Oregon's Health Care Data: Mapping a Path Forward

September 2016

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Introduction

Oregon has invested many years, and significant state and federal funds, in an ambitious effort to transform health care for its residents. Using its power as a purchaser of health insurance for Medicaid members and state employees to drive change, the state has taken a leading role in supporting, incentivizing, and measuring the progress of transformation. From high-level policy, to care delivery, and to individuals actively managing their health and health care, effective data systems are an integral part of a health care system that delivers on the Triple Aim.

A number of state agencies and related boards, task forces and workgroups established to carry out transformation activities are shaping policy, and designing and managing the infrastructure necessary to effectively implement and monitor a transformed health care system.

The collection and use of health care data is essential to, influences, and is influenced by, these efforts. Several related efforts—the Oregon Health Policy Board and Medicaid Waiver, Oregon's Office of Health Information Technology, and Public Health Modernization—are an essential framework for stakeholder input and recommendations for the collection and use of health care data.

Senate Bill 440 directs the Oregon Health Policy Board (OHPB), in consultation with state agencies including the Oregon Health Authority (OHA), the Department of Human Services (DHS) and the Department of Consumer and Business Services (DCBS), to deliver this plan for the collection and use of health care data to the legislature. A summary of the bill is included as Appendix F.

The Resource Inventory (Appendix C) is an annotated bibliography of over 40 additional key initiatives, strategic and business plans, and published resources that provides important context for a comprehensive approach to the collection and use of health care data, as well as other aims of Senate Bill 440.

Oregon Health Policy Board Focus Areas

Health System Transformation

Health Care Workforce Issues

Public Health Modernization

Behavioral Health Integration

Oral health Integration

Value Based Payment Reform

High-cost Pharmacy Issues

Stakeholder Feedback Broad Themes

Leadership and Vision

Equity and Social Determinants of Health

Alignment of Public and Private Sectors

Lack of data connectivity

Actionable Data

Data Gaps

OHPB and Medicaid Waiver Set Transformation Priorities

In 2010, the Oregon Health Policy Board (OHPB, then called the Oregon Health Fund Board), identified its top priorities for health care transformation, modeled on the components of the Triple Aim.

[1] The Triple Aim is a framework developed by the Institute for Healthcare Improvement to optimize health system performance by simultaneously pursuing three dimensions:

1. Improving the patient experience of care (including quality and satisfaction);
2. Improving the health of populations; and
3. Reducing the per capita cost of health care.

Those priorities are captured in the objectives from Oregon's *Action Plan for Health*, which the OHPB reaffirmed January 2016, with the addition of some shorter-term topic areas of focus.[2] [3] [4]

Oregon's plans for health care transformation from 2012-2017 are detailed in the Medicaid demonstration waiver filed by the OHA. The waiver serves as a reference point for how Oregon's priorities and Medicaid goals translate into policy. The 2017 renewal request describes how Oregon will continue and expand all of the elements of the 2012 waiver, particularly around integration of behavioral, physical and oral health integration, and declares a significant focus on social determinants of health, population health, and health care quality.[5]

OHPB is responsible for monitoring, oversight, and policy development in the following focus areas:

- Health System Transformation (including Coordinated Care Organizations)
- Healthcare workforce issues (Healthcare Workforce Committee)
- Health Information Technology (Health Information Oversight Committee)
- Public Health system & Modernization efforts (Public Health Advisory Board)

OHPB has the following timely focus areas, each examined and developed through a Health Equity lens:

- Behavioral Health System
- System integration: physical, behavioral and oral health
- SB 440: metrics alignment
- High-cost pharmacy issues

Value-based payment/Payment reform

The priorities established by the OHPB and Medicaid waiver guided the gathering of stakeholder input and development of the recommendations in this report, particularly as they relate to data gaps, alignment, and interoperability specific to these areas.

State Health Information Technology

In fall 2013, an Oregon Health Information Technology (HIT) Task Force worked to synthesize stakeholder feedback about HIT infrastructure necessary to support Oregon's health care transformation efforts. Finalized in 2014, the workgroup produced *Oregon's Business Plan framework* *for health information technology and health information exchange (2014-2017)*. The document lays out the vision and goals for Oregon's Office of Health Information Technology through 2017. It articulates the State's role in achieving HIT-optimized care, and clarifies what health information technology that optimized care would require. The recommendations created for this document reflect the alignment between OHPB and OHA priorities and the *Business Plan.*

Public Health Modernization

In 2014, OHA convened a task force to consider the challenges of providing public health services in 21st century Oregon. The result is *Modernizing Oregon's public health system*, a report detailing the competencies every public health agency should offer. The recommendations in this report address data to help support several of those competencies, including health equity and cultural responsiveness, community partnership development, and policy and planning.

About this Report

Serving as a resource for both the OHPB and the Oregon State Legislature as they implement additional activities required by Senate Bill 440, this report includes the following elements:

- **State Data Inventory and Gap Analysis**, a comprehensive review of more than 100 existing state-managed data sources and key data sets maintained by the private sector, including notable gaps and limitations to using these datasets to assess and monitor population health and health system transformation
- **Stakeholder Input Analysis and Key Findings** as they relate to OHPB focus areas, specific stakeholder groups, and a summary of the six broad themes derived from all stakeholder input
- **Recommendations** that respond to the findings, organized by [urgency] according to whether the recommendation relates to policy or to implementation.

Oregon Health Care Quality Corporation (Q Corp) is an independent, nonprofit organization dedicated to improving the quality and affordability of health care in Oregon. Q Corp leads community collaboration and produces unbiased information to support health care transformation efforts across the state and nationally. *Oregon's Health Care Data: Mapping a Path Forward* was produced by Q Corp in consultation with staff from the Oregon Health Authority Office of Health Analytics. Q Corp has included disclosure information on its relationship to both OHA and health care data and analytics work in Oregon in Appendix E.

Data Inventory and Gap Analysis

Hundreds of health and health care data sources inform the work of policymakers, health care and social service providers, and other Oregon stakeholders. The Data Source Inventory (Appendix B) describes more than 100 of Oregon's current data assets, primarily those maintained by three state agencies: OHA, DHS, and DCBS. It also includes privately held data with potential for use as a community resource. The following information is included for each data set, as applicable: data set purpose and use; known gaps, limitations and redundancies; barriers to sharing information; data collection accountability; and dissemination of data through reports.

Existing State Data Sources

Each state agency impacted by SB 440 uses or maintains its own data sets. The OHA manages 96 databases; OHA database owners provided detailed information for 77 of those databases. These data sources relate to a broad range of programs administered by OHA, including public health surveillance and health promotion activities, health care regulations and licensing, and health policy and analytics activities.

OHA
96 Databases
(Inventory includes 77)
Primary Uses of Data

- Program administration
- Public health surveillance
- Health promotion activities
- Health care regulations and licensing
- Health policy and analytics

A list of major DHS data systems indicates 19 data sources maintained or used by the agency to track eligibility for various aid programs, including Medicaid and SNAP. [6] DHS is also responsible for paying claims from home care workers, and for regulating Aging/Physical Disability facilities. DHS data owners provided information on 12 data sources.

DHS
19 Databases
(Inventory includes 12)
Primary Uses of Data

- Tracking for aid programs (e.g. Supplemental Nutrition Assistance Program, SNAP)
- Paying claims for home care workers
- Regulating aging and physical disability facilities

DCBS maintains or uses 33 data sources related to the health insurance industry, primarily in support of health insurance rate review activities. While much of their operations depend upon data that insurers report to the National Association of Insurance Commissioners, DCBS will occasionally issue "data calls" to the insurance carriers for supplemental information. DCBS is also pursuing regular use of data from the All Payer All Claims database (APAC) in an effort to provide additional information for the rate review process, and as a move toward administrative efficiency.

DCBS
33 Databases
Primary Uses of Data

- Rate review
- Ongoing regulatory functions

Private Data Sources

A large number of private organizations possess cost, clinical or claims data that could help create a more complete picture of the health care provided in Oregon. Examples include, but are not limited to:

- Apprise Health Insights, which aggregates hospital data;
- Jefferson Health Information Exchange (Jefferson HIE) which is an integrated HIE that includes a community-wide electronic health record, a provider-to-provider referral system and secure messaging;
- OCHIN, which offers an integrated Epic Electronic Health Record (EHR) solution for federally qualified health centers;
- Oregon Health Leadership Council (OHLC), which operates the Emergency Department Information Exchange (EDIE) and Premanage, which push emergency department visit data to providers and health insurers;
- Oregon Health Care Quality Corporation, which operates a multi-payer claims database and a data center for maternity care in Oregon;
- Individual health plans and health systems, and independent practice associations.

Clinical registries, such as those for specific cancers, asthma, or arthritis, contain patient and treatment information, and are a potential source of outcome data that could provide rich information to various stakeholders. Data in these registries is often collected at a national level, is disease-specific, not usually integrated with other sources of data, and often constrained by privacy or confidentiality provisions that make broader use of the data difficult. The Data Source Inventory includes a sample of better-known registries as an example of the type of information that is available.

While these private data sources do not represent a comprehensive list of entities that collect health care data in Oregon, they reinforce the value of exploring how partnerships between the public and private sector could reduce duplication of effort, provide efficiency, and address data gaps.

Increasingly, clinics are using and reporting data from their EHRs. Starting this year, Coordinated Care Organizations will submit patient-level data for their Medicaid members to the OHA. This process will serve as a test, as OHA plans to receive reports on EHR-based measures through a Clinical Quality Metrics Registry (CQMR), planned for 2018.[7]

Data Gaps and Limitations

The following are gaps and limitations for the existing state data sources included in the Data Resource Inventory. Broader data gaps identified by community stakeholders, and inclusive of privately held datasets, is included under the Broad Themes (Data Gaps) in the Stakeholder Input section of this report.

Gaps

Provider Directory Information

State and community data users confirmed the need for a provider directory that includes the following information at a minimum: national provider identifier (NPI), provider specialty, clinic, and health system affiliation. Ideally, the provider directory would also include provider network affiliations for health plan and Coordinated Care Organizations (CCOs).

The OHA is currently developing a statewide Provider Directory that will leverage data from existing, authoritative data sources including the forthcoming Common Credentialing program, in accordance in *Oregon's Business Plan Framework.* OHA has announced plans for a request for proposals via Harris Corporation, which asked interested parties to submit an intent to bid in early August 2016; these systems are scheduled to launch in 2017. The Office of Health Information Technology established the Provider Directory Advisory Group (PDAG) in 2015, which includes representatives from health systems, providers, health plans, and researchers. The PDAG serves as the external subject matter expert and stakeholder body to inform and guide OHA efforts related to statewide provider directory services, helping to define specifications for various use cases, and to prioritize developing those use cases for the Directory.

Developed incrementally, the Provider Directory will initially focus on combining existing sources of data about providers, including:[8]

1. The authoritative provider directory data from the Common Credentialing program;
2. Provider directories that comply with new standards for health care directories called Healthcare Provider Directory (HPD);[9]
3. Data from existing health care provider and facility directories via file exchange or upload;
4. Other key sources, including OHA and DHS

There are also existing provider directories maintained by the private sector, including dozens of health plans, hospitals, CCOs, and other healthcare entities. Oregon Health Care Quality Corporation maintains a provider directory that includes information on over 80 percent of Oregon's internal medicine, family practice, and pediatric physicians and primary care physician assistants and family nurse practitioners. In addition, the Collaborative for Health Information Technology in Oregon has developed a shared, secure, web-based provider directory. Given that most health care providers contract with a variety of health plans, a single, common directory could replace this multitude of directories to relieve administrative burden for the organizations who maintain and provide updates to each directory.

Demographic Information and Social Determinants of Health

Basic demographic information such as race, ethnicity, language, age, geography, income, education, and employment is essential for identifying and addressing the social determinants of health. Social determinants of health are life-enhancing resources, such as food supply, housing, economic and social relationships, transportation, education, and health care. The distribution of these resources across populations effectively determines length and quality of life.

Within the Data Source Inventory of state-sponsored data sources:

- There are 93 data sources where the collection of race/ethnicity data would be applicable; 61 (65%) of the data sources include information on race/ethnicity
- There are 92 data sources where the collection of language data would be applicable; 23 (25%) of the data sources include information on language
- There are 97 data sources where the collection of disability status would be applicable; 13 (13%) of the data sources include information on disability status
- A majority of the data sources adequately capture the age of individuals
- Many data sources capture some type of geographic information, but in many cases, it is not granular enough for further analysis. For example, data sources may capture the county of resident, but often do not contain information that allows the mapping of an individual to a specific census tract.

Other information related to social determinants of health (e.g. income, education, employment) is even sparser. When this data is collected, it is often done incorrectly and/or inconsistently, so availability of this data is limited. There are many reasons for the challenges related to collecting this data. Clinicians or health care workers may not feel comfortable asking for it, or may include inaccurate information to complete a form, and individuals will often decline to provide the information. Additional stakeholder input and recommendations in this area are included in the Broad Themes – Equity and Social Determinants section.

Health Outcomes Data

Progress toward the Triple Aim requires data on quality, patient experience and outcomes, and cost. By design, traditional health care data sources (e.g. claims data) capture processes and facilitate payment, but health care transformation efforts in Oregon have prompted community-wide interest in more data on health outcomes. One proposed solution is the integration of electronic health records (EHRs) and clinical registry data with claims data, though there are many barriers to combining these data sources and validating the data across sources. There are significant technical challenges to integrating EHR data into current reporting systems. Considerations around patient confidentiality and other legal requirements confound many organizations. In addition, while this integration would potentially provide more data related to outcomes, the data collected in EHRs and clinical registries may not be the most robust source of outcome data.

Patient Experience Data

Another source of important data is patient surveys. However, this data is expensive to collect on a broad scale, and consensus is growing that the burden imposed on clinicians and patients by administering lengthy and complex surveys like the Consumer Assessment of Healthcare Providers and Systems (CAHPS) warrants re-examination. Within and outside of Oregon, organizations are pursuing validated, shorter survey instruments to collect patient experience data that is comprehensive, affordable to gather, and not considered burdensome to either patients or providers.

Self-Insured and Uninsured Populations

There is currently limited claims data available for populations that are self-insured or uninsured. Self-insured plans that are covered by the Employee Retirement Income Security Act of 1974 (ERISA) are not regulated by the Oregon Insurance Division. According to enrollment numbers produced by DCBS, as of December 31, 2015, there were approximately 710,000 Oregonians covered by ERISA plans, representing 18% of the insured population. DCBS does not collect cost or quality information for these members.

The state's APAC database was until recently a source for information on the self-insured population, because carriers that are required to report to APAC have historically included data for their self-insured members. However, the March 2016 Supreme Court decision in *Gobeille v. Liberty Mutual Insurance Co*. held that ERISA preempts, and thus invalidates, state all-payer claims database reporting requirements for self-funded employee health plans regulated by ERISA. In light of the Supreme Court decision, OHA is modifying its instructions for mandatory reporters to APAC to clarify that reporting for self-insured ERISA plans is now voluntary. It is unclear whether the carriers who share that data in their APAC submissions will continue to do so.

Data on the uninsured population is also missing from many of the major data sources collected by state agencies, including APAC. The 2015 Oregon Health Insurance Survey estimates of the number of uninsured Oregonians is 5.3% of the population.[10]

Information on Alternative Payment Methodologies

Part of Oregon's health system transformation includes adopting value-based payment strategies for healthcare. The state's collection and use of health care data should support this priority in three ways. First, the state should ensure its data reporting supports stakeholders who provide and pay for care to develop alternative payment methodologies (APMs) that incentize the delivery of high-value care. Second, as new payment methodologies are developed, the state should measure and report on the efficacy of these new models. Finally, as more and more payments are outside of the traditional fee-for-service system, the state and others must understand what data is lost in these transitions, and how they can continue capturing this data to support broader measurement and reporting.

In a report released in August 2016, the Health Care Purchasers Learning & Action Network determined that the development of alternative payment methodologies promote (and require) "availability and use of real-time comprehensive, patient-level data and information to inform clinical care, decision making, enable true integration of care, and improve care delivery and outcomes."[11] In general, health plans and providers who establish these new payment mechanisms, and the care redesign that accompanies them, hold the information as proprietary. However, as a step toward cost transparency, in December of 2015, OHA collected APM data from the carriers to comply with Senate Bill 231.

This bill required OHA and DCBS to report on the percentage of medical spending allocated to primary care by health care payers including: prominent commercial carriers (defined as health insurance carriers with annual premium income of $200 million or more); health insurance plans contracted by the Public Employees' Benefit Board and Oregon Educators Benefit Board; and Coordinated Care Organizations (CCOs). To fulfill this request, OHA extracted claims payment data from the APAC database, and then collected additional information on APM payments directly from the carriers. Payers submitted APM information on an Excel template developed by the OHA, which then produced a report with a high-level summary by payer type. The data collected did not include detail on the specific APM methodologies the payers were using.[12]

Recognizing the ongoing need for this information, OHA worked with the APAC Technical Advisory Group to develop a format for health plans to submit data on APM payments. Health plans will be required to submit APM data to APAC on an annual basis beginning in September 2017.[13] The data collected will be summarized at the billing provider level and include more detail on the APM payment methodology, along with data necessary to fulfill legislative requirements.[14] However, some APMs are based upon results for a population, and cannot be accurately allocated to individual patients. This inability to report APM costs at the patient level will limit certain types of analyses, because the APM data cannot be linked to other patient-level data in the APAC database.

Information on Other Health Care Costs

Currently, the majority of health care cost data captured are those reimbursed through fee-for-service claims, which do not include certain types of utilization and other costs. Particularly for the Medicaid population, services may be provided through a combination of public and private sources, and some of that data is not captured in claims. Wrap-around services such as non-emergency medical transport, screenings provided outside of the clinic setting, and non-traditional services (e.g., air conditioners for elderly citizens with congestive heart failure) are also not accounted for in the primary data systems that capture health care utilization and costs. Some of this information resides in stand-alone databases that are not integrated with other data sources. Certain types of utilization information (e.g., care coordination and care management services) may be housed in EHRs, but there is a need to develop more robust methods for capturing and aggregating this information, especially when coordination activities are not billable and/or do not have codes. In addition, as more payments move from fee-for-service to certain types of APMs (e.g. global payments), it becomes increasingly difficult to capture all health care costs in a claims system.

Data Limitations

While data gaps describe data that does not exist or is not collected, data limitations describe other barriers to using data. Limitations may be related to quality of the data, specificity of the data points, completeness of the data as it is gathered, or restrictions on how it can be used.

Primary versus Secondary Data

In most cases, state agencies are secondary users of administrative data sets that other health care entities develop and maintain to support their business operations. These data sets, such as claims data or workforce data, are designed for purposes other than those for which the State uses them. In addition to use-case mismatches, numerous other factors affect access to data and/or the agency's ability to influence its quality, including: state and federal statutes, the political climate, legal opinions, election results, limited time or other resources to establish standard processes, and data use agreements with the health care entities that supply the data.

In addition, there are often barriers to sharing secondary data—within and outside state agency walls—due to data use limitations imposed by the entities that supply the data. For example, there are restrictions on how vital statistics data can be shared that forbids the sharing of death data with CCOs, though that data can be provided to individual physicians. In order to provide services, state agencies often have access to confidential data that cannot be shared with other state agencies.

Finally, there are cases where there is a risk of the state losing secondary access to non-mandated data if the health care entity or other primary source no longer collects or provides the information. Our analysis revealed 19 databases with unstable funding. This is especially pertinent for data sources such as the ALERT Immunization Information System (ALERT IIS), which is a population-based registry containing immunization records for Oregonians, funded by a combination of a CDC grant, general fund money, and Medicaid. If there is no longer funding for the collection of the primary data, the current and potential secondary users will also lose access to the data.

Specificity of Data Collection

Many data sets maintained by state agencies satisfy a particular legislative requirement or reporting initiative, and so collect the minimum necessary information. In these cases, because there is no intention to integrate one data source with another, there is no single consistent data collection model across all data sets. For example, a patient identifier in one data set is often not consistent with a patient identifier in a different data set, making it difficult to link the two when potential novel uses for that data arise.

Legal and Legislative Restrictions

There are often legal or legislative restrictions on data collection and use that create barriers to access and ability to integrate information as needed. Ensuring data security, privacy, and patient confidentiality must be balanced with providing appropriate access to data. Perceived concerns about provisions of the Health Insurance Portability and Accountability Act (HIPAA) often create a barrier to sharing and merging data. More information on this is included in the discussion of findings in the Broad Themes (Lack of Data Connectivity) section of this report.

A prominent example of legal restrictions inhibiting transformation activities is the prohibition on sharing data related to behavioral health treatment, because of Federal regulations on the confidentiality of alcohol and drug abuse patient records (42 CFR Part 2). The integration of behavioral health treatment is a priority area for health system transformation. However, it is often difficult for clinicians to share this data, and even more difficult for researchers or analysts to get data to assess the quality and effectiveness of substance abuse treatment.

Legal restrictions are often specific as to the level of shareable detail; again, the ALERT IIS provides a concrete example. Aggregated data can be shared, but individual-level data is subject to Oregon ALERT IIS-specific state law regulating access and usage.[15] Outside of authorized users, this limits the ability of organizations to access patient-specific lists for immunization outreach activities. It also limits researchers who may want to join the immunization data to other data sets to study certain populations, such as immunization rates for patients with a specific medical condition.

Voluntary Reporting

In some cases, health care entities submit data to state agencies on a voluntary basis, which leads to incomplete data. For example, reporting immunizations to the ALERT IIS database is mandatory for pharmacies and state-supplied vaccinations, but voluntary for other entities that provide vaccines. Data completeness is generally high, but there may be gaps for subpopulations, ages, or regions, which leads to real or perceived diminished value of the data.

Additional examples include many of the environmental quality databases maintained by OHA; the Data Source Inventory frequently cites the fact that data submission to these sources is voluntary as a limitation.

Non-Compliance with Reporting Regulations

There are also cases where reporting is mandatory, but where reporting entities do not comply with regulations. This may be especially prevalent when reporting entities are not aware of the reporting requirements. For example, many labs and providers may not be aware of the requirements to report cases of lead poisoning to the state. There are also cases where the state agencies have no mechanism to enforce reporting requirements, nor the resources to pursue missing reports.

Aggregate versus Detail Data

Many state agency data sources contain information that has been aggregated, while other data sources contains detailed information, but confidentiality and privacy requirements, such as HIPAA patient privacy regulations, mean that the agency can only share aggregated results. While it has value for some uses, aggregated data can limit the ability to link data with other data sources, in turn limiting researchers' ability to analyze it for broader purposes.

Lack of Resources for Data Validation

State agencies may collect self-reported data, but without explicit funding for the internal resources to validate it, gaps and other data quality issues often go undetected. For example, the state's All Payer All Claims (APAC) database is a rich source of data, useful for many purposes, but many stakeholders have low confidence in the validity of the data. State agencies and external stakeholders alike noted APAC data quality issues limit its utility. One example is DCBS's collection of data from health insurance carriers. Claims data from the APAC could serve as a primary source of information for the DCBS health plan rate review process, thus eliminating redundant data collection activities and reducing the administrative burden for the health plans. Instead, DCBS has been collecting self-reported quality measure data from the carriers since 2015.

To address the APAC data quality issues, OHA is implementing a five-level validation process. The first two levels of validation, implemented in 2015 and 2016, consist of pre-processing checks on the data submitted by the carriers, in order to keep inconsistent and/or inaccurate data out of the APAC system. Within two weeks of quarterly data submissions, each carrier receives feedback on the quality of their data, whether the current submission contains data anomalies compared to 24 months of prior data, and instructions regarding data resubmission if the data fails certain parameters of the quality checks. The third level of the process will be a post-processing validation report sent to data submitters. Carriers will receive an annual report summarizing their APAC data, with a request that they compare the validation report to their organization's internal reporting, and then re-submit data to correct any mistakes. This annual reporting is scheduled to begin in October 2016.

The first three validation levels focus on giving feedback to data submitters and allowing data submitters to correct inconsistent or inaccurate data. The fourth level will consist of a comparison of the APAC data to other available data sources, such as DCBS enrollment data, hospital discharge data, cancer registry data, and vital statistics. This annual validation is scheduled to begin January 2017. Finally, the fifth level is a public-facing data quality report that provides stakeholders and APAC data users with important information on the quality and completeness of the data. This more intensive validation process has the potential to improve the value of APAC data significantly.

Staffing and Resources

Collecting and maintaining data and reporting systems is resource intensive, and state agencies need dedicated resources to serve in these functions effectively across all data systems. This is particularly the case with desired improvements to data collection processes; state agency staff are often aware that data systems can be improved, but recommendations are shelved due to a lack of resources. For example, full bi-directional data sharing with the ALERT IIS system data submitters would enhance the system's utility, but OHA does not have the resources to develop this capability.

Method of Collection

There are several instances where health care data is not collected in a fully automated fashion. In some instances, state agencies rely on paper forms, PDFs, and Excel spreadsheets. While these "manual" formats suit the purpose of the agency or program, when that data is publically available, it is often cumbersome to access because of the collection format.

Legacy Data Systems

There are several instances where the State is collecting redundant data. This is often the result of the adoption of new data collection systems, coupled with a reluctance to abandon the previous system. Sometimes this is the result of the new system not having the desired functionality of the old system. For example, DCBS depends heavily on the System for Electronic Rate and Form Filings (SERFF) for rate review activities. The National Association of Insurance Commissioners provides the SERFF system, and several states across the nation use it. However, it does not contain the level of granularity DCBS needs, so the agency has maintained their previous data system as a “wrap around” system; DCBS employees enter information into the old system, and upload it into SERFF.

Another factor in the reluctance to abandon legacy systems is that the importance and visibility of data-driven work demands a high degree of trust in the output generated by the new system, which can be hard to establish with newer systems. The Measures and Outcomes Tracking System is a recently-launched data system for handling data for the Addictions and Mental Health system. The promise of the system is that it will support better patient care coordination, and ultimately allow reporting on outcomes, not just on volume. Importantly, it will collect data on patients outside the Medicaid system. Stakeholders working on behavioral health integration mentioned the potential of this data source, but also expressed doubt about its completeness and the quality of the data in the system.

Stakeholder Input

In addition to the Data Source Inventory and Gap Analysis, which were heavily informed by the state agencies maintaining key data systems, a broad stakeholder input process solicited feedback on the collection and use of health care data from the wider community's perspective. Stakeholders offered a rich variety of feedback on high-level considerations, and some detailed, specialized or niche perspectives specific to data collection and reporting in a particular area (e.g. oral health or data for research).

Most respondents did not limit their feedback to the collection and use of data, but instead also offered feedback on the inextricable link between data collection and reporting, and the broader context of health care transformation. Interviewees and survey respondents represent a wide variety of roles: public and private sectors, health plans, policymakers, and health care purchases and consumers. Within those categories were people who collect and organize data, and data users and those who serve more as intermediaries, facilitating the sharing of data with users outside of their organization.

Familiarity with data technology and infrastructure, within the state and in general, was also variable and included both those with a high degree of technological sophistication, and others with more expertise in policy development and implementation. Some stakeholders with less technical sophistication or limited access to data raised concerns around data gaps or lack of connectivity, but some of those comments reflected their perception of the current state more than the reality.

The wide-ranging feedback warranted four distinct approaches to reflecting stakeholder input:

1. Recognition of the strengths of Oregon's current approach to the collection and use of health care data, and related topics.
2. Feedback specific to OHPB priority and focus areas: Health system transformation, Health care workforce, Health Information Technology, Public Health System Transformation, Health Equity, Behavioral Health, Oral Health Integration, High-cost Pharmacy and Value Based Payment.
3. Comments unique to specific stakeholder groups, including: Government Employees, Coordinated Care Organizations, Providers and Other Stakeholders.
4. Most common themes identified across all stakeholder input, organized into six categories: Leadership and Vision; Equity and Social Determinants of Health; Alignment within the Public Sector and between Public and Private Sectors; Lack of Data Connectivity: Technical and Political Barriers to Sharing Data; Actionable Data: Timeliness, Quality and Analysis; and Data Gaps.

