



Introduction

The [Health Information Exchange \(HIE\) Workgroup](#) has been tasked by the [Health Information Technology Oversight Council \(HITOC\)](#) to assist them and the Oregon Health Authority (OHA) with developing a set of strategies and recommendations to accelerate, support, and improve HIE across the state.

Beginning in May 2022, the HIE Workgroup met monthly to discuss priority HIE needs and opportunities in Oregon including a wide breadth of activities that fall under the umbrella of health system transformation efforts—including care coordination, risk stratification, quality metrics and reporting, targeted interventions, and alternative payment methodologies like value-based payment (VBP)¹. The HIE Workgroup discussed these concepts under the framing of population health, which refers to a broad set of activities aimed at improving the health of populations of people, as distinct from an individual’s health. In Oregon’s ever-evolving health care landscape, health plans, health care providers, public health agencies, researchers, and other entities use HIE data to understand the health care system and population health in unique and innovative ways. A unifying theme of these efforts is the need for timely and comprehensive health information. The following concept paper summarizes recommendations for how HIE can support these health system transformation and population health activities, with a particular focus on quality improvement and VBP and how HIE can continue to improve the health of all people and communities in Oregon.

There is reference throughout this paper to HIE, electronic health records (EHRs), interoperability and other terms used regularly in this policy area. For definitions and other information, please review the [Statewide Vision for HIE](#) concept paper. This paper also refers to strategies that touch on social determinants of health (SDOH). Please also refer to the [Demonstrating Value with SDOH Use Cases of HIE](#) concept paper for more information.

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¹ See Helpful Definitions on page 14.



Context of HIE, Population Health, and Health System Transformation in Oregon

Historically, many federal and state HIE efforts have focused on ensuring that providers have the information they need, at the right time, to better serve patients. HIEs throughout the country were first valuable in supporting provider coordination at the point of care—whether it be at a primary care provider’s office or a hospital emergency department.

As the health care industry has evolved to identify and target health outcomes of populations in addition to the outcomes of individuals, HIE solutions have supported efforts to aggregate and combine information to support these efforts, including:

- Quality measurement and performance tracking
- Care coordination and care gaps identification
- Chronic disease prevention and management
- Analytics including risk stratification and predictive modeling

Managing population health was initially under the purview of health plans, many of which continue to hold population-level data collection and analytics as a core competency of their business. Oregon’s coordinated care model for Medicaid incentivizes these activities by requiring coordinated care organizations (CCOs) to manage physical, behavioral, and oral health needs of Medicaid beneficiaries under a global budget.

The Role of Health Plans in HIE

The role of health plans in HIE has changed substantially with the growth of managed care, and in Oregon, the CCO model. Health plans and CCOs are required to provide care coordination and case management services. Data collection to support these coordination activities can be costly and either done manually or through point-to-point connections that do not scale. Health plans/CCOs are also accountable for quality measures that they must collect from providers in their networks. Health plans benefit from HIE strategies and tools where data are collected and aggregated across broad provider networks and may be leveraged for metrics reporting, analytics, communicating with providers, operational efficiencies, and other needs. Due to the importance of these data, health plans and CCOs often support the financial sustainability of HIE solutions or tools they value, making them a key partner when thinking about how HIE should be advanced across the state and how individual HIE solutions are sustained financially over time.

Oregon’s HIE strategy must consider the role and needs of health plans (in addition to providers and other end users) to achieve long term HIE success and sustainability.



Health plans and CCOs have also been incentivized to move away from fee-for-service payments to providers for health care services in favor of value-based payment or VBP, where providers are rewarded for the value of health care services provided (as measured by patient health outcomes). See the Helpful Definitions section on page 14 for a definition of VBP. VBP is an important driver of transformation as it requires provider investment in population health strategies and ties provider payment to performance on quality measures. This movement is leading to an increase in population health activities performed by both providers and health plans to promote overall better health.

