Sisk JE. Electronic medical record/electronic health record use by office-based physicians: United States, 2008 and preliminary 2009. Health E-Stat. National Center for Health Statistics, December 2009. Accessed June 5, 2010 at http://www.cdc.gov/nchs/data/hestat/emr_ehr/emr_ehr.pdf.

²⁴ State of Oregon, Department of Human Services (2010). Oregon Medicaid HIT Planning Advance Planning Document (HIT P-APD). Submitted to and Approved by the Centers for Medicare and Medicaid Services.

- Provider outreach and communications
- DHS/OHA Internal HIT Planning related to Medicaid providers' use of EHRs, including:
 - Organizational capacity, Shared Services Architecture
 - Public health HIT planning
 - Behavioral health HIT planning
 - Long term care HIT planning
 - Privacy and security planning
- HIE-related initiatives:
 - Funding for the Medicaid portion of the HITOC/HIE work
 - Local HIO planning
 - Health profiles for Oregon's foster children population

Oregon's State Medicaid HIT Plan will identify goals for EHR adoption and participation in the incentives program for Medicaid providers. The state HIE project team will participate in the development of those targets, along with planning related to EHR adoption strategies and initiatives.

OTHER MEDICAID-RELATED HIT EFFORTS

Key Medicaid HIT efforts in Oregon that will help support health information exchange include:

- **MMIS Certification:** DHS/OHA implemented a new Medicaid Management Information System (MMIS), in December 2008. Oregon is using the legacy certification review process, but has also created a bridge to the current process that is based on Medicaid Information Technology Architecture (MITA). This would allow Oregon to leverage certification activities to further components of the MITA State Self Assessment.
- **MITA State Self Assessment (SS-A):** The MITA SS-A project is in process with a planned completion date of October 1, 2010. The project will be coordinated with the Medicaid HIT Planning Project.
- **5010/ICD-10 Planning:** DHS/OHA is creating a P-APD to remediate the MMIS to support the 10th revision of the International Classification of Diseases (ICD-10) as well as the 5010 version of the X12 HIPAA transactions. The changes associated with 5010/ICD-10 will be considered and coordinated as part of the MITA SS-A project as well as the Medicaid HIT Planning Project.
- **Healthy Kids Profile (Medicaid Transformation Grant):** DHS/OHA proposes to use OR-Kids to aggregate and filter information from the MMIS claims database and additional data from the Oregon immunization registry to generate a health profile for Oregon's foster children. This project plan will also develop a bi-directional interface for the state's Immunization Information System (IIS) and will support OR-Kids and provider EHRs seeking to exchange data with the IIS system. The interface will allow real-time immunization data export to OR-Kids in support of the health profile, and as providers activate EHR information exchange capabilities, it will enable data exchange directly with those provider EHRs.
- **All-Payer, All-Claims Database :** Oregon is in the process of implementing an all-payer, all-claims database (APAC). The State Medicaid HIT Plan will consider the opportunities to use the APAC to monitor EHR utilization related to Medicaid beneficiaries. The APAC is expected to provide data for screening and/or determining provider eligibility for Medicaid incentive payments (20% threshold for pediatrics and 30% for other eligible professionals). This may include tracking EHR utilization and capturing data to support planning components pertaining to meaningful use. Medicaid data will be synchronized between MMIS and the APAC so as to be included in the APAC for Oregon's analysis of cost and quality trends.

With the completion of these efforts, Medicaid providers' ability to exchange information and achieve a number of Meaningful Use (MU) criteria can be achieved by actively transmitting to and receiving from the state's MMIS, IIS, and other IT systems. In addition, local and regional HIOs will be able to send and receive clinical data by interfacing with the state's MMIS. It is anticipated that a number of Oregon's Medicaid providers will actively engage in HIE by interfacing with local HIOs. By exchanging clinical information through the adoption

and use of EHRs and HIOs, Medicaid providers will be able to better attest to MU criteria by exchanging clinical information with multiple IT systems operated by DHS/OHA.

