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This report is the work of the Oregon Health Authority’s Office of Health IT, which staffs HITOC, conducts other health IT policy work, and operates the Oregon Health IT Program, bringing millions of federal dollars to Oregon for health IT programs and partnerships that support health system transformation. This report was developed by the following key Office of Health IT staff: Marta Makarushka, Lead Policy Analyst; Scott Jeffries, Research Analyst; Francie Nevill, HITOC Lead Analyst; Susan Otter, Director of Health IT, Oregon Health Authority (OHA).
INTRODUCTION AND PURPOSE

Oregon’s Health IT Oversight Council (HITOC) was created by the Oregon legislature to ensure that health system transformation is supported by health information technology (health IT). HITOC is an advisory committee of the Oregon Health Policy Board and it is responsible for:

- Exploring health IT policy issues
- Crafting Oregon’s health IT strategy
- Overseeing Oregon Health Authority’s (OHA) health IT efforts
- Assessing the Oregon health IT landscape
- Reporting on Oregon’s health IT progress
- Monitoring/reporting on federal health IT law and policy changes

This 2019 Health IT Report is submitted to HITOC in support of HITOC’s 2020 Strategic Planning work.

What is health IT? Health IT is technology that stores, retrieves, shares, or uses health information, such as diagnoses, medications, allergies, records of doctors’ visits, hospital admissions, lab results, and more. Health care providers, health plans, Medicaid coordinated care organizations (CCOs), health systems, hospitals, clinics, and other organizations use health IT to manage their businesses and take care of patients. Patients, families, and caregivers use health IT to see their health information, communicate with their providers, and manage health conditions.

OVERVIEW

This report consists of two health IT data briefs: Electronic Health Records (EHR) and Health Information Exchange (HIE), as well as considerations for HITOC. EHRs and HIE are foundational to all other health IT efforts. This report touches only briefly on other important health IT issues, including patient experiences of health IT, health IT opportunities to address social determinants of health, health IT implications and opportunities for health equity, and health IT for population management and value-based payment (VBP). Work to address these important issues is ongoing under HITOC, and where known resources exist, this report will cite them.

Each data brief presents the following:
- An executive summary with a high-level overview of the landscape
- Key concepts for Oregon
- Data summarizing what is known about Oregon’s HIT environment, including challenges and information gaps

This report references supplemental documents:
- Health Information Exchange Overview or HIE Overview: https://go.usa.gov/xpnuZ
- HIE in Oregon: A Tale of Two Worlds: https://go.usa.gov/xpnuK
- Office of Health IT Overview: https://go.usa.gov/xpnu8
- Behavioral Health HIT Scan and Report and the Behavioral Health HIT Workgroup Recommendations: https://go.usa.gov/xpRXt

Currently, most of the available information on health IT is about organizations participating in federal and state programs. There are many physical, behavioral and oral health organizations that do not participate in such programs. Information on health IT use by participating programs is also limited and may not be a complete or current picture of health IT use among these organizations. OHA expects to have Medicare (MIPS) data and more complete physical, behavioral, and oral provider EHR and HIE information from CCOs later in 2020.
EXECUTIVE SUMMARY

Oregon’s health system transformation relies on health IT, and electronic health records (EHRs) are the foundational health IT tool. EHRs allow providers to electronically collect, store, and use clinical information. This helps providers participate in information sharing and care coordination, contribute clinical data for quality reporting and population health efforts, and engage in value-based payment (VBP) arrangements. EHRs also collect other data, including screening, assessment, and demographic information. Finally, EHRs can help providers share information with patients, their families, and their caregivers.

OREGON EHR ADOPTION IS VERY HIGH OVERALL, BUT DIGITAL DIVIDES EXIST.

Oregon has high rates of EHR adoption when compared to other states. However, when we compare EHR adoption rates of PHYSICAL, BEHAVIORAL, and ORAL health providers, a clear digital divide remains.

Physical health providers (represented by Patient-Centered Primary Care Homes, or PCPCHs) use a variety of EHR products, though the vast majority use only a handful of dominant vendors. Most vendors offer products which meet the most recent federal certification standards (2015 CEHRT). PCPCHs have also benefited, along with hospitals, from high rates of participation in the federal Medicare and Medicaid EHR Incentive Programs.

Behavioral health providers use a wider array of products and no one vendor dominates; about half offer 2015 CEHRT. Most providers face challenges with configuring their EHRs for mandated reporting and struggle with managing specially protected information related to substance use treatment. Many are ineligible for the federal Medicare and Medicaid EHR Incentive Programs. For more information, including EHR adoption for all behavioral health providers (including those that are part of a larger physical health organization), see pages 9-10.

Oral health providers have the smallest pool of EHRs designed to meet their needs, and just over half offer 2015 CEHRT, though this is likely an underrepresentation as very limited oral health information is currently available. About one fourth of providers participated in the Medicaid EHR Incentive Program, most for only one year.

<table>
<thead>
<tr>
<th>NUMBER OF DIFFERENT EHR VENDORS</th>
<th>TOP EHR VENDORS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospitals (n=60)</td>
<td>Epic, 71%</td>
</tr>
<tr>
<td>Patient-Centered Primary Care Homes (n=623)</td>
<td>Epic, 52%</td>
</tr>
<tr>
<td>Behavioral health-only agencies (n=208)</td>
<td>Credible, 10%</td>
</tr>
<tr>
<td>Oral health clinics (n=915)</td>
<td>Epic 28%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EHR VENDORS THAT OFFER 2015 CEHRT PRODUCT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epic, 71%</td>
</tr>
<tr>
<td>CPSI, 7%</td>
</tr>
<tr>
<td>Epic, 52%</td>
</tr>
<tr>
<td>Centricity, 10%</td>
</tr>
<tr>
<td>Credible, 10%</td>
</tr>
<tr>
<td>Qualifacts, 9%</td>
</tr>
<tr>
<td>Epic 28%</td>
</tr>
<tr>
<td>Dentrix 25%</td>
</tr>
</tbody>
</table>

*Not enough data to meaningfully report EHR adoption rate

Source: Program participation data collected by Office of Health IT 10/10/2019
The Medicaid & Medicare EHR Incentive Programs have led to an increase in adoption and meaningful use of certified EHR technology (CEHRT), bringing more than $500 million to all Oregon hospitals and nearly 8,500 providers. But, these programs are changing...

2016

The Medicaid EHR Incentive Program (MEHRIP) peaked in 2016, which was the last year a provider could start the multi-year program (participation can continue through 2021).

MEHRIP transitioned in the 2017 program year to the Merit-based Incentive Payment System (MIPS), created by the MACRA legislation. MIPS incentivizes adoption and meaningful use of the latest certified EHR technology and has a broad reach across Oregon’s physical health providers who serve Medicare patients, including primary care and specialists. Many Medicaid providers serve Medicare patients and are eligible for MIPS.

2019

All eligible hospitals in Oregon have completed MEHRIP participation. It is uncertain how many providers could continue MEHRIP participation. MEHRIP program year 2019 requires 2015 CEHRT.

2021

MEHRIP sunsets in 2021. Once it ends, many safety net clinics and pediatricians are unlikely to participate in MIPS.

**KEY EHR CONCEPTS FOR OREGON**

- **Epic is widely used but not universal.** The majority of providers use a handful of EHR vendors, but there are over 145 different EHR products in use. Depending on Epic alone for electronic health information sharing would leave critical gaps.

- **EHRs vary significantly in their capacity to support OHA’s policy goals.** This includes their capacity for health information exchange, patient engagement, quality reporting, compliance reporting for licensed behavioral health agencies, and data analytics.

- **Federal EHR certification standards (CEHRT) promote more robust EHRs that better meet OHA’s policy goals.** 2015 CEHRT requirements include improved health information exchange and patient engagement capabilities. Rates of 2015 CEHRT adoption are currently increasing in Oregon.

- **The high cost of EHRs,** including both the financial cost and the cost of staffing and maintenance, **contributes to lower EHR adoption rates among smaller organizations** with fewer resources.

- **While federal incentive programs are changing as described above, several programs require or promote adoption of CEHRT,** including primary care programs (MIPS, Comprehensive Primary Care Plus, PCPCH) and the Certified Community Behavioral Health Clinic (CCBHC) program. These programs may drive continued CEHRT adoption and offer opportunities for aligning incentives and program requirements.

- **Some smaller providers have benefitted from purchasing collaboratives or other third party hosted EHRs,** including OCHIN Epic (for safety net clinics), local Independent Physician Associations, and Community Connect models where EHRs hosted by health systems are shared with unaffiliated clinics.

- **Provider satisfaction is increasing but challenges still remain with EHRs,** which can be burdensome and not aligned with provider workflows. Providers often report that EHRs contribute to provider burnout due to increased workload and reduced interpersonal interaction.

