

## Provider Directory Advisory Group Meeting Plan

Covering the period from 2015-2017

Updated October 7, 2015

	Activities (actual and projected)	Spring 15	Summer 15	Fall 15	Winter 16	Spring 16	Summer 16	Fall 16	Winter 17	Spring 17
Info Sharing/ Orientation activities	Conduct pre-meeting webinars	X								
	HIE, Direct secure messaging, CareAccord presentation	X								
	Draft PDAG charter and schedule	X								
	EDIE/Premanage presentation			X						
	Clinical Quality Metrics Registry (CQMR) presentation			X						
	HPD Demo - CAHIE			X						
	Common Credentialing presentation and updates	X	X	X	X	X	X	X	X	X
Uses & business requirements	PDAG volunteers to review business requirements		X							
	Ranking of uses	X	X							
	Uses analysis - as is, to be, challenges, and benefits		X							
	Use cases - refine		X	X	X					
	Data element analysis		X	X						
	Ranking of state data sources		X	X						
	Draft phasing roadmap	X	X	X	X	X				
	Provider directory standards analysis		X	X						
Procurement	Prime vendor meet and greet (contract in place fall 2015)			X	X					
	PD Vendor Demonstration Participation				X					
	PD Vendor Meet and Greet (PD vendor on board Q2 2017)					X	X			
Fees	Fee structure orientation and discussions			X	X					
	Fee structure principles			X	X					
	Draft fee structure - fee types, tiers, costs, caps				X	X				
	Refine fee structure based on vendor feedback and input						X			
Governance - Use	Data Use Agreements (permitted use, access, security, auditing, expectations of participants, privacy and security, etc.				X	X				

Governance - Data	Business Rules/data validations- what they are, when they are applied when data are merged from multiple sources. Rules include; Factors and calculations needed to produce a quality ranking score, which data sources contribute to the data set, ranking of data sources, matching algorithms, which/when data elements are verified by PD operations team, and TBD.				X	X				
	Vendor Policies and Procedures Review						X	X		
Program & Operations planning	Program and operations planning - procedures for onboarding process for users, testing and acceptance processes for data submitters, audit and oversight procedures (data and use), technical assistance for users, processes for data validation, and TBD.						X	X	X	X
	Communications Strategy				X	X	X			
	Outreach and Marketing Materials							X	X	
	Program metrics							X	X	
	Oregon Administrative Rules (OARs) - Provider Directory program and fees						X	X		
Other?	User Acceptance Testing?						X	X	X	X
	Vendor Joint application design (JAD) sessions?						X	X	X	X
	Special PDAG task force activities?						X	X	X	X

Parking lot questions 10-15-2015

Topic Area	Question
Users and permitted use	Can/should External researchers and evaluators (not otherwise affiliated with hospitals, health systems, clinics..., e.g., Mathematica) be able to access and use the provider directory?
Network of connected HPD directories	For the uses that pull back large sets of providers, would the connected HPD directories be able to provide a response? Could we cache their responses?
Historical data	How will historical data be kept? Will we get historical data from Common credentialing that we can use
Confidential or protected data?	Are there any limitations in the type of data that we will have that could be viewed in the PD web portal but could not be downloaded or exported?
Value of the PD and need for it to have enough providers and enough data	How do we answer this question? What if we only have 20% of the Oregon hospitals and it cannot be used for analysis because of missing data?
Required data elements out of the gate	Which data elements that are listed as “required” are ones that are needed out of the gate for the PD to be useful for the specific use?
Required data sources out of the gate	Which data sources that are listed as “required” are ones that are needed out of the gate for the PD to be useful for the specific use?

# PDAG USES RECAP: JULY – SEPT 2015

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## GROUP BREAKOUT SESSIONS SUMMARY

To analyze the list of provider directory uses, smaller breakout sessions were conducted with the PDAG in the PDAG meetings from July 2015 – October 2015. In addition, individual PDAG members were asked to analyze the existing use cases, data elements, state sources, and provider directory regulations as homework assignments.

The desired outcome of the sessions was to produce a list of refined uses, developed ranking and justification for uses and sources, and a regulations and standards matrix that can be used to:

- Develop a phasing roadmap
- Understand the justification and purpose behind the uses
- Use documentation to build detailed use cases on ranked uses

Artifacts from the exercises are included in this document.