Measuring Medicaid provider participation in HIE

Medicaid provider participation in HIE will be monitored through adoption and use of certified EHR systems and MU certification. Additional mechanisms will be determined as the Medicaid HIT planning project proceeds, but could include state-facilitated HIO accreditation or certification programs.

POINTS OF COORDINATION

The state HIE planning and the state Medicaid HIT planning projects will run along similar timelines, with state HIE strategic and operational plans due to the ONC in summer 2010 and the SMHP due to CMS in fall 2010. The Medicaid HIT planning project team will interact regularly with the HITOC team throughout the development of the State Medicaid HIT Plan to ensure a coordinated planning strategy, synchronize contractor resources, prevent duplicative efforts, and develop a consistent and coordinated approach to provider communications and outreach.

To effectively develop and achieve statewide HIE capability among Oregon’s Medicaid providers, HITOC will closely coordinate with established lead contacts with the State Medicaid HIT Planning Team and O-HITEC to promote EHR adoption across all Medicaid providers in Oregon. In addition, the state coordinator for HIT and staff will work with the State Medicaid HIT Planning Team and O-HITEC to address barriers with EHR adoption faced by Oregon providers during Phases 1 and 2. Key points of coordination include convening of joint HITOC and Medicaid HIT planning team meetings; active communication to and from various workgroups created by the Medicaid HIT Planning Team during Phase 1; and ongoing communication with the state Medicaid director, DHS/OHA chief information officer, and deputy chief information officer for Medicaid.

State Medicaid/CHIP

Coordination with the state’s Children’s Health Insurance Program (CHIP), referred to in Oregon as Healthy Kids, will be part of the state’s Medicaid HIT Planning process. The integration of CHIP programs in the strategic plan will be articulated in the State Medicaid HIT Plan (SMHP) that is to be submitted to CMS in October 2010. Oregon will leverage every opportunity to build interoperable connectivity for Medicaid practices and providers that offer services to individuals covered under Healthy Kids.

Other state and local programs

There are a number of public health registries and disease surveillance programs in Oregon. Immunization registries, disease surveillance, and related programs are important components in developing a statewide, comprehensive, and coordinated data exchange network for public health.

Table 16. Public Health Registries & Disease Surveillance	
ALERT Immunization Information System	Statewide immunization information system developed to achieve complete and timely immunization of all Oregonians. ALERT collects immunization data from public and private health care providers and links the data to provide accurate and up-to-date records.
Oregon Public Health Epi-User System (ORPHEUS)	An integrated electronic disease surveillance system intended for local and state public-health epidemiologists and disease investigators to efficiently manage communicable disease reports.
	80% of communicable disease reporting occurs electronically to local health departments from 12 clinical laboratories and the Oregon State Public Health Laboratory. These reports flow into ORPHEUS.

Emergency medical services	Statewide EMS reporting does not exist in Oregon.
OR-Kids	<p>A comprehensive automated Child Welfare Information System that will facilitate the statewide integration of child welfare processes.</p> <p>Will bring the following benefits: (1) align technology systems and support with needs of the Children, Adults and Families (CAF) division, (2) reduce the complexity of systems and procedures, (3) implement modern technologies that will have continued technical support through the life of the new system, (4) standardize child welfare practices within Oregon and bring Oregon practices into alignment with other state and federal standards, and (5) reduce duplicate data entry and errors.</p> <p>Initial pilot testing schedule at Linn County in June 2010. Projected target implementation will be completed in two stages: stage 1 is scheduled July 2010, and stage 2 is scheduled February 2011.</p>
FamilyNet Child Health Record	A health data system intended to integrate public health programs and coordinate services for children and families on the local agency level.
Vitals Statistics OVERS	The Oregon Vital Events Registration System is a multi-year project to modernize Oregon's vital records systems.
Oregon Electronic Laboratory Reporting (ELR) project	A long-term effort to convert major labs, county health departments, and the state health department to electronic data interchange. The state health department will serve a new role, functioning as an electronic hub to accept, route, and process electronic HL7 messages containing lab and clinical data.