Methodology

Through a combination of interviews, targeted listening sessions or group discussions, and an electronic survey, more than 230 individuals shared their unique perspective.

Survey

A robust electronic survey captured the insight and experience of a broad cross-section of health care data owners and users. Questions were either Likert-scale, or open-ended so respondents could answer questions most relevant to their area of expertise and needs, divided into the following sections:

1. Past and current Oregon Health Policy Board priority areas
2. Oregon's State Health Improvement Plan (SHIP) priorities
3. Data used most often by respondents
4. How respondents use data
5. Access barriers and gaps
6. Open-ended reflections on the use of data in health system transformation efforts

Invitations to complete the survey were sent to ninety-three individuals and forwarded to many others, including all OHA staff members. This broad distribution resulted in 104 survey respondents; 42 completed the survey and 62 provided partial responses. Survey completion is defined as a respondent answering all questions and clicking "done" on the last page, while incomplete surveys are defined as respondents entering at least one answer and clicking "next" on at least one survey page. Responses to open-ended questions later in the survey were answered less completely than questions posed earlier in the survey. Additionally, there were fewer responses to the open-ended State Health Improvement Plan questions than there were to the open-ended questions about OHPB focus areas, potentially due to the sector-specific expertise of survey respondents.

Interviews

In addition to the survey, a combination of one-on-one interviews and group discussions solicited feedback from key stakeholders. Interviewers used standardized protocols to ensure consistent feedback. The individual interview protocol included questions about data use, the best outcome for a strategic plan on the collection and use of health care data, data needs, the value of existing state data, and barriers to using data. Additionally, there were sub-sets of questions developed for respondents from specific sectors. The group discussion guide protocol included broader questions about data needed for OHPB and SHIP priorities, how to acquire the needed data, the value of existing data, barriers to using existing data, and examples of other data repositories or access systems for reference. Approximately 102 individuals received invitations for a personal or group interview, and 130 or more respondents participated in one or the other, either by phone or in-person, or via electronic survey on a limited basis. Most interviews were audio recorded to supplement the detailed notes captured by the interviewer.

Survey and Interview Analysis

A classification taxonomy allowed for qualitative analysis of stakeholder input. The particular aspects of health care data collection and use described in SB 440 informed the following high-level categories for codes:

- **Uses** – How are respondents currently using data?
- **Gaps** – Where are there gaps in data that stakeholders need to conduct their transformation work effectively?
- **Barriers** – Where do stakeholders identify barriers to collecting and using data needed for health system transformation?
- **Strengths** – What aspects of Oregon's current data systems are strengths?
- **Opportunities** – Where are opportunities to improve Oregon's health-related data collection and reporting efforts?

Topic specific sub-codes within each of these overarching categories provide a deeper level of analysis. Code examples include: U-PROG (Use, Program Evaluation); G-OUT (Gap, Outcomes); B-INT (Barrier, Interoperability); S-MEA (Strength, Measures); O-SIMP (Opportunity, Administrative Simplification). *Miscellaneous* indicated comments for which there was no appropriate code. Each interview, group discussion, and open-ended survey response was coded using this classification taxonomy. The full list of codes used to analyze survey and interview responses in included in the Stakeholder Input Data Appendix (Appendix A).

The codes were used to identify survey and interview responses that related to each of the OHPB focus areas, as well as recurring comments that reflected significant stakeholder input related to six broad themes.

Key Findings

Strengths

While the nature of the survey and interview questions intentionally focused on areas for improvement, two areas stood out above others as strengths in Oregon's collection and use of health care data: Oregon's culture and climate of supporting collection and use of data (S-CULT), and Oregon's measurement system (S-MEA).

The frequency of these codes among interview and survey responses confirm that many stakeholders acknowledge the magnitude of the system changes that have resulted from federal and State health care transformation in Oregon. They cited the statewide improvement on several quality measures as an example of how carefully constructed performance incentives, like those for Coordinated Care Organizations (CCOs), can result in significant improvement in targeted areas.

People also recognized the degree to which the process of health care transformation, especially in the development of the CCOs, has created a culture of collaboration among community and health care entities that would otherwise be in competition. Shared learning among the people who are doing the work of health care transformation was cited as an essential factor in Oregon's progress to date. This culture of collaboration should be a solid foundation for cooperative approaches to data sharing and health information technology going forward.

Analysis and Findings by OHPB Focus Area

In both interviews and surveys, stakeholders reflected on how current data systems in Oregon support efforts related to OHPB focus areas as indicated below (in the same order they appeared in the survey).

- Health system transformation
- Health care workforce
- Health Information Technology
- Public Health Modernization
- Health Equity
- Behavioral Health
- Oral Health Integration
- High-cost pharmacy
- Payment reform

Survey Responses

The survey included questions in six sections; in the first section, survey respondents were asked to what extent they would agree that state data collection and reporting efforts allow for the effective monitoring, oversight and policy development in each of the focus areas. Respondents indicated agreement on the following Likert scale:

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	N/A

In only one category – the monitoring of **health system transformation** – did more than 30% of respondents *Agree* or *Strongly Agree* that the state has the appropriate data. More than 40% of respondents *Neither Agreed nor Disagreed* in regards to oversight and policy development in the same area.

More than 30% of respondents indicated they *Disagree* or *Strongly Disagree* that the state has the data to monitor, oversee or develop policy in regards to **Health Equity** and **Oral Health Integration**.

The same was true for collection of data related to **Behavioral Health Integration**, although less than 30% of respondents *Disagreed* and *Strongly Disagreed* in regards to the reporting of Behavioral Health Integration, indicating that stakeholders believe the state does better reporting data than it does collecting it. This was the only area where respondent feedback showed a distinction between data collection and reporting.

Finally, more than 40% of respondents *Neither Agree nor Disagree* that the state data collection and reporting efforts allow for effective monitoring, oversight and policy development as it relates to **Health System Transformation**, **Health IT**, **High-Cost Pharmacy** and **Value-based Payment**. In addition, the same was true for the oversight of **Public Health Modernization**. The table below indicates areas where there was agreement among respondents. The Stakeholder Input Data Appendix (Appendix A) includes the full detail of survey results related to these focus areas.

FOCUS AREA	>40% NEITHER AGREE/ DISAGREE	>30% DISAGREE	>30% AGREE
Health System Transformation	X		**X Monitoring**
Workforce		**X Policy Dev**	
Health IT	X		
Public Health Modernization	X Oversight		
Health Equity		**X**	
Behavioral Health Integration	X	**X Data Collection**	
Oral Health Integration		**X**	
High-Cost Pharmacy	X		
Value-based Payment	X		

Survey Comments and Interviews

Key themes for each OHPB priority area surfaced in the interviews and open-ended survey responses. Some are discussed in more detail here, while others are discussed in greater detail within the section describing analysis and findings by most common theme.

Health System Transformation

Oregon should continue to monitor performance on existing high-value measures to better gauge their impact over longer periods. "Measurement fatigue" is a real phenomenon, and rapid changes in measurement priorities are a stressor in a system already managing significant changes. These factors must be balanced with continuous change in the health care system. Grounding goals in a clearly articulated shared vision is essential to maintaining this balance.

Workforce

More detailed information about clinicians, care team members, clinics, and health systems would support a number of programs and purposes. Uniform collection of information such as languages spoken, Medicaid participation, work sites, and status for accepting new patients would support planning and network development. Monitoring health care workforce satisfaction is also critical to sustaining change.

Health IT

See Key Findings related to Lack of Data Connectivity: Technical and Political Barriers to Sharing Data in the section on Most Common Themes.

On Health System Transformation:

"There has been a major push to increase developmental screening for young children, driven by the basic logic model of the early learning and health transformation systems – earlier identification of problems allows you to invest upstream, preventively, rather than larger downstream investments… but the post-screening processes haven't been built. What happens afterwards? How is information shared…Screening data is not that meaningful in the long run if we don't know the consequence of the screening, the follow-up for the child and family."

On Workforce:

"Interpreters and/or language issues exists but we don't have information about it. [It would be helpful to] see practitioner information and their ability to speak different languages, etc. so people could wisely choose a practitioner who meets their needs."

Public Health Modernization

This far-reaching, multi-year project is meant to ensure all Oregonians have the opportunity to achieve optimal health. Fundamentally, that requires an assessment of what health *is* in a broad sense. That information is difficult to glean from multiple data sets including state and federal sources, at a level of specificity that can help shape focused interventions.

Health Equity

See Key Findings and Recommendations related to Equity and Social Determinants of Health in the section on Most Common Themes.

Behavioral Health Integration

Oregon's efforts to create an integrated, effective behavioral health care system that is person- and family-centered are well underway. In order to track access to care and outcome indicators that include factors beyond health status, such as housing, transportation, and employment supports, analysts will have to combine and study data from disparate sources, including data from behavioral health care providers. Legitimate concerns about confidentiality and patient privacy hinder efforts to share data between behavioral and physical health providers, and are even more challenging for researchers and others intending to measure the impact of behavioral health efforts. The gaps and limitations of behavioral health data are even more persistent than gaps related to physical health, especially since behavioral health providers have not been engaged in health IT and quality measurement programs as long and consistently as physical health providers.

On health status data:

"We do not have good public health data on the health status of grade school kids… we have SMILE survey, ALERT, BMI, but we don't have overall health status because we don't have a good way of collecting the data."

On Behavioral Health Integration:

"If we can't get the big picture things settled [outcomes data], can we look at our process? Are our care systems aware of the needs of people with mental health and substance use disorders? Is provider culture changing? Are they getting a better sense of what we need; do they have referral networks in place, and are they having some ownership in coordinating my care so I don't drop between the cracks? Data are clear in studies – if you have greater awareness and are screening, and you make an effort to integrate that, you have a better likelihood of people engaging in treatment, and we have more positive odds of a good outcome."

Oral Health Integration

The process Oregon CCOs have gone through to begin behavioral health care integration can offer lessons for working to integrate dental care. The lack of aggregated data on most dental care beyond the Medicaid population presents a significant barrier to overcome. Though process-oriented measures that assess whether care was delivered can offer only a limited view into oral health care, additional claims data would provide a foundation from which to build.

High-Cost Pharmacy

New medications offer the promise of improved treatment and in some cases, cures for what have until recently been chronic or fatal diseases. Yet the costs of these treatments, along with increasingly volatile pricing for other drugs, are important to manage in order to sustain Oregon's health care transformation. As OHA addresses this challenge, better data on pharmacy spending is essential.

Value-based Payment

Oregon's 1115 Waiver stipulates that OHA will support the expansion of alternative payment methodologies, in alignment with federal guidance.[16] These models require providers and insurers to share risk, because care is reimbursed on the basis of outcomes and quality rather than number of services delivered. OHA will pursue payment structures within CCO incentive programs that drive toward the Triple Aim, and will need data to evaluate whether they are working.

On Oral Health Integration:

"Oral health is an area where we have very poor data. We do have SMILE survey in for first through third grade but very little data on adults – even something as ridiculous as adults who've lost all of their teeth; we have no idea about oral health status; very little data on number of cavities, or untreated cavities."

On High-Cost Pharmacy:

"We don't have a good way of getting [pharmacy data]. I know that from the commercial [and Medicaid] side pharmacy was the biggest spend… bigger than inpatient hospitalization, yet we aren't able to get a lot of data on it. We're just told 'Oh, it's those designer drugs…'"

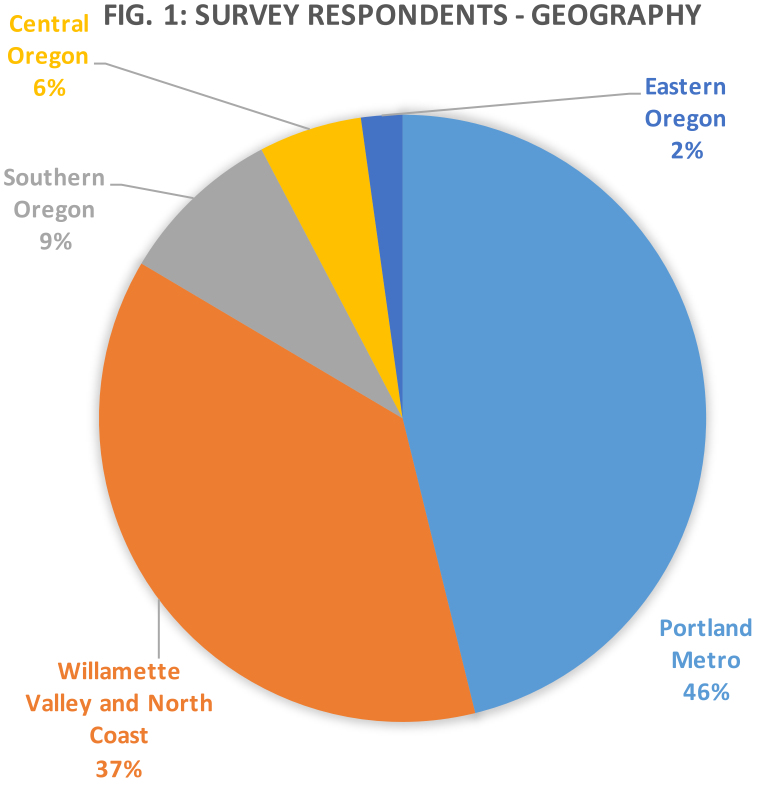
On Value-based Payment:

"That is the 64,000 question – what do you do [to address data lost as we move to value-based payment]? We're in a fee-for-service model, and that's how we track what we do [through claims]. I don't know how you change this system – everyone is dealing with that same problem – how do you change how you track what you do and how you pay for what you do?

Analysis and Findings by Stakeholder Type

Survey Respondent and Interviewee Demographics

FIG. 1: SURVEY RESPONDENTS - GEOGRAPHY



In order to ensure survey responses adequately represented key data stakeholders, the surveys and interviews included several demographic questions about the respondents' employer and geographic location. While there was an unsurprising abundance of survey responses from the Portland Metropolitan and Willamette Valley regions, responses represented all parts of the state. Ninety-one respondents entered their zip code for analysis; the Oregon Department of Transportation Region Map determined the assignment of zip codes into one of four regions. Interviewers did not record the geographic location for each interview respondent, although a majority were from the Portland Metropolitan and Willamette Valley regions.

Stakeholders in many parts of the health care industry provided input by survey or interview; representation for the combined community engagement effort is included in the chart below.

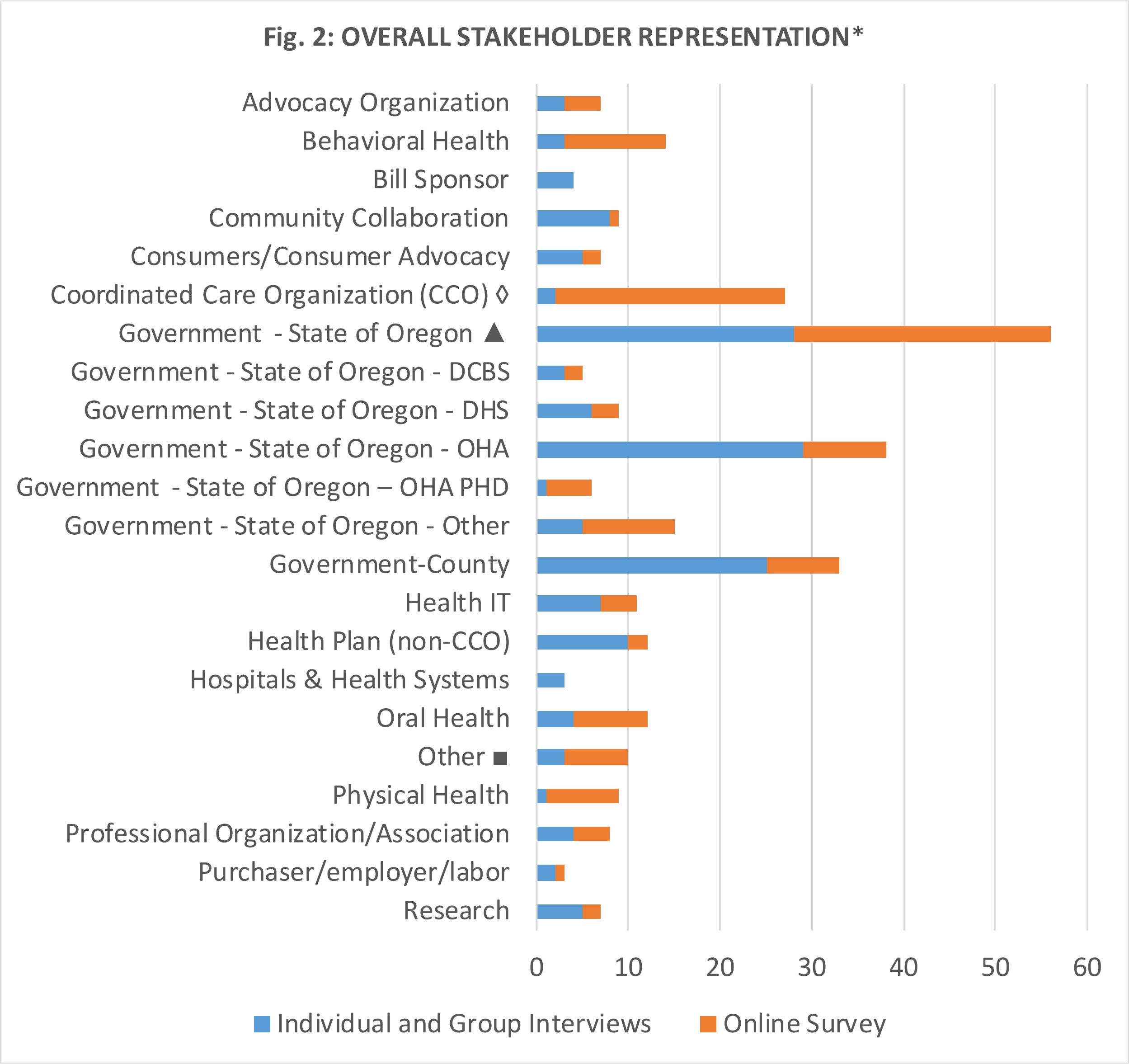


Fig. 2: OVERALL STAKEHOLDER REPRESENTATION*

- * Individuals representing more than one sector are counted multiple times
- ◊ CCOs represented include All Care, FamilyCare, Health Share of Oregon, Intercommunity Health Network, Jackson Care Connect, PacificSource, Umpqua Health Alliance, and Western Oregon Advanced Health
- ▲ A large number of state agency stakeholders were interviewed; these individuals come from a variety of state agencies, each listed individually in the chart. Each agency and individual surveyed or interviewed represented unique perspectives and insights about how the state could manage data better together.
- ■ Stakeholders identified as “Other” included federal government employees, non-healthcare nonprofit organizations, and consultants with no stated specialty focus.

Tables with additional detail, and counts for stakeholder responses on the Likert-scale questions on collection and use of data are included, along with a list of organizations represented in interviews, in the Stakeholder Input Data Appendix (Appendix A).

Of all the stakeholder types identified for this work, only three groups (State and County Government Employees, Coordinated Care Organizations and Providers) had survey respondents in sufficient number for analysis. Importantly, analyzed responses offer limited perspective, so it is possible to draw only general conclusions about particular stakeholder perspectives from the survey data. No respondents identified themselves as behavioral health providers or advocates. Two health plan respondents and three consumers began, but did not complete this portion of the survey. The "other" respondent category captures individuals who identified as nonprofit health care agency employees, employers, consultants and academics.

State and County Government Employees

State employee responses did not cluster clearly toward *Agree* or *Disagree* on any of the question sets. On most topics, the answer that got the most responses was *Neither Agree nor Disagree*. Responses appear spread most evenly among state and county employees.

Coordinated Care Organizations

Among respondents from CCOs, responses did not cluster into percentages above 40% on most questions. The single exception is on the use of data in reporting for oversight of health system transformation, where neutral answers were 41%. CCO respondents offered the majority of total responses to the questions about data related Oral Health, and those answers were majority *Disagree*. This group also offered the most responses to questions about high-cost pharmacy. The plurality of responses in this category were neutral (*Neither Agree nor Disagree*).

Providers

Of all the groups in the survey, providers felt most confident that the data being collected and reported was useful for supporting health system transformation, with several *Agree* responses over 40%.

Other Stakeholders

On three topics—health system transformation, workforce and HIT—the plurality of responses for this varied group fell into the neutral category. For the questions related to equity, the plurality of responses about collection of data were *Disagree*; on questions related to Behavioral Health, Oral Health, High-Cost Pharmacy, and Payment Reform, the plurality of responses were *n/a*.

Analysis and Findings by Most Common Themes

While quantifiable survey responses yielded largely inconclusive data, a more complete picture emerges through analysis of this data in conjunction with open text responses in the survey, and with the interviews and group discussions. Despite the diversity of perspectives, the interviews and surveys surfaced a number of repeated observations, conclusions, and recommendations related to the collection and use of health care data, but also related to the policy, system, and infrastructure needed to contextualize and drive data efforts.

A coding process, described in detail in the Methodology – Survey and Interview Analysis section, was the foundation for synthesizing the most frequent comments into themes. Codes used more than 25 times across all surveys and interviews were prioritized for further analysis. Comments with these codes were combined into a series of themes; the themes were organized into six categories that reflect the most frequent observations and comments of interviewees and survey respondents:

- Leadership and Vision
- Equity and Social Determinants of Health
- Alignment within the Public Sector and between Public and Private Sectors
- Lack of Data Connectivity: Technical and Political Barriers to Sharing Data
- Actionable Data: Timeliness, Quality, Transparency and Analysis
- Data Gaps

The order of the broad thematic categories is intentional. Many of those interviewed and surveyed believe any data strategy should be grounded in a clear vision, with consistent and visible leadership, a focus on equity and the social determinants of health (SDH), and alignment within the public sector and with the private sector. Data-specific themes addressed the sharing, timeliness, quality, and transparency of data. Though many of the recommendations offered for these categories are complex and long-term, the recommendations that follow do include some recommendations that are feasible in the near term.

Leadership and Vision

Clear collective goals must drive data collection, measurement, and metrics. The OHPB and greater community must decide where to go, how to get there, and which measures will incentivize people and organizations to move forward collectively. Continued health care transformation needs a refreshed, invigorating vision and strong leadership.

Collective vision and goals must be up-to-date—people want to know "where are we going now?" and "how are we doing?" Once a broad statewide vision and goals are set, aligned and visible measurement activities should follow. Without the vision, goals, and regular updates, metrics become "box checking." Most agree we are at a pivotal juncture, and if Oregon wants to continue to lead the nation in this area, our shared vision needs a visible update.

Vision and leadership also require securing the resources to implement. It is reasonable for policymakers and leadership to focus on high-level priorities, but the infrastructure and data needed to affect those priorities is part of ensuring success. This includes infrastructure needed to analyze data at the policy level, but also the system building and coordination necessary for sustainable improvement in the delivery system.

Priorities are not goals. Survey participants and interviewees were generally aware of existing OHPB and OHA focus areas, but unware of any related, quantifiable goals. It seem as though care and health are improving, but there are no goals to contextualize those gains.

Data and metrics cannot lead the vision. Data and metrics inform and measure goals, but they do not shape them. Driving with measurement is problematic, especially when a subset of stakeholders have undue influence on the prioritization of measures. Incentive metrics worked – people serving Medicaid patients

On Leadership and Vision

"…In Oregon we take a backwards approach [to transformation] and look at what [data] we want to collect, rather than what we want to achieve. Data should be a tool as opposed to [an] end."

"I feel like we [in Oregon] **start** with the data, and as a result we have 265 measures that primary care physicians have to report on… I think we need to start with 'What are we trying to achieve?'"

"[Health care transformation] is bigger than one group, it is a community effort. We need to aim for a win-win, but also get past self-interest and be willing to invest… This is no small challenge, and the most worrisome concern is the lack of bold leadership."

"There's a sense that Oregon is a leader [in transformation] and we're moving in the right direction so we just need to keep pushing. I would say it's a lot more urgent than that… there's potential for a real crisis point… we haven't changed health systems the way we said we were going to…"

focused on them intently and significant improvement occurred. However, when certain data points are a singular focus, some doubt whether we are truly focused on improving health and reducing cost. Others question whether the incentive measures are the *right* measures.

Bold leadership is required. Taking health system transformation to the next level requires leadership from the state in strong partnership with other parts of the health and health care community.

There is a sense of urgency about where health system transformation is going next. Many praised the success of the CCO model, but cautioned that what comes next is uncharted territory and plotting the next course is critically important.

Oregon has focused on improving care, but less on improving health and reducing costs. Outcomes and cost savings are both important to many stakeholders who hope the next phase of transformation efforts directs attention toward these and other pieces that have been less front-and-center.

On Leadership and Vision, cont'd:

"…one of the great things about the ways the CCOs have been structured is that it's an integrated approach – behavioral and oral health is integrated – this is important in thinking about system transformation – thinking about whole-person care."

"There is great potential, but data collection efforts seem fragmented and aren't always consulting with or engaging communities of interest to develop the right questions or combinations of questions."

"[There are] many other [behavioral health] metrics [I'd] love to have – but can we afford to wait until we can collect them? No, so what can we measure now – what are measures that can be aggregated and used at provider, plan, and system oversight levels as a way to drive improvement?"

"Less focus on metrics, more focus on the systems infrastructure and policy that will help us un-clunk our system."

Equity and Social Determinants of Health

Health system transformation's leadership and vision must have an equity lens. All commenters on this issue would like to see more robust and re-envisioned data sets to inform both a deeper understanding of the issues and how to affect meaningful change in health for all Oregonians.

Common data collection practices do not capture a wide enough spectrum to identify disparities fully. Existing methods limit the full spectrum of information needed to examine health disparities and advance equity; as an example: race, ethnicity, and language data need to go beyond traditional categories. The limitations of the binary data collection system, and its impact on the data available, do not accurately reflect either the categorical complexity of the population or the issues that affect many individuals.

Notable gaps and data quality issues make data less useful. Collection of demographic and social determinants data is highly inconsistent. Multiple stakeholders expressed concern that those responsible for collecting this information may be uncomfortable asking the right questions and/or may not be able to ask the questions in such a way that the respondents understand why it is being asked. Inadequate training and implicit bias impact the accuracy of the data collected.

Populations we are trying to serve should have a voice in the data that is collected and an influence on how we collect it. If populations do not have a voice – because they are not identified in the data – it is impossible to either track them or make an impact on their lives. There are divergent and nuanced views about racial equity as a primary focus. Many believe the focus on race and ethnicity leaves out communities experiencing inequities for different reasons, while others believe the focus on race and ethnicity is the best way to address disparities on a large scale.

On Equity and Social Determinants of Health:

"Social determinants of physical health are poorly understood by health care providers."

"If CCOs are to push the boundaries and address social determinants of health and health outcomes, it would be helpful to give them access to broader data systems in a trusting way."

"We have person centered planning but we don't have that in data collection."

"Survey data has a bad rap, people don't buy into it as readily as they do claims data, which is a mistake since claims data probably has as many problems…. Perhaps combine some of the survey data we have with the claims data?"

"We need more community-based participatory and intergenerational storytelling, strengths-based approaches [to data collection]."

"For existing data sources, we need better methods to collect and disaggregate data by race and ethnicity, beyond standard census categories, in order to truly address racial disparities."

Survey and self-reported data is under-utilized. Some perceive this kind of data as inaccurate, but it is essential for advancing equity and affecting social determinants of health. Some stakeholders expressed a need for both more survey data and for more access to survey data that is collected. Education and training on how to use survey data would begin to address perceptions that this data is inherently inaccurate or less useful than data collected through claims or medical records.

Carefully consider how data analysis does or does not reflect disparities in outcomes. More consumer-focused analysis and the ability to analyze data across a wide variety of demographic, social, geographic, and other contexts are essential tools for health care and other stakeholders seeking to address health disparities. Current data systems used for data capture and collation could be leveraged for broader purposes if such information was available.