Groups were broken out based on the following categories:

	Health plans (Plans)	Health delivery (Delivery)	HIE	Analytics
<b>Participants</b>	Liz Hubert Martin Martinez Jessica Perak Laura McKeane Nikki Vlandis	Chris Boyd Mary Kaye Brady Monica Clark Kelly Keith Maggie Mellon Bob Power	Gina Bianco Mary Dallas Hongcheng Zhao	Stephanie Renfro
<b>Facilitator/Scribe</b>	Melissa Isavoran/ Rachel Ostroy	Laureen O’Brien/ Jason Miranda	Karen Hale/ Brittney Matero	Wendy Demers/ Nick Kramer

Each group was assigned an Oregon Health Authority facilitator and scribe to guide and document the discussions from participants during the meetings.

## LIST OF 25 PROVIDER DIRECTORY USES

The following is the list of compiled provider directory uses utilized by PDAG to analyze and prioritize.

Use #	Use Description
1	<b>Integrate Common Credentialing data:</b> A Statewide Provider Directory will serve as a provider data aggregator and will integrate Common Credentialing data into the provider directory. Data characteristics such as date of the data and source of the data will be displayed to the end-user. Data maintenance, data reconciliation, data validation and data integrity checks are performed by the operations staff of the Statewide Provider Directory.

2	<p><b>HPD real-time searches:</b> A Statewide Provider Directory provides a service that can be used by end-users to look up providers without requiring direct access to other existing directories within the state, border states, or nationally. The Statewide Provider Directory will create a series of electronic service endpoints for the participants of the directory so they can be discovered by others for health information exchange. The Provider Directory will route requests to other electronically connected directories and produce an aggregated response.</p>
3	<p><b>Integrate state sources of data:</b> The Statewide Provider Directory will serve as a provider data aggregator and will integrate disparate state sources of data into a single provider directory. Data characteristics such as dates of the data and sources of the data will be displayed to the user. Data maintenance, data reconciliation, data validation and data integrity checks are performed by the operations staff of the Statewide Provider Directory. Data sources include:</p> <ul style="list-style-type: none"> <li>• PCPCH</li> <li>• Medicaid EHR Incentive Program</li> <li>• Public health</li> <li>• Addictions and Mental Health residential alcohol and drug treatment</li> <li>• Medicaid provider enrollment (Oregon Health Plan providers)</li> <li>• CCO provider network tables</li> <li>• DHS Office of Licensing and Regulatory Oversight <ul style="list-style-type: none"> <li>o People with developmental disabilities</li> <li>o Nursing facilities</li> <li>o Assisted Living and Residential Care Facilities</li> <li>o Children's Care</li> <li>o Adult Foster Care</li> </ul> </li> </ul>
4	<p><b>Integrate other HIE flat file directories:</b> The Statewide Provider Directory will serve as a provider data aggregator and will integrate certain HIE flat file directories (e.g., CareAccord, NPPEs, DirectTrust) into the provider directory for those participants who are not able to communicate via HPD standards. Data characteristics such as dates of the data and sources of the data will be displayed to the user. Data maintenance, data reconciliation, data validation and data integrity checks are performed by the operations staff of the Statewide Provider Directory.</p>
5	<p><b>GIS:</b> The Provider Directory will make Geographic Information Systems (GIS) or geo-coding functions data available in provider query.</p>
6	<p><b>Provider search or lookup for HIE addresses:</b> Use the provider directory to locate a specific provider and their associated direct address as well as the indication of trust community status of their Health Information Service Provider (HISP) (white pages).</p>
7	<p><b>Meet HIE requirements for meaningful use:</b> A provider needs to find providers that are part of the EHR Incentive Program are are/or likely to have adopted 2014 or 2015 Certified EHR technology needed to exchange patient summaries of care or receive patient summaries of care. The end-user or clinic used the provider directory to look up providers using a federated web search or request an extract of the local provider directory's data. Data must include users that are part of the HPD data service (see use case for HPD) and flat file (local) sources.</p>
8	<p><b>Keeping provider information current/validation source:</b> A health care entity needs to validate its local healthcare provider information and ensure it is current. The health care entity uses the provider directory to access the most current aggregated provider information on an individual basis (1 off validation) or an extract is downloaded to perform a database dif (entire directory validation).</p>
9	<p><b>Add/delete/edit provider information for accepting new patients:</b> A healthcare entity needs to update information on a provider's status of accepting new patients. Information must be updated and kept current at least every 30 days to meet Medicare standards but changes as frequently as within the work day. A user interface as well as upload capability is needed to ingest these data.</p>
10	<p><b>Medicaid EHR Incentive program audit and oversight:</b> The provider directory provides an extract of the flat file sources of data (current and historical) to the Medicaid EHR Incentive program on a weekly basis. The extract will need to contain provider identifying data as well as affiliations to a provider's group, clinic, location, system.</p>
11	<p><b>Source for payer information for a provider:</b> The provider directory is used to identify and validate the relationship of payers to specific providers.</p>
12	<p><b>Source for privileging information for providers:</b> The provider directory is used to identify and validate the relationship of hospitals to specific providers (hospital admitting privileges).</p>