Emergency medical services

Oregon would benefit from a statewide EMS patient-encounter data system. Oregon currently does not have any plans to implement a statewide EMS reporting system.

Oregon POLST (Physician Orders for Life-Sustaining Treatment) registry

The Oregon POLST Registry allows health care providers and Oregonians to submit their valid POLST forms to a centralized location for inclusion in the registry. The Oregon POLST Registry is currently in operation for a single county in Oregon (Clackamas) as it transitions to operation under the authority of DHS and OHA. The registry will continue to be operated through the OHSU Department of Emergency Medicine after statewide implementation.

Behavioral Health Integration Program (BHIP)

Addiction and Mental Health Division (AMH) recently completed a multiple-year planning process for implementing a comprehensive Behavioral Health Information Project (BHIP). The program is designed to provide an EHR and other clinical and administrative systems to support the state hospitals' 500 mental health and addiction services community-based programs and 13 acute care hospital programs. The technology will include an EHR, Admit-Discharge-Transfer (ADT), scheduling, and medical, laboratory, and pharmacy services. The BHIP has decided to employ an incremental implementation strategy starting with sites in Salem, Portland, Pendleton, and Junction City. Clinical information exchange among the BHIP EHR system and community providers and health systems is an important consideration of the plan.

Local county health departments

Part of the state's HIE planning process consisted of collecting information from Oregon's local public health departments in order to better understand agency capacity and needs related to the use of information systems. An

assessment of all 34 local or county health departments was conducted. The survey initiative served as an opportunity for HITOC to engage in a collaborative initiative with both the Oregon Public Health Division and the Conference of Local Health Officials (CLHO).

Overall, findings from the survey indicate the need for additional human and technical resources. Local health departments reported being unable to adequately staff, support, and implement new IT systems; the inability to integrate or interface existing IT systems; and being unable to store, access and retrieve data in a meaningful, useful or straightforward process. Findings also indicate the strong interest in new and upgraded IT systems, developing better information management capacity, and achieving more effective and efficient use of various systems and IT applications related to HIE.

State and county corrections departments

The Department of Corrections (DOC) operates 15 clinics in its adult correctional facilities. The DOC is exploring EHR systems for its corrections populations. The Oregon Youth Authority operates correctional facilities for minors: seven closed facilities and four transitional facilities. OYA operates six clinics in support of the closed facilities, and is exploring EHR adoption as well. It will be important to work with these two agencies as they move forward with plans for EHR adoption.

Safety net and state programs supported by the Health Resources and Services Administration

An Oregon-based HIT organization, OCHIN, received a grant from the U.S. Department of Health and Human Services to help networks of health centers adopt health records and other HIT systems. OCHIN received \$3 million to expand health care services to low-income and uninsured individuals. The grant from the federal Health Resources and Services Administration (HRSA) supports community-based coalitions of health care organizations that provide management, financial, technology and clinical support services to health centers that receive HRSA funding.

FEDERAL PROGRAMS

Oregon's state designated entity (SDE) will coordinate with federal programs that have their own HIT and HIE efforts under way. Because these efforts are rapidly evolving, the specific identification of coordination points will take place during Phase 1 of operations. The federal programs include:

- Medicare
- Centers for Disease Control and Prevention
- Agency for Healthcare Research and Quality
- Substance Abuse and Mental Health Services Administration
- Social Security Administration
- Health Resources and Services Administration
- Food and Drug Administration

Other federal program coordination involves the Indian Health Service and military/veterans agencies, as detailed below.

Indian Health Service

Oregon's Tribal and Indian Health Service clinics are dispersed throughout the state with 11 clinics found among nine tribes and in nine counties. These facilities are often in rural and isolated communities. Some of these clinical facilities use the Indian Health Services (IHS) Electronic Health Record graphical user interface (GUI) application in providing patient care. The following clinics report using it: Warm Springs Health Center, Warm Springs OR (IHS); Western Oregon Health Center, Chemawa, OR (IHS); Cow Creek Health & Wellness Center, Roseburg, OR (Tribal); and Siletz Community Health Center, Siletz, OR (Tribal). The remaining clinics, operated

by either IHS or tribal communities, will be included as one of the priority provider groups for HIE connectivity, once these facilities have implemented an EHR.