The state may need to be more prescriptive, specifically in regards to simplification and alignment of internal data resources. The ability to share data among state agencies through interoperability and/or a centralized, up-to-date, state data repository with access for analysis would help state agencies address social determinants of health more holistically.

On Equity and Social Determinants of Health, cont'd:

"We need more data about patient views and preferences. Most data is derived from a provider's point of view."

"The Oregon Health Authority needs to utilize a health equity lens that looks at all populations experiencing significant health disparities based on systemic and historical trauma… race and ethnicity are important and have remained a focus for OHA, but limiting the lens to just these data points of identity is missing a lot of what may be going on in our community."

"The intersectionality of identities should be captured in data sets so we can make informed decisions that ensure health equity in Oregon."

"State level efforts need to have people impacted by health disparities at the table… We need to understand why we're addressing health equity and what we want to accomplish before we can effectively monitor, oversee and develop policies that actually move the dial… Current monitoring of CCO performance, public health efforts, etc. remain largely focused on whole population improvement instead of from an equity approach."

Alignment within the Public Sector and Between Public and Private Sectors

The focus on primary care and Medicaid must expand; we need public and private stakeholder and multi-payer participation to be successful and sustain efforts. We are at an important crossroads – lack of alignment could weaken current progress. Providers and others are experiencing burnout as they are faced with more patients and rapid change. The sustainability of measurement and other activities that have been funded using grant or other temporary funding is in question.

The state has an essential role in health system transformation, but cannot lead alone. There are times the state should lead, and times it should collaborate or follow. The roles of the state and others in "utility models" like the Emergency Department Information Exchange (EDIE) are good examples of aligned action producing a shared solution to a community problem. The state could do more to engage health IT and other stakeholders to solve common challenges.

Any plan for transformation needs to be for all of Oregon, not just one payer or system. Health system transformation will be advanced by a plan for all of Oregon. If OHPB has a responsibility for the state as a whole, not just the CCO OHA population, alignment with the Public Employees and Oregon Educators Benefits Boards (PEBB and OEBB), and commercial payers statewide is crucial, and requires new strategies and approaches.

The state should encourage the democratization of data. Health systems, health plans, and providers should compete on outcomes, not data ownership. Competition and turf issues are huge challenges. It is important to acknowledge the real and perceived financial risks posed by transformation; those must be addressed for the private sector to fully support transformation efforts.

On Alignment:

"Primary care funding is increasingly plowed back into the health care system; seeing an increase in ancillary services to teams, not necessarily to clinicians. Re-distribution of a fixed pool of money, or a reduction of the pool is going to hurt some or all parties involved."

"One of the best outcomes of this strategic plan would be a more progressive data sharing lens. Especially for Medicaid and Medicare, these are public dollars and we are not using the money effectively across systems."

[About Health IT] "How do you have people [across sectors] pay into it, and sustain it over time?"

"The state will have to make some choices about how far we are willing to push powerful interests in the health care industry… data should be about what is happening, and everyone should support broader availability, but there is going to be opposition because the data we collect will influence policy choices and there will be some sensitivities about that."

"There are still too many fragmented data systems at the state and most don't talk to each other, and it's also next to impossible to get real-time data out of them. We can't get data out of commercial insurance or hospitals very well either – EDIE and Premanage seem to be working pretty well and that's encouraging, but we don't have the whole picture."

Alignment among state agencies would be a good first step. OHA has physical health data for OHA covered lives; DHS has additional data on many of the same individuals and families. Combining these data sources more completely would support the aims of both agencies. DCBS, PEBB, and OEBB could serve as a bridge to commercial health plans, but they must be connected to the strategy to do that effectively.

Lack of Data Connectivity: Technical and Political Barriers to Sharing Data

Outdated infrastructure is a technical barrier to data sharing. OHA is working with legacy systems that hinder innovation, but there is hesitancy to discuss upgrades because of the price tag associated with technology investments. Fallout from CoverOregon may be contributing to fear and apprehension related to addressing significant changes in technology.

Technical barriers to connecting data can be remedied, but data blocking and turf issues are more formidable barriers to data sharing. Some in the health care sector view data as an asset, and are reluctant or unwilling to share it for the greater good. Issues around conceptions of data ownership and deliberate or passive data 'blocking' will also have to be addressed, because of transformation's real or perceived financial risks to payers, hospitals and others in the system.

Difficulty gathering centralized clinical data from Electronic Health Records (EHRs) is a critical interoperability issue. Clinical data is essential for measuring outcomes, but it is more difficult to collect and aggregate on a broad scale. Stakeholders cited access to EHR data as one of the biggest challenges to overcome across organizations and sectors.

Better data sharing between DHS and OHA is essential to addressing social determinants of health and interventions to go beyond the medical model. Many datasets maintained by state agencies are intended to satisfy a particular legislative requirement or reporting initiative, and are not necessarily designed to integrate easily. In particular, data related to housing, corrections, schools and foster care are essential to addressing population health. Increased technology support for cooperation among State agencies using these data sets can help improve those barriers to integration.

On Connectivity

"Cover Oregon was a symptom of a broader problem in Oregon. We do a lot very well, but we don't have centrally-focused IT design or system of sharing data…. That needs to be thought through for the whole state and not left to regions or geographic areas or hospitals to determine."

"Information sharing between parties is less a data problem than it is a systems and governance problem."

"We are talking about *hundreds* of independent data systems that do not talk to each other – they do not cross and are not integrated"

"It's difficult to connect public health and private providers when there's so much being asked of providers… [It is] difficult to get that [clinical] information, so if you don't have an 'in' to what's being included in the EHR, or if the EHR doesn't run de-identified data to give you trends, that's kind of difficult."

[About health information exchange], "There isn't the political will to do it, and if we can't get there [politically], then we won't make it."

"[Oregon is an] Epic-centric state and we were hoping the vendor would fix things…it takes care of the big counties and health systems, but it doesn't take care of long-term care, community addictions providers, etc. because they are not the big players."

Privacy concerns are a barrier. While some people are rightly concerned about certain types of information being misdirected or used to discriminate, many others perceive the protections in place to maintain privacy as overly restrictive nuisances, rather than appropriate safeguards for patients. Understandably, State agencies and health care providers have tended thus far to guard data as carefully as possible in order to minimize liability and protect the confidentiality of patients and clients. However, stakeholders from across sectors repeatedly cited examples of cases where critical data was not shared out of caution, but where sharing information was either already permissible, or would have greatly simplified or improved care. Continued outreach and communication led by the State could help clarify misconceptions.

Behavioral and oral health data is difficult to access and incorporate into other data. Health care providers and policymakers must find the balance between security, patient confidentiality, and providing appropriate access to data. Privacy and discrimination concerns are notable barriers for behavioral health data, while oral health data is still completely separate from physical health data, and difficult to integrate. Unlike primary care providers, neither behavioral health nor oral health providers received federal incentives to adopt EMRs; many still use paper records.

Actionable Data: Timeliness, Quality, Transparency and Analysis

On Actionable Data

“Avenues must be found for requiring detailed reporting, at a local level (such as by zip code), on insurance enrollment, plan design, premiums, and medical loss ratios for every commercial health plan. This reporting would ideally include self-insured plans, as more than half of the privately insured are enrolled in these types of plans. With these data, policymakers, researchers, and regulators would be able to monitor market developments and to intervene, if necessary, based on better and timelier information.”

“Staffing and training [are the biggest barrier]. If staff receive a high-utilizer report they aren’t able to do much proactively because their caseloads are so high. Training and retention of employees is key to effective case management and medical cost containment.”

“I actually do not know what data is available on the state website, so that should tell you how well it is advertised for use.”

“For individual consumers, getting the value data – ‘bang-for-your-buck’ data – is really critical…getting it out there in ways people can use. It is a consumer protection issue – we have this available for almost all other consumer products.”

Different stakeholders have distinct data needs. Providers need support to use their EMR and other data to focus and improve health care quality. Health systems and plans need data that shows a larger picture. The state needs data to inform and monitor policy decisions, and to ensure the quality of care delivered by CCOs and to the citizens of Oregon. Purchasers and consumers need multi-payer data.. These diverse needs require an array of solutions.

Many existing data sources are not widely shared, and potential users do not know how to gain access to many data sets. Many stakeholders are convinced there is more or better data out there, but they do not know how to find it. State agencies may not even be aware of the data collected by other state agencies.

Data is often not timely enough for use in program evaluation and planning. Stakeholders across sectors identify slow turnaround as one of the most significant barriers to using the data that is shared with them. While yearly or twice-yearly data is good enough to track broad indicators, many data users seek more timely data for ongoing monitoring and improvement.

Resources to analyze and interpret data are desperately needed and underfunded. Within the OHA and in organizations across all sectors, people have access to large volumes of data that goes unused because they do not have the time or analytic skills to use it effectively. There is a perception that Oregon has focused more on *collection* than *using* data; the All Payer All Claims (APAC) database was cited as an example. This extends to providers who have been incentivized to collect and report data rather than use it effectively.

Broaden ‘lenses’ used to analyze and report factors that affect population health. The health care community as a whole needs to strengthen the lenses through which we view data – understanding the nuances between urban versus rural populations, and discouraging oversimplification, generalizations and across-the-board solutions.

Quality of data is vital. There are widely agreed upon and often debated issues related to data accuracy, whether real or perceived, which must be addressed. People will dismiss data they do not believe in, which underscores the importance of how data is shared and communicated to data users.

Translation of data for consumers has been under-emphasized. Informed consumers are an essential component of a transformed health care system. Consumer-oriented information about quality and cost, especially for financial informed consent and understanding of cost sharing, is largely absent. There is some transparency around quality, but comparatively little transparency about factors such as which cost drivers lead to commercial health plan rate increases.

There are varying opinions on the value of different types of data, but all are important for meeting the Triple Aim. Some question the value of claims data, while others identify it as the most reliable source of data that can be collected across payers, health systems, and geographies. Clinical data is highly valued, but centralized collection is challenging on a number of fronts. Self-reported and survey data are held in high regard by some researchers and analysts, but are under-used.

Resources are needed to train the people who generate data. Within OHA and health systems, training for those collecting data is an essential but underfunded piece of data strategy. This is particularly important when it comes to collecting patient-reported information that may be sensitive or easily misunderstood or misrepresented.

On Actionable Data cont'd:

"The biggest fear is that we get analysis paralysis and Oregon's health sector has exceptional data with bad results."

"We also have a lot of data we don't have the staffing and analytic capacity to do as much with. It is one thing to have data, but handing someone a massive spreadsheet doesn't really help them. Some of the opportunities are about increasing resources to help people use and think about the data already available."

"The focus has been on collecting data, not what we are going to do with it."

"We get caught in the weeds, asking very detailed questions – we have a harder time using data to indicate meta-changes."

"…We're required to do all of this reporting to the state and then the data we get back is very limited, and sometimes we don't get it very frequently… for example the family planning data gives us a nice picture of where we are once every three years, and I know that it's not changing very rapidly, but sometimes when you're trying to do planning and program development, working with community partners, that's a long time."

The same level of transparency in provider-level data should be applied for all parts of the health care system. Existing efforts (e.g. star ratings) are not enough. There are questions about how much commercial payers are contributing to health care transformation goals, and how the state and public can examine and monitor the contributions of private industry. General interest in raising the level of transparency for health plans, hospitals and providers is high.

Data Gaps

Outcome data. Administrative data has high value and always will, but clinical data will help Oregon move to assessing health outcomes. Stakeholders want to know – are people healthier?

Cost. More robust cost of care data would help each part of the system identify how it can contribute to cost savings. Without this information, many are skeptical about whether health system transformation efforts have bent or will bend the cost curve.

Data on individuals. Patient-level data is overlooked because of the focus on system-level reform, but individuals must be identified in order to track populations over time. Tracking individuals through the system is difficult using existing data. Additional demographic data such as income level, education, and disability status would complement efforts around collecting race, ethnicity, language, sexual orientation, and other data.

Self-reported and patient experience data. Along with clinical data, these are an important complement to claims-based measurement. Existing survey data is underutilized and poorly coordinated. Aligning resources could save costs related to fielding surveys, and those resources could be reallocated to analysis. Many practices and other organizations receive survey data they cannot

On Data Gaps

"Quality of life data – a Health-Related Quality of Life screener exists and comes in 59 languages. If we are going to be a *health* system rather than a *sick* system, we should be looking at quality of life."

"As we're moving into value-based payment and subcaptitation we're potentially losing info we have under the current system – financial info we pick up in claims isn't nearly as complete as those reforms are being implemented."

"There has been a major push to increase developmental screening for young children, driven by the basic logic model of the early learning and health transformation systems – earlier identification of problems allows you to invest upstream, preventively, rather than larger downstream investments… but the post-screening processes haven't been built. What happens afterwards? How is information shared…Screening data is not that meaningful in the long run if we don't know the consequence of the screening, the follow-up for the child and family."

use because they cannot analyze it. Better access to culturally appropriate survey tools would ensure everyone's experience is captured.

Provider satisfaction data. The pace of change has had a deep impact on the satisfaction of health care workers. Data from surveys of providers could inform programs to combat burnout. Improving the work life of physician and other care team members is considered an important addition to the Triple Aim, making it the Quadruple Aim.

More granular data. Granular data, including data at a zip code level as opposed to county level, is important for rural providers. Much of the data reported at the county level is too general to be helpful in rural communities. More disaggregated data would help communities monitor local improvement efforts.

Non-claims process data. Health care providers are being encouraged to coordinate care in ways that may not be captured in claims data. As a result, important transformation aims like care coordination and integration are hard to measure.

Examples of innovation. CCOs have engaged in a multitude of transformation projects over the past few years, but there is no central resource to know what is being tried where, and the impact of these efforts. CCO metrics are improving, but it is not clear what is causing those improvements. Stakeholders know that innovation is widespread, but wonder what is working best.

Data gaps are an unintended consequence of the move toward value-based payment. Many important data points are not captured in claims. In many cases, information about activities and services is not captured at all, and in other circumstances, health care providers must invest effort in collecting data in a consistent and reportable format. Value-based payment work may result in even more holes in claims data. Aligning these models would simplify the process of compensating for any resulting data gaps.

Behavioral health, oral health, and pharmacy data. There is a great deal of focus on these areas, but many organizations are unsure about how to get data to improve care. When data is available, relevant metrics or specific benchmarks are not easily available.

Recommendations

Analysis of the data gap analysis and stakeholder input yielded the following recommendations related to how the state collects and uses health care data. The recommendations fall into two sections:

1. Policy-related, strategic activities for OHPB and OHA to establish the context needed to drive data collections and reporting efforts, and
2. Recommendations on operational or implementation steps state agencies can explore to more effectively collect and use data for existing health system transformation priorities

Icons indicate to which OHPB/OHA area of focus, or stakeholder-generated themes the recommendation relates. In most cases, the recommendations touch on multiple themes, and are marked with icons accordingly.

Figure A shows all the recommendations arrayed in by impact and feasibility. The bubbles are numbered to correspond with the recommendations listed below. Orange bubbles represent policy recommendations, and blue bubbles represent implementation recommendations. The size of the bubbles indicates urgency, with largest bubbles being most urgent.

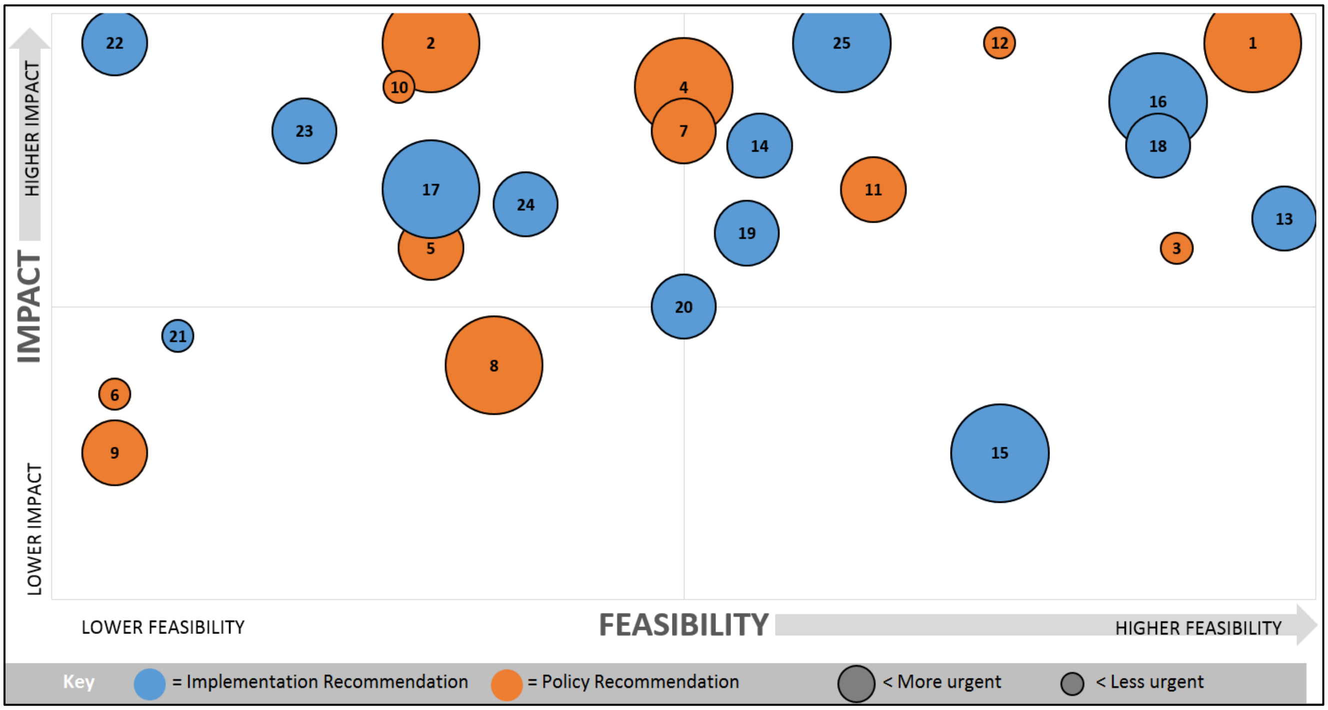


Figure A.

TOP TEN URGENT RECOMMENDATIONS

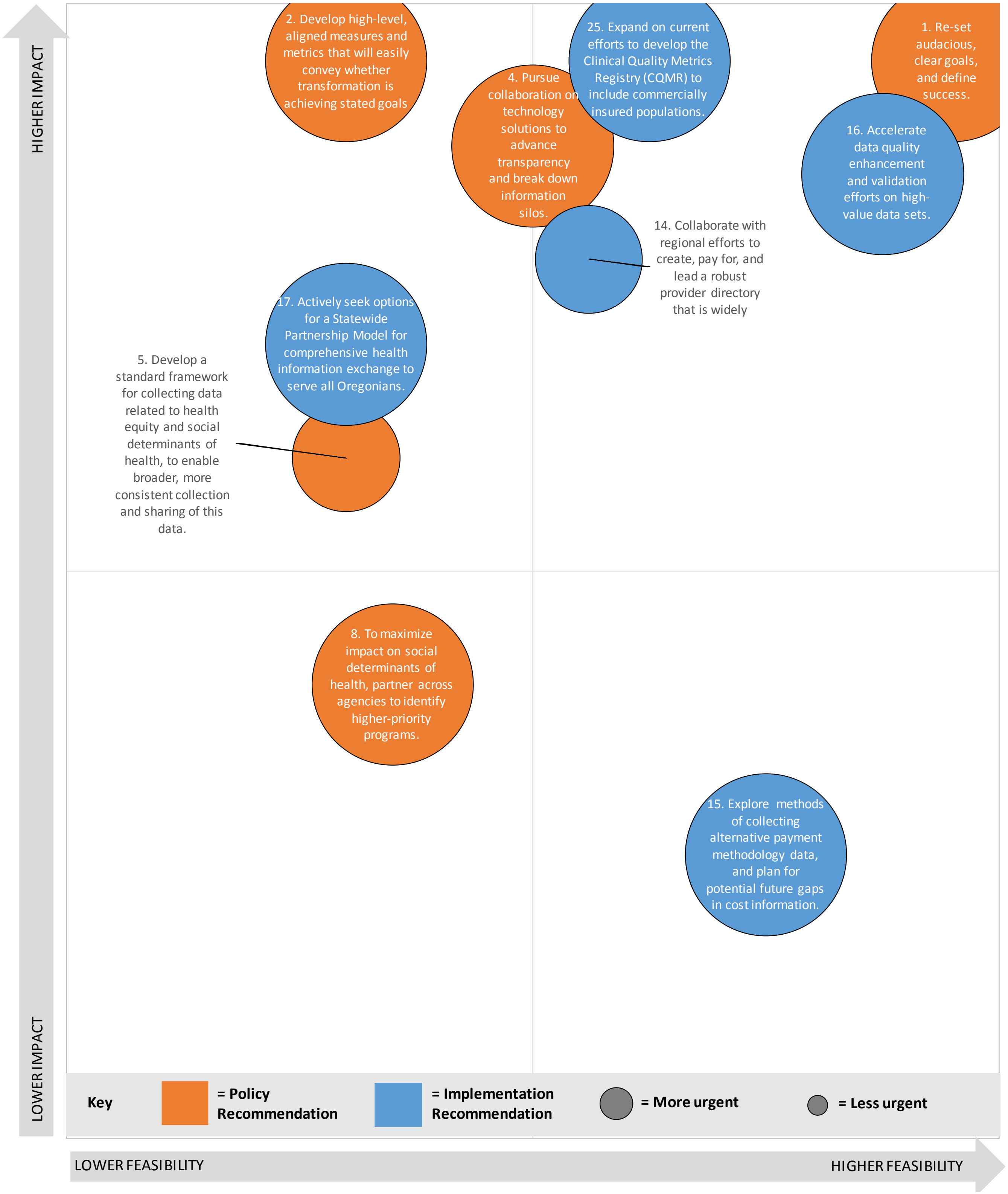


Figure B.

Policy Recommendations

Health System Transformation
Leadership and Vision
Leadership and Vision
Health System Transformation

1. **Re-set audacious, clear goals, and define success.**

Oregon has the opportunity to use the collective experiences of health system transformation to set a new vision, and to serve as a model for the country while also improving the lives of Oregonians. The OHPB can serve as a powerful catalyst to expand progress beyond the Medicaid population through coordination and continued engagement with the entire community.

In plain language for policy and consumer audiences, OHPB should articulate specific, measurable, and time-bound health care goals along with an explanation of how those goals will be measured. In the surge of activity related to health care transformation, many task forces and work groups have endeavored to solve specific challenges, sometimes in unintentional, strategic isolation from other work. Going forward, the work of such groups should serve, at minimum, as a foundation for additional health system transformation efforts.

Alignment of
Public and
Private Sectors

Leadership and
Vision

Health System
Transformation

2. **Develop high-level, aligned measures and metrics that will easily convey whether transformation is achieving stated goals for all Oregonians, and pace measurement and data collection changes carefully to allow improvements to mature.**

National and regional efforts to identify common sets of metrics that can help support OHPB areas of focus are ongoing. The Dental Quality Alliance released its first set of metrics in 2015;[17] the 2015 Institute of Medicine publication *Vital Signs*[18] outlines a set of 15 core, transformative measures that could be applied at the national and local levels to improve health and health care and reduce costs. The Agency for Healthcare Research and Quality's Atlas of Integrated Behavioral Health Care Quality Measures offers additional guidance on measuring this complex topic.[19]

Since the inception of CCOs, results on several incentive and performance metrics appear to have improved for the CCO population and, for some measures, for the commercial population of patients. However, it is still not clear whether the measures themselves will have a sustained transformative impact.[20] Going forward, once goals are identified and success is defined, a three-year plan for metrics that continues existing required measures, but also supports developing the next generation of aspirational measures could guide transformation over the next three to five years. The plan should prioritize the use of existing data in the near term, but also plan for incremental strategies to address the significant barriers and gaps outlined in this report.

Behavioral Health Integration

Leadership and Vision

Lack of Data Connectivity

3. Address the policy barriers that limit data sharing.

OHPB should work with state agencies to investigate and address legal and privacy concerns that actively hinder data connectivity between state agencies, and among other health care entities. Identifying legislative and policy barriers to sharing specific data sets could help establish policy priorities. For example, information sharing related to behavioral health is a particular challenge due to privacy concerns, both real and perceived. Organizations that collect this data take an understandably conservative approach to sharing information. In addition, behavioral health providers were not included in EHR adoption programs, and their EHRs are often not compatible with systems used in physical health care settings. To support better behavioral health integration, encourage progress on effective implementation of information sharing in compliance with 42 CFR Part 2 and HIPAA. To this end, HITOC has convened a work group that is assessing these issues and will be making recommendations to remove these barriers, and the ONC-funded project for Jefferson HIE and the Office of Health Information Technology (OHIT) should provide valuable lessons in the coming months to assess for scalability.[21] This work is complex, and solutions may require multi-stakeholder collaboration and third-party intermediaries.[22]

Alignment of Public and Private Sectors

Lack of Data Connectivity

4. Pursue collaboration on technology solutions to advance transparency and break down information silos.

State agencies and policymakers should explore how to use the state's influence on public/private collaborative projects to ensure technology and data systems are built to connect effectively with existing infrastructure. The Emergency Department Information Exchange is a breakthrough technology that supports care coordination, but it is still another "silo" of data that cannot be accessed for research or broader use. The new Systems Integrator sought by the Office of Health Information Technology could focus not merely on building new infrastructure, but on connecting it to existing resources.

Data Gaps

Equity and Social Determinants of Health

Actionable Data

5. Develop a standard framework for collecting data related to health equity and social determinants of health, to enable broader, more consistent collection and sharing of this data.

Data sources should be developed with a lens towards health equity to inform a deeper understanding of these issues. The data collected needs to include a wider spectrum than traditional census demographic categories such as race and ethnicity. Ideally, the populations served by the state should have input into how the data is collected to ensure that obstacles and concerns about the use of this data are addressed. Ensuring access to culturally appropriate tools would allow everyone’s experience to be captured.

Equity and Social Determinants of Health

Actionable Data

6. To better address health equity issues, support community-based research workers.

Participation in health care policy work can be daunting for organizations that represent groups experiencing disparities. Community-based workers who understand research methodology and data, and who can help communities use research to drive their own health improvement initiatives, could capture more qualitative data and bridge the gap between lived experience and policy. Collaborating with communities to conduct and use actionable data analyses can result in more effective, sustainable solutions to problems of equity.

Alignment of Public and Private Sectors

Leadership and Vision

7. Build on success of multi-stakeholder collaborative projects.

The rapid adoption of and satisfaction with EDIE demonstrate that collaboration between the public and private sector can be an effective strategy to pursue, and can produce nimble solutions to help fill gaps in information to support care. OHA should continue to pursue that model for projects that advance administrative simplification. A single-source credentialing solution, as planned for in the OHIT *Business Plan,* will be a tremendous asset to the health care system. Similarly, streamlining claims and cost data collection and submission, and enhancing the quality and utility of the APAC will help DCBS more efficiently access data to support their regulatory needs.

Alignment of Public and Private Sectors

Equity and Social Determinants of Health

8. To maximize impact on social determinants of health, partner across agencies to identify higher-priority programs.

OHPB can take advantage of having a wide view across programs and agencies, and direct agencies to collaborate and focus on high-impact opportunities. Using the collaborative work with the Early Learning Council as a model, OHPB can help identify priority areas where focused effort on better social determinants of health data collection and analysis, could improve care and services in multiple programs.

Actionable Data

9. Build quality assurance requirements into rules governing critical data sources.

OHA can increase public and intra-agency trust in its data through enhanced quality review. Future data vendors could be evaluated based on their ability to deliver such review. As part of all new health data-related legislation, additional funds for ongoing maintenance and data quality control programs could be required. Potentially, provisions could be included for periodic, independent, third-party, quality reviews on key information systems.