“Getting an EHR as comprehensive as we need is challenging...” – Behavioral Health Provider
OREGON SURPASSES THE NATIONAL AVERAGE IN PHYSICAL HEALTH EHR ADOPTION RATES.

Based on a 2017 national survey, **90% of Oregon office-based physicians have adopted certified EHRs**, which is significantly more than the 80% national average.\(^{12}\)

**EHR adoption among CCO-contracted physical health providers has steadily increased** since 2011, including the adoption of certified systems.\(^{13}\)

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**‘Key’ clinics**: Key clinics are those that participate in specific federal and state programs that include funding to support health care transformation efforts, including HIT implementation and use. OHA relies on these clinics to deliver on health care transformation for the Oregonians they serve.

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**Almost all physical health key clinics in Oregon have adopted EHRs.**

<table>
<thead>
<tr>
<th>Percentage of Key Clinics With an EHR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient-Centered Primary Care Homes (PCPCH, n=623*)</td>
</tr>
<tr>
<td>CCO Incentive Measures Reporting Clinics (n=456*)(^{14})</td>
</tr>
<tr>
<td>Comprehensive Primary Care+ (CPC+, n=153*)(^{15})</td>
</tr>
<tr>
<td>Rural Health Clinics (RHC, n=96*)(^{16})</td>
</tr>
<tr>
<td>Federally Qualified Health Centers (FQHC, n=31)(^{17})</td>
</tr>
<tr>
<td>Tribal Clinics (n=10)(^{18})</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Percentage of Key Clinics Participating in the Medicaid EHR Incentive Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient-Centered Primary Care Homes (PCPCH, n=623*)</td>
</tr>
<tr>
<td>CCO Incentive Measures Reporting Clinics (n=456*)</td>
</tr>
<tr>
<td>Comprehensive Primary Care+ (CPC+, n=153*)</td>
</tr>
<tr>
<td>Rural Health Clinics (RHC, n=96*)</td>
</tr>
<tr>
<td>Federally Qualified Health Centers (FQHC, n=31)</td>
</tr>
<tr>
<td>Tribal Clinics (n=10)</td>
</tr>
</tbody>
</table>

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Note: Key clinics can fall into more than 1 category. There are a total of 689 unique ‘key’ clinics represented.
OREGON PROVIDERS USE OVER 145 DIFFERENT EHR VENDORS.

Epic is the most commonly used EHR in Oregon, but providers participating in the Medicaid/Medicare EHR Incentive Programs use over 145 different EHR vendors (144 by Eligible Professionals, 9 by Eligible Hospitals, with 6 overlapping for a total of 147). These providers are primarily physical health providers but include some oral health and behavioral health providers.

ELIGIBLE PROFESSIONALS (n=8,090) 19

<table>
<thead>
<tr>
<th>EHR Vendors</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epic</td>
<td>48%</td>
</tr>
<tr>
<td>Centricity</td>
<td>11%</td>
</tr>
<tr>
<td>NextGen</td>
<td>6%</td>
</tr>
<tr>
<td>Allscripts</td>
<td>6%</td>
</tr>
<tr>
<td>Greenway</td>
<td>4%</td>
</tr>
<tr>
<td>eClinicalWorks</td>
<td>2%</td>
</tr>
<tr>
<td>athenahealth</td>
<td>2%</td>
</tr>
<tr>
<td>Practice Fusion</td>
<td>2%</td>
</tr>
<tr>
<td>Cerner</td>
<td>2%</td>
</tr>
<tr>
<td>eMDs</td>
<td>1%</td>
</tr>
<tr>
<td>134 Others</td>
<td>17%</td>
</tr>
</tbody>
</table>

ELIGIBLE HOSPITALS (‘weighted’ by number of beds, n=6,660) 20

<table>
<thead>
<tr>
<th>EHR Vendors</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epic</td>
<td>75%</td>
</tr>
<tr>
<td>Cerner</td>
<td>10%</td>
</tr>
<tr>
<td>McKesson</td>
<td>6%</td>
</tr>
<tr>
<td>MEDITECH</td>
<td>3%</td>
</tr>
<tr>
<td>HCS</td>
<td>2%</td>
</tr>
<tr>
<td>MEDHOST</td>
<td>2%</td>
</tr>
<tr>
<td>Healthland</td>
<td>1%</td>
</tr>
<tr>
<td>Evident</td>
<td>1%</td>
</tr>
<tr>
<td>CPSI</td>
<td>&lt;1%</td>
</tr>
</tbody>
</table>

76 of the 147 EHR vendors are reported by Medicare participants only, whereas 36 are reported by Medicaid only and 35 are reported by both. This is likely due to the fact that Medicare providers are more likely to be specialty care providers, and specialty providers use a wider variety of EHRs.

THERE ARE AT LEAST 27 EHR VENDORS IN USE AMONG PHYSICAL HEALTH KEY CLINICS.

The **EHR landscape among key clinics**, which are mostly primary care facilities, is also dominated by Epic. Rural Health Centers (RHCs) have the greatest percentage of non-dominant EHR adoption.

**NON-RHC KEY CLINICS (n=593*)**

<table>
<thead>
<tr>
<th>EHR Vendors</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epic (n=324)</td>
<td>55%</td>
</tr>
<tr>
<td>Greenway (n=55)</td>
<td>9%</td>
</tr>
<tr>
<td>AthenaHealth (n=34)</td>
<td>6%</td>
</tr>
<tr>
<td>Centricity (n=41)</td>
<td>7%</td>
</tr>
<tr>
<td>NextGen (n=34)</td>
<td>6%</td>
</tr>
<tr>
<td>eClinicalWorks (n=28)</td>
<td>5%</td>
</tr>
<tr>
<td>21 others (n=54)</td>
<td>9%</td>
</tr>
<tr>
<td>Unknown (n=23)</td>
<td>4%</td>
</tr>
</tbody>
</table>

**RHC (n=96*)**

<table>
<thead>
<tr>
<th>EHR Vendors</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epic (n=42)</td>
<td>44%</td>
</tr>
<tr>
<td>Greenway (n=6)</td>
<td>6%</td>
</tr>
<tr>
<td>AthenaHealth (n=34)</td>
<td>14%</td>
</tr>
<tr>
<td>Centricity (n=41)</td>
<td>2%</td>
</tr>
<tr>
<td>NextGen (n=34)</td>
<td>3%</td>
</tr>
<tr>
<td>eClinicalWorks (n=28)</td>
<td>3%</td>
</tr>
<tr>
<td>21 others (n=23)</td>
<td>24%</td>
</tr>
<tr>
<td>Unknown (n=4)</td>
<td>4%</td>
</tr>
</tbody>
</table>

Source: Program participation data collected by Office of Health IT 10/10/2019

Because Oregon providers use so many different EHRs, there is no single health information exchange (HIE) solution that will work for all providers. Oregon needs a variety of HIE options to meet providers’ needs.
SOME LARGE HEALTH ORGANIZATIONS PROVIDE SUPPORT FOR SMALLER HEALTH ORGANIZATIONS.

Some large health systems have provided EHR support for smaller hospitals or providers through Epic’s Community Connect. Some Independent Practice Associations (IPAs) have supported EHR adoption for their members. OCHIN makes Epic available to Oregon’s Federally Qualified Health Centers and Rural Health Centers, which are critical safety net clinics.

<table>
<thead>
<tr>
<th>HEALTH ORGANIZATION</th>
<th>SERVING</th>
<th>VENDOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>OCHIN</td>
<td>FQHCs and RHCs across Oregon</td>
<td>Epic</td>
</tr>
<tr>
<td>Mid Valley IPA</td>
<td>Salem area</td>
<td>NextGen</td>
</tr>
<tr>
<td>AllCare IPA (FKA MRIPA)</td>
<td>Southern coast</td>
<td>Greenway</td>
</tr>
<tr>
<td>Douglas County IPA/Umpqua</td>
<td>Roseburg area</td>
<td>Umpqua OneChart (based on Centricity)</td>
</tr>
<tr>
<td>Epic Community Connect</td>
<td>Various health systems</td>
<td>Epic</td>
</tr>
<tr>
<td>Central Oregon IPA</td>
<td>Central Oregon and Gorge</td>
<td>Other supports</td>
</tr>
</tbody>
</table>

2015 CEHRT ADOPTION RATES ARE INCREASING, THOUGH MORE SLOWLY THAN ANTICIPATED.

Adoption of 2015 CEHRT, a more technologically advanced EHR, means providers are better able to share information for care coordination and to engage with patients, and, when appropriate, their families and caregivers (see 2015 CEHRT Highlights below). Changing requirements have driven increased adoption of 2015 CEHRT from year to year, with 22% of eligible professionals reporting 2015 CEHRT in their most recent MEHRIP participation year. Adoption of 2015 CEHRT is higher among key clinics, particularly CPC+ which requires 2015 CEHRT for participation in 2019.