It is expected that health centers operated by either IHS or by individual tribes will have connectivity to regional or local HIOs. This assumes that the EHR platform supported by IHS will provide direct connectivity with local HIOs as well as via NHIN Exchange. It is anticipated that bi-directional flow of health information can be achieved either through connectivity with local HIOs and/or NHIN Exchange.

Veterans Health Administration, Department of Defense

Interoperability with the Veteran's Administration Vista and My HealthVet systems are recognized as essential elements to comprehensive statewide HIE. There is expected to be connectivity via NHIN Exchange from the SDE and local HIOs. It is also expected that the VA and its network of civilian providers will be able to exchange clinical information at the local community level across Oregon.

Oregon's health care providers and local HIOs expect to exchange clinical information with the Department of Defense installations located in various parts of the state via NHIN Exchange, local HIOs, and the SDE. It is expected that the Department of Defense activation process to retrieve care summary records from local providers through HIOs and provide clinical information to local providers and/or from VA related discharge/deactivations of military personnel.

Oregon's National Guard is an organization of more than 11,000 people who are citizen soldiers and airmen, and civilian (federal and state) employees. Approximately 2,600 soldiers, airmen, and civilians work full-time for the National Guard and the Oregon Military Department relationships with the National Guard. The majority of active military and National Guard military personnel are covered under TRICARE. In Oregon, TRICARE provides comprehensive medical services through its network of civilian providers, and we expect to coordinate with TRICARE as part of statewide HIE.

ARRA PROGRAMS

Regional Extension Center

The team from the Health Information Technology Extension Center (O-HITEC) for Oregon and the HIE planning team have been working together closely from the beginning of the ONC application process. The O-HITEC management team reports monthly at HITOC meetings. HITOC and O-HITEC staffs work collaboratively on the elements of this effort where they intersect. HITOC and O-HITEC have contracted with some of the same consulting teams, particularly around strategic planning, communications and technology. O-HITEC staff will support meaningful use EHR adoption by furnishing education, outreach, and technical assistance to providers to select, successfully implement, and meaningfully use certified EHR technology to improve the quality and value of health care.

O-HITEC is a partnership of OCHIN and Oregon Health and Science University, with OCHIN holding the lead planning and implementation role, and OHSU providing the curriculum support. OHSU, under the ONC workforce funding, is one of the five curriculum development centers, as well as the National Training and Dissemination Center. This allows the HIE, REC and workforce efforts to work closely together.

Coordination with O-HITEC is also part of Oregon's Medicaid P-APD process to develop a Medicaid HIT plan; this includes outreach and communications to Medicaid providers about meaningful use.

Oregon Health Network

HITOC and the Office of the State Coordinator for HIT are working closely with OHN to assure that all providers can access regional and local HIOs and electronically exchange administrative and clinical data using broadband technologies. Statewide broadband coverage is key to the successful execution of the HIE effort. OHN and the state coordinator for HIT will continue in close communication. OHN is creating an assessment of providers and

regions in Oregon without broadband infrastructure during the organization's broadband mapping project. OHN is leading the initiative to improve Oregon's broadband mapping, analysis, and planning capacity as part of the five-year plan funded by the federal Rural Health care Pilot Program (RHCPP). In collaboration with HITOC, it is anticipated that OHN and its key partners will expand broadband access to local communities, including those currently with limited-to-no broadband access.

HITOC and OHN will closely coordinate tracking progress in Oregon's broadband initiative. Additional points of coordination will be among senior leaders in HITOC, OHN, and O-HITEC.