CCOs and health plans collect, analyze, and make data available through population management tools, HIE tools, and analytics reports. For example, CCOs rely on health IT to support VBP in the following ways:

- Managing population health effectively through insight into member characteristics, utilization and risk;
- Supporting providers with data needed to manage their VBP arrangements (such as actionable data to close gaps in care, lists of patients assigned/attributed by the CCO to the clinic, and information on performance); and
- Administering payments to providers (for example, to calculate metrics and make payments consistent with its VBP models).

Many providers also use population health tools to identify and manage patient risk (although current data inputs may be limited), track care gaps, report quality measures, perform care coordination, but also to show the impact they can have on patient populations and to better advocate for favorable VBP arrangements. Many VBP arrangements to date in Oregon have focused on primary care, but Oregon has established goals for VBP adoption that will require VBP arrangements with hospitals, maternity care and other specialties into the future.

Providers that are anticipating these payment models, or are already participating in VBP arrangements, will need HIE-informed methods for identifying patient risk and organizing their patient populations. The HIE Workgroup noted data challenges for providers in accomplishing this goal, including the timeliness of data they can access, the cost of these population health tools (particularly for smaller clinics or rural community providers), and the issue of having to combine multiple siloed data sources together to obtain data for their entire patient panel.

Population health includes identifying and assessing the risk of populations of patients. This requires significant amounts of information from a variety of sources, including both clinical and non-clinical data like social determinants of health (SDOH) (for a more complete discussion of how HIE can support the sharing of SDOH information, please review the [Demonstrating Value with SDOH Use Cases of HIE](#) concept paper). Furthermore, many of these data sources are siloed, and given the breadth of data sources needed, HIE can be crucial in facilitating and optimizing this data access.



An Example of Population Health Approaches: Diabetes

Providers and/or health plans use population health approaches to achieve better health outcomes, at lower costs, for groups of patients, such as those with diabetes. This can include the use of HIE solutions to proactively identify diabetes patients earlier through disease registries and EHR data and utilizing multi-disciplinary care teams, provider feedback, and decision support tools to target and care for patients at risk for poor outcomes. Existing evidence suggests that these strategies can improve care outcomes and potentially reduce existing racial/ethnic disparities in health care. To support population health management for diabetic patient populations, technology can help:

- Identify diabetic patients with the highest risk of high cholesterol, hypertension, heart disease, or periodontal (gum) disease.
- Monitor and report on key indicators for diabetes complications.
- Rank patients by number of care gaps or other risks to prioritize outreach efforts and/or promote interdisciplinary care across multiple provider settings.
- Measure the success of diabetes management interventions.
- Discover variations in diabetes care across an organization or a provider network.
- Understand how diabetes care affects an organization's costs.
- Share this information across a full care team that promotes “no wrong door” for the patient to get the help they need.

Breadth of health system transformation and population health activities requires multiple tools, including HIE

Given the breadth of activities discussed above that fall within the scope of health system transformation, it is difficult to identify a single tool or a set of tools that most organizations would need to address transformation and population health aims. The Workgroup heard from a panel of population health experts that a wide variety of technology tools are in use in Oregon today to help perform population health activities, as included in Table 1 below.



Table 1: Population health activities and tools identified for the HIE Workgroup by population health panel²:

Population health activities identified for the Workgroup	Technology solutions identified as supporting population health activities
<ul style="list-style-type: none"> • Patient risk identification/stratification • Patient outreach for closing gaps in care (e.g., cancer screenings, vaccinations, etc.) and addressing transitions in care • Identifying high utilizers (e.g., emergency department utilization, inpatient admissions or discharges, outliers in other services) • Addressing social determinants of health (SDOH), e.g., housing, etc. • Ensuring patients are receiving needed services by protecting health care insurance coverage and optimizing benefits • Health care system navigation services • Case management for complex needs • Activities related to patient-centered primary care home certification • Quality metrics and reporting 	<ul style="list-style-type: none"> • EHRs for clinical information • EHR population health modules that support population health activities • In-house data repository or data warehouse • Medical and pharmacy claims data • Health information exchange aggregated clinical data (e.g., Reliance) • Hospital event notifications (e.g., Collective Medical platform) • Health plan-hosted portals for providers to manage patient panels (e.g., attribution and assignment information) • Community information exchange (CIE) systems (e.g., Connect Oregon, findhelp) for social need referral information • Payer-agnostic quality data reporting (e.g., Comagine provider portal) • Predictive modeling tools • Risk assessment tools