2015 CEHRT Highlights

- Supports patient electronic access to health information through new functionalities and a range of potential technologies that allow patients greater flexibility and choice in how they access and share their health information.
- Able to record sexual orientation and gender identity, as well as social, psychological, and behavioral data (e.g., education level, stress, depression, and alcohol use).
- Includes data segmentation privacy requirements to support the exchange of sensitive health information.
- Improves patient safety by applying enhanced user-centered design principles to health IT.
EHR ADOPTION AMONG BEHAVIORAL HEALTH PROVIDERS IS MODERATELY HIGH WITH SOME CHALLENGES.

EHR adoption among Oregon’s behavioral health agencies (those that offer at least one OHA-certified program) is moderately high. However, only a third have fully implemented their EHRs, and many agencies have found their EHR does not adequately support their needs. Behavioral health agencies have had limited access to financial incentives, which has likely contributed to these challenges. They have expressed the need for financial support, shared learning opportunities, and education to help them select and implement EHRs.

65% OF BEHAVIORAL HEALTH AGENCIES HAVE ADOPTED AN EHR.

All Community Mental Health Programs (CMHPs) and Certified Community Behavioral Health Clinics (CCBHCs) are using an EHR. OHA relies on these clinics to deliver on health care transformation for the Oregonians they serve. Of all behavioral health agencies (n=246), almost one-third of agencies have fully adopted their EHR, meaning that all patient data is tracked electronically and not on paper.

<table>
<thead>
<tr>
<th>Group</th>
<th>EHR Adoption</th>
</tr>
</thead>
<tbody>
<tr>
<td>All behavioral health agencies (n=246)</td>
<td>65%</td>
</tr>
<tr>
<td>Behavioral health-only agencies (n=208)</td>
<td>59%</td>
</tr>
<tr>
<td>Community Mental Health Program (n=30)</td>
<td>100%</td>
</tr>
<tr>
<td>Certified Community Behavioral Health Clinics (n=12)</td>
<td>100%</td>
</tr>
</tbody>
</table>

BEHAVIORAL HEALTH PROVIDERS USE ABOUT 50 DIFFERENT EHR VENDORS.

Like Oregon providers overall, behavioral health providers use a wide variety of EHRs and therefore face information sharing challenges. For behavioral health agencies not part of a large physical health organization, the top EHR vendors are Credible, Qualifacts, Netsmart, and Epic.

<table>
<thead>
<tr>
<th>EHR VENDORS AMONG ALL BEHAVIORAL HEALTH AGENCIES (n=246)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EHR VENDORS AMONG BEHAVIORAL HEALTH AGENCIES THAT ARE NOT PART OF A LARGE PHYSICAL HEALTH ORGANIZATION (n=208)</td>
</tr>
</tbody>
</table>

Behavioral health Medicaid EHR Incentive Program participation has been limited because most behavioral health providers are not “eligible providers” according to program rules. Only 13% of behavioral health agencies not part of a large physical health organization have participated. Their average incentive payments have been a fraction of the average for physical health provider payments. Participation rates are higher for CMHPs and CCBHCs.

BEHAVIORAL HEALTH MEDICAID EHR INCENTIVE PROGRAM PARTICIPATION

<table>
<thead>
<tr>
<th>Group</th>
<th>Participation Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>All behavioral health agencies (n=246)</td>
<td>26%</td>
</tr>
<tr>
<td>Behavioral health-only agencies (n=208)</td>
<td>13%</td>
</tr>
<tr>
<td>Community Mental Health Programs (n=30)</td>
<td>73%</td>
</tr>
<tr>
<td>Certified Community Behavioral Health Clinics (n=12)</td>
<td>83%</td>
</tr>
</tbody>
</table>

Source: Office of Health IT behavioral health survey and other EHR data collected by Office of Health IT
OHA’s Behavioral Health HIT Workgroup convened in fall 2018 to review the findings put forth in OHA’s 2017 Behavioral Health HIT Scan Report and develop recommendations to address the health IT needs of Oregon’s behavioral health system. Top challenges identified include:

- Need for clarification and support around 42 CFR Part 2 and its implications.
- Behavioral health providers manage funding sources that have significant reporting burdens which EHRs often do not support.
- Oregon’s behavioral health system needs better, more accurate data to:
  - meet reporting expectations,
  - advocate for their needs,
  - secure funding, and
  - engage in VBP.

### Challenges in EHR Adoption for Behavioral Health Agencies

- Need for clarification and support around 42 CFR Part 2 and its implications.
- Behavioral health providers manage funding sources that have significant reporting burdens which EHRs often do not support.
- Oregon’s behavioral health system needs better, more accurate data to:
  - meet reporting expectations,
  - advocate for their needs,
  - secure funding, and
  - engage in VBP.

### Looking Ahead for Behavioral Health Agencies

Behavioral health organizations need EHRs that meet their unique information capture and management needs. These EHRs must be interoperable and support behavioral health reporting requirements, such as electronic metrics reporting.

Support needs identified in the Workgroup report include:

- Help navigating the EHR vendor landscape
- EHR market analysis
- Shared learning opportunities
- Financial incentives
- HIT education
- Support from larger, better resourced organizations

### More Information is Needed on Oral Health Provider EHR Adoption

OHA currently has limited information on oral health EHR adoption. The oral health clinics included in this section are from Insure Kids Now (n=915), a statewide listing of Medicaid/CHIP providers. The source of EHR information is the Medicaid EHR Incentive Program (MEHRIP), but many oral health providers have not participated in MEHRIP and may still have an EHR.

About a quarter (n=219) of oral health clinics have reported an EHR through participation in MEHRIP.

**EHR Vendors Among Oral Health Clinics Participating in the Medicaid EHR Incentive Program (n=219)**

<table>
<thead>
<tr>
<th>Vendor</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epic</td>
<td>28%</td>
</tr>
<tr>
<td>Dentrix</td>
<td>25%</td>
</tr>
<tr>
<td>Practice Fusion</td>
<td>23%</td>
</tr>
<tr>
<td>Exan Enterprises</td>
<td>12%</td>
</tr>
<tr>
<td>Dentists Management Corporation</td>
<td>3%</td>
</tr>
<tr>
<td>NextGen</td>
<td>2%</td>
</tr>
<tr>
<td>Open Dental Software</td>
<td>2%</td>
</tr>
<tr>
<td>6 others</td>
<td>5%</td>
</tr>
</tbody>
</table>

MEHRIP participation data indicates that most (99%) dentists only attested for adopt/implement/upgrade (AIU), not returning and demonstrating meaningful use of their EHRs, compared to 28% of other provider types.

**Dentists participating in MEHRIP**

- AIU Only: 89%
- Meaningful Users: 11%

**Non-dentist MEHRIP participants**

- AIU Only: 28%
- Meaningful Users: 72%

Source: Medicaid EHR Incentive Program 9/20/2019

More information is needed about oral health EHR adoption rates and EHR functionality, including to what extent oral health EHRs support sharing health information among oral health providers and other types of providers (like physical, behavioral, and other providers). Beginning in 2020, CCOs will provide more EHR information about their contracted oral health providers.
Electronic health information sharing, or health information exchange (HIE), is an important tool for supporting Oregon’s health care transformation objectives of high quality, coordinated care and paying for value instead of volume. See HIE Overview.

HIE supports better coordinated care by helping providers across different disciplines share clinical data. To coordinate care, a patient’s physical, behavioral, and oral health providers must be able to share information. HIE can provide real-time access to patient information at the point of care, promoting safer and better-informed clinical decisions, especially when it is easily accessible within the clinician’s workflow. HIE also supports referrals, notifications about critical health events, and access to prescription or other important clinical patient information.

HIE supports population health management and value-based payment (VBP). Oregon’s health care transformation model is moving toward making most payments through value-based arrangements – 70% of CCO payments by 2024. In addition to supporting care for individual patients, HIE helps:

- providers, CCOs, and health plans share clinical data for large sets of patients, which can support analytics, population management, and value-based payment arrangements.
- organizations gather clinical data to identify patients at risk for poor health outcomes and assess the effectiveness of interventions. This data could also identify and track health disparities.
- CCOs, health plans, and primary care clinics manage value-based payment arrangements by ensuring clinical information is available. Additional health IT tools and analytics activities are needed to manage value-based payment arrangements.

Including CCOs/health plans in HIE increases its potential complexity. It also provides an opportunity for CCOs/health plans to coordinate and financially support shared HIE solutions.

In the next five years, HIE has the potential to better support complex care coordination, including addressing social determinants of health. To manage new VBP contracts, providers and health plans/CCOs need to share information about care goals, plans of care, and information about risks and social factors that impact health outcomes. Connecting health care and social services sectors through health IT has the potential to support better health outcomes and could help policymakers better understand social determinants of health gaps so public investments can be allocated to ensure that social services needs are being met.
IN THE PAST 5 YEARS, OREGON HAS SEEN UNPRECEDENTED GROWTH IN HIE.