Social Security Administration

OCHIN, Douglas County Individual Practice Association (DCIPA) and Bay Area Community Informatics Agency (BACIA) were all notified at the beginning of March 2010 that their proposals to develop and pilot disability reviews through the use of HIT for the Social Security Administration (SSA) were approved. The purpose of these projects is to reduce the time it takes to carry out a quality review for individuals going through the disability determination process.

OCHIN is using the grant to develop software to connect electronic medical records to the Social Security Administration via the Nationwide Health Information Network (NHIN). This process will significantly shorten the time it takes to make a disability decision and improve the speed, accuracy, and efficiency of SSA disability programs.

OCHIN is a non-profit collaborative of 32 West Coast and Midwest community health centers with a combined database of nearly 1 million individual patients. In addition to providing practice management and electronic medical records software and services to community-based clinics, the collaborative also partners with governmental, university and community-based organizations to improve population health. As a catalyst in the transformation of health care, the lessons learned by OCHIN in the process of enabling the exchange with the SSA and other HIE programs are being shared with HITOC.

DCIPA was also among the 15 entities to be awarded a contract under this program. As a project partner, DCIPA will develop continuity of care documents and integrate its GE Centricity-based Electronic Medical Records and Health Information Exchange (HIE), known as the UmpquaOneChart, with the CONNECT framework, a national "network of networks" designed to facilitate interoperability among different HIEs. DCIPA is laying the groundwork to begin this work mid-June 2010, with a completion date of mid-June 2011.

BACIA, Bay Area Community Informatics Agency, is part of a multi-organization grant with Medicity, to also work on this effort through a third project.

All three of these efforts are being coordinated with HITOC as part of the ongoing coordination with local HIOs in Oregon. This specific project, as well as the ongoing HIE work of OCHIN, DCIPA and BACIA, are key components of the HIE planning and implementation.

PREPARING OREGON'S WORKFORCE FOR HIT TRANSFORMATION

To address the vast new need for health information technology expertise, the Oregon Healthcare Workforce Institute (OHWI), in partnership with the Oregon Department of Community Colleges and Workforce Development and WorkSource Oregon, conducted a comprehensive assessment around preparing Oregon's workforce for rapid and extensive health IT transformation.

In fall 2008, the OHWI established the Health Information Technology Workforce Initiative as one of four key initiatives critical to the mission of developing a high-quality health care workforce. The partners convened a "brain trust" of health information technology experts. Over the course of four months, this group, comprising

representatives from healthcare, education, state government and other areas, identified the workforce needs associated with state and federal reform, analyzed supply and demand estimates, reviewed current education programs, examined federal training grant opportunities, and assessed the challenges to building Oregon’s HIT workforce and training the current health care workforce.

Table 17. State Health IT Workforce Needs	
The short timeframe for health care providers to take advantage of federal dollars to purchase, implement and use EHRs creates a huge demand for a skilled HIT workforce.	
Oregon’s health care providers have a higher rate of adoption of EHRs than most other states. This indicates that Oregon will need fewer workers to install EHR systems compared with other states and more workers to support health care providers in the implementation and optimization of EHR systems.	
At a minimum, it is estimated that an additional 100 information technology (IT) workers will be needed statewide to install and provide technical support for EHR systems over the next two years.	
Health care providers in rural areas face a variety of obstacles in adopting and using EHRs, including access to training and retention of HIT staff.	
Oregon is home to a strong HIT industry and accordingly has a need for access to a trained workforce.	
Highly skilled IT professionals from Oregon’s high tech industry have moved into the health care technology industry, creating new businesses and job opportunities.	
A skilled HIT workforce is needed internally to support the secure exchange of patient health information.	
The implementation of the Oregon Health Network’s high-quality broadband network to provide patient access to enhanced telehealth services and education throughout Oregon requires a skilled HIT workforce to install and support telehealth and distance education technologies.	
The number of IT workers needed to support health providers’ use of EHR systems is relative to the computer literacy of health care workers.	

In collaboration with various community colleges and universities, Oregon’s REC, and regional health care employers and health IT vendors, the following three strategic goals will be pursued.