Public Health Modernization

Leadership and Vision

10. Focus on measuring priorities identified in the State Health Improvement Plan.

The OHA should evaluate how planned technology enhancements will help in collecting and integrating survey, hospital discharge, and education data to support the population health measures identified in the Oregon State Health Improvement Plan, especially those related to tobacco cessation, immunization, oral health, and behavioral health (addiction and substance abuse; suicide prevention).[23]

High-cost Pharmacy Issues

Data Gaps

11. Clearly define pharmacy cost savings targets, and ensure the quality of the data to track them.

Prescription costs (especially specialty drug costs) are a significant factor in the rising cost of health care in the US.[24] Complexity in how insurers manage pharmacy benefits can mean that cost data for pharmacy claims is difficult to aggregate and analyze. Because this data will be a critical tool to identify targets for savings, efforts to validate or enhance APAC should support this objective.

Actionable Data

Lack of Data Connectivity

12. Explore how to fund enhanced data governance functions and capabilities across agencies.

In situations with multiple data sources and multiple, highly varied data uses, the ability to enforce some level of data consistency becomes critical. The OHA should explore increased funding directed to ongoing data governance activities, including requiring consistency on key fields; and creating crosswalks among datasets, e.g., requiring consistent provider or patient identifiers using the same format may ease interoperability issues. Going forward, quality expectations could be set for new data collection efforts. Consider developing, as much as is possible, a unified data model architecture across a broad range of state data sets. Potentially institute a process whereby a dataset is “accredited” if it meets the OHA’s data governance standard.

Implementation Recommendations

Data Gaps

Lack of Data Connectivity

Actionable Data

13. Create better transparency around current data collection and accessibility across agencies and to the public.

Using the current state data source inventory as a starting-point, consider keeping a regularly-updated, widely available “data availability inventory” along with a unified, clear, standard, publically-available “single source of truth” data dictionary that conveys what data is available, how often it is collected, and what the process for access is. Consider automating data sharing with qualified stakeholders to improve access. Some good examples of accessible data exist, including the Oregon Prescribing and Drug Overdose Data Dashboard.

Data Gaps

Alignment of Public and Private Sectors

14. Collaborate with regional efforts to create, pay for, and lead a robust provider directory that is widely available for analysis.

A collaborative approach is ideal because stakeholders support tapping private sector speed, efficiency and innovation for collaborative technology builds. Leveraging models such as EDIE, and building on the work to date of the OHA and community stakeholders to scope, plan, and implement a provider directory, OHA should assess opportunities for further collaboration with all regional stakeholders, such as health plans, health systems, researchers and others for whom a managed provider directory solution would be a significant public good. The provider directory should include all licensed providers, and serve in the future as a platform for the aggregation of information about other care workers, including primary care team roles such as care coordinators, care managers, and scribes.

Value Based Payment Reform

Data Gaps

15. Explore methods of collecting alternative payment methodology data, and plan for potential future gaps in cost information.

OHA will begin routinely collecting information on APM expenditures from health plans submitting to the APAC database in September 2017, which will be aggregated at the clinic level. The recently-released whitepaper from the Health Care Payment Learning & Action Network (HCP-LAN) articulates fundamental principles to inform data sharing innovation; one is that "population-level data should be treated as a public good."[25] As more providers participate in APMs, less detailed cost data will be captured in the claims payment systems, which will create an information gap. OHA should engage with stakeholders including insurance carriers to identify opportunities to collect this data at a more granular level. Because of the need to continue to monitor detailed health care costs, OHA should also address how to capture the data that will no longer be collected consistently in the claims reporting system as APMs expand.

Actionable Data

16. Accelerate data quality enhancement and validation efforts on high-value data sets.

High-value data sets may include clinical registries, patient attribution datasets, provider directories, and APAC. The APAC database was cited as a rich source of health care data by staff from DCBS, and stakeholder groups. However, people commented that the data is not timely, and has not been thoroughly validated and so is not completely trusted, which is a barrier to use. APAC is currently implementing a five-level validation process that will ensure the quality of the data going forward. Additionally, recent APAC rule changes will influence the quality of future submissions. Going further, the OHA could resource an historical data validation process to ensure the maximum value of this important data set.

Lack of Data Connectivity

Leadership and Vision

Alignment of Public and Private Sectors

17. Actively seek options for a statewide public/private partnership Model for comprehensive health information exchange to serve all Oregonians.

The state's strategy for HIE has remained congruent in principle with plans communicated in 2010 to the Office of the National Coordinator as part of the Cooperative Agreement Program.[26] [27] Community and organizational health information exchanges and health systems provide HIT coverage to some; common services provide baseline HIT to others and statewide enabling infrastructure ties these together. Yet more engagement is required to facilitate HIE efforts with community and organizational HIEs and CareAccord, the state designated entity (SDE). The SDE currently operates alongside a near-pure market-driven approach to HIE.[28] A move to implement a statewide Partnership Model for HIE could rely on sharing the governance functions between the state and the private sector, encouraging and leveraging collaborations and utilities underway, rather than competing with them.

Using EDIE as a guide, explore sharing governance functions between the state and the private sector, encouraging and leveraging collaborations and utilities already underway without duplication of effort. Facilitate, incent, encourage integration of these diverse networks of information, within and among state agencies, and in the private sector, and help amplify private sector efforts to increase system-to-system sharing of EHR and other data. Strategies include technical guidance to exchange sufficiently structured formats that can drive the ability for clinicians to use, integrate, digest, and act upon exchanged information.

Oral Health Integration

Data Gaps

18. Create a process to require carriers to submit dental claims, enrollment and provider data to the APAC data system.

This data will be essential to expand dental integration, and enable metrics analysis beyond the Medicaid population. Many dentists have still not adopted EHR systems. Until better health information exchange exists, claims data is an important tool to measure care integration.

Equity and Social Determinants of Health

Data Gaps

Lack of Data Connectivity

19. Use the REAL+D data that exists to support complex analyses that can help address health equity issues.

The collection of Race, Ethnicity, and Language + Disability data was codified by rule in 2014, though many data sources that could benefit from this data still do not include it.[29] Data collection and quality improve when the data is used, so additional reporting is an important tool to change behavior. Summary reports shared with the community and providers who collect data should be as granular as possible, even if data is incomplete.

Data Gaps

Health System Transformation

20. Develop tools to collect data on care coordination activities, focusing on critical system integration goals.

As a result, this important transformation aim is hard to measure. The data should capture actions that occur as the result of screenings; for example, if a patient screens positive for depression, the data should capture any follow-up activities that occur. This tracking will require more health information exchange (HIE) infrastructure. Continue with HIE onboarding efforts to facilitate sharing behavioral and oral health data where present.[30] Develop incentives to adopt clinical information systems in behavioral and oral health.[31] [32]

Health Care Workforce Issues

Data Gaps

21. Collect data on all provider types, and broaden workforce data collection to capture provider experience.

As Oregon transforms health care delivery, we must also expand our collection of information on all providers. Though we have some useful data on all licensed professionals, there is less data collected on certain types of specialists, and about behavioral and oral health providers. Workforce data collection should encompass and connect the entire care team, including primary care team roles such as care coordinators, care managers, and scribes. Additionally, it is critical to be able to analyze this data geographically; network adequacy is an area of increasing importance in the commercial insurance market, and solid workforce data can help DCBS and others monitor that factor.

Along with quantitative data, OHA should develop tools to collect provider satisfaction data, to understand the deep impact on the satisfaction of health care workers. Data from surveys of providers could inform programs to combat burnout. Providers believe that improving the work life of physician and other care team members is an important addition to the Triple Aim, or, as some have termed it, the Quadruple Aim.

Data Gaps

Equity and Social Determinants of Health

Actionable Data

22. Enable more powerful analysis through collecting and mapping data at the individual or patient level wherever possible, for all populations.

Providers must share patient-level data with the entire care team and partners to support cost, quality, experience, and outcomes targets, and for population management. Data must be collected at a granular level whenever possible, to enable connections among multiple data sources, and to provide richer opportunities for analysis. Analysis of Oregon's population is currently limited because the state does not collect robust data for individuals covered under self-insured ERISA plans, Indian Health Services, or the uninsured population. There may be opportunities to share data where it is available in order to close this gap.

Public Health Modernization

Data Gaps

Equity and Social Determinants of Health

23. Collect health status information for adults and children to better understand Oregon's particular population health challenges.

The National Health and Nutrition Examination Survey program is a frequently cited model to consider.[33] This tool, or other methods that could collect clinical and survey data together, would give a more granular look at population health in Oregon. This is especially critical to understanding public health issues and behaviors that are sometimes not treated in a clinical setting. As the Public Health Modernization work continues, better population health data will be a critical tool for measuring progress on the state's health improvement priorities.

Data Gaps

Equity and Social Determinants of Health

Health System Transformation

24. Develop a statewide plan to collect and use self-reported and patient experience data to provide a more complete view of the health care system.

Along with clinical data, patient-generated data and patient reported outcomes are important complements to claims-based measurement. Existing survey data is underutilized, and collection is poorly coordinated. Aligning resources could save costs of fielding surveys, and those resources could be reallocated to analysis that supports practices and organizations that cannot currently analyze or use this data.

Data Gaps

Health System Transformation

Public Health Modernization

25. Expand on current efforts to develop the Clinical Quality Metrics Registry (CQMR) to include commercially insured populations.

A robust system to collect clinical quality data is essential to build the capacity to report outcomes data. OHA has recognized the value of developing a statewide registry to house this data, and in September 2016, OHA will release an RFP for such a registry. In 2017, the CQMR will launch and begin to collect data for the clinical measures in the CCO incentive program, and for Meaningful Use Clinical Quality Measures. OHA should continue to collaborate with stakeholders to find resources to structure the CQMR to allow Oregon to collect additional quality data across a broad population, to support reporting and population health management initiatives. In particular, there may be data that is specific to Oregon transformation or public health improvement efforts that is not included in standard EHR reporting packages, and otherwise difficult to collect. Investing collaboratively with the private sector in the technology to support collection of this new data has great potential to generate shared value across the community while supporting sustainability for these sizeable investments

Conclusion and Next Steps

Taken together, the feedback and themes described in this report reflect attributes to describe a possible desired future state of health care data in Oregon:

- Leadership and Vision: The State collects targeted data to support its vision of expanded access, better public health and health outcomes, and contained costs. Critical priorities and Specific, Measurable, Actionable, Realistic and Time-bound goals are understood and grounded in existing data, or backed by efforts to gather that data. Data systems are designed to focus on strategy and key goals of health system transformation
- Equity and Social Determinants of Health: Oregon has data that truly reflects the health of Oregon's populations in all their complexity, and uses that data to reduce disparities and improve equity for all.
- Alignment: Efforts to measure health and health care are aligned across public and private programs; state agencies collaborate using systems designed to share critical client information to improve care and service; major data and technology assets are managed as shared assets through public/private partnerships
- Data Connectivity: Data sources used for health care measurement are maintained efficiently with minimal duplication among data sources. Data sources are reasonably integrated to support a health care system in constant transformation; data flows among all users securely and timely.
- Actionable data: The state's data systems are appropriately secured and accessible; employees and community members know what data is available and how to get it; barriers to data sharing are minimized, while patient privacy is protected. Data sources are timely and validated for accuracy; data submission is simplified or automated.
- Data Completeness: The state's data systems contain comprehensive data to support desired analyses that accelerate and demonstrate opportunities for improvement and progress of health care transformation at multiple levels. Where data does not exist or is emerging, Oregon's data systems can compensate for that lack.

The recommendations in this report highlight steps OHA and OHPB can take to move toward this possible future state.

Next steps

OHA staff will work with the OHPB to determine how best to use this document to inform the work of the Health Plan Quality Metrics Committee. With this assessment of what data is available, and what data is needed, work can begin to determine what new data to pursue. This in turn should inform consideration of what existing initiatives to continue, and how new work might be phased over time.

The recommendations contained in this plan are presented for the consideration of the OHPB and OHA. OHA should work to ensure that the recommendations they choose to act upon align with the vision of the OHPB and legislature. A plan for the collection and use of health care data can only have meaning and utility in the context of a clear vision for the state of health in 2020.

Appendices

A. Stakeholder Input Data
B. Data Source Inventory
C. Resource Inventory
D. Glossary
E. Q Corp Disclosure Statement
F. SB 440 Summary

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Appendix A: Stakeholder Input Data:
Coding and Results

Stakeholder Categories – Interviews and Surveys				
Type		**Interviews**	**Survey**	**Total**
Government	State of Oregon DCBS DHS OHA OHA Public Health Division County	69	37	106
Advocates/Consumers	Advocacy Organization Consumers/Consumer Advocacy	8	6	14
Providers	Behavioral Health Oral Health Physical Health Hospitals & Health Systems	11	35	46
Payers/Purchasers	CCO Health Plan Purchaser/employer/labor	14	28	42
Others	Bill Sponsor Community Collaborations Health IT Professional Organization/Association Research Consultants Other	31	18	49
TOTAL		133	124	257

Organizations Represented in Stakeholder Interviews

(Does not include 104 individuals represented in the online survey responses)

Apprise
Association of Community Mental Health Programs
Bill sponsors
Capitol Dental
CCO – HealthShare
CCO Community Advisory Councils
Coalition of Local Health Officials (CLHO)
Early Learning Coucil
Integrated Behavioral Health Alliance of Oregon
Kaiser Permanente
National Alliance on Mental Illness (NAMI)
OCHIN
DCBS – Oregon Health Insurance Marketplace (OHIM)
OHSU
OHSU - Office of Rural Health
OHSU School of Dentistry
Oregon Association of Hospitals and Health Systems (OAHHS)
Oregon Dental Association
Oregon Health Leadership Council (OHLC)
Oregon Health Policy Board
Oregon Perinatal Collaborative
Oregon Primary Care Association (OPCA)
Oregon Research Institute
OSPIRG
Portland IPA
Propel Health
Providence
Providence CORE
Service Employees International Union (SEIU)
State – Department of Consumer and Business Services (DCBS)
State – Department of Human Services (DHS) Business Intelligence
State – Department of Human Services (DHS) Child Welfare
State – Department of Human Services (DHS) Division of Developmental Disabilities
State – Department of Human Services (DHS) Integrated Client Services Warehouse
State – Department of Human Services (DHS) Self-Sufficiency Office
State – Early Learning Division
State – Forecasting Research & Analysis Office
State – Governor's Office
State – Office of Health Information Technology (OHIT)
State – Oregon Employee Benefits Board (OEBB)
State – Oregon Health Authority (OHA)
State – Oregon Health Authority (OHA) Analytics
State – Oregon Health Authority (OHA) Medicaid/Analytics
State – Oregon Health Authority (OHA) Public Health Division
State – Oregon Health Authority (OHA), Office of Equity & Inclusion
State – Public Employees Benefit Board (PEBB)
We Can Do Better
Willamette Dental

Survey Response Detail – Respondents Location

	Zip Code	City	County	Region
1	97005	Beaverton	Washington Co.	1
1	97031	Hood River	Hood River Co.	1
2	97045	Oregon City	Clackamas Co.	1
1	97070	Wilsonville	Clackamas Co.	1
5	97201	Portland	Multnomah Co.	1
2	97202	Portland	Multnomah Co.	1
1	97203	Portland	Multnomah Co.	1
9	97204	Portland	Multnomah Co.	1
2	97205	Portland	Multnomah Co.	1
2	97212	Portland	Multnomah Co.	1
1	97213	Portland	Multnomah Co.	1
1	97218	Portland	Multnomah Co.	1
1	97220	Portland	Multnomah Co.	1
1	97225	Portland	Multnomah Co.	1
1	97227	Portland	Multnomah Co.	1
1	97229	Portland	Multnomah Co.	1
8	97232	Portland	Multnomah Co.	1
2	97239	Portland	Multnomah Co.	1
15	97301	Salem	Marion Co.	2
1	97304	Salem	Polk Co.	2
2	97305	Salem	Marion Co.	2
2	97321	Albany	Linn Co.	2
1	97322	Albany	Linn Co.	2
9	97330	Corvallis	Benton Co.	2
1	97333	Corvallis	Benton Co.	2
2	97365	Newport	Lincoln Co.	2
1	97477	Springfield	Lane Co.	2
1	97420	Coos Bay	Coos Co.	3
1	97470	Roseburg	Douglas Co.	3
1	97471	Roseburg	Douglas Co.	3
1	97504	Medford	Jackson Co.	3
1	97520	Ashland	Jackson Co.	3
3	97526	Grants Pass	Josephine Co.	3
1	97058	The Dalles	Wasco Co.	4
1	97701	Bend	Deschutes Co.	4
1	97702	Bend	Deschutes Co.	4
2	97756	Redmond	Deschutes Co.	4
1	97801	Pendleton	Umatilla	5
1	97838	Hermiston	Umatilla	5

1: Portland Metro	42	46%
2: W. Valley & North Coast	34	37%
3: Central Oregon	8	9%
4: Eastern Oregon	2	2%

Full list of codes used to analyze feedback and information collected via online survey and interviews. **Code**		**Description**
U – BHI	Behavioral Health Integration	Using data to monitor or inform BHI
U – CLIN	Clinical Care	Using clinical data to improve care.
U – COOR	Coordination	Using data to coordinate between systems.
U – EQU	Equity	Using data to monitor or inform work around equity
U – HCW	Healthcare Workforce Issues	Using data to monitor or inform work around healthcare workforce issues
U – HIT	Health Information Technology	Using data to monitor or inform work around HIT
U - HST	Health System Transformation	Using data to monitor/inform work around health system transformation.
U – OHI	Oral Health Integration	Using data to monitor or inform work around OHI
U – PH	Public Health System & Modernization efforts	Using data to monitor or inform work around public health systems and public health modernization efforts
U – PHARM	High-cost Pharmacy Issues	Using data to monitor/inform work addressing high-cost pharmaceuticals
U – POL	Policy	Using data to inform policy issues generally
U – PROG	Program Evaluation	
U – RES	Research	Using data for research purposes
U – SDoH	Social Determinants of Health	Using data to inform work related to social determinants of health.
U - SIMP	Administrative Simplification	Making data reporting easier on the submitters
U – VBP	Value-based payment/Payment reform	Using data to monitor or inform work around VBPs.
U – MISC	Miscellaneous	Make sure to include a quote in the quotes section if you use this code.
G – ADMN	Administration	Comments about lack of data demonstrating administration costs.
G – BHI	Behavioral Health Integration	Comments about gaps in data to support BHI work.
G – COOR	Coordination	Comments about gaps in data that reflect care coordination.
G – EQU	Equity	Comments about how we need better data to identify potential disparities and address equity
G – GEO	Geography	Gaps in data related to specific geographic regions.
G – GRAN	Granular data	Comments about lack of granular data.
G – HCW	Healthcare Workforce Issues	Comments about gaps in data to inform healthcare workforce issues.
G – HIT	Health Information Technology	Comments about gaps in data around HIT work.
G - HST	Health System Transformation	Comments about gaps in data to support health system transformation.
G – OUT	Outcomes	Comments about gaps in data related to health outcomes.
G – OHI	Oral Health Integration	Comments about gaps in data to support OHI work.
G – PH	Public Health System & Modernization	Comments about gaps in data related to public health systems and public health modernization efforts.
G – PHARM	High-cost Pharmacy Issues	Comments about gaps in pharmacy data.
G – SDoH	Social Determinants of Health	Comments about how current Oregon data efforts are lacking in areas like education, food security, class, etc.
G - SYST	System Design	Comments about level of detail available and access restrictions.
G – VBP	Value-based payment/Payment reform	Comments about gaps in data related to value-based payment models.
G – MISC	Miscellaneous	Make sure to include a quote in the quotes section if you use this code.
B – ATT	Attribution	Comments about barriers to attributing patients to providers AND/OR attributing different sources of data to a single person.

Full list of codes used to analyze feedback and information collected via online survey and interviews.

Code		Description
B – BHI	Behavioral Health Integration	Comments about barriers to collecting and using data needed for BHI.
B – COOR	Coordination	Comments about how coordinating between data systems is a barrier.
B – DEN	Denominator	Comments about how some populations may be so small as to not be counted or too small to use aggregated data.
B – EQU	Equity	Comments about barriers to collecting and using data around disparities.
B – HCW	Healthcare Workforce Issues	Comments about barriers to collecting and using data for healthcare workforce issues.
B – HIT	Health Information Technology	Comments about barriers to collecting and using data because of HIT.
B - HST	Health System Transformation	Comments about barriers to collecting and using data for HST.
B – INT	Interoperability	Comments about how systems not being able to communicate can be a detriment to using data effectively.
B – OHI	Oral Health Integration	Comments about barriers to collecting and using data to support OHI.
B – PH	Public Health System & Modernization efforts	Comments about barriers to collecting and using data in the public health system or for public health modernization efforts.
B – PHARM	High-cost Pharmacy Issues	Comments about barriers to collecting and using pharmacy data.
B – PRIV	Privacy Regulations	Comments about confidentiality and privacy barriers/concerns around data.
B - PROG	Program Evaluation	Comments about barriers related to program evaluation
B – QUAL	Quality of Data	Comments about how the quality and reliability of data can be a barrier to using it effectively.
B – SHAR	Sharing	Comments about barriers related to sharing data.
B – SYS	System design	Comments about how data access is governed can be a barrier.
B – VBP	Value-based payment/Payment reform	Comments about barriers to collecting and using data for value-based payment models.
B – MISC	Miscellaneous	Make sure to include a quote in the quotes section if you use this code.
S – BHI	Behavioral Health Integration	Comments about how Oregon’s current data systems support BHI.
S – CULT	Culture	Comments about how Oregon’s culture/climate support data systems.
S – EQU	Equity	Comments about how Oregon’s current data systems support work around equity and addressing disparities.
S – HCW	Healthcare Workforce Issues	Comments about how Oregon’s current data systems support work addressing healthcare workforce issues.
S – HIT	Health Information Technology	Comments about how Oregon’s current data systems support or are supported by HIT.
S - HST	Health System Transformation	Comments about how Oregon’s current data systems support HST.
S - INT	Integration	Strengths in Oregon’s integration of healthy systems.
S – MEA	Measures	Strengths in Oregon’s measurement system
S – OHI	Oral Health Integration	Comments about how Oregon’s current data systems support OHI
S – PH	Public Health System & Modernization efforts	Strengths in Oregon’s Public Health System data and/or comments about how Oregon’s current data systems support Public Health modernization efforts.
S – PHARM	High-cost Pharmacy Issues	Strengths in Oregon’s pharmacy data.
S – SDoH	Social Determinants of Health	Strengths in Oregon’s social determinants of health data.

Full list of codes used to analyze feedback and information collected via online survey and interviews.

Code		Description
S – VBP	Value-based payment/Payment reform	Strengths related to Oregon’s current data systems in supporting VBP.
S – MISC	Miscellaneous	Make sure to include a quote in the quotes section if you use this code.
O – ACCE	Accessibility	Comments about how data could be made more accessible
O – ALGN	Alignment	Comments about how data systems could be better aligned
O – BHI	Behavioral Health Integration	Opportunities to improve Oregon’s data for BHI.
O – CONS	Consumer Experience	Expression that we lack good consumer experience measures
O – EQU	Equity	Opportunities to improve Oregon’s health-related data for equity to address disparities.
O – HCW	Healthcare Workforce Issues	Opportunities to improve Oregon’s health-related data to address healthcare workforce issues.
O – HIT	Health Information Technology	Opportunities to improve Oregon’s health-related data through HIT and/or opportunities to improve HIT.
O - HST	Health System Transformation	Opportunities to improve Oregon’s health-related data to support HST.
O – INT	Integration of services	Comments about how social service data could be better integrated with health data.
O – OHI	Oral Health Integration	Opportunities to improve Oregon’s health-related data to address OHI.
O – PH	Public Health System & Modernization efforts	Opportunities to improve Oregon’s health-related data for public health system work and/or public health modernization efforts.
O – PHARM	High-cost Pharmacy Issues	Opportunities to improve Oregon’s health-related data specifically pharmacy data.
O – PHI	Protected Health Information	Comments about how shifting norms about privacy among consumers may support greater use of data at granular level.
O – PRVN	Prevention	Comments about needing more data around prevention issues.
O – SDoH	Social Determinants of Health	Comments about how we need better data to connect what happens outside of the health care system to health outcomes.
O - SIMP	Administrative Simplification	Making data reporting easier on the submitters
O - TRAN	Transparency	Comments about how data should be more transparent
O – UPD	Updates	Comments about how Oregon could do a better job around revisiting and retiring measures.
O – VBP	Value-based payment/Payment reform	Opportunities to improve Oregon’s data to support value-based payments.
O – MISC	Miscellaneous	Make sure to include a quote in the quotes section if you use this code.

Because items coded as G*aps*, *Barriers* and *Opportunities* were often used inter-changeably, these codes were combined for some areas even though they did not individually appear more than 25 times.

Classification codes appearing more than 25 times in surveys and interviews		
Uses	Barriers	Opportunities
U-CLIN: Clinical Care U-POL: Policy	B-HIT: Health IT B-INT: Interoperability B-PRIV: Privacy B-QUAL: Data Quality B-SHAR: Sharing Data B-SYS: System Design B-MISC: Miscellaneous	O-ACCE: Accessibility O-ALGN: Alignment O-CONS: Consumer Experience O-INT: Integration of Services O-SDoH: Social Determinants of Health O-SIMP: Administrative Simplification O-TRAN: Transparency O-VBP: Value-based Payment O-MISC: Miscellaneous
Gaps		
G-EQU: Equity G-OUT: Outcomes G-SDoH: Social Determinants of Health G-MISC: Miscellaneous		

Theme Categories	**Associated Costs**	
Leadership and Vision	U-POL: Policy G-MISC: Miscellaneous B-MISC: Miscellaneous	O-MISC: Miscellaneous O-SDoH: Social Determinants of Health
Equity and Social Determinants of Health	U-POL: Policy G-EQU: Equity G-SDoH: Social Determinants of Health	O-SDoH: Social Determinants of Health O-CONS: Consumer Experience
Alignment within the Public Sector and between Public and Private Sectors	U-POL: Policy O-ACCE: Accessibility O-ALGN: Alignment O-INT: Integration of Services	O-SIMP: Administrative Simplification O-TRAN: Transparency O-VBP: Value-based Payment O-MISC: Miscellaneous
Lack of Data Connectivity: Technical and Political Barriers to Sharing Data	B-HIT: Health IT B-INT: Interoperability B-PRIV: Privacy	B-SHAR: Sharing Data B-SYS: System Design B-MISC: Miscellaneous
Actionable Data: Timeliness, Quality, Transparency and Analysis	U-CLIN: Clinical Care U-POL: Policy B-QUAL: Data Quality B-MISC: Miscellaneous	O-ACCE: Accessibility O-CONS: Consumer Experience O-TRAN: Transparency
Data Gaps	G-EQU: Equity G-OUT: Outcomes G-SDoH: Social Determinants of Health	G-MISC: Miscellaneous O-CONS: Consumer Experience O-VPB: Value-based Payment

Coding Results: All Interviews and Survey Responses

🟩	Green boxes indicate codes used >25 times

Uses

	U-BHI	U-CLIN	U-COOR	U-EQU	U-HCW	U-HIT	U-HST	U-OHI	U-PH	U-PHARM	U-POL	U-PROG	U-RES	U-SDoH	U-SIMP	U-VBP	U-MISC
Interviews	3	27	11	6	3	1	12	0	2	3	26	6	23	5	1	3	0
Survey Responses																	1
Total	**3**	**27**	**11**	**6**	**3**	**1**	**12**	**0**	**2**	**3**	**26**	**6**	**23**	**5**	**1**	**3**	**1**

Gaps

	G-ADMN	G-ACCE	G-BHI	G-CONS	G-COOR	G-EQU	G-GEO	G-GRAN	G-HCW	G-HIT	G-HST	G-OHI	G-OUT	G-PH	G-PHARM	G-PREV	G-QUAL	G-SDoH	G-SYST	G-VBP	G-MISC
Interviews	5	2	12	1	14	15	6	12	12	9	5	13	27	3	7	1	3	27	15	22	13
Survey Responses	1	1	4			15	1	13	10	9	1	2	12		1			9	1		17
Total	**6**	**3**	**16**	**1**	**14**	**30**	**7**	**25**	**22**	**18**	**6**	**15**	**39**	**3**	**8**	**1**	**3**	**36**	**16**	**22**	**30**

Barriers

	B-ATT	B-ACCE	B-BHI	B-COOR	B-DEN	B-EQU	B-HCW	B-HIT	B-HST	B-INT	B-OHI	B-PH	B-PHARM	B-PHI	B-PRIV	B-PROG	B-QUAL	B-SHAR	B-SYS	B-VBP	B-MISC
Interviews	5	8	6	14	6	9	4	21	12	38	3	9	2	6	29	3	40	41	32	6	11
Survey Responses	3		1	5		4		12	6	10		1			6		27	21	6		31
Total	**8**	**8**	**7**	**19**	**6**	**13**	**4**	**33**	**18**	**48**	**3**	**10**	**2**	**6**	**35**	**3**	**67**	**62**	**38**	**6**	**42**

Strengths

	S-ALGN	S-BHI	S-CULT	S-EQU	S-HCW	S-HIT	S-HST	S-INT	S-MEA	S-OHI
Interviews	1	1	8	2	2	1	2	3	17	1
Survey Responses			1	3			2		1	
Total	**1**	**1**	**9**	**5**	**2**	**1**	**4**	**3**	**18**	**1**

	S-PH	S-PHARM	S-SDoH	S-SYS	S-VBP	S-MISC
Interviews	3	0	2	3	1	2
Survey Responses						1
Total	**3**	**0**	**2**	**3**	**1**	**3**

Note: None of the strengths were coded more than 25 times, so the top two were identified in green highlight.