<table>
<thead>
<tr>
<th>2014</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Emergency Department Information Exchange (EDie) implementation just beginning</strong>&lt;sup&gt;24&lt;/sup&gt;</td>
<td>Many Oregon organizations have real-time access to hospital and emergency department event notifications for their patients from hospitals in Oregon and bordering states (p. 15-17)</td>
</tr>
<tr>
<td><strong>Primary method for moving care summaries is Direct secure messaging or EHR-based tools</strong></td>
<td>Major hospitals, health systems, and their affiliated provider groups have on-demand access to care summaries for care their patients receive outside their system (p. 17-19)</td>
</tr>
<tr>
<td>Five regional HIEs (one in development) cover about 40% of Oregon counties; limited services available&lt;sup&gt;25&lt;/sup&gt;</td>
<td>Regional HIEs are available in half of Oregon’s counties and serve an important role in their communities (p. 20)</td>
</tr>
<tr>
<td>Virtually no electronic data sharing among different provider types, with fax being the primary method</td>
<td>Behavioral health and oral health providers are using HIE; they also share important patient information with physical health providers (pgs. 21-22)</td>
</tr>
<tr>
<td>Virtually no connections between disparate networks</td>
<td>Providers use multiple HIE networks; some have connected to each other(p. 23-24)</td>
</tr>
<tr>
<td>Although Oregon’s Prescription Drug Monitoring Program (PDMP) was launched in 2011, there was no EHR integration</td>
<td>Providers can access opioid prescription data more easily; providers with health IT integration access it at much higher rates (p. 25-27)</td>
</tr>
<tr>
<td>Health IT for population management is in its infancy; value-based payment is not a major part of Oregon’s landscape</td>
<td>Providers use clinical data entered, stored, and shared by health IT to better manage populations and target interventions. This also supports the dramatic increase in value-based payment arrangements. (p. 27)</td>
</tr>
</tbody>
</table>

ADOPTION OF VARIOUS HIE TOOLS IS INCREASING IN OREGON.

Overall, HIE in Oregon has increased significantly, with major gains in hospital event notifications through EDie/PreManage<sup>26</sup> and nationwide query-based networks such as Carequality (see pages 20-21 for others). Hospitals and health systems have the highest adoption rates, and physical health providers’ rates have also increased. Behavioral and oral health providers are participating but at lower rates.
Oregon has seen a dramatic increase in HIE since 2009. The HIE environment has evolved, including national efforts influencing Oregon’s HIE landscape, vendor-based efforts, expanded services and geographic areas for existing regional HIEs, and new regional HIEs. (See HIE Overview.)

GROWTH AND EVOLUTION OF HIE IN OREGON

PROFILE OF SUCCESS: HIT COMMONS

The broad success of two HIT Commons initiatives: EDie/PreManage and the Prescription Drug Monitoring Program Integration initiative can offer insight for HITOC. Common factors include:

- Narrow, defined scope
- Clear return on investment and value
- Relatively low cost, with OHA sponsorship to support CCO/Medicaid participation
- Early adopters shared their successes
- Shared governance
- Careful nurturing and collaboration, including regional collaboratives

2009
- HITOC’s first HIE environmental scan noted nine regional HIE efforts in Oregon, as well as several hosted EHRs (which also allow providers to share clinical data) and the development of Epic Care Everywhere. Although eHealth Exchange (then known as "Nationwide Health Information Network"), a nationwide query-based network, launched in 2004, in 2009 its focus was federal agencies, so it did not impact Oregon’s providers.

2011
- Public Health Immunization Registry begins bi-directional exchange with pediatrician offices.

2013
- ONC prioritizes state HIE funding for Direct secure messaging, which later became a requirement under Meaningful Use/EHR Incentive Programs. Oregon launches CareAccord, which provides Direct secure messaging through a web portal for organizations whose EHRs do not offer it, or who lack an EHR (ended March 2018).

2015
- CommonWell (a nationwide query-based network) launches.

2017
- CAREquality (a nationwide query-based network) launches. All Oregon hospitals commit to implementing EDie, and implementation begins.

2018
- Oregon’s Office of Public Health makes integrated Prescription Drug Monitoring Program (PDMP) access available.

2019
- Oregon’s HIE Onboarding Program supports onboarding critical Medicaid physical, behavioral and oral health providers to Reliance eHealth Collaborative in several regions. More than half of CCOs are participating.

2019
- HIT Commons begins exploration of an Oregon Community Information Exchange, which would connect health care and social services providers.
KEY HIE CONCEPTS FOR OREGON

- **EHR foundations cannot be separated from HIE strategies.** Access to robust, certified EHRs is a major driver of HIE opportunities.

- **Although physical, behavioral, and oral health providers are participating in health information exchange at increasing rates, digital divides persist.** These digital divides are complex but run largely along lines of access to resources, creating two “worlds.” This disparity impacts some more significantly than others, but ultimately affects the whole health care system. See *HIE in Oregon: A Tale of Two Worlds*.

- **Oregon providers typically need multiple HIE tools to meet all their HIE needs.** Providers use HIE tools for sharing clinical information for patient care, value-based payment, population management, analytics, and more. These needs are too complex to be met by any single tool available today; providers are likely to continue to need multiple tools over the next five years. See *HIE Overview*.

- **Large organizations often depend on nationwide query-based networks and vendor-driven query-based networks which provide clinical document exchange with mostly other large organizations.** Those organizations require other tools to meet other HIE needs. Most smaller organizations, including many serving diverse populations, cannot access nationwide query-based networks and vendor-driven query-based networks. See *HIE Overview*.

- **Federal regulations that provide special protection relating to substance use disorder treatment information (42 CFR Part 2) are challenging to interpret and result in reduced information sharing, even when such sharing is allowable under the regulation. 42 CFR Part 2 remains a barrier to behavioral health participation in HIE, due to perceptions as well as the regulation itself.**

- **The focus on social determinants of health brings exciting new opportunities and serious challenges in health IT.** Better coordination between health care and social services has the potential to provide better care and better health at a lower cost. However, new challenges around technology, trust, legal requirements including consent, and more are emerging.²⁸

- **Oregon stakeholders and partners will likely face major transitions over the next five years due to federal changes.** Changing regulations and the planned national Trusted Exchange Framework and Common Agreement are creating uncertainty in the marketplace. The need for regulatory clarity is in tension with the need to make decisions now for patient care and health system transformation.²⁹

- **There is a growing need to share data in new ways.** CCOs/health plans, providers, and patients need to share clinical data, and that will become more urgent with likely federal regulations. HIE can help accomplish these tasks, but providers and CCOs/health plans will need to build HIE capacity.
Many Oregon organizations have real-time access to hospital and emergency department event notifications for their patients from hospitals in Oregon and bordering states.

Oregon has invested in the Emergency Department Information Exchange (EDie) and its companion product, PreManage, for emergency department (ED) and hospital event notifications. PHYSICAL health providers have significantly higher EDie/PreManage adoption rates than BEHAVIORAL health providers. ORAL health providers have low PreManage adoption rates, but may receive ED notifications from other sources like a Dental Care Organization (DCO).

- All hospitals and health systems, and a majority of physical health key clinics have adopted EDie/PreManage (aka Collective Platform).
- Though rates of PreManage adoption have increased among behavioral health agencies since 2017, adoption rates remain low except for agencies with Community Mental Health Programs and Certified Community Behavioral Health Clinics (see p. 21).
- Though few oral health providers/clinics are currently connected to PreManage, all Medicaid DCOs are using PreManage to coordinate follow up care for members recently admitted to the ED. DCOs report preferring this workflow rather than having individual clinics directly access PreManage.30
- All CCOs and most major health plans in Oregon use PreManage to coordinate member care. Additionally, nearly all make PreManage available to their contracted (primary, behavioral, and oral) providers.

HITOC Strategies in Support of Hospital Event Notifications

- EDie/PreManage (aka Collective Platform) sends real-time hospital notifications. It allows providers to enter care guidelines for their patients.
- OHA’s Medicaid PreManage Subscription is available at no cost to Medicaid-serving entities.
- HIT Commons is a public/private partnership established to accelerate and advance health information technology adoption and use across Oregon.

See Office of Health IT Overview.