Table 18. Oregon HIT Workforce: Strategic Goals	
Build Oregon’s Health IT workforce	Target training efforts and funds to develop the HIT workforce needed for the installation, implementation and optimization of EHRs in Oregon’s clinical and hospital settings in accordance with federal and state health care reform policies and deadlines.
Prepare the health care workforce	Train Oregon’s current health care workforce to meet basic competencies in using EHRs and related technology.
Prime the health profession education pipeline	Integrate HIT coursework into Oregon’s health care profession education programs so that graduates are competent in the use of EHRs and related technology.

WORKFORCE TRAINING PROGRAMS

Oregon Health and Science University

Oregon Health and Science University (OHSU) is a leading academic and research institution in the field of health informatics through its Department of Medical Informatics and Clinical Epidemiology (DMICE). OHSU will be receiving \$5.8 million through two stimulus grants. The first grant is a \$3.1 million training grant to train 160 certificate and master’s students in their informatics graduate program over the next three years. The second grant is for \$2.7 million to fund OHSU as one of five curriculum development centers charged with developing

curricula for identified community colleges to train students in informatics and health IT. In addition, OHSU was selected to be the National Training and Dissemination Center housing the curricula on a web site and training community college faculty in its use. This grant includes partnerships with five community colleges.

Community College Consortia Program

Portland Community College (PCC) will receive funding through the Community College Consortia Program, which provides assistance to five regional consortia of 70 community colleges across the country. PCC is part of the Bellevue College Consortium, and will receive \$625,000 to partner over the next two years with Mt. Hood, Lane, Umpqua, and Blue Mountain community colleges to train and place 300 health IT workers. Each college will create non-degree training programs that can be completed in six months or less.

OTHER STATES

Preparations for interstate exchange of health information are at different levels of development in each of the five states within the Pacific Northwest region, but conversations have begun to form a consortium comprised of leaders and key stakeholders from the states of Alaska, California, Idaho, Oregon, and Washington. A proposal to launch the Pacific Northwest Health Policy Consortium and receive support services, including subject matter experts, was submitted to RTI in June and Oregon should know if it will receive that award in July. Oregon took the lead position in preparing the proposal. We know that interstate exchange of health information is already occurring in specific border markets and defined situations (e.g., Portland, Oregon/Vancouver, Washington; Eastern Oregon/Boise, Idaho; Southwest Washington/Columbia Gorge, Oregon; Medford, Oregon/ Northern California; Seattle, Washington/Portland, Oregon/Alaska). The proposed Pacific Northwest Health Policy Consortium will lay the groundwork for a common approach to information exchange among the five states, and will evaluate specific near term solutions in defined border markets as well as longer term opportunities for moving toward harmonization with national standards and the potential for a multi-state compact related to health information exchange issues.

Oregon is taking initial steps to prepare for interstate exchange by:

- Identifying relevant current laws and policies
- Identifying existing mechanisms for exchange used by provider organizations
- Identifying current barriers to exchange
- Gathering proposals for policy and legal changes that would facilitate exchange
- Laying the groundwork for additional work to harmonize state approaches, overcome barriers, and coordinate exchange on an ongoing basis

Conversations are also occurring with Nevada which shares a border with Southeast Oregon. As these are extremely low-population areas, we believe those to be a secondary priority on our timeline.

ROLE OF CONSUMERS

Section Overview

- Security and privacy are important to Oregon consumers.
- The strategy takes into account the development of personal health records.
- A core goal of health information exchange (HIE) is to ensure patients have safe, secure access to their personal health information and the ability to share that information with others involved in their care.
- Access to accurate health information will help consumers make better decisions about their health care and lifestyle choices.