As observed by the HIE Workgroup, many population health, data aggregation, and analytical processes are currently burdensome and/or difficult to standardize across different entities. However, there is an opportunity to further leverage HIE solutions to support these processes in more effective and innovative ways. For example, HITOC observed that the costly nature of accessing members’ clinical data from EHR systems and other activities that health plans employ to collect data from their provider partners could be alleviated by leveraging more cost-effective HIE strategies.

² Panelists included leaders from multiple coordinated care organizations and medical groups to ensure that both the health plan and provider perspectives were heard. See the June 16, 2023 HIE Workgroup meeting for more information: <https://www.oregon.gov/oha/hpa/ohit-hitoc/pages/hieWorkgroup.aspx>.



Overarching HIE Objectives and Strategies

As described in the [Statewide Vision for HIE](#) concept paper, there are two overarching objectives identified by the HIE Workgroup that relate to *HIE to Support Health System Transformation*, each with a set of strategies. These overarching components apply to each of the focus areas described in the rest of this paper. For more information about these objectives, refer to the [Statewide Vision for HIE](#) concept paper.

Objective 4: Support population health and quality improvement activities

Future strategies identified by the Workgroup include:

- **Short-term priority strategy:** Support broad sharing of claims data as a key step to encourage broader use of HIE and interoperable tools to support population health activities in Oregon³ (see more below in the focused recommendations to support quality improvement and VBP)
- Increase the use of data and technology for VBP
- Develop HIE strategies that help address issues around provider-patient attribution, or “assignment,” which are often a challenging component of many VBP arrangements

Objective 5: Promote knowledge of HIE and broad contribution of data by all parties

Educate and influence Oregon entities to participate more broadly in HIE. For example:

- Identify and prioritize the standardized and non-standardized data that should be included in HIE efforts
- Prioritize who should contribute data and when
- Identify barriers to information sharing and develop mechanisms to address these barriers and discourage data silos, which may include governance or even legislative efforts

Overarching Success Outcome

In addition to the overarching recommendations above, as well as the focused recommendations provided in each section below, the Workgroup also identified a potential success outcome that could measure the progress of HIE in supporting population health and health system transformation efforts:

³ CMS recently announced a proposed rule to require health plans to share claims data with providers via application program interfaces (APIs) by 2026. The Workgroup discussed how these API requirements might coincide with HIE strategy and the conclusion was that Oregon health plans are simply not experienced enough in this space to predict how these APIs might contribute to this HIE strategy.



Success Outcome:

- Eliminate the fax machine, spreadsheets, and other manual methods of communicating and coordinating population health in Oregon.

Access to High Value Data Sets through HIE for Population Health and Health System Transformation Activities

The Workgroup identified early in its discussions that future activities should focus on improving access to timely, high value data sets through HIE for population health and health system transformation activities. The Workgroup decided this step was a necessary prerequisite to other strategies such as promoting the use or adoption of specific tools or functionality (e.g., data visualizations, predictive modeling, quality metrics reporting, etc.).

Given the importance of health system-level use cases of HIE to health plans in Oregon, the Workgroup identified the following types of information as helpful to be shared via HIE to further transformation efforts in Oregon:

- Patient demographics (including race, ethnicity, language, and disability (REALD), and sexual orientation and gender identity (SOGI) information)
- Data to support care team collaboration (e.g., accurate, timely information about who is on a person's care team, etc.)
- Patient/provider assignment information (e.g., data from health plans about which clinic/provider a patient is assigned to for VBP or other purpose)
- Data on various types of risk (e.g., housing insecurity, emergency department usage, chronic condition diagnoses, etc.)
- Labs or physician orders, including care gaps such as patients who should be receiving tests or other services
- Data from OHA-held reporting systems
- Data from Oregon Department of Human Services (ODHS) programs or other state agencies
- Criminal justice information (including juvenile justice systems)

The HIE Workgroup as well as HITOC highlighted that the value of data is dependent on the type of end user—for example, clinical codes from EHRs might be highly valuable for a provider who is trained to use them but might not be useful to a peer navigator that has no clinical data training. Education, training, and ongoing governance of HIE systems can help ensure that the relative value of different data sets is accounted for and balanced in terms of HIE solution offerings across the state.