EDIE/PREMANAGE ADOPTION RATES

<table>
<thead>
<tr>
<th></th>
<th>2017</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospitals (n=60)</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Health Systems (n=14)</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>PCPCHs (n=623)</td>
<td>47%</td>
<td>68%</td>
</tr>
<tr>
<td>Oral health Clinics (n=915)</td>
<td>16%</td>
<td>22%</td>
</tr>
<tr>
<td>All Behavioral Health Agencies (n=246)</td>
<td>15%</td>
<td>20%</td>
</tr>
</tbody>
</table>

ADDITIONAL PHYSICAL HEALTH KEY CLINICS PREMANAGE ADOPTION RATES

<table>
<thead>
<tr>
<th></th>
<th>2017</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCO Incentive Metrics Reporting Clinics* (n=456)</td>
<td>65%</td>
<td>85%</td>
</tr>
<tr>
<td>Comprehensive Primary Care Plus* (n=153)</td>
<td>60%</td>
<td>77%</td>
</tr>
<tr>
<td>Rural Health Clinics* (n=96)</td>
<td>56%</td>
<td>69%</td>
</tr>
<tr>
<td>Federally Qualified Health Centers (n=31)</td>
<td>35%</td>
<td>30%</td>
</tr>
<tr>
<td>Tribal Clinics (n=10)</td>
<td>10%</td>
<td>30%</td>
</tr>
</tbody>
</table>

Source: Program participation data collected by Office of Health IT 10/10/2019
Additional types of Oregon entities are using PreManage to improve care including the following entity types:

- **31 social service agencies**, including all DHS Type B Area Agencies on Aging, Aging & People with Disabilities field offices, and Intellectual & Developmental Disabilities offices

- **76 skilled nursing facilities**

- **33 payers/risk bearing groups**, including all CCOs, most health plans, and all Dental Care Organizations (DCOs)

- **2 regional health information exchange organizations**

Source: Collective Medical Technologies
9/3/2019

Emergency department visits have decreased over the last year due to a variety of factors. EDie/PreManage use was an important contributor to these efforts.

The number of total ED visits decreased by 2.5% from 2018 to 2019 (31,353 fewer visits).

Potentially avoidable visits from high utilizers decreased by 13.5% from 2018 to 2019 (3,092 fewer visits).

ED visits by high utilizers decreased by 34% in the 90 days following the initial creation of a care guideline.

Note: A ‘high utilizer’ is defined as a patient who seeks medical attention at an emergency department five or more times in 12 months.

Source: Apprise Health Insights, Quarterly EDie Analytics Dashboards
9/6/2019
Major hospitals, health systems, and their affiliated provider groups have on-demand access to care summaries for care their patients received outside their system.

Many providers access care summaries via a query-based network (either nationwide or vendor-based). Carequality, CommonWell, and eHealth Exchange (nationwide networks), and Epic’s Care Everywhere (vendor-based network) help providers exchange care summaries, which are clinical documents that summarize care a patient received from other providers. This can help clinicians make better care decisions. Many EHRs can deliver this information within the provider’s workflow. Most query-based network participation is driven by a provider’s EHR vendor; eHealth Exchange is the exception. (See HIE Overview for details about query-based networks and an overview of their advantages and limitations.)

Carequality, a nationwide query-based network, has a strong presence in Oregon. Currently, most EHR vendors that have implemented Carequality are physical health vendors. Physical health entities, therefore, have significantly higher Carequality access rates than behavioral health; oral health providers are not connected except those that are part of a larger physical health organization.

- A majority of hospitals, health systems, and physical health key clinics can access Carequality. Access rates are lower among other physical health entities.
- Carequality access has increased slightly among behavioral health agencies since 2017, but only for agencies that are part of a larger physical health organization and two Certified Community Behavioral Health Clinics using a participating vendor.
- Oral health provider access to Carequality is exclusively among those that are part of a larger physical organization. No standalone oral health clinics are connected to Carequality.

Potential Oregon Carequality Connectivity
The chart represents potential Carequality access if all PCPCHs and hospitals that are using a vendor that has implemented Carequality were to have access. Potential Carequality access rate is 69% among PCPCHs and 81% among hospitals. Again, the graph depicts the potential, not actual, Carequality users in Oregon.
**CommonWell**, like Carequality, is a nationwide query-based network that exchanges clinical documents and access is dependent on a provider’s EHR vendor (See *HIE Overview*).

### Potential Oregon CommonWell Connectivity

The chart represents potential CommonWell access if all PCPCHs and hospitals that are using an EHR vendor that has implemented CommonWell were to in fact get access. Potential CommonWell connectivity rate is 24% among PCPCHs and 20% among hospitals. Again, the graph depicts the potential, not actual, Carequality users in Oregon.

**CommonWell**, like Carequality, is a nationwide query-based network that exchanges clinical documents and access is dependent on a provider’s EHR vendor (See *HIE Overview*).

### eHealth Exchange

Another nationwide query-based network, is also used in Oregon. (See *HIE Overview*). See page 26 for health systems who are eHealth Exchange participants. OCHIN, Reliance eHealth Collaborative, and IHN-CCO’s Regional Health Information Collaborative are also participants. eHealth Exchange is considering connecting to Carequality.

**Epic’s Care Everywhere**, a vendor-driven query-based network, has a strong presence in Oregon because of Epic’s dominance. (See page 26 for health systems using Epic.) Not all Epic users have implemented Care Everywhere, and OHA does not currently have data on which Epic users have done so. (See *HIE Overview*.)
Direct secure messaging is another method that providers can use to exchange care summaries. It is similar to secure e-mail. Direct Secure Messaging is HIPAA-compliant and specifically designed to exchange patient health information across different EHR networks.

Direct secure messaging availability continues to increase nationally, reinforced by federal EHR incentive programs requirements. Use has focused on transition of care summaries to meet federal EHR incentive program requirements. There are ongoing efforts to introduce Direct secure messaging for other use cases. See HIE Overview.

Health care organizations served by national DirectTrust HISPs and the Oregon Flat File Directory have steadily increased.

HITOC HIE Strategy

**OHA’s Flat File Directory** assists organizations with identifying Direct secure messaging addresses across the state to support use of Direct, including to meet federal Meaningful Use requirements for sharing Transitions of Care summaries. (see Office of Health IT Overview)

Note: Flat File Directory participating facilities are part of 55 unique organizations.
Source: Oregon Flat File Directory, OHA 10/18/2019
In Oregon, there are currently two main regional HIEs: Reliance eHealth Collaborative, and IHN-CCO’s Regional Health Information Collaborative. They both include a community health record, which brings together information from many participating providers into a unified record for each patient, as well as other HIE functions. Participants include physical, behavioral and oral providers. Both are branching into the social determinants of health sphere.

Unlike nationwide and vendor-driven query-based networks, regional HIE is EHR vendor agnostic, making it potentially accessible to a wider array of providers. Regional HIEs are often sponsored by health plans/CCOs and hospitals, because regional HIEs allow them to access clinical information for the patients they serve, improving opportunities for value-based payment and other functions.

Reliance eHealth Collaborative

2011 • Jefferson HIE is formed as a collaboration between Providence, Asante, and four CCOs in Southern Oregon
2015 • Jefferson HIE merges with Gorge Health Connect
2016 • Jefferson HIE becomes the vendor for Central Oregon HIE
2017 • Jefferson HIE renamed Reliance eHealth Collaborative, connects to eHealth Exchange, EDie data flow to Reliance

Core services: community health record, regional eReferrals, results delivery, hospital event notifications, data analytics/reporting, HISP
Regions active: Central, Gorge, Southern, Southern Coast, Douglas Co.
Major participants:
8 CCOs: PacificSource Gorge, PacificSource Central Oregon, AllCare, Jackson Care Connect, Cascade Health Alliance, Primary Health of Josephine County (thru 2019), Advanced Health, Umpqua Health Alliance, Regence
Hospitals/health systems: Providence Health System, Asante Health System, St. Charles Health System, Sky Lakes, Mid-Columbia Medical Center

IHN-CCO Regional Health Information Collaborative (RHIC)

2015 • RHIC goes live for IHN-CCO
• RHIC/IHN-CCO adds social service providers
2018 • RHIC connects to EDie, eHealth Exchange, PDMP

Core services: community health record, SDOH eReferrals via Unite Us partnership
Regions active: Linn/Benton/Lincoln counties
Major participants: InterCommunity Health Network (IHN-CCO), Samaritan Health System

**HITOC HIE Strategy**

**OHA’s HIE Onboarding Program** leverages significant federal funding to onboard key Medicaid providers to regional HIE. (see Office of Health IT Overview)
Behavioral health agencies are using HIE; they also share important patient information with physical health providers.

Behavioral health agencies need HIE and are investing in HIE tools.
In addition to sharing information via PreManage care guidelines, some behavioral providers have access to physical health patient information in regional HIE community health records. Some behavioral health providers are also able to share information electronically (via Regional HIE or Carequality, for example), making it available to their patients’ other care providers, including physical and other behavioral health care providers.

Behavioral health agencies are sharing clinical information with other behavioral health providers, hospitals, laboratories, pharmacies, payers, government agencies, and others. However, most of this sharing is still happening via fax, secure email attachments, and paper documents.
Behavioral health agencies are interested in using regional HIEs.