OREGON RESIDENTS AND HEALTH CARE CONSUMERS

The attitudes of Oregon residents and health care consumers toward health information technology (HIT) and health information exchange (HIE) will have a great influence on the success of HIT and HIE as technology becomes more integrated into health care delivery settings. Electronic health records and related ehealth technology can help consumers track their health status and lifestyle factors, supporting their efforts to adopt healthy behaviors. Like most Americans, the majority of Oregon residents and health care consumers support HIT and HIE, provided that these efforts protect their health information using the most up-to-date technologies and security provisions. Oregon residents have expressed some concern about the use of health information by employers and insurers. This is reflected in the work completed by the Oregon Health Information Security and Privacy Collaboration (HISPC).

Oregon HISPC

Oregon participated in all three phases of the federally funded HISPC from 2006 to 2009. The Oregon HISPC team included Oregon Office for Health Policy and Research (OHPR), the Oregon Health Care Quality Corporation (a multi-stakeholder, non-profit representing the private sector), and other security and privacy experts. The team engaged a broad group of stakeholders to develop plans for an interoperable health information exchange that is private and secure. In addition to this planning work, Oregon conducted a consumer engagement project and developed best practices around privacy and security. Oregon's participation in this phase helped illuminate key issues surrounding HIT and guided the development of proposed solutions, while positioning Oregon for continued involvement in developing a national health information network. Oregon will continue to make the privacy and security of Oregonians' health information a priority, as demonstrated in this plan.

Finally, the strategic plan addresses the Health Insurance Portability and Accountability Act (HIPAA), state law requirements and other federal and state guidelines and initiatives, all meant to ensure rigorous privacy and security protections along with the development of a system to allow Oregon residents to conveniently and securely access their medical information. The privacy and security policies developed by Oregon's Health Information Technology Oversight Council (HITOC) and its Strategic Workgroup are consistent with federal guidance and specific to Oregon state law; to assure the privacy and security of all electronically exchanged patient data. Work generated through Oregon's involvement in HISPC has had a direct impact on and provided a foundation for the planning and development of statewide HIE.

Consumer Security and Privacy Forum

In May 2010, HITOC sponsored an Oregon Consumer Privacy and Security Forum to engage consumers and key stakeholders in the strategic planning process. Panelists included representatives from AARP, Cascade AIDS Project and the American Diabetes Association. Over 150 stakeholders attended this meeting, and during table

discussions and through individual input sheets there was general and widespread support and agreement that the Plan is directionally correct; there was also support for the phased approach and general support for the proposed consent model of “opt out with exceptions,” with most people viewing it as the best option given existing Oregon state legislation around Specially Protected Health Information (SPHI). Pursuing this consent model for electronic health records will maintain the status quo and give the same permission for health care providers to share electronic records as is available for current paper records. The valued input from this forum is integrated into the overall strategic plan and builds upon the principles put forward by the HISPC Action and Implementation Manual.

Personal Health Records and Patient Portals

A number of efforts are underway related to the deployment of personal health record (PHR) systems and patient portals. Provider-based tethered PHRs are currently supported by organizations such as Kaiser Permanente and Oregon Health and Science University (Epic’s MyChart), DCIPA’s UmpquaOneChart, and PeaceHealth. A number of health plans offer tethered PHRs such as Providence Health Plan (WebMD), Regence Blue Cross/Blue Shield, ODS Health Plan (WorldDoc with synchronization through HealthVault). To better serve consumers and support the triple aim goals, the SDE will work with consumers and consumer groups to identify consumer-focused services as potential Phase 2 offerings. These services may include un-tethered personal health records, services to push health data to consumer data aggregator platforms, health data auditing services, or other consumer-focused services.

Medicaid Transformation Grant (MTG)

The Oregon Department of Human Services (DHS) received from the Centers for Medicare and Medicaid Services (CMS) a Medicaid Transformation Grant (MTG) for \$5.5 million in October 2007 to implement a Health Record Bank of Oregon (HRBO).

The original HRBO project goals were to:

- Implement a PHR for Oregon Health Plan clients using an HRB model.
- Demonstrate how the HRBO could improve consumer safety, health care quality and reduce costs.
- Evaluate the project based on utilization measures identified in the proposal to CMS, including the impact on quality of care, cost of service and replicability.