Opportunities

	O-ACCE	O-ALGN	O-BHI	O-CONS	O-EQU	O-GEO	O-GRAN	O-HCW	O-HIT	O-HST
Interviews	25	49	14	24	12	1	4	2	24	24
Survey Responses	10	7	1	12	7				1	1
Total	**35**	**56**	**15**	**36**	**19**	**1**	**4**	**2**	**25**	**25**

	O-INT	O-OHI	O-OUT	O-PH	O-PHARM	O-PHI	O-PRVN	O-PRIV	O-QUAL	O-SDoH	O-SIMP	O-SYS
Interviews	35	7	2	15	0	7	8	2	2	31	30	10
Survey Responses	3									2	4	
Total	**38**	**7**	**2**	**15**	**0**	**7**	**8**	**2**	**2**	**33**	**34**	**10**

	O-TRAN	O-UPD	O-VBP	O-MISC
Interviews	25	16	26	26
Survey Responses	15			7
Total	**40**	**16**	**26**	**33**

Survey responses to Likert-scale questions, by stakeholder segment

Response Counts by Stakeholder Group			Providers n=12								Other n=26							
			Agree		Neutral		Disagree		n/a		Agree		Neutral		Disagree		n/a	
Health System Transformation	Collection																	
		monitoring	6	50.0%	2	16.7%	0	0.0%	1	8.3%	4	11.8%	6	17.6%	3	8.8%	1	2.9%
		oversight	5	41.7%	2	16.7%	1	8.3%	1	8.3%	3	8.8%	5	14.7%	5	14.7%	1	2.9%
		policy	3	25.0%	4	33.3%	1	8.3%	1	8.3%	4	11.8%	6	17.6%	3	8.8%	1	2.9%
	Reporting																	
		monitoring	5	41.7%	2	16.7%		0.0%	2	16.7%	4	11.8%	6	17.6%	2	5.9%	1	2.9%
		oversight	5	41.7%	2	16.7%	1	8.3%	1	8.3%	2	5.9%	6	17.6%	4	11.8%	1	2.9%
		policy	3	25.0%	4	33.3%	1	8.3%	1	8.3%	3	8.8%	6	17.6%	2	5.9%	1	2.9%
Health Care Workforce	Collection																	
		monitoring	2	16.7%	1	8.3%	0	0.0%	2	16.7%	2	5.9%	5	14.7%	3	8.8%	2	5.9%
		oversight	2	16.7%	1	8.3%	0	0.0%	2	16.7%	1	2.9%	7	20.6%	2	5.9%	2	5.9%
		policy	2	16.7%	1	8.3%	0	0.0%	2	16.7%	2	5.9%	5	14.7%	3	8.8%	2	5.9%
	Reporting																	
		monitoring	2	16.7%	1	8.3%	0	0.0%	2	16.7%	3	8.8%	5	14.7%	2	5.9%	2	5.9%
		oversight	2	16.7%	1	8.3%	0	0.0%	2	16.7%	2	5.9%	6	17.6%	2	5.9%	2	5.9%
		policy	2	16.7%	1	8.3%	0	0.0%	2	16.7%	2	5.9%	5	14.7%	3	8.8%	2	5.9%
Health Information Technology	Collection																	
		monitoring	0	0.0%	1	8.3%	0	0.0%	2	16.7%	1	2.9%	4	11.8%	2	5.9%	3	8.8%
		oversight	0	0.0%	1	8.3%	0	0.0%	2	16.7%	0	0.0%	4	11.8%	3	8.8%	3	8.8%
		policy	0	0.0%	1	8.3%	0	0.0%	2	16.7%	0	0.0%	5	14.7%	2	5.9%	3	8.8%
	Reporting																	
		monitoring	0	0.0%	0	0.0%	0	0.0%	3	25.0%	0	0.0%	7	20.6%	0	0.0%	2	5.9%
		oversight	0	0.0%	0	0.0%	0	0.0%	3	25.0%	0	0.0%	7	20.6%	1	2.9%	2	5.9%
		policy	0	0.0%	0	0.0%	0	0.0%	3	25.0%	0	0.0%	7	20.6%	0	0.0%	3	8.8%

Response Counts by Stakeholder Group			Providers n=12								Other n=26							
			Agree		Neutral		Disagree		n/a		Agree		Neutral		Disagree		n/a	
Health Equity	Collection																	
		monitoring	0	0.0%	2	16.7%	1	8.3%	1	8.3%	2	5.9%	3	8.8%	4	11.8%	1	2.9%
		oversight	0	0.0%	2	16.7%	1	8.3%	1	8.3%	2	5.9%	2	5.9%	5	14.7%	1	2.9%
		policy	0	0.0%	2	16.7%	1	8.3%	1	8.3%	2	5.9%	2	5.9%	5	14.7%	1	2.9%
	Reporting											0.0%		0.0%		0.0%		0.0%
		monitoring	1	8.3%	1	8.3%	1	8.3%	1	8.3%	2	5.9%	4	11.8%	4	11.8%	1	2.9%
		oversight	1	8.3%	1	8.3%	1	8.3%	1	8.3%	1	2.9%	4	11.8%	3	8.8%		0.0%
		policy	1	8.3%	1	8.3%	1	8.3%	1	8.3%	1	2.9%	5	14.7%	3	8.8%	1	2.9%
Behavioral Health Integration	Collection																	
		monitoring	0	0.0%	1	8.3%	1	8.3%	1	8.3%	2	5.9%	3	8.8%	2	5.9%	5	14.7%
		oversight	0	0.0%	1	8.3%	1	8.3%	1	8.3%	1	2.9%	2	5.9%	3	8.8%	5	14.7%
		policy	0	0.0%	1	8.3%	1	8.3%	1	8.3%	0	0.0%	3	8.8%	4	11.8%	5	14.7%
	Reporting																	
		monitoring	0	0.0%	0	0.0%	1	8.3%	1	8.3%	1	2.9%	4	11.8%	2	5.9%	5	14.7%
		oversight	0	0.0%	0	0.0%	1	8.3%	1	8.3%	1	2.9%	3	8.8%	3	8.8%	5	14.7%
		policy	0	0.0%	0	0.0%	1	8.3%	1	8.3%	1	2.9%	3	8.8%	3	8.8%	5	14.7%
Oral Health Integration	Collection																	
		monitoring	0	0.0%	1	8.3%	1	8.3%	0	0.0%	0	0.0%	1	2.9%	3	8.8%	5	14.7%
		oversight	0	0.0%	1	8.3%	1	8.3%	0	0.0%	0	0.0%	1	2.9%	3	8.8%	5	14.7%
		policy	0	0.0%	1	8.3%	1	8.3%	0	0.0%	0	0.0%	1	2.9%	3	8.8%	5	14.7%
	Reporting																	
		monitoring	0	0.0%	0	0.0%	1	8.3%	0	0.0%	0	0.0%	1	2.9%	3	8.8%	5	14.7%
		oversight	0	0.0%	0	0.0%	1	8.3%	0	0.0%	0	0.0%	2	5.9%	2	5.9%	5	14.7%
		policy	0	0.0%	0	0.0%	1	8.3%	0	0.0%	0	0.0%	1	2.9%	3	8.8%	5	14.7%

Response Counts by Stakeholder Group			Providers n=12								Other n=26							
			Agree		Neutral		Disagree		n/a		Agree		Neutral		Disagree		n/a	
High-cost pharmacy	Collection																	
		monitoring	0	0.0%	0	0.0%	0	0.0%	1	8.3%	1	2.9%	2	5.9%	2	5.9%	4	11.8%
		oversight	0	0.0%	0	0.0%	0	0.0%	1	8.3%	0	0.0%	3	8.8%	2	5.9%	4	11.8%
		policy	0	0.0%	0	0.0%	0	0.0%	1	8.3%	0	0.0%	3	8.8%	2	5.9%	4	11.8%
	Reporting																	
		monitoring	0	0.0%	0	0.0%	0	0.0%	1	8.3%	1	2.9%	2	5.9%	2	5.9%	4	11.8%
		oversight	0	0.0%	0	0.0%	0	0.0%	1	8.3%	1	2.9%	2	5.9%	2	5.9%	4	11.8%
		policy	0	0.0%	0	0.0%	0	0.0%	1	8.3%	1	2.9%	2	5.9%	2	5.9%	4	11.8%
Payment reform	Collection																	
		monitoring	0	0.0%	1	8.3%	1	8.3%	0	0.0%	1	2.9%	2	5.9%	2	5.9%	5	14.7%
		oversight	0	0.0%	1	8.3%	1	8.3%	0	0.0%	1	2.9%	2	5.9%	2	5.9%	5	14.7%
		policy	0	0.0%	0	0.0%	2	16.7%	0	0.0%	1	2.9%	2	5.9%	2	5.9%	5	14.7%
	Reporting																	
		monitoring	0	0.0%	0	0.0%	2	16.7%	0	0.0%	0	0.0%	3	8.8%	2	5.9%	5	14.7%
		oversight	0	0.0%	0	0.0%	2	16.7%	0	0.0%	0	0.0%	3	8.8%	2	5.9%	5	14.7%
		policy	0	0.0%	0	0.0%	2	16.7%	0	0.0%	0	0.0%	3	8.8%	2	5.9%	5	14.7%
Public health modernization	Collection																	
		monitoring	2	16.7%	4	33.3%	2	16.7%	2	16.7%	3	11.5%	1	3.8%	2	7.7%	4	15.4%
		oversight	2	16.7%	4	33.3%	2	16.7%	2	16.7%	3	11.5%	2	7.7%	1	3.8%	4	15.4%
		policy	2	16.7%	4	33.3%	2	16.7%	2	16.7%	2	7.7%	3	11.5%	1	3.8%	4	15.4%
	Reporting																	
		monitoring	2	16.7%	5	41.7%	2	16.7%	2	16.7%	2	7.7%	2	7.7%	2	7.7%	3	11.5%
		oversight	1	8.3%	6	50.0%	2	16.7%	2	16.7%	1	3.8%	4	15.4%	1	3.8%	3	11.5%
		policy	1	8.3%	5	41.7%	3	25.0%	2	16.7%	2	7.7%	2	7.7%	2	7.7%	3	11.5%

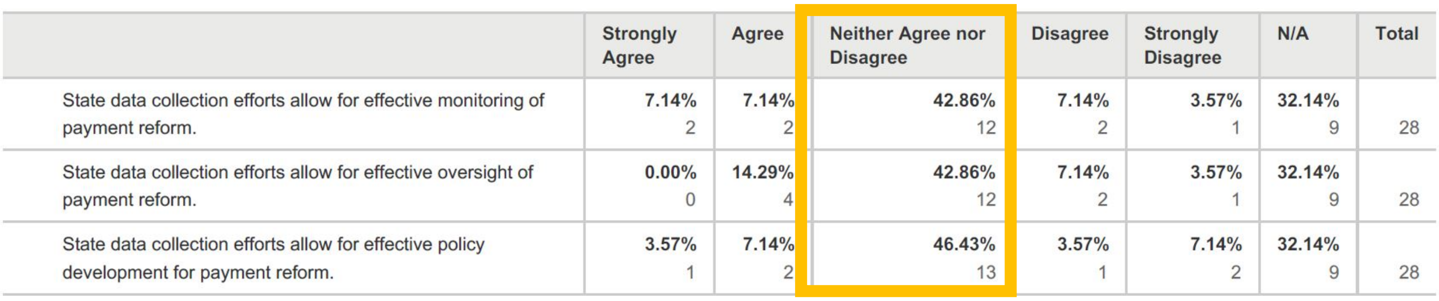
Response Counts by Stakeholder Group			State & County n=37								CCOs n=24							
			Agree		Neutral		Disagree		n/a		Agree		Neutral		Disagree		n/a	
Health System Transformation	Collection																	
		monitoring	7	18.9%	10	27.0%	6	16.2%	0	0.0%	6	25.0%	6	25.0%	4	16.7%	0	0.0%
		oversight	6	16.2%	9	24.3%	8	21.6%	0	0.0%	7	29.2%	6	25.0%	3	12.5%	0	0.0%
		policy	6	16.2%	11	29.7%	6	16.2%	0	0.0%	7	29.2%	6	25.0%	3	12.5%	0	0.0%
	Reporting																	
		monitoring	2	5.4%	13	35.1%	6	16.2%	1	2.7%	6	25.0%	7	29.2%	2	8.3%	0	0.0%
		oversight	5	13.5%	10	27.0%	7	18.9%	1	2.7%	4	16.7%	10	41.7%	1	4.2%	0	0.0%
		policy	4	10.8%	11	29.7%	7	18.9%	1	2.7%	4	16.7%	9	37.5%	3	12.5%	0	0.0%
Health Care Workforce	Collection																	
		monitoring	2	5.4%	6	16.2%	6	16.2%	3	8.1%	3	12.5%	1	4.2%	4	16.7%	4	16.7%
		oversight	2	5.4%	8	21.6%	4	10.8%	3	8.1%	5	20.8%	2	8.3%	2	8.3%	4	16.7%
		policy	2	5.4%	7	18.9%	5	13.5%	3	8.1%	2	8.3%	4	16.7%	3	12.5%	4	16.7%
	Reporting																	
		monitoring	1	2.7%	6	16.2%	6	16.2%	4	10.8%	3	12.5%	2	8.3%	5	20.8%	3	12.5%
		oversight	1	2.7%	6	16.2%	6	16.2%	4	10.8%	2	8.3%	3	12.5%	5	20.8%	3	12.5%
		policy	1	2.7%	6	16.2%	6	16.2%	4	10.8%	2	8.3%	2	8.3%	6	25.0%	3	12.5%
Health Information Technology	Collection																	
		monitoring	2	5.4%	6	16.2%	1	2.7%	5	13.5%	1	4.2%	4	16.7%	4	16.7%	3	12.5%
		oversight	2	5.4%	6	16.2%	1	2.7%	5	13.5%	1	4.2%	5	20.8%	3	12.5%	3	12.5%
		policy	1	2.7%	6	16.2%	2	5.4%	5	13.5%	1	4.2%	4	16.7%	4	16.7%	3	12.5%
	Reporting																	
		monitoring	2	5.4%	3	8.1%	2	5.4%	6	16.2%	2	8.3%	6	25.0%	2	8.3%	2	8.3%
		oversight	2	5.4%	3	8.1%	2	5.4%	6	16.2%	2	8.3%	6	25.0%	2	8.3%	2	8.3%
		policy	2	5.4%	3	8.1%	2	5.4%	6	16.2%	2	8.3%	4	16.7%	4	16.7%	2	8.3%

Response Counts by Stakeholder Group			State & County n=37								CCOs n=24							
			Agree		Neutral		Disagree		n/a		Agree		Neutral		Disagree		n/a	
Health Equity	Collection																	
		monitoring	3	8.1%	5	13.5%	4	10.8%	0	0.0%	3	12.5%	4	16.7%	6	25.0%	0	0.0%
		oversight	3	8.1%	5	13.5%	5	13.5%	0	0.0%	1	4.2%	4	16.7%	8	33.3%	0	0.0%
		policy	3	8.1%	5	13.5%	4	10.8%	0	0.0%	1	4.2%	6	25.0%	6	25.0%	0	0.0%
	Reporting																	
		monitoring	3	8.1%	5	13.5%	2	5.4%	1	2.7%	1	4.2%	3	12.5%	9	37.5%	0	0.0%
		oversight	3	8.1%	5	13.5%	2	5.4%	1	2.7%	2	8.3%	2	8.3%	9	37.5%	0	0.0%
		policy	3	8.1%	5	13.5%	2	5.4%	1	2.7%	2	8.3%	2	8.3%	9	37.5%	0	0.0%
Behavioral Health Integration	Collection																	
		monitoring	0	0.0%	3	8.1%	3	8.1%	2	5.4%	0	0.0%	6	25.0%	4	16.7%	1	4.2%
		oversight	0	0.0%	2	5.4%	3	8.1%	3	8.1%	0	0.0%	7	29.2%	3	12.5%	0	0.0%
		policy	0	0.0%	2	5.4%	3	8.1%	3	8.1%	0	0.0%	8	33.3%	2	8.3%	0	0.0%
	Reporting																	
		monitoring	0	0.0%	2	5.4%	1	2.7%	3	8.1%	0	0.0%	9	37.5%	1	4.2%	0	0.0%
		oversight	0	0.0%	2	5.4%	1	2.7%	3	8.1%	0	0.0%	9	37.5%	2	8.3%	0	0.0%
		policy	0	0.0%	2	5.4%	1	2.7%	3	8.1%	0	0.0%	9	37.5%	9	37.5%	0	0.0%
Oral Health Integration	Collection																	
		monitoring	0	0.0%	2	5.4%	1	2.7%	3	8.1%	1	4.2%	3	12.5%	4	16.7%	1	4.2%
		oversight	0	0.0%	2	5.4%	1	2.7%	3	8.1%	1	4.2%	3	12.5%	4	16.7%	1	4.2%
		policy	0	0.0%	2	5.4%	1	2.7%	3	8.1%	1	4.2%	3	12.5%	4	16.7%	1	4.2%
	Reporting																	
		monitoring	0	0.0%	2	5.4%	1	2.7%	3	8.1%	1	4.2%	3	12.5%	4	16.7%	1	4.2%
		oversight	0	0.0%	2	5.4%	1	2.7%	3	8.1%	1	4.2%	3	12.5%	4	16.7%	1	4.2%
		policy	0	0.0%	2	5.4%	1	2.7%	3	8.1%	1	4.2%	3	12.5%	4	16.7%	1	4.2%

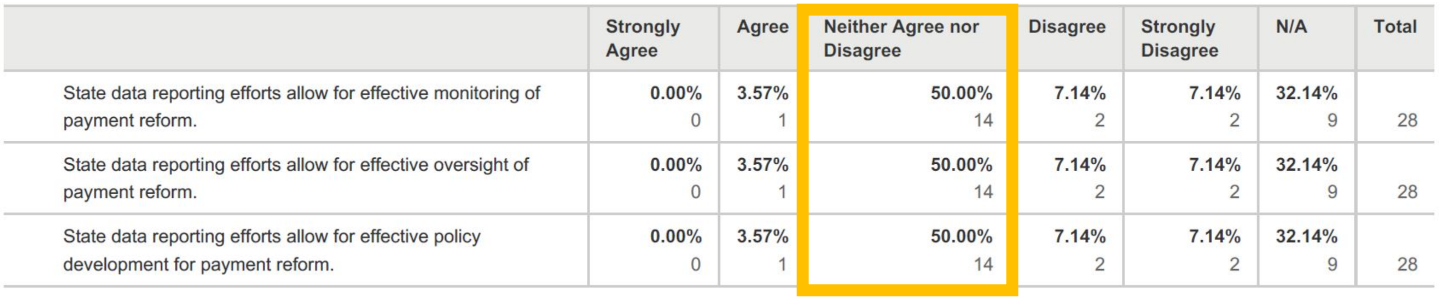
Response Counts by Stakeholder Group			State & County n=37								CCOs n=24							
			Agree		Neutral		Disagree		n/a		Agree		Neutral		Disagree		n/a	
High-cost pharmacy	Collection																	
		monitoring	0	0.0%	2	5.4%	1	2.7%	3	8.1%	1	4.2%	4	16.7%	4	16.7%	1	4.2%
		oversight	0	0.0%	2	5.4%	1	2.7%	3	8.1%	1	4.2%	5	20.8%	3	12.5%	1	4.2%
		policy	0	0.0%	2	5.4%	1	2.7%	3	8.1%	1	4.2%	5	20.8%	3	12.5%	1	4.2%
	Reporting																	
		monitoring	0	0.0%	2	5.4%	1	2.7%	3	8.1%		0.0%	6	25.0%	3	12.5%	1	4.2%
		oversight	0	0.0%	2	5.4%	1	2.7%	3	8.1%		0.0%	6	25.0%	3	12.5%	1	4.2%
		policy	0	0.0%	2	5.4%	1	2.7%	3	8.1%		0.0%	6	25.0%	3	12.5%	1	4.2%
Payment reform	Collection																	
		monitoring	1	2.7%	4	10.8%	0	0.0%	3	8.1%	1	4.2%	5	20.8%	1	4.2%	2	8.3%
		oversight	1	2.7%	4	10.8%	0	0.0%	3	8.1%	1	4.2%	5	20.8%	1	4.2%	2	8.3%
		policy	1	2.7%	4	10.8%	0	0.0%	3	8.1%	1	4.2%	5	20.8%	1	4.2%	2	8.3%
	Reporting																	
		monitoring	1	2.7%	4	10.8%	0	0.0%	3	8.1%	0	0.0%	5	20.8%	2	8.3%	2	8.3%
		oversight	1	2.7%	4	10.8%	0	0.0%	3	8.1%	0	0.0%	5	20.8%	2	8.3%	2	8.3%
		policy	1	2.7%	4	10.8%	0	0.0%	3	8.1%	0	0.0%	5	20.8%	2	8.3%	2	8.3%
Public health modernization	Collection																	
		monitoring	1	2.7%	7	18.9%	3	8.1%	4	10.8%	0	0.0%	0	0.0%	1	4.2%	2	8.3%
		oversight	1	2.7%	7	18.9%	3	8.1%	4	10.8%	0	0.0%	0	0.0%	1	4.2%	2	8.3%
		policy	1	2.7%	7	18.9%	3	8.1%	4	10.8%	0	0.0%	0	0.0%	1	4.2%	2	8.3%
	Reporting																	
		monitoring	2	5.4%	7	18.9%	2	5.4%	4	10.8%	0	0.0%	0	0.0%	1	4.2%	2	8.3%
		oversight	2	5.4%	7	18.9%	2	5.4%	4	10.8%	0	0.0%	0	0.0%	1	4.2%	2	8.3%
		policy	3	8.1%	6	16.2%	2	5.4%	4	10.8%	0	0.0%	0	0.0%	1	4.2%	2	8.3%

Survey Result Tables

Payment Reform

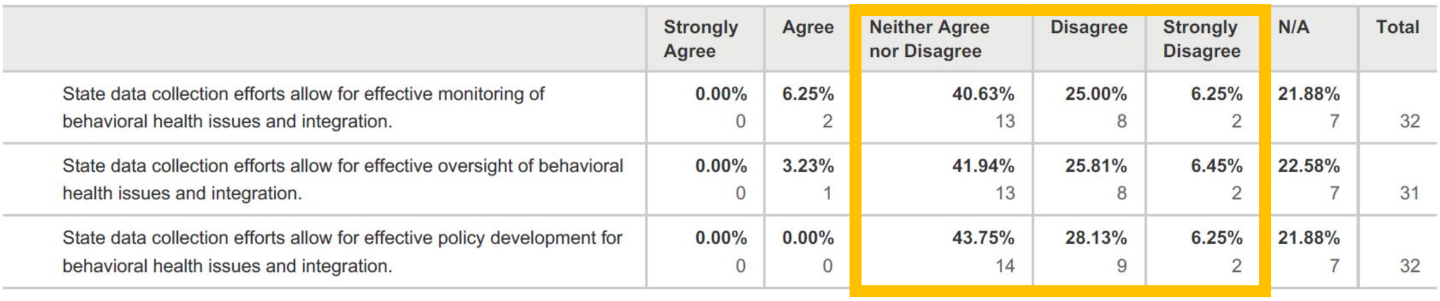


	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	N/A	Total
State data collection efforts allow for effective monitoring of payment reform.	7.14% 2	7.14% 2	42.86% 12	7.14% 2	3.57% 1	32.14% 9	28
State data collection efforts allow for effective oversight of payment reform.	0.00% 0	14.29% 4	42.86% 12	7.14% 2	3.57% 1	32.14% 9	28
State data collection efforts allow for effective policy development for payment reform.	3.57% 1	7.14% 2	46.43% 13	3.57% 1	7.14% 2	32.14% 9	28

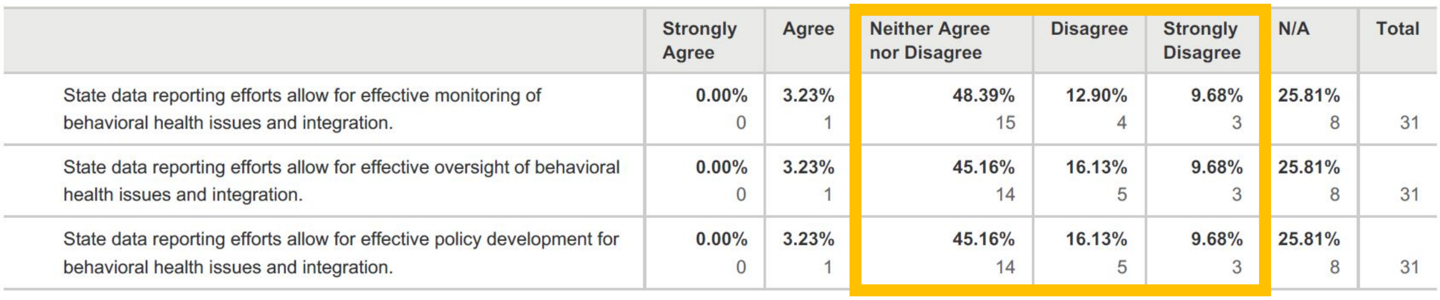


	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	N/A	Total
State data reporting efforts allow for effective monitoring of payment reform.	0.00% 0	3.57% 1	50.00% 14	7.14% 2	7.14% 2	32.14% 9	28
State data reporting efforts allow for effective oversight of payment reform.	0.00% 0	3.57% 1	50.00% 14	7.14% 2	7.14% 2	32.14% 9	28
State data reporting efforts allow for effective policy development for payment reform.	0.00% 0	3.57% 1	50.00% 14	7.14% 2	7.14% 2	32.14% 9	28