<table>
<thead>
<tr>
<th></th>
<th>NO</th>
<th>YES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interested in accessing client info via HIE (n=96)</td>
<td>11%</td>
<td>89%</td>
</tr>
<tr>
<td>Interesting in sharing client info via HIE (n=104)</td>
<td>15%</td>
<td>85%</td>
</tr>
</tbody>
</table>

Behavioral health agencies capture data electronically. Many behavioral health agencies are electronically capturing the most needed patient information. Much of this information is of interest to other members of the patients’ care team. Increasing behavioral health providers’ access to and use of HIE would allow this information to be used by other providers.

**ALL BEHAVIORAL HEALTH (N=133)**

- Diagnoses: 87%
- Demographics: 85%
- Encounters: 84%
- Clinical summary: 83%
- Care plan field(s): 82%
- Progress reports: 81%
- Problem list: 80%
- Social determinants: 79%
- Discharge/transfer report: 78%
- Medications: 78%
- Care team info: 76%
- Allergies: 76%
- Continuity of care document: 71%
- Lab results: 68%
- Emergency department visit alerts: 46%

Note: Percentages for all categories are approximately 10% higher for behavioral health agencies that are part of larger physical health organizations than for behavioral health-only agencies.

Source: Office of Health IT surveys, 2017-2019
7/11/2019

More information is needed on oral health provider HIE adoption and use.

**Current data shows oral health providers using HIE at very low rates.** Dental Care Organizations (DCOs) use the Collective Platform (PreManage) to redirect non-urgent ED use for ‘tooth pain’ or oral issues to Primary Dental Provider. Though most dental clinics themselves are not active users of PreManage, DCOs are taking the lead on coordinating follow up care for members recently admitted to the ED.

**Source:** Program participation data collected by Office of Health IT
11/6/2019
At the national level, several query-based networks completed or began work to connect to one another. In Oregon, multiple health information networks are connected to each other, and more began discussions about future connections.

2017
- EDie data flows to Reliance.
- CommonWell joins Carequality.
- Reliance eHealth Collaborative becomes a member of the Strategic Health Information Exchange Collaborative (SHIEC) Patient Centered Data Home, which connects Reliance to multiple regional HIEs outside Oregon. See HIE Overview.

2018
- PDMP connects to EDie, RHIC, and Reliance eHealth Collaborative. EDie data flows to RHIC. Reliance and RHIC connect to eHealth Exchange.

2019
- eHealth Exchange is considering joining Carequality. Reliance and RHIC are in discussions about connecting.

Providers use HIE tools for a wide variety of tasks:
Sharing clinical information to aid care decisions, value-based payment support, population management, analytics, and more. These needs are too complex to be met by any single tool; there is currently no such tool on the market, and it is unlikely that there will be in the next 5 years. (See HIE Overview)

<table>
<thead>
<tr>
<th>NETWORK</th>
<th>Care Summary Exchange</th>
<th>Lab/ Radiology Results</th>
<th>Longitudinal Patient Record</th>
<th>Alerts and Notifications</th>
<th>E-Referrals</th>
<th>Analytics/ Advanced Data Services (may support VBP)</th>
<th>Care Plan Sharing for Complex Care Coordination</th>
</tr>
</thead>
<tbody>
<tr>
<td>PreManage</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reliance</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td></td>
<td>Available regionally</td>
<td></td>
</tr>
<tr>
<td>RHIC (Regional Health Informative Collaborative – IHN CCO)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td></td>
<td>Planned*</td>
<td></td>
</tr>
<tr>
<td>Carequality</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CommonWell</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>eHealth Exchange</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patient Centered Data Home</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>●</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Implemented as stand alone – planned integration as allowed by consent models.

Complex care coordination lacks HIE support.
Currently, there is no tool that focuses on complex care coordination, so most care coordination relies heavily on phone calls and faxing (with supportive health IT), making it difficult to scale and resource-intensive. The need for better tools is so significant that organizations are using PreManage to support complex care coordination, although it was not designed for that function and likely will not completely fill the gap.
All Oregon hospitals participate in more than one method of HIE (including Direct secure messaging), with two-thirds participating in four or five methods to meet their HIE needs.

**NUMBER OF HIE METHODS IN USE BY OREGON HOSPITALS**

<table>
<thead>
<tr>
<th>Method</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0%</td>
</tr>
<tr>
<td>2</td>
<td>23%</td>
</tr>
<tr>
<td>3</td>
<td>15%</td>
</tr>
<tr>
<td>4</td>
<td>32%</td>
</tr>
<tr>
<td>5</td>
<td>30%</td>
</tr>
</tbody>
</table>

Note: HIE methods include Carequality, eHealth Exchange, Reliance, RHIC, and Direct secure messaging.

One third of Oregon hospitals participate in both a regional HIE and a nationwide query-based network to meet their HIE needs.

**HOSPITAL PARTICIPATION IN REGIONAL AND/OR NATIONWIDE HIE**

<table>
<thead>
<tr>
<th>Participate in Nationwide Network</th>
<th>Participate in Regional Network</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Total</td>
<td>Total</td>
</tr>
<tr>
<td>Yes</td>
<td>33%</td>
</tr>
<tr>
<td>No</td>
<td>42%</td>
</tr>
<tr>
<td>Total</td>
<td>37%</td>
</tr>
<tr>
<td>Yes</td>
<td>22%</td>
</tr>
<tr>
<td>No</td>
<td>25%</td>
</tr>
<tr>
<td>Total</td>
<td>63%</td>
</tr>
</tbody>
</table>

**Note:** Regional networks are Reliance and RHIC. National networks are Carequality, CommonWell, and eHealth Exchange.

Source: Program participation data collected by Office of Health IT
10/10/2019

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**HITOC HIE Strategy**

*Oregon Provider Directory* will serve as Oregon’s directory of accurate, trusted provider data. It will include up-to-date contact information and health information exchange endpoints (such as Direct secure messaging addresses). By supplying this information, the OPD supports health information exchange by making it easier for providers to locate and share relevant information with other members of their patient’s care team. (see *Office of Health IT Overview*)

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**NUMBER OF HIE METHODS IN USE BY OREGON HOSPITALS**

<table>
<thead>
<tr>
<th>HEALTH SYSTEM</th>
<th>Regional HIE</th>
<th>Carequality</th>
<th>CommonWell</th>
<th>eHealth Exchange</th>
<th>EDie/PreManage</th>
<th>Direct Secure Messaging</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adventist*</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Asante*</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Capella</td>
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<td>HEALTH SYSTEMS TOTAL</td>
<td>29%</td>
<td>79%</td>
<td>21%</td>
<td>57%</td>
<td>100%</td>
<td>100%</td>
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<tr>
<td>All other hospitals (n=17)</td>
<td>6%</td>
<td>18%</td>
<td>29%</td>
<td>0%</td>
<td>100%</td>
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*Denotes health system uses Epic and could be exchanging data via Care Everywhere*

Source: Program participation data collected by Office of Health IT
10/10/2019
Providers can access opioid prescription data more easily; providers with health IT integration access it at much higher rates.

Accessing Oregon’s Prescription Drug Monitoring Program (PDMP) information helps providers make more informed prescribing decisions and is a critical tool to help address Oregon’s opioid crisis.

PDMP enrollment is increasing among top prescribers. The number of PDMP reports viewed is also rising.

Prescribers and pharmacists can now access Prescription Drug Monitoring Program (PDMP) information within their health IT without having to go to a separate web portal outside their workflow (“integration”). A wide variety of entities have integrated PDMP into their EHR/HIT, including physical health key clinics. Integration allows EHRs to automatically query the PDMP and return available data for their patients.

HITOC HIE Strategy

HIT Commons: PDMP Integration Initiative

The PDMP Integration initiative connects EDie, health information exchanges (HIEs), electronic medical/health records, and pharmacy management systems to Oregon’s PDMP registry. PDMP data is brought directly into prescriber and pharmacist health IT for “one-click” access to controlled substance prescription data. This initiative is jointly funded by OHA, hospitals, and health plans and is carried out by the HIT Commons.

A wide variety of entities have integrated PDMP into their EHR.

PDMP-INTEGRATED PHYSICAL HEALTH KEY CLINICS

**2017**

- 55% FQHCs
- 46% CCO IMR Clinics
- 39% PCPCHs
- 32% CPC+
- 27% Rural Health Clinics
- 0% Tribal Clinics

**2019**

- Source: Oregon Health Authority, Prescription Drug Monitoring Program 10/23/2019
Due to their automation, query rates via integrated EHRs/HIT have increased significantly, while the number of queries via web portal, EDie, and integrated pharmacies have remained steady.

These high rates of automated queries yield significantly higher rates of data available to providers at the point of care.

22% of prescribers are clicking on and viewing PDMP reports when a query returns PDMP data for a patient being seen. Access to PDMP data at the point of care supports providers making informed prescription decisions for improved patient outcomes.