The HRBO proposal assumed that the technology challenge facing the project would be acquiring records from diverse systems that were unable to talk to each other. In fact, the greatest difficulties lay in two other areas:

1. Since most of those on medical assistance are minors, the privacy and special legal barriers to sharing information about minors proved to be more challenging than expected, causing delays that put the overall project at significant risk in terms of meeting the grant requirements.
2. Information on the low and slow adoption rates from health record banking projects in other states became available in late 2009 and early 2010. With that new data, the contractor responsible for engaging and enrolling consumers in the HRBO and for promoting the use of the HRBO by providers made major revisions to expected adoption rates in Oregon, concluding that the goals presented in the grant proposal are unrealistic.

Also, the national landscape of HIT and HIE changed significantly since the time the grant was awarded in 2007. The 2009 passage of the HITECH provisions of the recovery act (ARRA), and the federal funding support for health information exchange as a result of HITECH have changed the role that the HRBO project was anticipated to play in Oregon. The substantial emphasis on HIE in the stimulus bill has shifted the attention of the industry and state governments away from smaller transformation projects to the adoption of electronic health records and HIE services. The federal Office of the National Coordinator for Health Information Technology has effectively shifted the focus on PHRs under the umbrella of health information exchange.

In January 2010, after an analysis of the timelines and requirements, the executive committee of the project concluded that the risks to successful completion had grown to an unacceptable level and elected to cease work on the HRBO project. Substantial funds remain uncommitted, exceeding \$4.5 million.

With CMS approval, the Medicaid Transformation Grant funding is being repurposed to address some of the original HRBO project goals and to address issues identified in the HRBO project. The reallocated funds will produce health profiles for children in foster care and enhance the Immunization Information System now being developed to provide data to child welfare, and develop interfaces with EHRs for the purpose of sharing immunization data in both directions. In addition, significant work will be done to resolve challenging policy issues relating to sharing information about minors, issues that have a major impact on HIE development in Oregon and elsewhere. The scope of the four projects to be accomplished by March 2011 involves:

Health profiles for children in foster care

The Department proposes to build upon the soon-to-be implemented OR-Kids Child Welfare information system to aggregate and filter information from the Medicaid Management Information System (MMIS) claims database and additional data from the Oregon immunization registry to generate a health profile for each foster child. Health profiles will be tailored to four audiences: case workers, foster care providers, health care providers, and individual clients upon reaching 18 or emancipation.

Immunization Information System (IIS) enhancements

Immunization data are highly valued by the health care provider community. To make IIS data more available to providers (and others who need it), and to enable providers with electronic health record (EHR) systems to easily provide updated immunization information to the IIS, the current contracted vendor will be asked to develop a bi-directional web services interface. The interface will allow real-time immunization data export to OR-Kids in support of the health profile, and as providers activate EHR information exchange capabilities, it will enable data exchange directly with those provider EHRs.

IIS interfaces for health providers' EHRs

Immunization information for health care providers serving higher numbers of foster children, beyond the access provided by the health profile (above), can be further facilitated by strategic investments in EHR interfaces to IIS. The department proposes to deploy a grant program to support the development, deployment and operation of IIS to EHR interfaces for the products of leading Oregon EHR vendors, serving Medicaid recipients.

Information policy and business analysis

Finally, the HRBO project uncovered several foundational business and information technology policy challenges within Oregon statute that must be addressed for current Medicaid operations and future involvement in HIE. These challenges include approaches to managing: (a) foster child data, (b) professional and client identity, (c) family and other relationships and (d) adolescent data.

APPENDICES

- A. Oregon Health Policy Board members
- B. Health Information Technology Oversight Commission members
- C. Strategic Workgroup members
- D. Matrix of Regional HIE Initiatives in Oregon
- E. Risks and Mitigation Strategies
- F. Value Propositions for Stakeholders
- G. Quality improvement initiatives in Oregon
- H. Oregon HIT Environment Assessment
- I. Oregon Medicaid HIT P-APD
- J. Letters of Support
- K. Glossary

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