Behavioral Health Integration

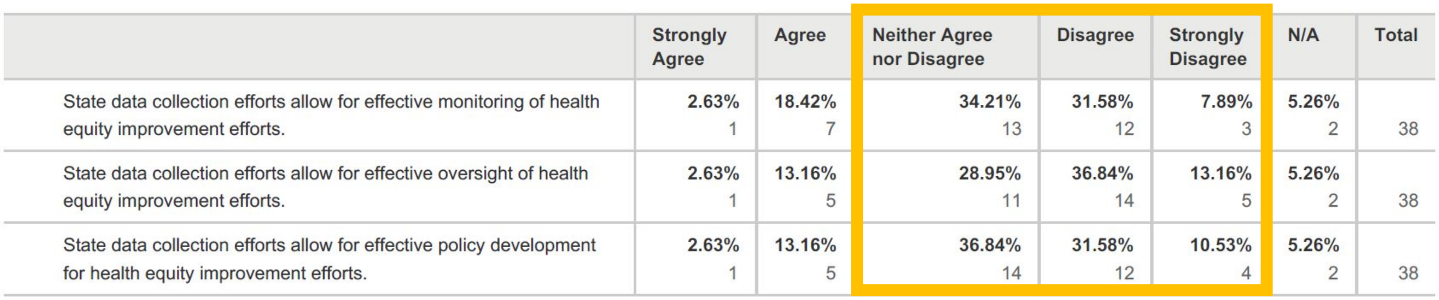


	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	N/A	Total
State data collection efforts allow for effective monitoring of behavioral health issues and integration.	0.00% 0	6.25% 2	40.63% 13	25.00% 8	6.25% 2	21.88% 7	32
State data collection efforts allow for effective oversight of behavioral health issues and integration.	0.00% 0	3.23% 1	41.94% 13	25.81% 8	6.45% 2	22.58% 7	31
State data collection efforts allow for effective policy development for behavioral health issues and integration.	0.00% 0	0.00% 0	43.75% 14	28.13% 9	6.25% 2	21.88% 7	32

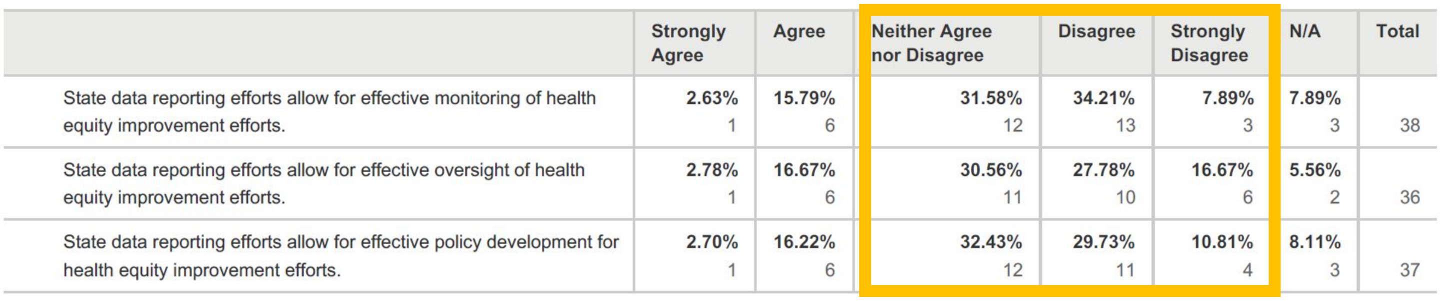


	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	N/A	Total
State data reporting efforts allow for effective monitoring of behavioral health issues and integration.	0.00% 0	3.23% 1	48.39% 15	12.90% 4	9.68% 3	25.81% 8	31
State data reporting efforts allow for effective oversight of behavioral health issues and integration.	0.00% 0	3.23% 1	45.16% 14	16.13% 5	9.68% 3	25.81% 8	31
State data reporting efforts allow for effective policy development for behavioral health issues and integration.	0.00% 0	3.23% 1	45.16% 14	16.13% 5	9.68% 3	25.81% 8	31

Equity

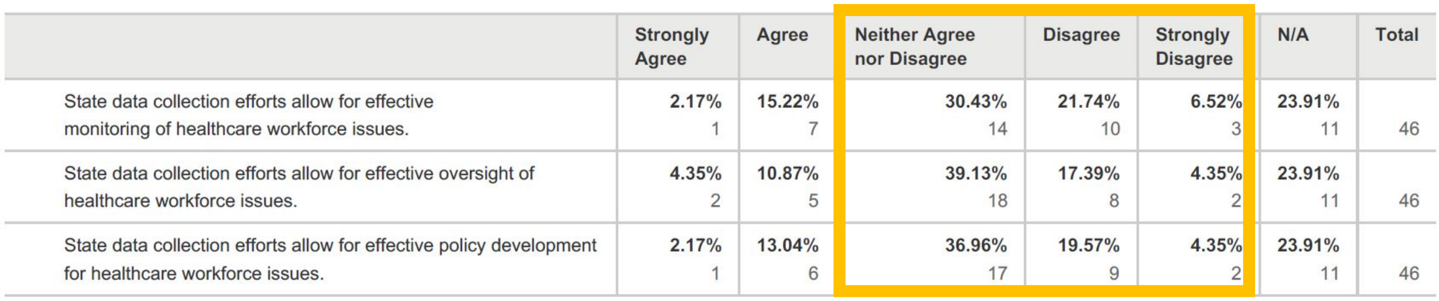


	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	N/A	Total
State data collection efforts allow for effective monitoring of health equity improvement efforts.	2.63% 1	18.42% 7	34.21% 13	31.58% 12	7.89% 3	5.26% 2	38
State data collection efforts allow for effective oversight of health equity improvement efforts.	2.63% 1	13.16% 5	28.95% 11	36.84% 14	13.16% 5	5.26% 2	38
State data collection efforts allow for effective policy development for health equity improvement efforts.	2.63% 1	13.16% 5	36.84% 14	31.58% 12	10.53% 4	5.26% 2	38

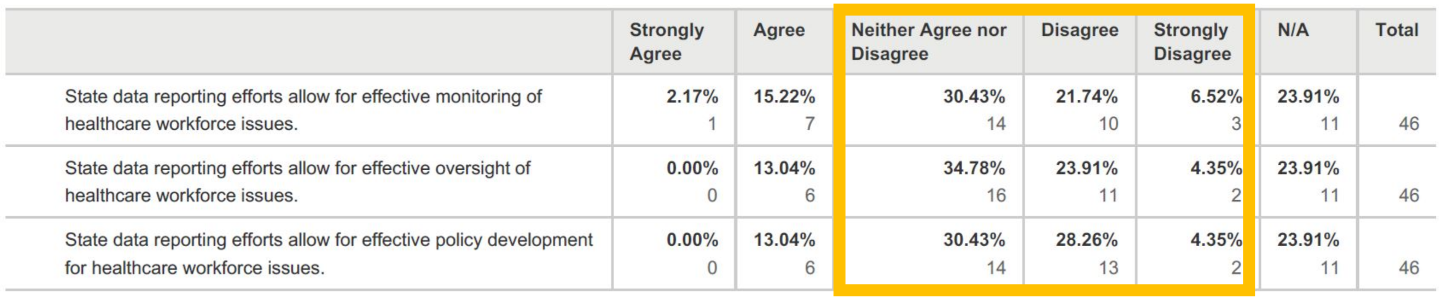


	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	N/A	Total
State data reporting efforts allow for effective monitoring of health equity improvement efforts.	2.63% 1	15.79% 6	31.58% 12	34.21% 13	7.89% 3	7.89% 3	38
State data reporting efforts allow for effective oversight of health equity improvement efforts.	2.78% 1	16.67% 6	30.56% 11	27.78% 10	16.67% 6	5.56% 2	36
State data reporting efforts allow for effective policy development for health equity improvement efforts.	2.70% 1	16.22% 6	32.43% 12	29.73% 11	10.81% 4	8.11% 3	37

Workforce

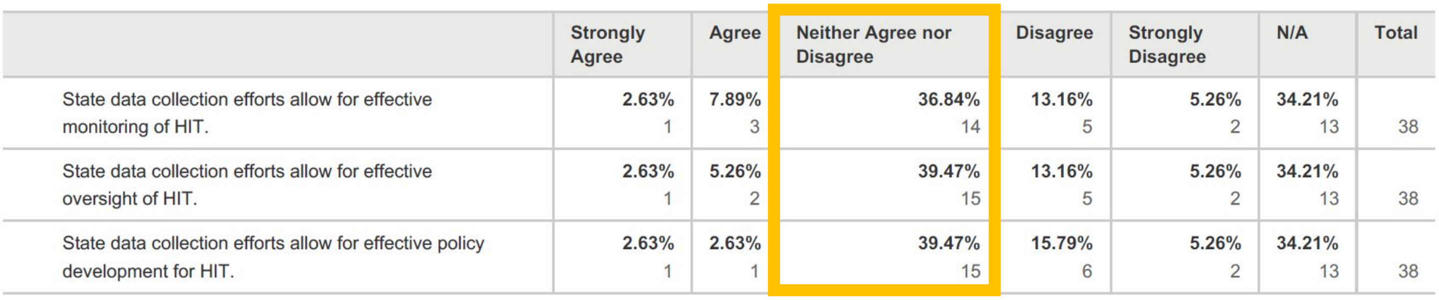


	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	N/A	Total
State data collection efforts allow for effective monitoring of healthcare workforce issues.	2.17% 1	15.22% 7	30.43% 14	21.74% 10	6.52% 3	23.91% 11	46
State data collection efforts allow for effective oversight of healthcare workforce issues.	4.35% 2	10.87% 5	39.13% 18	17.39% 8	4.35% 2	23.91% 11	46
State data collection efforts allow for effective policy development for healthcare workforce issues.	2.17% 1	13.04% 6	36.96% 17	19.57% 9	4.35% 2	23.91% 11	46

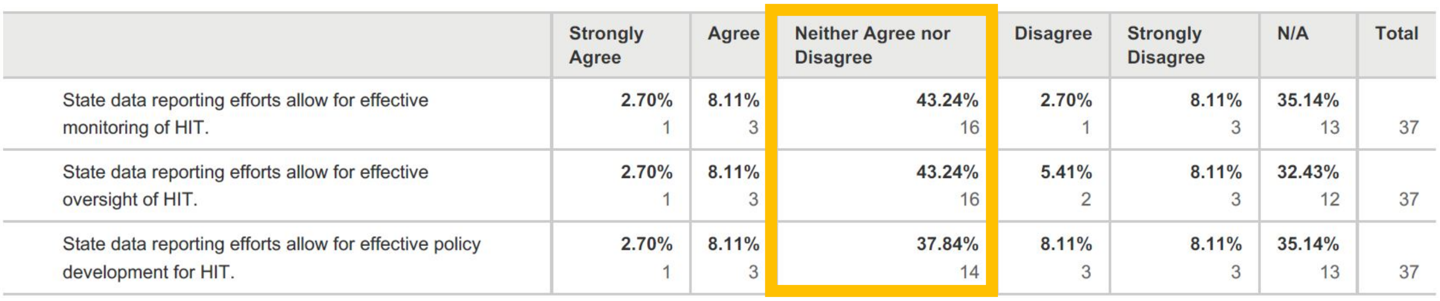


	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	N/A	Total
State data reporting efforts allow for effective monitoring of healthcare workforce issues.	2.17% 1	15.22% 7	30.43% 14	21.74% 10	6.52% 3	23.91% 11	46
State data reporting efforts allow for effective oversight of healthcare workforce issues.	0.00% 0	13.04% 6	34.78% 16	23.91% 11	4.35% 2	23.91% 11	46
State data reporting efforts allow for effective policy development for healthcare workforce issues.	0.00% 0	13.04% 6	30.43% 14	28.26% 13	4.35% 2	23.91% 11	46

Health Information Technology

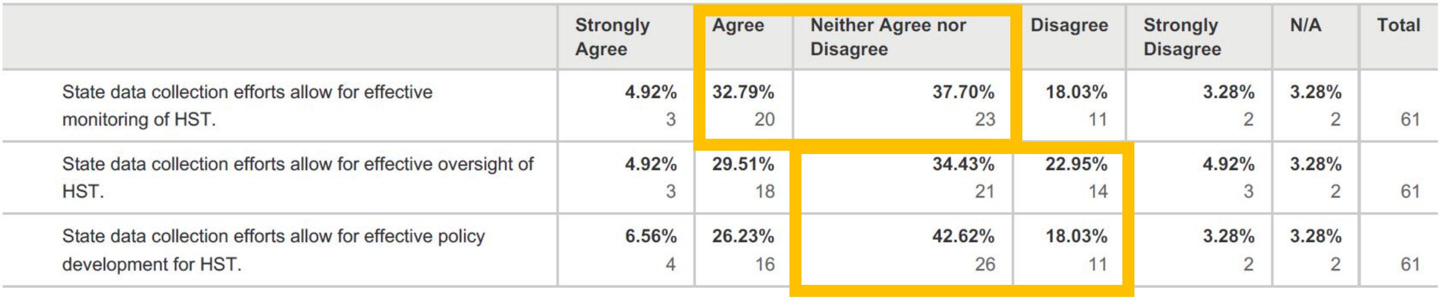


	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	N/A	Total
State data collection efforts allow for effective monitoring of HIT.	2.63% 1	7.89% 3	36.84% 14	13.16% 5	5.26% 2	34.21% 13	38
State data collection efforts allow for effective oversight of HIT.	2.63% 1	5.26% 2	39.47% 15	13.16% 5	5.26% 2	34.21% 13	38
State data collection efforts allow for effective policy development for HIT.	2.63% 1	2.63% 1	39.47% 15	15.79% 6	5.26% 2	34.21% 13	38

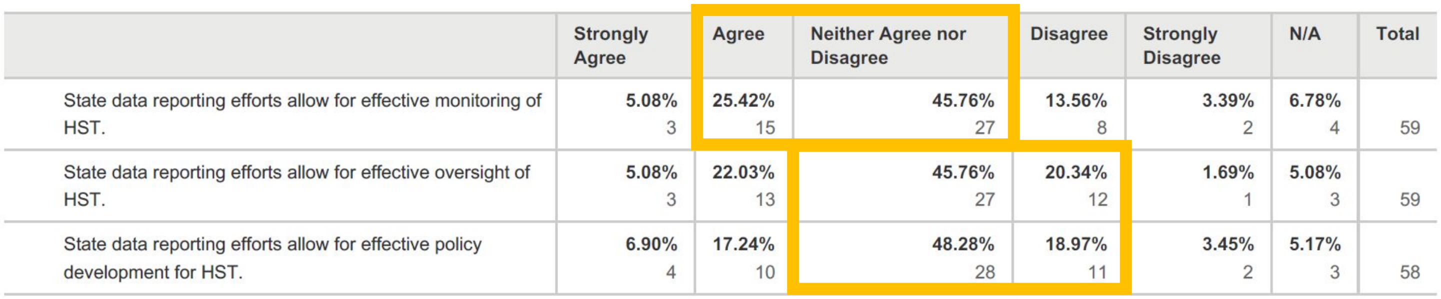


	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	N/A	Total
State data reporting efforts allow for effective monitoring of HIT.	2.70% 1	8.11% 3	43.24% 16	2.70% 1	8.11% 3	35.14% 13	37
State data reporting efforts allow for effective oversight of HIT.	2.70% 1	8.11% 3	43.24% 16	5.41% 2	8.11% 3	32.43% 12	37
State data reporting efforts allow for effective policy development for HIT.	2.70% 1	8.11% 3	37.84% 14	8.11% 3	8.11% 3	35.14% 13	37

Health System Transformation

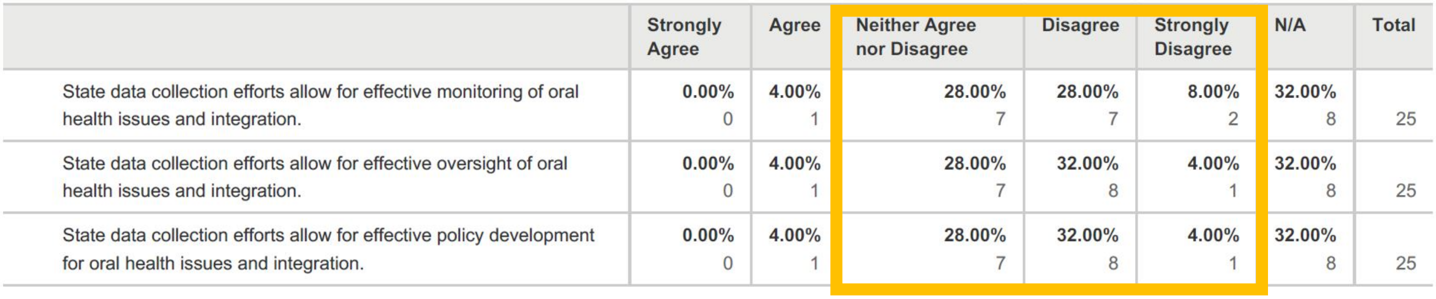


	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	N/A	Total
State data collection efforts allow for effective monitoring of HST.	4.92% 3	32.79% 20	37.70% 23	18.03% 11	3.28% 2	3.28% 2	61
State data collection efforts allow for effective oversight of HST.	4.92% 3	29.51% 18	34.43% 21	22.95% 14	4.92% 3	3.28% 2	61
State data collection efforts allow for effective policy development for HST.	6.56% 4	26.23% 16	42.62% 26	18.03% 11	3.28% 2	3.28% 2	61

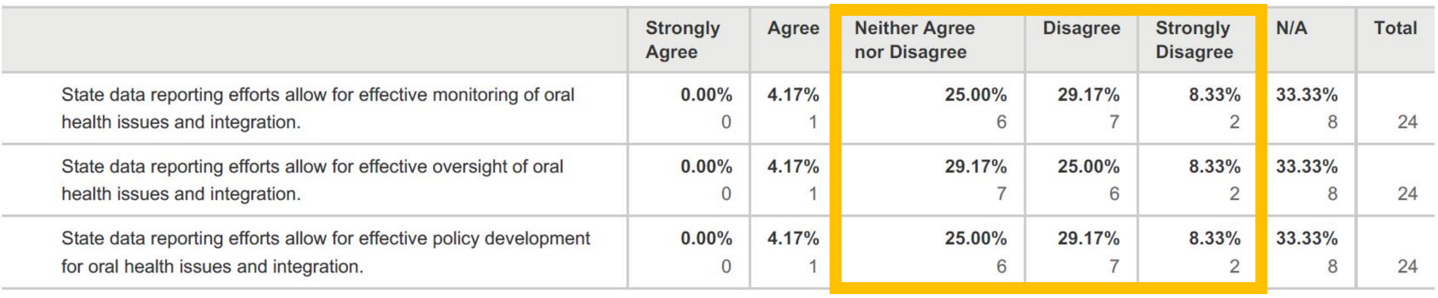


	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	N/A	Total
State data reporting efforts allow for effective monitoring of HST.	5.08% 3	25.42% 15	45.76% 27	13.56% 8	3.39% 2	6.78% 4	59
State data reporting efforts allow for effective oversight of HST.	5.08% 3	22.03% 13	45.76% 27	20.34% 12	1.69% 1	5.08% 3	59
State data reporting efforts allow for effective policy development for HST.	6.90% 4	17.24% 10	48.28% 28	18.97% 11	3.45% 2	5.17% 3	58

Oral Health Integration

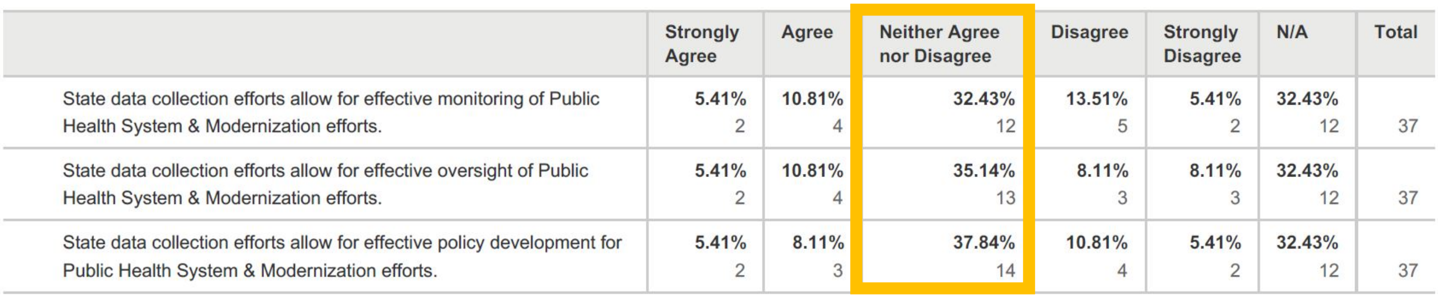


	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	N/A	Total
State data collection efforts allow for effective monitoring of oral health issues and integration.	0.00% 0	4.00% 1	28.00% 7	28.00% 7	8.00% 2	32.00% 8	25
State data collection efforts allow for effective oversight of oral health issues and integration.	0.00% 0	4.00% 1	28.00% 7	32.00% 8	4.00% 1	32.00% 8	25
State data collection efforts allow for effective policy development for oral health issues and integration.	0.00% 0	4.00% 1	28.00% 7	32.00% 8	4.00% 1	32.00% 8	25

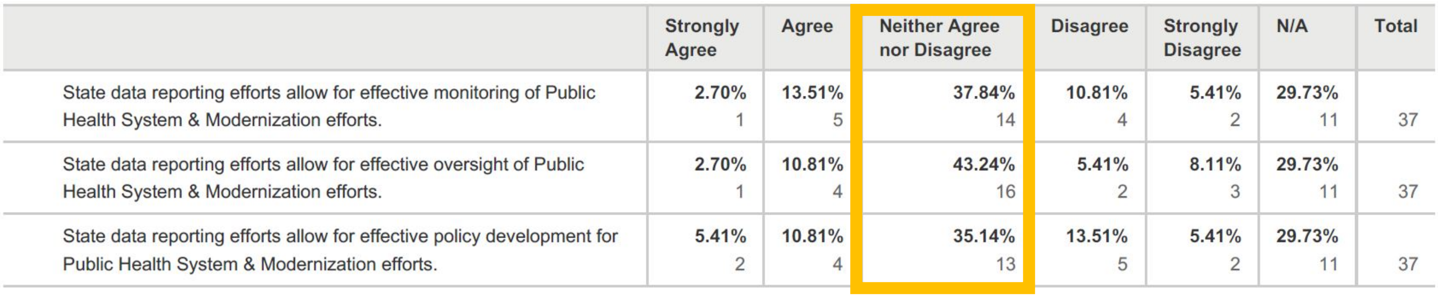


	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	N/A	Total
State data reporting efforts allow for effective monitoring of oral health issues and integration.	0.00% 0	4.17% 1	25.00% 6	29.17% 7	8.33% 2	33.33% 8	24
State data reporting efforts allow for effective oversight of oral health issues and integration.	0.00% 0	4.17% 1	29.17% 7	25.00% 6	8.33% 2	33.33% 8	24
State data reporting efforts allow for effective policy development for oral health issues and integration.	0.00% 0	4.17% 1	25.00% 6	29.17% 7	8.33% 2	33.33% 8	24

Public Health System Modernization

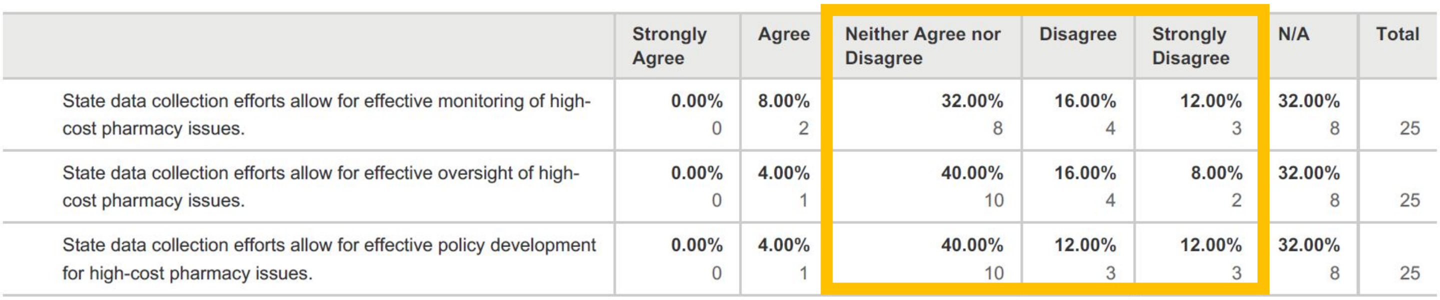


	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	N/A	Total
State data collection efforts allow for effective monitoring of Public Health System & Modernization efforts.	5.41% 2	10.81% 4	32.43% 12	13.51% 5	5.41% 2	32.43% 12	37
State data collection efforts allow for effective oversight of Public Health System & Modernization efforts.	5.41% 2	10.81% 4	35.14% 13	8.11% 3	8.11% 3	32.43% 12	37
State data collection efforts allow for effective policy development for Public Health System & Modernization efforts.	5.41% 2	8.11% 3	37.84% 14	10.81% 4	5.41% 2	32.43% 12	37

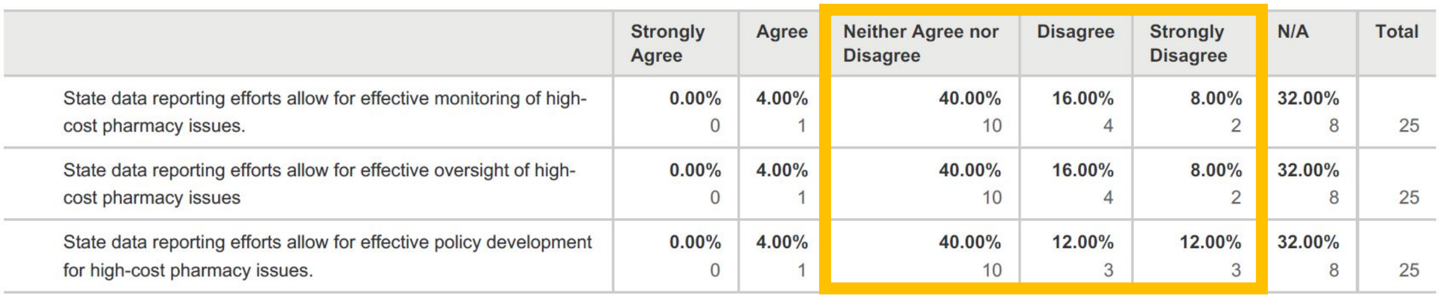


	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	N/A	Total
State data reporting efforts allow for effective monitoring of Public Health System & Modernization efforts.	2.70% 1	13.51% 5	37.84% 14	10.81% 4	5.41% 2	29.73% 11	37
State data reporting efforts allow for effective oversight of Public Health System & Modernization efforts.	2.70% 1	10.81% 4	43.24% 16	5.41% 2	8.11% 3	29.73% 11	37
State data reporting efforts allow for effective policy development for Public Health System & Modernization efforts.	5.41% 2	10.81% 4	35.14% 13	13.51% 5	5.41% 2	29.73% 11	37

High-Cost Pharmacy



	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	N/A	Total
State data collection efforts allow for effective monitoring of high-cost pharmacy issues.	**0.00%** 0	**8.00%** 2	**32.00%** 8	**16.00%** 4	**12.00%** 3	**32.00%** 8	25
State data collection efforts allow for effective oversight of high-cost pharmacy issues.	**0.00%** 0	**4.00%** 1	**40.00%** 10	**16.00%** 4	**8.00%** 2	**32.00%** 8	25
State data collection efforts allow for effective policy development for high-cost pharmacy issues.	**0.00%** 0	**4.00%** 1	**40.00%** 10	**12.00%** 3	**12.00%** 3	**32.00%** 8	25



	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	N/A	Total
State data reporting efforts allow for effective monitoring of high-cost pharmacy issues.	**0.00%** 0	**4.00%** 1	**40.00%** 10	**16.00%** 4	**8.00%** 2	**32.00%** 8	25
State data reporting efforts allow for effective oversight of high-cost pharmacy issues	**0.00%** 0	**4.00%** 1	**40.00%** 10	**16.00%** 4	**8.00%** 2	**32.00%** 8	25
State data reporting efforts allow for effective policy development for high-cost pharmacy issues.	**0.00%** 0	**4.00%** 1	**40.00%** 10	**12.00%** 3	**12.00%** 3	**32.00%** 8	25

Appendix C: Resource Inventory

78th Oregon Legislative Assembly – 2015 Regular Session. (2015). *Enrolled Senate Bill 440*. Retrieved from the Oregon Health Authority website: http://www.oregon.gov/oha/analytics/APACDocs/Senate%20Bill%20440%20Enrolled.pdf

This legislation includes several provisions relating to measuring the quality of health care and monitoring health system transformation. Pertinent to the work conducted for this report is Section 1 which states "The Oregon Health Policy Board, in consultation with the Public Employees' Benefit Board, the Oregon Educators Benefit Board, the Oregon Health Authority and the Department of Consumer and Business Services shall develop a statewide strategic plan for the collection and use of health care data." Furthermore, Senate Bill 440 outlines the requirements for the strategic plan including presenting clear objectives for data use, identifying types of data needed, and outlining a vision. The legislative language has served as an outline for the scope of work and stakeholder outreach. See Appendix F for a summary of the bill.