An expected PDMP integration patient improvement outcome is the decrease in the number of patients progressing from acute to chronic opioid use.

Over the last year, the number of patients receiving a less than 8 day prescription has stayed relatively flat, whereas 45% fewer patients received an 8-13 day supply and 27% fewer patients received 14 or more days supply.

The percentage of prescriptions for lower daily supplies (≤ 7 days) increased by 6%, while percentage of prescriptions for higher daily supplies (> 8) significantly decreased.
In addition to other community and agency efforts, **PDMP integration has contributed to the decrease in risky prescribing.**

The rate of opioid and benzodiazepine co-prescribing has decreased by 40% since 2016 and by 15% in the last year.

The rate of high dose opioid prescribing (>90 MED) has decreased by 47% since 2016 and by 18% in the last year.

**Providers use clinical data entered, stored, and shared by health IT to better manage populations and target interventions. This also supports the dramatic increase in value-based payment arrangements.**

**CCOs and health plans collect and make data available through population management tools, health information exchange tools, and analytics reports.** For example, CCOs are expected to rely on HIT to support their value-based payment (VBP) arrangements including:

- administering payments to providers (for example, to calculate metrics and make payments consistent with its VBP models),
- supporting providers with data needed to manage their VBP arrangements (such as actionable data, attribution, and information on performance), and
- managing population health effectively through insight into member characteristics, utilization and risk.

**Providers use analytic tools to show the impact they can have on patient populations and to better advocate for favorable value-based payment arrangements.** Most VBP arrangements have focused on primary care, but behavioral health providers report investing in data analytics, population management, and care coordination tools.

**CCO HIT Roadmaps.** Beginning with CCO 2.0, CCOs are submitting annual HIT Roadmaps describing their efforts to support their contracted providers’ HIT needs. OHA will provide a summary of these HIT Roadmaps to HITOC in 2020.
CONSIDERATIONS FOR OREGON’S HEALTH IT OVERSIGHT COUNCIL (HITOC)

HITOC will consider the questions below during its 2020 strategic plan revision. HITOC’s strategic plan includes strategies for the state and for other partners and stakeholders: hospitals, health systems, health plans/CCOs, clinicians and clinic staff, technology partners, consumers/patients, and more. Thus, HITOC’s considerations below may impact actions for the state as well as other partners and stakeholders.

● There is an ongoing need for EHR adoption support in Oregon, including CEHRT adoption, but federal EHR incentives are sunsetting/transitioning and may not support all providers’ needs. Access to robust, certified EHRs is a major driver of HIE opportunities. How will HITOC’s strategies address these needs?

● The standout success of EDie/PreManage and the successes with the Prescription Drug Monitoring Program (PDMP) Integration initiative may contain lessons for the future. How will HITOC draw on those lessons when deciding what to pursue and what to avoid?

● HITOC’s strategic plan identifies priority use cases: care summary exchange, alerting, data for alternative payment models, closed loop e-referrals, and complex care coordination. Today, there are options available for some of these, although important gaps still exist. Oregon also has significant gaps in HIE options for complex care coordination and closed loop e-referrals and faxing is still largely used. How will HITOC’s strategies narrow gaps in priority use case support?

● Health IT can help consumers/patients easily access their own health information and better engage in their care. More information is needed about patient/consumer experiences and needs. The need to move clinical data among providers, CCOs/health plans, and patients will become more urgent with likely new federal regulations. How will HITOC’s strategies promote such sharing?

● Health equity is a critical policy priority for OHA, and health IT may provide opportunities to better identify health disparities. There is more to learn about the relationship between health IT and health equity. How will HITOC’s HIE strategies promote health equity?

● Health IT is a critical tool in addressing the social determinants of health, and exploring its use raises unique challenges. How will HITOC’s strategies help Oregon leverage health IT to address social determinants of health?

● Information on oral health EHR adoption and EHR challenges is a significant gap, although new CCO data requirements under the 2020 contracts will help to close it. How will HITOC account for this information gap in its strategies?

● As HITOC’s Behavioral Health Workgroup confirmed, behavioral health agencies need help navigating the EHR vendor market, including education, better understanding of vendors in use in Oregon, and other assistance. How will HITOC’s strategies address these needs?

● Different organizations in Oregon face different HIE challenges (see HIE in Oregon: A Tale of Two Worlds). How will HITOC address the wide variety of HIE needs and opportunities?

● Oregon organizations must leverage a variety of HIE tools to meet their HIE needs, which has implications for HITOC’s “network of networks” approach in its 2017-2020 strategic plan. In 2017, the “network of networks” strategy centered on regional HIEs. While regional HIEs are a critical part of Oregon’s HIE landscape, today organizations are also relying on other HIE tools. How will HITOC’s strategies for a “network of networks” (connected Oregon) evolve given lessons learned and current conditions?
REFLECTIONS

Oregon’s coordinated care model relies on health IT to succeed. Electronic health records (EHRs) are the foundation. They help providers collect, use and store patient information. This information can be used to participate in electronic health information exchange and care coordination, contribute clinical data for quality reporting and population health efforts, and for value-based payment arrangements. EHRs also collect screening, assessment, and demographic information, and help patients, their families, and their caregivers access their health information.

Electronic health information exchange (HIE) is critical. It helps providers share clinical data (typically stored in EHRs) for care coordination. It is also a key tool for population health management and value-based payment. In the future, HIE has the potential to better support complex care coordination, including addressing the social determinants of health.

Oregon has very high rates of EHR adoption overall, and HITOC’s strategies must reckon with the remaining “digital divide.”
- Physical health providers have the highest rates of EHR adoption; significantly higher than national rates.
- EHR adoption has also increased, but more modestly, among behavioral and oral health providers.
- Adoption of 2015 Certified EHR Technology, which better supports HIE needs and patients’ access to their own data, is highest among physical health providers.

Oregon has seen massive HIE growth over the last five years.
- Physical, behavioral, and oral health providers are adopting HIE tools at higher rates; physical health providers show the greatest increase.
- Access to hospital event notifications has increased dramatically thanks to the widespread adoption of EDie/PreManage, contributing to decreased emergency department visits.
- Nationwide query-based networks and vendor-driven HIE tools have increased the availability of critical information at the point-of-care.
- Regional HIE tools have contributed to improved information sharing.
- Prescription Drug Monitoring Program information is more accessible, helping providers address the opioid epidemic.
- Health systems and communities are investing in health IT tools to address social determinants of health.

THE ROAD AHEAD

HITOC’s strategies must consider HIE gaps and the complex, fluid HIE environment.
- The high cost of EHRs contributes to lower EHR adoption rates for smaller organizations, so these organizations tend to have less access to HIE through nationwide query-based networks.
- Oregon providers, across the board, typically need multiple HIE tools to meet all their HIE needs.
- There are limited HIE options available today for complex care coordination.
- 42 CFR Part 2 remains a barrier to exchange, due to perceptions and the regulation itself.
- Major changes at the federal level will affect Oregon stakeholders over the next five years.

Resources
For further information please http://healthit.oregon.gov
If you have questions about this report, please contact OHIT.info@dhssoha.state.or.us.
ENDNOTES

**EHR Data Brief**

1 With no comprehensive statewide listing of primary care clinics available, participants in the Patient-Centered Primary Care Home (PCPCH) program are used to represent physical health clinics throughout this report. For more information about Oregon’s PCPCH program, visit [www.PrimaryCareHome.oregon.gov](http://www.PrimaryCareHome.oregon.gov)

2 Behavioral health agencies are those that offer at least one OHA-licensed or certified behavioral health program. Some behavioral health organizations are part of larger physical health organizations, which can impact their access to resources and incentives for adopting health IT. Some areas of the report distinguish between all behavioral health agencies and those that are not part of larger physical health organizations (“behavioral health-only agencies”) to highlight the differences between those types of agencies.

3 Oral health clinics are from Oregon’s covered clinics under Insure Kids Now, a national listing of Medicaid/CHIP providers and their associated practice locations. For more information, see [https://www.insurekidsnow.gov/coverage/or/index.html](https://www.insurekidsnow.gov/coverage/or/index.html)

4 Hospital data includes Medicare and Medicaid; all others are Medicaid only due to data availability

5 Certified EHR Technology (CEHR): The Office of the National Coordinator for Health Information Technology (ONC) oversees an EHR Certification Program, which sets national EHR standards. The benefits of standard data capture and interoperable exchange of information include enhanced patient safety, usability, privacy, and security. For more information, visit [https://www.healthit.gov/playbook/certified-health-it/](https://www.healthit.gov/playbook/certified-health-it/)

6 The Office of Health IT collects data on participants in various state and federal programs and health IT contracts and exchanges. Many of these sources contain information about EHR use. All of these sources are combined to produce estimates of HIT and HIE use by various health care entity types.