Furthermore, HITOC noted the importance of considering the patient and their caregiver when identifying and including high value data in HIE solutions. Historically, data has been used in



ways that could negatively impact patients. See the [Consumers, Privacy & Security, and Data Quality](#) concept paper for additional discussion of the important role of patients and consumers.

Focused Recommendation:

1. **HIE should improve access to high value data for population health use cases.** In the short term, efforts should focus on the data types identified by the HIE Workgroup listed above and consider the priorities of patients/consumers in interacting with the health care system.

HIE to Support Workflows and Transactions Between Health Plans and Providers

Health system transformation efforts attempt to make the health care system work more effectively, cost less money, and be easier for patients to navigate. To that end, health plans and providers must work together to collect and share health information. The Workgroup recognized that HIE solutions will likely see wider success in adoption and use for transformation activities if they prioritize use cases that streamline or automate standard transactions between providers and health plans. Most health plans use technology solutions (including HIE) today to streamline communication with the many providers they work with, including communicating care gaps and enrollment in care coordination programs, amongst other needs to support population health. HIE can also automate health plan processes that in the past were manual or more time consuming. For example, health plans perform utilization review of health care services for their members. With hospital encounters much of this information had to be faxed to the health plan. HIE now allows some of these processes to shift from heavily manual reporting processes, taking time and resources away from patient care, to automated processes using data sources like HL7 admit, discharge, transfer (ADT) feeds.⁴ The Workgroup spent time discussing what kinds of data flowing through HIE could be used to assist with expanding upon these promising examples and do more to promote HIE adoption and use through automation of standard business transactions between health plans and providers.

Focused Recommendations:

2. **HIE should support standardized workflows for common transactions between payers and all providers.** This includes quality reporting, communicating health plan information to providers, and other workflows, such as standardizing data submitted for payment of health care services. One example of a common transaction relates to prior

⁴ HL7 refers to Health Level Seven, a set of international standards for transfer of clinical and administrative data between software applications used by various healthcare providers. ADT specifically is generated by EHR systems to identify quickly where a patient is located within a setting of care (e.g., a hospital or a clinic).



authorizations, which are required before health plans reimburse providers for specific services. The Centers for Medicare & Medicaid Services (CMS) recently announced a proposed interoperability rule that would require health plans to make data on prior authorizations available to their providers and members via application programming interfaces (APIs).⁵ Oregon could build upon this momentum, for example, by leveraging HIE solutions to aggregate prior authorization information across patients and make it available to provider end users. Another example offered by Workgroup members might be to standardize clinical data requests from health plans to their provider partners, particularly as common quality measure specifications like the Healthcare Effectiveness Data and Information Set (HEDIS) shift to use more clinical data. Today health plans use different formats and specifications for these requests.

HIE Support for Quality Improvement

Information is key to understanding the performance of Oregon's health care system, including key domains like patient safety, patient satisfaction, quality of care, and organizational efficiency. Health plans and providers are held accountable to specific measures of quality, typically at the population health level. For example, state or federally funded insurance programs like Medicare and Medicaid hold participating health plans accountable for quality measures that are designed to promote better health outcomes and reduce health inequities. Most activities that can improve these measures—e.g., controlled A1C measurement for diabetics; reduced hospital readmissions, etc.—are performed by providers as opposed to health plans. This shared accountability means that health plans and their partnering providers need tools to exchange data quickly and in ways that make it easy to understand and respond.