13	<b>Outcomes and intervention:</b> Use the affiliations data to identify clinics or groups within a CCO that require intervention because they are not meeting benchmarks or thresholds for a program or to highlight clinics or groups that are performing well
14	<b>Find providers to initiate referrals and provide care coordination:</b> The provider directory is used by end-users to query provider information using configurable criteria such as specialty, telemedicine, geographic indicators like zip code, city or state, language or gender. The provider directory returns results for every provider satisfying the search criteria including the physical and electronic address, and contact information. An appropriate provider is selected from the results based on the attributes returned in the response and the electronic address is used to send patient records and documentation to selected provider.
15	<b>Contact information – local query with extract option -</b> A health care entity can initiate a single search for a list of providers based on configurable criteria such as name, specialty, telemedicine, geographic indicators like zip code, city or state, etc. to the provider directory's local database. The provider directory returns contact information for every provider satisfying the search criteria, including e-mail addresses, and provides an option for the results or specific providers information to be extracted.
16	<b>Contact information – federated web search</b> - A health care entity can initiate a single search for a list of providers based on configurable criteria such as name, specialty, geographic indicators like zip code, city or state, and other criteria. The provider directory searches the federation as well as the local directory and returns contact information about every provider satisfying the search criteria, including HIE addresses. Extracts may not provide or are limited due to data-use agreements.
17	<b>In network search:</b> A health care entity can identify if provider in the directory is "in network" as part of a CCO/health plan
18	<b>Practice location analytics:</b> The provider directory can be used as a data source to report on how care varies by practice location or by specific programs such as PCPCH, CCOs, etc.
19	<b>Performance measure analytics:</b> The provider directory can be used as a data source to report on EHR's in use by a provider, performance measures, and claims by groups.
20	<b>Use as a data source to report on network adequacy:</b> The provider directory can be used by a health care entity to report on network adequacy and to meet regulatory provisions.
21	<b>System of record for TBD defined elements (user interface):</b> (Placeholder for functionality to add/delete/edit provider information). Provide a single entry point for certain defined data elements not present in common credentialing or HPD data models (or other sources). It could be used when a health care entity needs to author/enter their own information in the provider directory for data elements of which there is no external (other) source and have the ability to add, update, or delete the data. A user interface and updates to the data model and database are needed to allow the addition and management of these data.
22	<b>Reporting data inaccuracies to the statewide provider directory:</b> A health care entity finds information in the provider directory to be inaccurate. End-users are able to flag the information as such within the provider directory. A notification is sent from the provider directory services to the data's source to correct the information and further query of the information is flagged appropriately until resolved.
23	<b>Reporting data inaccuracies to a health care entity:</b> The provider directory operations become aware of a discrepancy in the provider directories data. The effected data elements are flagged by the operations staff in provider directory for further queries until the issue is resolved.
24 (new - was part of 3)	<b>Analytics extracts:</b> The provider directory makes an extract of the flat file sources of data (current and historical) available to analytics extract subscribers. The extract will contain provider identifying data as well as affiliations to a provider's group, clinic, location, system, hospital, payers. Knowing the date and the source of the data is important.
25 (new)	<b>Integrate other authoritative flat file directories:</b> The Statewide Provider Directory will serve as a provider data aggregator and will integrate certain authoritative flat file directories into the provider directory for those participants who are not able to communicate via HPD standards. Data characteristics such as dates of the data and sources of the data will be displayed to the user. Data maintenance, data reconciliation, data validation and data

integrity checks are performed by the operations staff of the Statewide Provider Directory.

Denotes core use: one that PDAG was not asked to prioritize

## RANKED USES BY GROUP

Groups evaluated the list of the provider directory uses and were asked to rank their top 5 uses. The tables below represent the uses that each group ranked as a priority.