7 Oregon payments total $533.5 million to all 60 Oregon hospitals and 8,486 Eligible Professionals between the Medicaid and Medicare EHR Incentive Programs as of 10/9/2019. For publicly available payment reports, visit [https://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/DataAndReports](https://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/DataAndReports)


9 Although many EHRs meet federal certification standards, those standards set minimum requirements. Like other commercial products, EHRs vary in terms of add-on features and usability as well as associated cost. The ONC has provided a Health IT Playbook to assist providers in selecting an EHR. This Playbook touches on the differences between different types of EHRs and provides links on different tools for providers. [https://www.healthit.gov/playbook/electronic-health-records/](https://www.healthit.gov/playbook/electronic-health-records/)

10 Barriers for Adopting EHRs by Physicians: [https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3766548/](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3766548/). Benefits and drawbacks of electronic health record systems: [https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3270933/](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3270933/). All Oregon behavioral health agencies that reported having no plans to implement an EHR were smaller agencies who indicated their size did not justify the considerable investment (OHA Behavioral Health HIT Scan): [https://www.oregon.gov/oha/HPA/GHT-HITDC/BH%20HIT%20WG%20Docs/BH_HIT_ReportDraft.pdf](https://www.oregon.gov/oha/HPA/GHT-HITDC/BH%20HIT%20WG%20Docs/BH_HIT_ReportDraft.pdf)

11 70% of PCPs believe EHRs have improved over the last five years: [https://med.stanford.edu/content/dam/sm/ehr/documents/EHR-Poll-Presentation.pdf](https://med.stanford.edu/content/dam/sm/ehr/documents/EHR-Poll-Presentation.pdf). From 2014 to 2018, EHR vendor satisfaction among registered nurses increased from 24% to 79%: [https://healthanalytics.com/news/ehr-satisfaction-rises-usability-complaints-drop-for-nurses](https://healthanalytics.com/news/ehr-satisfaction-rises-usability-complaints-drop-for-nurses). 74% of PCPs agree that EHRs increase the # of hours they work and 69% agree that it takes time away from patients: [https://med.stanford.edu/content/dam/sm/ehr/documents/EHR-Poll-Presentation.pdf](https://med.stanford.edu/content/dam/sm/ehr/documents/EHR-Poll-Presentation.pdf)

12 Estimates from the National Electronic Health Records Survey, a national survey of office-based physicians by the National Center for Health Statistics. For more information, visit [https://www.cdc.gov/nchs/ahcd/ahcd_products.htm](https://www.cdc.gov/nchs/ahcd/ahcd_products.htm)

13 Percent of CCO-contracted providers (physicians, nurse practitioners, physician assistants, podiatrists, and chiropractors) who received payments under either the Medicare or Medicaid EHR Incentive Programs from 2011-2016

14 CCO Incentive Measures Reporting Clinics are Medicaid clinics that report their CCO incentive measure data electronically through their EHR.

15 Comprehensive Primary Care Plus (CPC+) is a national advanced primary care medical home model that aims to strengthen primary care through regionally-based multi-payer payment reform and care delivery transformation. For more information, visit [https://innovation.cms.gov/initiatives/comprehensive-primary-care-plus](https://innovation.cms.gov/initiatives/comprehensive-primary-care-plus)

16 Rural Health Clinics (RHCs) are federally-recognized primary clinics in underserved, non-urbanized areas. For more information, visit [https://www.cms.gov/Center/Provider-Type/Rural-Health-Clinics-Center](https://www.cms.gov/Center/Provider-Type/Rural-Health-Clinics-Center)

17 Federally Qualified Health Centers (FQHCs) are community-based health care providers that receive funds from the HRSA Health Center Program to provide primary care services in underserved areas. They must meet a stringent set of requirements, including providing care on a sliding fee scale based on ability to pay and operating under a governing board that includes patients. For more information, visit [https://www.hrsa.gov/opa/eligibility-and-registration/health-centers/fqhc](https://www.hrsa.gov/opa/eligibility-and-registration/health-centers/fqhc)

18 “Tribal” represents Oregon’s nine recognized tribes and the Chemawa Indian Health Center.

19 Eligible Professionals are physicians, nurse practitioners, certified nurse-midwives, dentists, pediatric optometrists, naturopaths, and physicians assistants who practice in a Federally Qualified Health Center (FQHC) or Rural Health Center (RHC) that is led by a physician assistant.

20 Percentages shown here are weighted by number of beds. 51% of Oregon’s 60 hospitals are using Epic, while 15% use Cerner, 10% use McKesson, and fewer than 10% use each of the remaining vendors.

21 When assessing the current landscape of EHRs using EHR Incentive Program data, only attestations since program year 2013 were considered due to the greater reliability of more recent information and changes to Stage 1 Meaningful Use requirements that were implemented in 2013.
ENDNOTES

22 This chart considers the most recent attestation in each program year of all Eligible Professionals who have participated in the Medicaid EHR Incentive Program since 2013. It estimates the current CEHRT year landscape in each year based on the most recent available information for all providers. If a provider did not participate in a particular year, their most recent attestation information is carried over from a previous year. Some providers may have adopted 2015 CEHRT after ending their participation in MEHRIP which would not be reflected in these rates.

23 Behavioral health EHR information is largely based on the OHA behavioral health HIT scan, conducted from 2017-2019. Responses were self-reported with a 71% response rate and combined with other existing Office of Health IT data sources to obtain a fuller assessment of behavioral health EHR use, though information gaps still likely remain. For more information, refer to the Behavioral Health IT Workgroup and BH HIT Scan materials at https://www.oregon.gov/oha/HPA/OHIT-HITOC/Pages/Behavioral-Health-HIT.aspx

HIE Data Brief

24 OHA and the Oregon Health Leadership Council partnered to launch Oregon’s Emergency Department Information Exchange (EDie) with all Oregon hospitals agreeing to implement EDie by the end of 2014.


26 Collective Medical Technologies recently changed the name of EDie/PreManage to The Collective Platform. This report uses the name EDie/PreManage due to its historical use and familiarity with the name.


28 Efforts around “community information exchange” and the social determinants of health are developing and emerging in Oregon and around the country. The HIT Commons, a public-private partnership, is working on efforts to further develop CIE in Oregon, to link health care and social services sectors through technology. CIEs typically include a social services resource directory and referral management. For more information, see: http://www.orhealthleadershipcouncil.org/currently-in-development/

29 Both ONC and CMS have proposed changes to federal rules related to interoperability, which have been released in draft, but not yet finalized. For more information, see: https://www.healthit.gov/topic/laws-regulation-and-policy/notice-proposed-rulemaking-improve-interoperability-health and https://www.cms.gov/newsroom/fact-sheets/cms-advances-interoperability-patient-access-health-data-through-new-proposals. For further information on the Trusted Exchange Framework and Common Agreement, please see: https://www.healthit.gov/topic/interoperability/trusted-exchange-framework-and-common-agreement

30 Medicaid Dental Care Organizations (DCOs) mainly use the platform to redirect non-urgent ED use for oral issues to a patient’s primary dental provider. The dental clinics themselves are not active users but DCOs take the lead to coordinate follow up care for members recently admitting to the ED. This work flow has been identified by DCOs as the best use of time and resources in the dental field, rather than to onboard the clinics themselves.

31 Oregon’s Department of Human Services is responsible for programs that support Oregonians in need of services related to aging and disabilities, including intellectual and developmental disabilities. These programs are managed by local field offices or contracted to local Area Agencies on Aging. For more data on the impact of EDie/PreManage, see http://www.orhealthleadershipcouncil.org/edie-premanage-data-and-reports/

32 Care Guidelines are a part of PreManage intended to deliver brief, critical information to emergency department providers at the point of care. They include care recommendations, explanations of past coordinated care efforts, pain management guidelines, and other information.

33 Chart displays the top two thousand, top four thousand, and total number of prescribers who wrote prescriptions for controlled substances in Oregon in July-September of 2019, along with the percent who were enrolled in the Prescription Drug Monitoring Program and the percent who viewed a report from the PDMP.

34 See OHA’s CCO 2.0 Request For Applications, section on HIT: https://www.oregon.gov/oha/OHPB/CCODocuments/08-CCO-RFA-4690-0-Attachment-9-HIT-Questionnaire-Final.pdf

35 From the Behavioral Health HIT Scan – finding #4: “In addition to EHRs, a subset of behavioral health agencies have invested in data analytics (22%), population management (10%), and care coordination (13%) tools (see chart “Other IT in Use (Non-EHR)” on page 10). As in the physical health system of care, behavioral health providers are increasingly being required to report on various metrics and participate in value-based payment, and so are increasingly prioritizing their data needs.” https://www.oregon.gov/oha/HPA/OHIT-HITOC/BH%20HIT%20WG%20Docs/BH_HIT_ReportDraft.pdf