Agency for Healthcare Research and Quality. (2016). *2015 National Healthcare Quality and Disparities Report and 5th Anniversary Update on the National Quality Strategy*. AHRQ Publication NO 16-0015. Retrieved from the Agency for Healthcare Research and Quality website: https://nhqrnet.ahrq.gov/inhqrdr/reports/qdr

The 2015 National Healthcare Quality and Disparities Report provides an update on progress made towards the National Quality Strategy priorities. This report outlines progress towards each of the six (6) priorities and notes specific findings around access to health care, quality of health care, and disparities in health care. Aims for the National Quality Strategy mirror the Institute for Healthcare Improvement's Triple Aim and include "achieving better care," "achieving healthy people/health communities," and "achieving affordable care." Priorities of the National Quality Strategy include "patient safety, person- and family-centered care, care coordination, effective prevention and treatment, healthy living, and care affordability." In setting the vision for Oregon's Strategic Plan, Oregon Health Policy Board (OHPB) might consider this document as a frame of reference.

California Health Care Foundation (2012). *Monitoring the impacts of the Affordable Care Act in California: Stakeholder Input and Priorities*. Retrieved from the California Health Care Foundation website: http://www.chcf.org/publications/2012/08/monitoring-impacts-aca

The California Health Care Foundation solicited stakeholder input to develop measures for tracking progress of the Affordable Care Act (ACA). The Foundation also conducted a gap analysis and found there were many measures for which data was not readily available but either "could be addressed by building on existing data platforms" or "would require new data collection methods and sources." The Foundation's report serves as a reference point for content and structure.

Child & Family Well-Being Measures Workgroup. (2015). *Final Report and Recommendations prepared for: The Joint Subcommittee of the Early Learning Council and the Oregon Health Policy Board*. Retrieved from the Oregon Health Authority website: https://www.oregon.gov/oha/Pages/elc-ohpb.aspx

Recommendations on the Child and Family Well-Being Measures, prepared for the Joint Subcommittee of the Early Learning Council and Oregon Health Policy Board, provide an example of one measure alignment effort in Oregon. The workgroup recommended adoption of the child and family well-being measure library, implementation of a measure dashboard, consideration of accountability measures in contracting arrangements, periodic review of the measures, and support of a successor body to the workgroup. Project staff considered the recommendations presented in this report, while developing recommendations for the strategic plan for the collection and use of health care data. This report also serves as a guide for how to organize the stakeholder input into a useful format for the OHPB.

Connecticut Office of Health Care Access. (2009). *Strategic Plan*. Retrieved from the Connecticut Government website at: http://www.ct.gov/dph/lib/dph/state_health_planning/dphplans/ohca_strat_plan_g&o_2009.pdf

Connecticut's Office of Health Care Access developed a strategic plan that initially served as an outline for the OHPB strategic plan. Connecticut's Strategic Plan was developed for the purpose of reevaluating the role of the Office of Health Care Access, prioritizing the deployment of resources, and establishing overall direction and agency goals for the future. Similarly, this report makes recommendations about the role of the OHPB in health care data collection and use, and the overall direction and agency goals.

Coyner, L. (2015). *SB 440: Proposed Areas of Focus and Next Steps*. Power Point Presentation.

The Oregon Health Authority (OHA) is the sponsor of the work required by SB 440. This PowerPoint presentation provides an outline of OHA's proposed strategy for developing the vision stipulated in the legislation. These strategies include engaging an independent consultant, inviting stakeholder input, conducting an environmental scan of priorities, developing an inventory of current health care data within Oregon, and getting feedback and direction from OHPB at regular intervals. Q Corp became the independent consultant referenced here.

Health Insurance Marketplace. (2015). *Quality Improvement Strategy: Technical Guidance and User Guide for the 2017 Coverage Year*. Retrieved from the Centers for Medicare & Medicaid Services website: https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/QualityInitiativesGenInfo/Health-Insurance-Marketplace-Quality-Initiatives.html

The Quality Improvement Strategy (QIS) Technical Guidance for the 2017 Coverage Year provides information on participation and reporting requirements for all insurance carriers offering Qualified Health Plan (QHP) coverage through a Marketplace. Several QIS standard activities are listed in the guidance document for compliance with the ACA. These QIS requirements were considered in the final recommendations presented by the Strategic Plan.

Institute of Medicine, Committee on Core Metrics for Better Health at Lower Cost. (2015). *Vital Signs: Core Metrics for Health and Health Care Progress*. Retrieved from the National Academies Press website: http://www.nap.edu/catalog/19402/vital-signs-core-metrics-for-health-and-health-care-progress

Vital Signs proposes a set of 15 core, transformative measures that could be applied at the national and local levels to improve health and health care, and reduce costs. It urges the use of a streamlined measure set to focus improvement efforts and reduce the burden of the thousands of health measures that exist now; duplicative measures diffuse focus and are sometimes even at odds with each other. The core set includes measures on the following: Life Expectancy, Well-being, Overweight and Obesity, Addictive Behavior, Unintended Pregnancy, Healthy Communities, Preventive Services, Care Access, Patient Safety, Evidence-Based Care, Care Match with Patient Goals, Personal Spending Burden, Population Spending Burden, Individual Engagement and Community Engagement.

Kottke, T.E., Gallagher, J.M, Rauri, S., Tillema, J.O., Pronk, N.P., and Knudson, S.M. (2016). *New Summary Measures of Population Health and Well-Being for Implementation by Health Plans and Accountable Care Organizations*. Preventing Chronic Disease and National Academy of Medicine. Retrieved from the National Academy of Medicine website: https://nam.edu/new-summary-measures-of-population-health-and-well-being-for-implementation-by-health-plans-and-accountable-care-organizations/?utm_source=National+Academy+of+Medicine&utm_campaign=ca6febddf7-NAM+Summary+Measures+Persp&utm_medium=email&utm_term=0_b8ba6f1aa1-ca6febddf7-121555689

HealthPartners developed recommended population health measures comprised of three components: current health, sustainability of health, and well-being. The measure of current health is disability-adjusted life years (DALYs) calculated from health care claims and death records. The "sustainability of health" measure comprises member reporting of six behaviors associated with health plus a clinical preventive services index that indicates adherence to evidence-based preventive care guidelines. Life satisfaction represents the summary measure of subjective well-being. The measures can be used by health plans and accountable care organizations alongside existing measures for patient health, patient experience and cost.

Nielsen, M.; Buelt, L.; Patel, K.; and Nichols, L. M. (2016). *The Patient-Centered Medical Home's Impact on Cost and Quality: Annual Review of Evidence 2014-2015*. Retrieved from the Patient-Centered Primary Care Collaborative website: https://www.pcpcc.org/resource/patient-centered-medical-homes-impact-cost-and-quality-2014-2015

This report is an analysis of 30 Patient-Centered Medical Home (PCMH) studies and their impact on cost and utilization. A majority of the studies analyzed found positive impacts on at least one cost measure and utility measure related to PCMH activities. The analysis did not focus on other areas, but did note statistically significant improvement in quality of care metrics, access to primary care and patient or clinician satisfaction. The analysis did not find clear evidence to support one payment strategy, among those reviewed and tested, as being most successful in delivering advanced primary care.

Mendez-Luck, CA; Luck, J; Alvarado, C; Larson, A. (2015). *The State of Nursing Facilities in Oregon, 2014*. Corvallis, OR: Oregon State University College of Public Health and Human Sciences.

In 2014, the Oregon legislature renewed funding for an annual report to assist in local and statewide planning and policy-making efforts in long-term care services. Analysts used data from the Center for Medicare and Medicaid Services (CMS) Minimum Data Set, and from Certification and Survey Provider Enhanced Reports and Oregon provider tax and revenue reports. This report assess the state's nursing facilities, and compares data across counties and to national averages. Project staff considered this report among many as an example of how the state legislature is asking agencies to assess the state of health care.

MITRE Corporation, for the Health Care Payment Learning & Action Network. (2016). *Accelerating and Aligning Population-Based Payment Models: Data Sharing.* Retrieved from the Health Care Payment-Learning & Action Network website: https://hcp-lan.org/groups/pbp/ds-final-whitepaper/?utm_source=LAN+Newsletter&utm_campaign=02442e6518-PBP_Models_Final_White_Paper_Suite_8_8_2016&utm_medium=email&utm_term=0_1b87e2051f-02442e6518-150306669

This document offers a comprehensive view of the promise of data sharing as illustrated by five use cases where the current state is not aligned with the desired future state. With a focus on supporting "population-based payment," It describes the key characteristics of the data sharing required to support those models and pursue the Triple Aim of health care improvement. The study takes a whole-nation view of the environment rather than focusing on a government-agency point of view, and recommends principles for data sharing, as well as additional recommendations derived from the gaps identified in the use cases in the study. This report offers insight into the challenges of data sharing from a multi-stakeholder perspective, and is highly relevant to the work ahead for Oregon as it shapes its data collection and use efforts.

Office of the National Coordinator for Health Information Technology. (2015). *Connecting Health and Care for the Nation: A Shared Nationwide Interoperability Roadmap*. Retrieved from the Office of the National Coordinator for Health Information Technology website: https://www.healthit.gov/sites/default/files/nationwide-interoperability-roadmap-draft-version-1.0.pdf

Aligning Health Information Technology with the health care industry movement toward person-centered care requires closed-loop connection and information flow among the numerous entities providing care, and other entities that hold information about the factors that impact the social determinants of health. The roadmap outlines the actions government, communities and private sector stakeholders need to take to achieve the Office of the National Coordinator's vision for interoperability. It describes known barriers, a desired future state and a path for moving to the desired state in three-, six- and ten-year timeframes. The desired future state outlined in this document is highly relevant in informing a vision for health care transformation in Oregon.

Oregon Health Authority. (2016). *All Payer All Claims Data Reporting Program Consultant Request for Proposal*.

In March 2016, the OHA put out a Request for Proposal (RFP) for a consultant to provide services in a number of All-Payer All-Claims (APAC) program areas. Specifically, the RFP states "OHA is seeking a subject matter expert to provide immediate consulting services to provide assistance with APAC strategic direction, data quality assurance and validation, project management, stakeholder engagement, policy and governance development, and general APCD industry standards." Included in this RFP is an outline of services that involve strategic planning, and technical support; facilitation of the APAC Technical Advisory Group meetings; and project management. This document offers information about planned enhancements to the APAC program.

Oregon Health Authority. (2015). *Centers for Medicare & Medicaid Services Amended Waiver List and Expenditure Authority*. Retrieved from the Oregon Health Authority website: https://www.oregon.gov/oha/healthplan/DataReportsDocs/July%205,%202012%20through%20June%2030,%202017%20-%20Current%20waiver,%20effective%20June%2013,%202015.pdf

The waiver document outlines the state's (amended) obligations to CMS during the life of the Medicaid demonstration (Jan. 1, 2014 – June 30, 2017). Oregon must pursue two equally important and inter-related goals: 1.) Bend the Medicaid cost curve to achieve a two percent reduction in Medicaid spending by June 30, 2015 as measured by reviewing the state and federal cost of purchasing care for individuals enrolled in Coordinated Care Organizations (CCOs); and 2.) Medicaid beneficiaries will experience improved access to care and quality of care over the five-year program period of July 2012 – June 2017, compared to a baseline level of performance. Oregon will achieve these goals using a combination of tactics to incentivize care delivery changes. Recommendations in the SB 440 project consider the goals in the waiver, and the application of the defined "levers" to create change.

Oregon Health Authority. (2015). Oregon Health Authority (2015) *ONC 'Advance Interoperable HIT…" Cooperative Agreement (2015-2017) Oregon: Jefferson HIE's Grant Activities.* Retrieved from OHA website at*:* https://www.oregon.gov/oha/OHPR/HITOC/docs/JHIE_ONC_GrantDescriptionFinal.pdf

This document describes the two-year cooperative agreement between the Office for the National Coordinator and Jefferson Health Information Exchange (JHIE). The project is intended to enable JHIE users to lawfully search and view patients' records that reflect behavioral health

data including mental health, and substance abuse treatment information, along with physical health data. The patient consent model ensures only those who the patient has granted access to will be able to view their data within JHIE as defined by law. This project is an important demonstration of how barriers to sharing sensitive data might be resolved, and should provide critical information for Oregon as efforts to share behavioral health information expand.

Oregon Health Authority, Public Health Division. (2014). *Modernizing Oregon's Public Health System*. Retrieved from the Oregon Health Authority website: https://public.health.oregon.gov/About/TaskForce/Documents/hb2348-task-force-report.pdf

The Oregon state legislature convened a task force to develop recommendations for modernizing the state's public health system. This document is the report generated from that task force, and recommends seven foundational capabilities and programs for local health departments in the state to ensure all Oregonians receive the best public health services possible regardless of their geographic location. The foundational capabilities include leadership and organizational competencies, health equity and cultural responsiveness, community partnership development, assessment and epidemiology, policy and planning, and communications and emergency preparedness. The task force further recommended an implementation plan that included an assessment process whereby each health department would rank themselves on their current state for each of these foundational elements.

Oregon Health Authority, Office of Health Analytics. (2013). *Oregon Measurement Strategy*. Retrieved from Oregon Health Authority website: http://www.oregon.gov/oha/analytics/MetricsDocs/MeasurementStrategy.pdf

This document outlines how OHA will measure the quality of and access to care for individuals enrolled in CCOs and for the Oregon Health Plan population as a whole. It identifies 80 potential measures of cost, quality, access, patient experience, and health status that could be tracked over delivery settings and populations. The measures come from several data sets indicated in the strategy document. Currently, OHA conducts the analysis of the defined measures, which are reported quarterly to track patterns of utilization and highlight potential issues. Data from selected measures are shared publicly and also used to meet OHA reporting requirements to CMS. This document provides a starting point for considering what data might be required to measure health care transformation.

Oregon Health Authority, Office of Health Analytics. (2015). *Oregon Health Authority Measure Sets*. Retrieved from Oregon Health Authority website: http://www.oregon.gov/oha/analytics/CCOData/2016%20Measures.pdf

Oregon's Coordinated Care Model serves as a positive example for statewide measure alignment. By using CMS's State Performance 'Test' Measures as a guide, OHA was able to adopt several measures for financial incentives. Additional measures were added to the CCO Incentive Measures list that did not match directly to a CMS penalty measure, such as cigarette smoking prevalence (a public health measure) and dental sealants on permanent molars for

children (an oral health measure). The OHPB might consider these measures in their recommendations to the new Health Plan Quality Metrics Committee.

Oregon Health Authority. (2016). *Oregon's Waiver: Proposed Renewal and Amendments to Oregon's 1115 Demonstration Waiver with the Centers for Medicare and Medicaid Services*. Retrieved from the Oregon Health Authority website: https://www.oregon.gov/oha/OHPB/Documents/Waiver%20Renewal%20Concept.pdf

The new waiver outlines how OHA will build on Oregon's Medicaid delivery system transformation. It calls for a stronger, expanded focus on integration of physical, behavioral, and oral health care through a performance-driven system aimed at improving health outcomes and continuing to bend the cost curve; deeper focus on addressing the social determinants of health and improving health equity across all low-income, vulnerable Oregonians to improve population health outcomes; continued commitment to ongoing sustainable rate of growth that includes the 2% test, putting the federal investment at risk for not meeting that target, and adopting a payment methodology and contracting protocol for CCOs that promotes increased investments on health-related services and advances the use of value-based payments; expanding the coordinated care model by implementing innovative strategies for providing high quality, cost-effective, person-centered health care for Medicaid and Medicare dual -eligible members. The SB 440 recommendations intersect with many stated goals and elements of the waiver.

Oregon Health Authority, Office of Health Information Technology. (2016). *Oregon Health Information Technology and the Intersection with Part 2*. Power Point Presentation on March 30, 2016.

In March of 2016, the Oregon Office of Health Information Technology (OHIT) led a webinar on the intersection of 42 CFR Part 2 rules (which describe how alcohol and drug treatment-related data may be shared) with health information exchange efforts statewide. The webinar began with an overview of the proposed rulemaking around 42 CFR Part 2 and a discussion of Oregon's Health Information Technology (HIT) environment and resources followed by two Oregon-specific examples of behavioral health information sharing from OCHIN and Jefferson Health Information Exchange (HIE). Many health care stakeholders are subject to these barriers to interoperability, some of which are addressed in the SB 440 recommendations.

Oregon Health Authority. (2011). *Oregon Health Authority Data Needs Assessment: Summary of Findings*.

In 2011, the OHA evaluated the data needs for informing policies to improve the health of Oregonians. For this data needs assessment, the Program Design and Evaluation Services (PDES) staff collected information on the types of data needed, the major sources for those data, and the major gaps in meeting the data needs. Gaps in data elements were identified by data type including claims data, reportable diseases/conditions data, population-based adult data, population-based youth data, vital statistics, and environmental data. Additionally, PDES staff identified "certain populations not captured within the major data sources." This document helped inform the current data source inventory, and helped reinforce findings about persistent data gaps.

Oregon Health Authority, Public Health Division. (2015). *Oregon Public Health: State Health Improvement Plan 2015-2019*. Retrieved from Oregon Health Authority website: https://public.health.oregon.gov/About/Documents/ship/oregon-state-health-improvement-plan.pdf

Oregon's State Health Improvement Plan (SHIP) was developed with feedback from partners and stakeholders of the Oregon Public Health Division. Seven priorities for improving health and quality of life in Oregon over the next five years are identified in the SHIP. The priorities include: prevent and reduce tobacco use; slow the increase of obesity; improve oral health; reduce harms associated with alcohol and substance use; prevent deaths from suicide; improve immunization rates; protect the population from communicable diseases. Furthermore, the SHIP outlines evidence-based strategies to address each of the priority areas. OHPB's strategic plan and vision must engage and support these priorities.

Oregon Health Authority, Health Information Technology Oversight Council. (2013). *State Near-Term HIT/HIE Development Strategy (2013-2015)*. Retrieved from the Oregon Health Authority website: https://www.oregon.gov/oha/OHIT/resourceDocuments/State%20Near-Term%20HIT%20HIE%20Development%20Strategy.pdf

The Oregon Health Information Technology Oversight Council (HITOC) developed recommendations for HIT and HIE to support the state's health system transformation efforts. Based on those recommendations, OHA outlined this document for near-term development strategies. In "Phase 1.5" the strategy includes obtaining "HIT/HIE foundational and high-priority initial services to support Oregon's health system transformation." In "Phase 2.0" the strategy calls for a "vision for Oregon's HIT/HIE shared information infrastructure to support health system transformation." For "Phase 1.5," the document identifies near-term and long-term benefits for specific areas of need in health care including: hospital readmissions/high utilizers; care coordination; performance metrics and analytics; alternative payment models/payment reform; and leveraging existing investments. OHPB has asked for both long-term and near-term strategy recommendations in the health care data strategic plan, the OHIT development strategy serves as an articulation of highly-relevant work stream that OHA should consider as it supports, or can be supported, but the work directed by SB 440.

Oregon Health Authority, Health Information Technology Task Force Recommendations. (2014). *Oregon's Business Plan Framework for Health Information Technology and Health Information Exchange (2014-2017)*. Retrieved from the Oregon Health Authority website: http://www.oregon.gov/oha/OHPR/HITOC/Documents/HIT_Final_BusinessPlanFramework_ForRelease_2014-05-30.pdf

Oregon's Business Plan Framework for HIT and HIE outlines a roadmap towards the ultimate goal of a statewide HIE. OHA, in partnership with stakeholders and the HIT Task Force, articulated a vision for how HIT would support Oregon's transformed health system, and outlined goals under that vision and strategies for the State to achieve these goals. “The roles to be filled by the State include coordinate and support community and organizational HIT/HIE efforts; align requirements and establish standards for participation in statewide HIT/HIE services; and provide a set of HIT/HIE technology and services.” OHPB could honor the work already done by groups like the HIT Task Force by incorporating the vision, goals and strategies into its Strategic Plan for health care data collection and reporting.

Oregon Health Authority, Health Policy and Analytics. (2016). *Health Care Facility Financial Reporting Administrative Rules*. Retrieved from the Oregon Health Authority website: http://arcweb.sos.state.or.us/pages/rules/oars_400/oar_409/409_015.html

The Oregon Administrative Rules for Health Care Facility Financial Reporting include specifications for financial reports to be submitted to the OHA for hospitals “including any special inpatient care facility, and an ambulatory surgical facility.” Required reports include “financial statements with certification of audit;” “a breakdown of unreimbursed care into bad debts, charity care, Medicare deductions, Medicaid deductions and other contractual deductions;” and “a breakdown of gross patient service revenue into patient revenue and outpatient revenue, and other applicable categories specified.” Hospitals are required to file this information electronically for the Oregon Association of Hospitals and Health Systems and via paper for the Patient Revenue and Unreimbursed Care (Form FR-3). These rules enumerate data elements that could be useful in creating a complete view of health care costs, if they could be connected at a granular level to other data sets.

Oregon Health Authority, Health Policy and Analytics. (2016). *Oregon Health Care Workforce Database: Temporary Administrative Rules*. Retrieved from the Oregon Health Authority website: http://arcweb.sos.state.or.us/pages/rules/oars_400/oar_409/409_026.html

The Administrative Rules for the Oregon Health Care Workforce Database outline by whom health care workforce information is collected, and what, when and how that collection will take place. Each health care workforce regulatory board is required to collaborate with OHA in these efforts. Data elements are defined and include race, ethnicity, age, languages, and training among others. A reporting schedule and format is laid out for each professional licensing board through 2017. Also included in the rules are a fee schedule and permission for the OHA to share de-identified, individual-level health care workforce data with other state agencies. This data is an example of data that could be combined with other information to help better inform network adequacy, access to care, and clinician vitality.

Oregon Health Authority, Office of Health Information Technology. (2015). *Oregon Coordinated Care Organizations’ Health Information Technology Efforts: Executive Summary*. Retrieved from the Oregon Health Authority website: https://www.oregon.gov/oha/OHIT/resourceDocuments/CCO%20HIT%20Report%20-%20Exec%20Summary%202015.pdf

OHIT produced this report on HIT initiatives underway in Oregon's 16 CCOs. The report demonstrated that all CCOs have invested in HIT in an effort to improve various aspects of care. Some examples of HIT utilized include telemedicine, regional HIE, patient panel management, and data aggregation. The use of HIT has facilitated "increased information exchange across providers to support care coordination;" "making new data available to assist in identifying patients in most need;" and "improved CCO population management and quality improvement activities." In considering Oregon's data collection and reporting capabilities, it will also be important to consider the technological innovations unfolding around the state as an asset.

Oregon Health Authority, Patient-Centered Primary Care Home Program (2015). *Patient-Centered Primary Care Home Standards Advisory Committee 2015 report*. Retrieved from Oregon Health Authority website: https://www.oregon.gov/oha/pcpch/Pages/SAC.aspx

The Patient-Centered Primary Care Home (PCPCH) Standards Advisory Committee met from June to December 2015, and was tasked with revising the existing standards and measures, refining the current tier structure, and developing recommendations on standards for integration of primary physical health care into behavioral health care settings. Some of the key guidelines and considerations used by the committee can be applied to other health transformation efforts. Specifically, future measures development committees might consider "minimize the burden of reporting wherever possible while recognizing that measuring data in a standardized way allows for the model to be replicated and confirmed." Additionally, standards and measures should be broad enough to be applicable in clinics of different sizes, with different patient populations and in different geographic regions. Standards and measures should "build on existing model[s], health system transformation, and quality measurement work in Oregon and seek to be broadly acceptable to all major stakeholders; and be developed with the goal of being used by public and private payers seeking to implement…payment reform…" These principles underlie many of the recommendations in the SB 440 work.

Oregon Health Authority, Public Health Department. (2015). *Public Health Modernization Manual*. Retrieved from the Oregon Health Authority website: https://public.health.oregon.gov/About/TaskForce/Pages/index.aspx

Building on the Public Health Modernization Task Force Recommendations, the OHA, Public Health Division developed this manual to provide definitions for, and to guide the implementation of, each foundational capability and program. In this extensive document, "each foundational capability and program definition includes: core system functions; the state public health role; deliverables; and critical tools and resources." The SB 440 recommendations are intended to align with these goals wherever possible.

Oregon Health Authority and Oregon Department of Human Services. (2014). *Race, Ethnicity, Language, and Disability (REAL+D) Data: House Bill 2134 Baseline Assessment*. Retrieved from the Oregon Legislature website: https://olis.leg.state.or.us/liz/2013I1/Downloads/CommitteeMeetingDocument/40625

Both the Department of Human Services and OHA adopted the Race, Ethnicity, and Language (REAL) Data Policy in 2012. Oregon legislators added Disability-related (+D) data to REAL. In an effort to standardize data collection within the two agencies Oregon's legislation adopted House Bill 2134 which requires all programs of OHA and DHS that collect demographic data to report biennially to OHA on "…progress in implementing the REAL+D standards; challenges to full implementation; and plans for addressing identified challenges." Furthermore, HB 2134 required the agencies to conduct a Baseline Assessment of current compliance with REAL+D data collection standards. The data gap analysis for the SB 440 project used this baseline report as a point of reference.

Oregon Health Authority and Oregon Department of Consumer & Business Services. (2015). *Primary Care Expenditure Guidance for SB 231*. Retrieved from Oregon Department of Consumer & Business Services website: http://www.oregon.gov/DCBS/Insurance/legal/committees-workgroups/Documents/healthcare-reform/primary-care-definition-sb231-draft.pdf

This draft guidance document includes definitions for "prominent carrier" and "specific primary care services" to be included in data reports. OHA also includes guidance for claims-based expenditures, non claims-based primary care expenditures, and non claims-based total health care expenditures. For the non claims-based expenditures, OHA outlines reporting categories as follows: capitation and/or salaried arrangements with providers, risk-based arrangements with providers, Patient-Centered Primary Care Homes/Medical Homes; provider incentives; health information technology; and workforce. The data from this program are helpful to the Department of Consumer & Business Services regulatory functions, and so may be impacted by the shift to alternative payment methodologies.

Oregon Healthiest State. (2015). *The State of Health in Oregon: Progress and Opportunities*. Retrieved from the Oregon Healthiest State website: http://orhealthieststate.org/wp-content/uploads/2016/01/D.-2015-State-of-Health-in-Oregon_Progess-and-Opportunities_FINAL_to-print-booklet-form.pdf

Oregon Healthiest State was a statewide initiative to join health organizations together with entities outside traditional health care organizations as partners with the goal of improving the health of Oregonians. The initiative was founded on the understanding that Oregon's environment was a place where "isolated programs or policies use different strategies and measurement systems to do what they can [to address Oregon's health needs]." Two strategies were articulated in this initiative including: Industry or community wide actions – from policies to investments – that change the context in communities and organizations that help make the healthy choice easier" and "statewide collective impact, the engagement of partners to address an issue through shared goals, measurement and aligned efforts. This initiative serves as an example of public/private partnership, and the report serves as an example of more population-health focused measures the OHPB might consider in its recommendations to the Health Plan Quality Metrics Committee.

Oregon Health Policy Board. (2015). *2015-2016 Draft Implementation Plan*. Retrieved from the Oregon Health Authority website: http://www.oregon.gov/oha/elcohpbdocs/OHPB%20Work%20Plan_Draft%206-1.pdf

OHPB's 2015-2016 Draft Implementation Plan outlines the board's vision, priorities and duties. For each of the priorities, the implementation plan also outlines a vision, goals and current strategies. In this draft, the OHPB outlined the following priorities for 2015-2016: "monitor and track the successes and challenges of Health System Transformation (HST); behavioral health system policy development oversight; and public health system policy development and oversight." These priorities were included in both survey and interview outreach efforts throughout the project.