Payers transitioning from claims to clinical data, and providers transitioning from clinical to claims data

One of the current challenges to using HIE for quality improvement is that HIEs predominantly share clinical data sourced directly from EHRs, while health plans that are accountable to many quality improvement efforts use claims information for daily operations like reporting on quality metrics based on claims/administrative data (although metrics based on clinical data are also used). Claims information is created when providers bill for services and includes information about what services and procedures were performed. Claims can be used to understand health care utilization and cost of both individual patients and populations of patients based on shared characteristics. Medical claims are reported after services have already occurred and processing them can delay their utility for timely quality improvement efforts. Health plans face challenges in shifting from a claims data infrastructure (that is time-lagged and retrospective in nature) to one that uses more timely information from EHRs or

⁵ <https://www.federalregister.gov/documents/2022/12/13/2022-26479/medicare-and-medicaid-programs-patient-protection-and-affordable-care-act-advancing-interoperability>



other clinical tools to address quality improvement in closer to real time. This is compounded by the difficulty that HIE vendors themselves also struggle with, as real-time clinical data may come in through HIE in different formats, at different times, and for different purposes as compared to claims data.

Despite these challenges, the Workgroup discussed HIE solutions facilitating access to claims information for health care providers as an important short-term step towards the statewide vision for HIE (see [Statewide Vision for HIE](#) concept paper). This is particularly important for providers that are taking on additional quality improvement efforts like participating in value-based payment (see below). Claims information can help contextualize patient populations for providers, allowing them to stratify patients into different groups of risk and target special interventions like intensive case management for the groups that would most benefit. However, presently in Oregon, claims information is shared with providers in a piecemeal way or not at all. This data sharing occurs primarily through health plan-hosted web portals as opposed to broader-based HIE solutions.

Beyond claims, the Workgroup also acknowledged that HIE solutions could be doing more to facilitate data sharing between providers' EHR systems and health plans' IT systems broadly. The goal of this would be bidirectional data exchange, which allows both health plans and providers to access the insights they need (as opposed to just unidirectionally from providers' systems to health plans). Notably, health plans are beginning to purchase data solutions from EHR vendors (such as Epic Payer) that work with large proportions of their provider network. While this is an effective approach for those with the necessary resources, not all health plans in Oregon are able to afford such strategies. Nor does this approach guarantee data from health plans will be used to benefit providers, it could encourage additional unidirectional approaches which do not promote health equity or the statewide vision for HIE outlined in the [Statewide Vision for HIE](#) concept paper.

Success Outcome:

- Health plans and health care providers experience reduced administrative burden, and associated costs, through the use of HIE solutions.

Focused Recommendations:

3. **HIE should facilitate improved data sharing between providers and health plans –** to allow both health plans and providers to access the insights they need for population management, quality improvement, and value-based payment efforts. This should include HIE continuing to support aggregating providers' clinical data for use by payers but should also support bidirectional exchange and should facilitate provider access to payer-held data. These efforts should leverage federal requirements for payer/provider APIs.



4. **Improve access to claims information for providers**. As mentioned above, the Workgroup views claims data as an important short-term step toward future-state interoperability. Claims provide a useful retrospective look at longitudinal patient care. The Workgroup recommends the development of processes and/or support of federal regulatory efforts that would allow HIE solutions to share claims with providers in a standardized way. These data could be leveraged at the population level for reports related to quality metrics and/or value-based payment initiatives (see below). The Workgroup encourages HITOC to identify methods for achieving this recommendation that utilize existing resources rather than building new systems or technologies. HITOC's future work should recognize the changes coming with federal API requirements for payers to share claims data with providers.

HIE Support for Value-Based Payment

Both the federal Centers for Medicare & Medicaid Services (CMS) and Oregon's Medicaid program are committed to increasing the use of value-based payment (VBP)⁶ for health care services. CCOs and Medicare Advantage health plans are required to meet significant thresholds for the use of VBP arrangements.

VBP refers to paying for health care not based on the services provided, but instead based on some measure of value. There are many different examples of VBP models, from pay-for-performance to global budget arrangements that put increased financial risk on the health care provider for a patient's care. Dozens of health care entities in Oregon have signed the Oregon Value-based Payment Compact, a voluntary compact, jointly sponsored by OHA and the Oregon Health Leadership Council, aimed to increase the use of VBP in Oregon.⁷ This compact has identified several activities to promote VBP in Oregon, including a provider-facing toolkit, and consensus-driven VBP models that would be open source for health plans and providers to implement in Oregon.