### ANALYTICS

Rank	Use	Use #
1	Analytics extract	24
3	Performance analytics	19
	Outcomes and intervention	13
	Practice location analytics	18
4	Source for payer info	11
5	Source for privileging info	12

After initial discussions, the analytics group combined two uses, state/authoritative sources of information and historic information, to create a use called “analytics extract”.

### DELIVERY

Rank	Use	Use #
1	Validate Source	8
	Contact info/care coordination	14
	Local query contact info	15
	Federated contact info	16
	In network search	17
	System of record (add/edit/delete)	21
2	HIE Address search	6
3	Source for payer info	11
4	Network adequacy	20

### HIE

Rank	Use	Use #
1	HIE address search	6
2	Contact Info/Care Coordination (find providers)	14
3	<del>Outcomes and intervention, Performance measure analytics</del>	X
4	Local query contact info	15
	Federated contact info	16
5	Meet HIE requirements for meaningful use	7

The HIE group removed their 3<sup>rd</sup> ranked item after further review.

### PLANS

Rank	Use	Use #
1	Validate Source	8
2	Local query contact info	15
3	System of record (add/edit/delete)	21
4	Network adequacy	20
5	Contact info/care coordination	14
6	Federated contact info	16

## PRIORITIZED USES ANALYSIS BY GROUP

Each group was asked to analyze the as is, to be, challenges, and benefits for their prioritized uses. Some groups were unable to finish the analysis for all uses but many incorporated ideas that applied across multiple uses.

Common challenges include:

- Keeping data current and updated; Data changes all of the time – especially provider relationships
- Keeping data accurate
- Data reconciliation
- Establishing confidence that the provider directory will work
- Accepting change

Common benefits include:

- Comprehensive sets of data
- Accurate, trustworthy data
- Streamline processes and reduce redundancies
- Improve privacy and security – confidence that the information they are relying on for patient care is correct

The recorded responses from each group are listed in the tables below:

### ANALYTICS

#### *RANKED USE 1: INTEGRATE SOURCES OF DATA (CHANGED TO ANALYTICS EXTRACT)*

No one source to integrate all of these things and the separate sources aren't designed to work with one another.	Information from multiple sources is available from a single point and is reconciled and consistent.
Reconciliation and relationships (provider hierarchy) will be a challenge. Balancing securing and availability. How to reconcile the data. Need the ability to rank the sources. Keeping the data current.	Limitless. Reduce redundancy. A lot of different agencies are maintaining their own systems. One single source will eventually lead to data quality, will improve integrity. Useful resource for many different users. Accurate and trustworthy information, a frame to lay

The diagram consists of two black rounded rectangular boxes at the top: 'As is' on the left and 'To be' on the right, connected by a white double-headed vertical arrow. Below these are two more black rounded rectangular boxes: 'Challenges' on the left and 'Benefits' on the right.

	claims on, improvement upon APAC. Ability to isolate the effects of new policies and programs, increase the accuracy and validity of that work. Controlling for various providers, entity characteristics. (E.g. Estimate the effects of CCOs while controlling for the effects of PCPCH)
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*RANKED USE 1/2: ABILITY TO EXTRACT CURRENT AND HISTORICAL DATA (COMBINED INTO THE ANALYTICS EXTRACT)*

Unavailable.	Available, in multiple and usable formate and in a reasonably efficient process (E.g. CSV, Txt). Ability to extract data without many barriers while preserving security. Guarantee formate - where incremental changes don't break/override previous releases - backwards compatible.
Providing extract in a timely way, availability of data for extracts. Complicated to capture the detail of PD in a flat file. User support/documentation will be a challenge. DUA/data governance is difficult to ensure compliance. Size will be a challenge. Secure transfer process (push vs pull)	Thousands, allows for in house analysis by agencies and organizations outside (and including) of OHA. Stakeholders will be able to use the data and leverage/realize the benefits of the PD. Having the data available will increase the use and acceptance/buy in/compliance by reporting entities.

As is

To be

Challenges

Benefits

*RANKED USE 3: PERFORMANCE ANALYTICS, OUTCOMES AND INTERVENTION, PRACTICE LOCATION ANALYTICS*

Ability to do this analysis by provider is limited by fragmented (not publically available) sources that capture the relationship between provider entities.	One comprehensive source available to multiple users.
Getting the information, updating it, having the data structure/model to capture it. Keep it current Provider relationships change all of the time. Reconciliation of the varrious data sources.	Allows for reporting at a variety of levels of care. Ability to identify clinics or groups within a CCO that require intervention because they are not meeting benchmarks or thresholds for a program or to highlight clinics or programs that are performing well. Ability to see groups that performing well. Ability to isolate what works for improving quality and/or reducing cost. (E.g. FQHCs doing a better job caring for Medicaid patients see that there is a best practice for other clinics).