Oregon Health Policy Board. (2016). *Oregon Health Policy Board 2016 Retreat Summary*. Retrieved from the Oregon Health Authority website: http://www.oregon.gov/oha/OHPB/Pages/2016-OHPB-Meetings.aspx

In February 2016, the OHPB held a planning retreat to "discuss 2015 accomplishments and activities, and current topics of interest and future opportunities in 2016." Board members reviewed their role and revisited their 2010 Action Plan for Health. With feedback from OHA and the Governor's office on their visions and priorities, the Board discussed possible 2016-2017 areas of alignment. These priorities were included in both survey and interview outreach efforts throughout the project.

Oregon Health Policy Board. (2016). *Oregon Health Policy Board DRAFT minutes, March 1, 2016*. Retrieved from the Oregon Health Authority website: http://www.oregon.gov/oha/OHPB/Pages/2016-OHPB-Meetings.aspx

Project staff reviewed various documents to determine the OHPB priorities. Minutes from the March 1, 2016 OHPB meeting included a list of the Board's 2016-2017 topic areas. Additionally, Mylia Christensen from Q Corp presented during this meeting on the first phase of the work for implementing SB 440. The first phase noted here is a strategic plan, which OHA staff has since amended to be a status report on current health care data use and reporting. Feedback from this presentation has helped to shape the SB 440 project as it has progressed.

Oregon Health Policy Board. (2016). *DRAFT Public Health Advisory Board charter*. Retrieved from the Oregon Health Authority website: https://public.health.oregon.gov/About/Pages/ophab.aspx

The Public Health Advisory Board (PHAB) was established by Oregon's House Bill 3100 in 2015 as a body that reports to the OHPB. The PHAB charter includes objectives, responsibilities, and scope of activities among other elements. Among the roles listed for the PHAB are "oversight for the implementation of Oregon's State Health Improvement Plan (SHIP); oversight for the implementation of public health modernization; development and implementation of accountability measures for state and local health departments; and development of equitable fund distributions to support governmental public health." This body will be important in the public health modernization work OHPB is responsible for monitoring.

Patient-Centered Primary Care Home Program. (2015). *Oregon Health Authority, Patient-Centered Primary Care Home Program: 2014 Recognition Criteria - Technical Specifications and Reporting Guide*. Retrieved from the Oregon Health Authority website: http://www.oregon.gov/oha/pcpch/Documents/TA-Guide.pdf

The PCPCH Program developed a technical specifications and reporting guide to help practices understand the model. This document is also a guide for practices that wish to attest for recognition as a PCPCH. The guide outlines each of the six attributes (Accessible, Accountable, Comprehensive, Continuous, Coordinated, and Patient & Family Centered) and each subsequent standard. For each attribute, the guide describes the intent and the specifications for measurement. The PCPCH is robust program with a set of well-vetted measures, which could inform future measure development and alignment efforts.

Robert Wood Johnson Foundation. (2015). *County Health Rankings and Roadmaps: Oregon Health Gaps Report*. Retrieved from the County Health Rankings & Roadmaps website: http://www.countyhealthrankings.org/health-gaps/oregon

Each year the Robert Wood Johnson Foundation (RWJF) publishes county health rankings to "bring actionable data and strategies to communities to make it easier for people to be healthy in their homes, schools, workplaces, and neighborhoods." The 2015 Oregon Health Gaps Report identifies differences in health and quality of life and gaps in opportunities for health. The report displays the best and worst performing Oregon counties for various health factors. Also included in this report are examples of actions local communities have taken to remedy the health equity gaps. This kind of population health data is highly useful, yet difficult to combine with other relevant data sets for further analysis.

Robert Wood Johnson Foundation. (2016). *County Health Rankings and Roadmaps: 2016 County Health Rankings Oregon*. Retrieved from the County Health Rankings & Roadmaps website: http://www.countyhealthrankings.org/app/oregon/2016/overview

Each year RWJF publishes county health rankings to "bring actionable data and strategies to communities to make it easier for people to be healthy in their homes, schools, workplaces, and neighborhoods." The rankings display a variety of health indicators for communities across the United States. Oregon's 2016 county rankings are split into health outcomes data such as length and quality of life versus health factors such as health behaviors and the physical environment. This report provides a high-level look at health data that can be easily compared across states. This kind of population health data is highly useful, yet difficult to combine with other relevant data sets for further analysis.

Robert Wood Johnson Foundation. (2015). *From Vision to Action: Measures to Mobilize a Culture of Health*. Retrieved from the Robert Wood Johnson Foundation website: http://www.rwjf.org/content/dam/files/rwjf-web-files/Research/2015/From_Vision_to_Action_RWJF2015.pdf

RWJF is supporting a national shift towards a culture of health. To that end, the Foundation produced this report as an "Action Framework with a set of corresponding national measures, designed to mobilize critical areas where action is needed to improve health and well-being." There are four action areas identified in this report including: "making health a shared value; fostering cross-sector collaboration to improve well-being; creating healthier more equitable communities; and strengthening integration of health services and systems." This report should inform future measure alignment work in Oregon.

State of Oregon, Department of Consumer & Business Services (DCBS). (2016). *Oregon Health Insurance Marketplace: Report to the Joint Interim Committee on Ways and Means and Interim Senate and House Committees on Health Care*. Retrieved from the Oregon State Library website at: http://library.state.or.us/repository/2015/201511241557162/

This document is a report to the Join Interim Committee on Ways and Means and Interim Senate and House Committees on Health Care for the 2016 short legislative session on the Oregon Health Insurance Marketplace (Marketplace). The report was an update on the Marketplace and DCBS's role in "providing support and information for Oregonians seeking health insurance during the open enrollment period." The report notes that the U.S. Department of Health and Human Services proposed user fee for states using the federal platform, and how the cost increase might impact budget items such as "marketing and outreach plans and expenses and position requests." Understanding these elements of the Marketplace are important considerations for the OHPB Strategic Plan recommendations.

State of Oregon, Department of Consumer & Business Services (DCBS). (2015). *Network Adequacy Rulemaking Advisory Committee Charter*. Retrieved from the Department of Consumer & Business Services website: http://www.oregon.gov/DCBS/Insurance/legal/committees-workgroups/Pages/network-adequacy.aspx

The Network Adequacy Rulemaking Advisory Committee Charter defines the purpose of this committee as established by DCBS. "The Committee is chartered to recommend rules relating to: an annual report to DCBS that outlines carriers' plan for ensuring provider networks for each of the carrier's health benefit plans comply with the provisions of HB 2468; factors related to consumer satisfaction, transparency, quality of care and cost containment, access to care consistent with the needs of the enrollees served; nationally-recognized standard adjusted to reflect the age demographics of the enrollees in the plan; provider directory requirements; and disclosures for consumers." The committee met from May of 2015 to February of 2016. Data required for DCBS to carry this work forward must be addressed in future health care data collection efforts.

State of Oregon, Department of Consumer & Business Services and the Oregon Health Authority. (2016). *Primary Care Spending in Oregon: A Report to the Oregon State Legislature*. Retrieved from the Oregon Health Authority website at: http://www.oregon.gov/oha/pcpch/Documents/SB231_Primary-Care-Spending-in-Oregon-Report-to-the-Legislature.pdf

Under Oregon's 2015 Senate Bill 231, the OHA and DCBS are required to report how much medical spending is allocated to primary care by health care payers including: prominent carriers, health insurance plans contracted by the Public Employees' Benefit Board and the Oregon Educators Benefit Board, and Medicaid CCOs. "This report is OHA's and DCBS's report to the Legislature on medical spending allocated to primary care from calendar year 2014." The purpose of this report is to "help policymakers and the public assess the resources allocated to primary care in Oregon and develop proposals for improving primary care." This report is included as an example of one of Oregon's many health system transformation efforts, and shows a key use of data that must be considered as data collection evolves.

State of Oregon, Department of Human Services. (2015). *Oregon Child and Family Services Plan 2015-2019.* Retrieved from the Oregon Department of Human Services website: https://www.oregon.gov/DHS/CHILDREN/Pages/data-publications.aspx

This Oregon DHS Child and Family Services plan outlines goals for the next four years to achieve the agency's vision. One element of the vision is that child welfare transformation is supported by state agencies, communities and tribal partners via a variety of data collection and reporting agreements including, including sharing data among state agencies. This report outlines various metrics tracked at a statewide level and many of the data sources and data reporting mechanisms are nationally based and there are various places in the report where data conversion is an issue. This report is included as an example of how one state agency is utilizing data to measure its progress, and how data sharing is vital to success of such projects.

State of Oregon, Department of Human Services and Portland State University Institute on Aging. (2014). *Oregon Community-Based Care: Characteristics of Medicaid Clients in Assisted Living, Residential Care, Memory Care, and Adult Foster Homes 2013-2014*. Retrieved from the Oregon Department of Human Services website: https://www.oregon.gov/DHS/SENIORS-DISABILITIES/Pages/publications.aspx

This report was prepared for DHS in an attempt to "describe Medicaid clients' health-related needs, service use, and demographic characteristics" and "provide a baseline for future reports." Administrative data was analyzed for Medicaid clients residing in long-term care facilities. This report is included in the resource inventory as an example of how stakeholders are using current health care data to impact health-related policy goals at the state level. In the case of this report, researchers attempted to gather information that might help "reduce hospital use and reduce the potential for negative health outcomes associated with transitions in care."

State of Oregon, Department of Human Services and Portland State University Institute on Aging. (2014). *Oregon Community-Based Care: Resident and Home Characteristics Report, 2014, Adult Foster Homes*. Retrieved from the Oregon Department of Human Services website: https://www.oregon.gov/DHS/SENIORS-DISABILITIES/Pages/publications.aspx

This report was prepared for DHS in an attempt to "describe Medicaid clients' health-related needs, service use, and demographic characteristics" and "provide a baseline for future reports." Researchers from Portland State University's Institute on Aging analyzed administrative data for Medicaid clients residing in adult foster home facilities. This report is included in the resource inventory as an example of how stakeholders are using current health care data to impact health-related policy goals at the state level. In the case of this report, researchers attempted to "provide an important overview of community-based care settings in Oregon that can be used by policymakers, providers, and consumers." Broader dissemination of analyses like these could help inform work to address health equity issues.

State of Oregon, Department of Human Services and Portland State University Institute on Aging. (2014). *Oregon Community-Based Care: Resident and Home Characteristics Report, 2014, Assisted Living, Residential Care, Memory Care*. Retrieved from the Oregon Department of Human Services website: https://www.oregon.gov/DHS/SENIORS-DISABILITIES/Pages/publications.aspx

This report was prepared for DHS in an attempt to "describe Medicaid clients' health-related needs, service use, and demographic characteristics" and "provide a baseline for future reports." Researchers from Portland State University's Institute on Aging analyzed administrative data for Medicaid clients residing in assisted living, residential care and memory care facilities. This report is included in the resource inventory as an example of how stakeholders are using current health care data to survey and impact health-related policy goals at the state level.

State of Oregon, Department of Human Services. (2015). *Social Services Block Grant*. Retrieved from the Oregon Department of Human Services website: https://www.oregon.gov/DHS/CHILDREN/Pages/data-publications.aspx

As part of Title XX of the Social Security Act, Oregon receives Social Services Block Grant (SSBG) funds. This report provides descriptions of each program funded through SSBG along with expenditures for each year. The purpose of citing this report is to determine which DHS programs might be collecting data or might benefit from sharing data with other programs or agencies.

Appendix D: Glossary

42 CFR

“42 CFR Part 2 (commonly referred to as "Part 2") are the federal regulations governing the confidentiality of drug and alcohol abuse treatment and prevention records. The regulations set forth requirements applicable to certain federally assisted substance abuse treatment programs limiting the use and disclosure of substance abuse patient records and identifying information… Part 2 sets forth the limited circumstances in which substance abuse patient information may be used or disclosed, and no uses or disclosures other than those detailed in the regulations are permitted… Not all programs are subject to Part 2 regulations - only a federally assisted program that holds itself out as providing, and does provide, alcohol or drug abuse treatment, diagnosis, or referral for treatment is subject to Part 2... Generally, written patient consent is required to disclose the patient's records. A written consent must contain certain elements and be narrowly tailored to limit disclosure to the specific parameters in the consent. There are exceptions to the consent requirement, which permit programs to disclose or use substance abuse patient information” (Health information & The Law, a program of the George Washington University’s Hirsh Health Law and Policy Program, accessed 7/8/16 http://www.healthinfolaw.org/federal-law/42-cfr-part-2)

Claims data

Claims data describes the insurance transactions that take place between insured patients and health care providers. The data is housed by payers. “Payers include private health insurers, Medicaid, children’s health insurance and state employee health benefit programs, prescription drug plans, dental insurers, self-insured employer plans and Medicare (where it is available to a state). The databases contain eligibility and claims data (medical, pharmacy and dental) and are used to report cost, use and quality information. The data consist of “service-level” information based on valid claims processed by health payers. Service-level information includes charges and payments, the provider(s) receiving payment, clinical diagnosis and procedure codes, and patient demographics.” (National Conference of State Legislatures, accessed 7/8/16 http://www.ncsl.org/research/health/collecting-health-data-all-payer-claims-database.aspx)

Clinical data

Clinical data is “obtained at the point of care at a medical facility, hospital, clinic or practice. Often referred to as the electronic medical record (EMR), the EMR is generally not available to outside researchers. The data collected includes administrative and demographic information, diagnosis, treatment, prescription drugs, laboratory tests, hospitalization, patient insurance, etc.” (University of Washington Libraries, accessed 7/8/16 http://guides.lib.uw.edu/c.php?g=99209&p=642709#s-lg-box-1908463)

Measures

“Health measurements are requested or required by many organizations for many purposes, including efforts to track population, community, and individual health; assessments of health care quality and patient experience; transparency monitoring; public reporting and benchmarking; system or professional performance requirements; and funder reporting. Many of these measures are very similar, with only slight variations in terminology and methodology. However, their differences are often significant enough to prevent direct comparisons across states, institutions, and individuals… Many measures focus on narrow or technical aspects of health care processes, rather than on overall health system." The Institute of Medicine of the National Academies, accessed 7/8/16 http://www.nationalacademies.org/hmd/~/media/Files/Report%20Files/2015/Vital_Signs/VitalSigns_RB.pdf) Types of measures include quality (both outcome and process), cost, and patient experience.

Data

"Health care involves a diverse set of public and private data collection systems, including health surveys, administrative enrollment and billing records, and medical records, used by various entities, including hospitals, Community Health Centers, physicians, and health plans." Agency for Healthcare Research and Quality, accessed 7/8/16, http://www.ahrq.gov/research/findings/final-reports/iomracereport/reldata5.html

Equity

"…the absence of avoidable or remediable differences among groups of people, whether those groups are defined socially, economically, demographically, or geographically. Health inequities therefore involve more than inequality with respect to health determinants, access to the resources needed to improve and maintain health, or health outcomes. They also entail a failure to avoid or overcome inequalities that infringe on fairness and human rights norms." (World Health Organization, accessed: http://www.who.int/healthsystems/topics/equity/en/

Social Determinants of Health (SDH)

"life-enhancing resources, such as food supply, housing, economic and social relationships, transportation, education, and health care, whose distribution across populations effectively determines length and quality of life. It's also defined as the absence of systematic disparities in health (or in the major social determinants of health) between social groups who have different levels of underlying social advantage/disadvantage" (Braveman and Gruskin 57 (4): 254 …jech.bmj.com/content/57/4/254.fullJournal of Epidemiology and Community Health)

Payment Reform/Alternative Payment Methodologies/Value-Based Payment

Alternative Payment Methodologies are payment methods that are not tied to the traditional fee for service payment system and "reflect or support provider performance, especially the quality and safety of care that providers deliver, and are designed to spur provider efficiency and reduce unnecessary spending" (Health Affairs, accessed 7/8/16 http://healthaffairs.org/blog/2014/02/06/the-payment-reform-landscape-overview/)

Clinical Registry

"A clinical data registry records information about the health status of patients and the health care they receive over varying periods of time. Clinical data registries typically focus on patients who share a common reason for needing health care. They allow health care professionals and others to see what treatments are available, and how patients with different characteristics respond to various treatments. This information can be used to inform patients and their health care professionals as they decide the best course of treatment and to improve care for patients in the future. Information from registries may also be used to compare the performance of healthcare providers with regard to their outcomes and resource use." (American Medical Association, accessed 7/8/16, http://www.abms.org/media/1358/what-is-a-clinical-data-registry.pdf)

HIPAA Privacy Rule

" The HIPAA Privacy Rule establishes national standards to protect individuals' medical records and other personal health information and applies to health plans, health care clearinghouses, and those health care providers that conduct certain health care transactions electronically. The Rule requires appropriate safeguards to protect the privacy of personal health information, and sets limits and conditions on the uses and disclosures that may be made of such information without patient authorization. The Rule also gives patients rights over their health information, including rights to examine and obtain a copy of their health records, and to request corrections." (U.S. Department of Health and Human Services, accessed 7/11/16http://www.hhs.gov/hipaa/for-professionals/privacy/)

Likert Scale

"Likert scales are a common ratings format for surveys. Respondents rank quality from high to low or best to worst using five or seven levels. These scales range from a group of categories—least to most—asking people to indicate how much they agree or disagree, approve or disapprove, or believe to be true or false… The most important consideration is to include at least five response categories." Quality Progress, accessed 7/11/16 http://asq.org/quality-progress/2007/07/statistics/likert-scales-and-data-analyses.html)

Emergency Department Information Exchange (EDIE)

"The Emergency Department Information Exchange is a Web-based communication technology that enables intra- and inter-emergency department communication. The technology allows emergency department clinicians to identify patients who visit the emergency room more than five times in a 12 month period or patients with complex care needs so these patients can be directed to the right setting of care. EDIE alerts hospitals in real time when a patient is visiting the emergency room." Oregon Health Leadership Council, accessed 7/11/16 (http://www.orhealthleadershipcouncil.org/our-current-initiatives/emergency-department-information-exchange-edie)

Health Information Exchange (HIE)

"Electronic health information exchange (HIE) allows doctors, nurses, pharmacists, other health care providers and patients to appropriately access and securely share a patient's vital medical information electronically. Despite the widespread availability of secure electronic data transfer, most Americans' medical information is stored on paper... When that medical information is shared between providers, it happens by mail, fax or—most likely—by patients themselves, who frequently carry their records from appointment to appointment. While electronic health information exchange cannot replace provider-patient communication, it can greatly improve the completeness of patient's records." HealthIT.gov, accessed 7/11/16, https://www.healthit.gov/providers-professionals/health-information-exchange/what-hie).

All Payer All Claims Databases (APCD or APAC)

"APCDs are large-scale databases that systematically collect health care claims data from a variety of payer sources which include claims from most health care providers." APCDs can be legislatively mandated by the state or voluntary. APCD Council, accessed 7/11/16, https://www.apcdcouncil.org/frequently-asked-questions)

SBIRT (Screening, Brief Intervention, Referral to Treatment)

"SBIRT is an evidence-based practice used to identify, reduce, and prevent problematic use, abuse, and dependence on alcohol and illicit drugs. The SBIRT model was incited by an Institute of Medicine recommendation that called for community-based screening for health risk behaviors, including substance use." SAMHSA-HRSA Center for Integrated Health Solutions, accessed 7/11/16 http://www.integration.samhsa.gov/clinical-practice/SBIRT

De-identified data

Section 164.514(a) of the HIPAA Privacy Rule provides the standard for de-identification of protected health information. Under this standard, health information is not individually identifiable if it does not identify an individual and if the covered entity has no reasonable basis to believe it can be used to identify an individual. The Privacy Rule provides two methods by which health information can be designated as de-identified. The first is the "Expert Determination" method if a person with appropriate knowledge of and experience with statistical and scientific principles determines that the risk is very small and that the information could be used in any way to identify an individual, and documents the methods and results of such analysis. The second is the "Safe Harbor" method, where potentially identifying elements are removed from the data. HHS.gov Health Information Privacy, accessed 8/17/16 http://www.hhs.gov/hipaa/for-professionals/privacy/special-topics/de-identification/

Appendix E: Disclosures

This strategic plan was produced by the Oregon Health Care Quality Corporation (Q Corp) under a contract managed by the Oregon Health Authority (OHA). Q Corp is an independent, nonprofit organization dedicated to improving the quality and affordability of health care in Oregon. Q Corp leads community collaboration and produces unbiased information to support health care transformation efforts across the state and nationally.

Q Corp also performs work under contract or grant from the Oregon Health Authority and other state agencies as follows:

- Independent validation of Coordinated Care Organization metrics calculated by the OHA
- Develop reports and services related to increased price transparency and integrating quality and price information for the Department of Consumer and Business Services rate review process with commercial health plans
- Development and management of the Patient-Centered Primary Care Institute with the OHA Patient-Centered Primary Care Home (PCPCH) program and OHA Transformation Center
- Ongoing consulting around claims data collection and analysis.
- The Oregon Health Authority Public Health Division (OPHD), in conjunction with Centers for Disease Control and Prevention (CDC), has been measuring the incidence and epidemiology of HPV-related cervical cancer in the Portland area. On an annual basis, Q Corp supplies data on cervical cancer screenings for women in the catchment area to supplement this work.

Separate from contract or grant work described above, Q Corp is also engaged in the following activities related to health care data and analytics in Oregon:

- Operate a voluntary all-payer, all claims database supported with funding from data suppliers including commercial health plans and Medicaid plans managed by the OHA
- Maintain a web-based provider portal and provider directory for primary care providers to access reports at the clinic, physician and patient levels
- Founding member of the Collaborative for Health Information Technology in Oregon (CHITO), which released a white paper, titled Aligning Health Measurement in Oregon, that advocates for better aligned collection and use of health care data and metrics.

Appendix F: Summary of Senate Bill 440

https://olis.leg.state.or.us/liz/2015R1/Measures/Overview/SB440

Senate Bill 440, signed into law in June 2015, instructs the Oregon Health Policy Board, in consultation with the Public Employees' Benefit Board, the Oregon Educators Benefit Board, the Oregon Health Authority and the Department of Consumer and Business Services, to develop a statewide strategic plan for the collection and use of health care data. The plan must include the following elements:

- Clear objectives for how health care data will be used, and what types of data are needed, in state health care programs to support health system transformation efforts and promote value;
- Allow for alignment of performance metrics across state health care programs;
- Ensure that the state's efforts in the collection and use of health care data encourage integrated and coordinated care, promote improved quality, health outcomes and patient satisfaction and help reduce costs;
- Strategies to ensure that the state's collection, use and measurement of health care data advance payment reform and allow for alternative payment methodologies;
- To the extent practicable, allow for alternative reporting and measurement mechanisms that are not claims-based or that are for payers and providers who are moving away from fee-for-service based reimbursement;
- Identify appropriate and inappropriate uses of health care data, including safeguards to ensure privacy and ensure that data is not used for marketing or other inappropriate purposes; and
- Outline a five-year vision including implementation timelines in sufficient detail that health care stakeholders can plan for expected new data reporting requirements and uses.

The bill was passed with a specific understanding of the relationship between health care data and transformation of the health care system, specifically:

- The state has an interest in the measurement of health care quality
- Health system transformation is intended to reduce costs while improving quality, outcomes, public health and patients' experiences – referred to as the "Triple Aim"
- Health care data and performance metrics are important to track progress and create incentives for transformation in the health care system
- Performance metrics will only be effective at driving transformation through the health care system if they are evidence-based, aligned across health care programs and remain consistent long enough for the transformation efforts to take root
- Coordination across state agencies and programs is critical in achieving transformation
- Both the state and stakeholders will benefit from streamlining efforts with respect to health care data reporting and use and the establishment of performance metrics
- Creating a statewide strategic plan for health care data and performance metrics would ensure data collection and performance metrics efforts are focused on specific goals over a period of time and provide value to this state, stakeholders and consumers
- Utilizing a single body to align health care data use and performance measures will ensure efforts are coordinated, evidence-based and transformational and remain focused on a long term statewide vision

The Oregon Health Policy Board is required to establish a **Health Plan Quality Metrics Committee.**

- Committee must include the following **members**, appointed by the Governor:
    A. An individual representing the Oregon Health Authority;
    B. An individual representing the Oregon Educators Benefit Board;
    C. An individual representing the Public Employees' Benefit Board;
    D. An individual representing the Department of Consumer and Business Services;
    E. Two health care providers;
    F. One individual representing hospitals;
    G. One individual representing insurers, large employers or multiple employer welfare arrangements;
    H. Two individuals representing health care consumers;
    I. Two individuals representing coordinated care organizations;
    J. One individual with expertise in health care research;
    K. One individual with expertise in health care quality measures; and
    L. One individual with expertise in mental health and addiction services.
- The members of the Health Plan Quality Metrics Committee shall be appointed no later than February 1, 2017.
- The committee shall work collaboratively with the Oregon Educators Benefit Board, the Public Employees' Benefit Board, the Oregon Health Authority and the Department of Consumer and Business Services to adopt health outcome and quality measures that are focused on specific goals and provide value to the state, employers, insurers, health care providers and consumers.
- The committee shall be the single body to align health outcome and quality measures used in this state with the requirements of health care data reporting to ensure that the measures and requirements are coordinated, evidence-based and focused on a long term statewide vision.
- The committee shall use a public process that includes an opportunity for public comment to identify health outcome and quality measures that may be applied to services provided by coordinated care organizations or paid for by health benefit plans sold through the health insurance exchange or offered by the Oregon Educators Benefit Board or the Public Employees' Benefit Board.
- The Oregon Health Authority, the Department of Consumer and Business Services, the Oregon Educators Benefit Board and the Public Employees' Benefit Board are not required to adopt all of the health outcome and quality measures identified by the committee but may not adopt any health outcome and quality measures that are different from the measures identified by the committee.
- The measures must take into account the recommendations of the metrics and scoring subcommittee created in ORS 414.638 and the differences in the populations served by coordinated care organizations and by commercial insurers.
- In identifying health outcome and quality measures, the committee shall prioritize measures that:
    A. Utilize existing state and national health outcome and quality measures, including measures adopted by the Centers for Medicare and Medicaid Services, that have been adopted or endorsed by other state or national organizations and have a relevant state or national benchmark;

    B. Given the context in which each measure is applied, are not prone to random variations based on the size of the denominator;
    C. Utilize existing data systems, to the extent practicable, for reporting the measures to minimize redundant reporting and undue burden on the state, health benefit plans and health care providers;
    D. Can be meaningfully adopted for a minimum of three years;
    E. Use a common format in the collection of the data and facilitate the public reporting of the data; and
    F. Can be reported in a timely manner and without significant delay so that the most current and actionable data is available.
- The committee shall evaluate on a regular and ongoing basis the health outcome and quality measures adopted under this section.
- The committee may convene subcommittees to focus on gaining expertise in particular areas such as data collection, health care research and mental health and substance use disorders in order to aid the committee in the development of health outcome and quality measures. A subcommittee may include stakeholders and staff from the Oregon Health Authority, the Department of Human Services, the Department of Consumer and Business Services, the Early Learning Council or any other agency staff with the appropriate expertise in the issues addressed by the subcommittee.
- This subsection does not prevent the Oregon Health Authority, the Department of Consumer and Business Services, commercial insurers, the Public Employees' Benefit Board or the Oregon Educators Benefit Board from establishing programs that provide financial incentives to providers for meeting specific health outcome and quality measures adopted by the committee.

The Oregon Health Authority is required to submit two reports to the Legislative Assembly on the activities of the Health Plan Quality Metrics Committee

1. Submitted during the 2017 regular session of the Legislative Assembly
2. Submitted during the 2019 regular session of the Legislative Assembly

The Oregon Health Authority, the Department of Consumer and Business Services, the Oregon Educators Benefit Board and the Public Employees' Benefit Board shall implement the health outcome and quality measures on and after January 1, 2018.