The Compact and its VBP toolkit emphasize the importance of information and data infrastructure to achieving the goals of VBP. When providers enter VBP arrangements with health plans, they typically agree to specific quality measures for the duration of the VBP contract. This typically requires data sharing that could occur through HIE. The arrangement might also make the provider more financially liable for health care outcomes of a patient population, which changes the type and amount of data a provider needs to assess and manage risk. For example, currently in Oregon, many providers are not able to assess the total costs of a patient to the health care system if they were to accept a capitated payment rate for a population of patients in a VBP contract. Health plans often provide this type of information from their own hosted web portals, but providers often lack the tools to properly ingest and

⁶ See Helpful Definitions on page 14.

⁷ <https://orhealthleadershipcouncil.org/oregon-value-based-payment-compact/>



make use of this information within their own organization. Furthermore, they also work with multiple health plans and might have upwards of dozens of different VBP arrangements across these relationships. HIE can be used to help alleviate the complexity of these activities by centralizing and standardizing this type of information sharing.

The VBP Compact has identified the following technical data capabilities that providers should have when considering VBP:

- Ability to pull a list of patients/members attributed to each practice/clinician as applicable, including relevant demographic and geographic data;
- Ability to stratify this attributed population based on specific risk criteria (payers may use specific diagnosis-based tools that allocate members based on risk scores into groups such as low risk, medium risk, rising risk and/or high risk in terms of potential for costly utilization);
- Ability to promptly access/share data on member utilization and outcomes with the care team;
- Ability to quickly communicate gaps in care at the point of care;
- Ability to aggregate clinical and other data from multiple sources (e.g., practices integrating data from external portals), and
- Ability to submit custom reports to payers for metrics management and to meet VBP targets.

The HIE Workgroup has identified a few areas where HIE could aid in successful implementation of VBP. For example, many VBP models require a specific provider assignment to achieve the accountability to drive better patient care. Provider assignment is the result of health plan attribution models that differ by health plan and are not always clear to providers or patients⁸. HIE can be used to communicate provider assignment for VBP arrangements across multiple payers and VBP arrangements that would help to clarify this accountability and aid providers in refocusing their outreach efforts with patients.

Another opportunity for HIE to support VBP is with regard to care gaps. Care gaps include things like missing cancer screenings, missed vaccinations, and other unmet preventive care measures which can significantly impact population level health outcomes. Health plans typically track these gaps through analysis of health care claims. They can be communicated back to providers via HIE solutions and tools that are used for population management and care coordination. If this is done in a workflow that supports providers at the point of care, it

⁸ Noting that in 2021, SB 1529 was passed which requires health plans to assign members to a provider within 90 days of enrollment. Oregon rules are currently being developed which may impact patient/provider attribution processes in Oregon.



can lead to a provider closing the care gap in real time, eliminating duplicative services and likely improving patient experience.

Success outcome:

- Providers experience less burden when participating in VBP while simultaneously meeting the VBP goals of the VBP Compact by 2025.

Focused Recommendations:

4. **Improve access to claims information for providers.** As mentioned above, the Workgroup recommends a concerted effort to share claims data with providers as a means to quickly understand patient risk and care needs. This is critical for VBP arrangements, where providers are taking on enhanced financial risk for patient care. Access to additional claims information from disparate payers via HIE solutions can allow providers to integrate data on patient populations across multiple payers, making it less administratively burdensome for them to consume information about their full patient panel. As mentioned above, the Workgroup encourages HITOC to assess existing resources and recognize the changes coming with federal API requirements for payers to share claims data with providers.



Helpful Definitions

Value-Based Payment (VBP) refers to payments to a provider that explicitly reward the value that can be produced through the provision of health care services to payer members. This contrasts with traditional health care payment which charges fees for each service rendered, also known as fee-for-service. There are different models of VBP, including pay for performance and population-based payments. For more information about VBP, please visit the website for the Health Care Payment Learning & Action Network, <https://hcp-lan.org/about-us/>.

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