As is

To be

Challenges

Benefits

*RANKED USE 4: SOURCE FOR PAYER INFO*

Incomplete information exists and is fragmented and proprietary.	<b>As is</b>	<b>To be</b>	Information is complete and publically available from one source.
Relationships and contracting arrangements change often. Relationship are complicated so it could be difficult to capture the data in a usable formats. Integrating the data will be a challenge due to the different types of provider directory consumers. This information may come from several different sources and will need to be combined.	<b>Challenges</b>	<b>Benefits</b>	Monumental, it will allow for a variety of analyses for example: provider shortage areas, work force projections (Medicaid expansion), provider and network demographics, provider networks that produce positive health outcomes. Identifying factors that lead patients to seek out of network care (e.g. network adequacy). Supports the in-network use case.

*RANKED USE 5: SOURCE FOR PRIVILEGING INFO*

Information is not available to researchers	<b>As is</b>	<b>To be</b>	Information is available and in a format that is usable for analysis.
Sourcing the information will be a challenge, may not be available in a health plan/state sourced provider directory. These relationships change and will need to be updated while preserving historical affiliations.	<b>Challenges</b>	<b>Benefits</b>	Extreme, how admitting privileges influence patters of care delivery and outcomes. Understand inefficiencies in care coordination.

DELIVERY

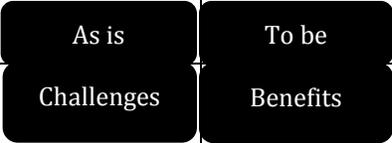
*RANKED USE 1: MULTIPLE* (Validate Source, Contact info/care coordination, Local query contact info, Federated contact info, in-network search, System of record (add/edit/delete)

No common credentialing source today; organizations are managing their data with spreadsheets, disparate sources, multiple etc. and non-standardized sources. Sharing of DSM today is essentially only with providers whom are internal or already have an established relationship. Independent technology solutions (we are all on different systems today) and standards. Each group is independently validating using different processes and having different levels of success depending on your organizations uses.	<b>As is</b>	<b>To be</b>	Leveraging CC will supplement the validation process. Reducing overlap with what referrals checking is doing. Providers will have a single source for finding DSM sources. Very little may change initially for each organization but within a year or 2 the users may figure out how to create efficiencies with the PD.
Requirements can be different for network adequacy for different governing bodies and can't use 1 standard across. Processes within each of the health systems that are trust based and concerns getting folks to accept change. Also audits happen and abandoning that for another source is concerning. Challenge with future state is if we don't eliminate data sources already submitting to and removing duplicate work noone will	<b>Challenges</b>	<b>Benefits</b>	Providers can have a source for identifying providers to refer patients to. Provider would be the main beneficiary of not having to enter duplicate data. Focus resources to other needy areas where staffing is needed. Streamline the manual research phone calls and reduce staff hours spent on this activity. Patients reap benefits from more connected providers who have the opportunities to enable whole person care.

want to buy it or sustain it - just another source. Must eliminate duplication of providers and or credentialing organizations to need to go to multiple sources to get data or the information needed to perform their task (PSV). Risk associated with using the data is on the end-user and not the source (PD) - if the state data is wrong and the end-users use it the error falls on the end-user. Identifying a golden source of truth is a challenge.	The eventual realities of a single source of truth being the PD would save end-users and their team time and resources.
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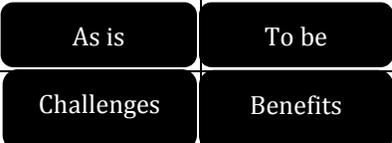
*RANKED USE 2: HIE ADDRESS SEARCH*

Today you share with partners your address. You share the amassed addresses of a group with their partners using some format. Folks aren't feeling confident about the information so there is some hesitance to share today. Today when providers change groups sometimes their email address is lost or changes and partners can no longer communicate and ensure the PD no longer lists it as active. For HIE component some providers have no DSM address at all.	Users can go to one source to get validated and accurate DSM for providers. In-network data being present as search criteria enables referral and transitions of care.
How do you update systems that use some of this information so they are in sync when they have unique consuming format requirements and different processes?	The benefit for the provider is the PD is enabling sharing outside of their normal network and range of referral. Examples are snowbirds who are in out of state part of the year and are in OR part of the year. The provider will be able to update their DSM in a single location.



*RANKED USE 3: SOURCE FOR PAYER INFO*

Today, it's unclear if a provider is covered when preparing a referral for a patient. This is less of an issue for Kaiser specifically. Contracts change often and what you may know at one point in time may no longer be accurate because the source of information is largely manual or relationship based.	Providers will be confident when referring patients to a provider that they will be covered.
How would we get the information from reliable and current sources? May not be detailed enough. Challenge is getting Common Credentialing to really sync up.	Benefit for referrals to know that the patient is covered for the referred to provider.



# HIE

## RANKED USE 1: HIE ADDRESS SEARCH

<p>HIE PD used within HIE= drop down box, outside of HIE = flat-file directory available password protected for users (link) totally outside of JHIE. Data is not dynamic/can be outdated. JHIE requirements regarding clinician turnover- have guides, when someone leaves, terminated their access and JHIE has to be notified for removal/close access. JHIE monitors/reminders/educates/on-line form. CareAccord directory participants can be out of date if we are not notified to remove clinicians. Providence maintains their data base with download to Portland IPA. Every organization is facing the same challenge. Opportunity with state to have required data elements, determine hierarchy/priority. Need right out of the gate value-crawl, walk, run. Automation is a process. Issues around inactive clinicians and accessing data associated with them.</p>	<p>Any native system- wherever they are doing DSM, they should be able to outside search sources.</p>
<p>Updating- unless it is mandatory (a carrot/stick). Being accurate, being complete in terms of any providers. Data provenance, and when last updated. User needs successful search or they will not use it. If the info is not available that they need- again, will not use. Whatever selling feature there is for the HPD- there is a huge level of confidence for the user that it will work. Purpose of the directory and most important data elements.</p>	<p>Security and privacy- you know this is the right place that I am sending to. Complete one-stop shop for knowing who, where, how to contact them. Improved care coordination/efficiency for discharge planning, etc. Resource time/cost in managing directories decreased.</p>

# PLANS

## RANKED USE 1: KEEPING PROVIDER INFORMATION CURRENT/VALIDATION SOURCE

<p>Very manual process; requires people to go to various sources to gather the data; Not regulatorily required; Sometimes not done at all; when done it's manual, resource intensive; For most of population, data available is very sparse; Dependent on 3rd party to gain certain parts of data (i.e. provider, office staff); No authoritative source</p>	<p>Single authoritative, complete data source; Access to many more data elements than are available today; Expect multiple methods of access (i.e. tiered, extractable); Applied business rules (subscription and security levels) / ranking trustworthiness of data Providers become familiar with this entity and are willing to provide the information necessary to validate data (when there are discrepancies - i.e. data stewards)</p>
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<p>Being able to trust data or assign confidence factors; Unwilling to pay for data that can not be trusted; Will be important to understand data lineage (where it came from);Timing of updates.</p>	<b>Challenges</b>	<b>Benefits</b>	<p>Supplements the data they already have; Potentially replaces what they have currently; Eliminate redundant staffing across organizations (centralized staffing) - Willing to pay for someone to do the manual cleanup necessary to make this an authoritative data source</p>
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*RANKED USE 2: CONTACT INFORMATION – LOCAL QUERY WITH EXTRACT OPTION (USE 15)*

<p>Very manual process - requires people to go to various sources to gather the data; Not regulatorily required Sometimes not done at all; when done it's manual, resource intensive; For most of population, data available is very sparse; Dependent on 3rd party to gain certain parts of data (i.e. provider, office staff) No authoritative source</p>	<b>As is</b>	<b>To be</b>	<p>Automated connection of provider to entity (ideally based on NPI - pick lists, etc)</p>
<p>Data organization in the extract will be very challenging; Data model, identifying appropriate hierarchy; assigning attributes appropriately Authentication of who can provide information No free text association of provider to entity</p>	<b>Challenges</b>	<b>Benefits</b>	<p>Payer staff retention may increase Huge time savings for payers Member experience improved due to increased accuracy of data; Regulatory compliance improvements; Outreach for provider data decreased Reduction in claims reprocessing (repaying claims that were incorrectly paid based on bad data); Data can be leveraged for use cases beyond provider directories - leverage for other facets of the business / business processes</p>

*RANKED USE 3: SYSTEM OF RECORD FOR TBD DEFINED ELEMENTS (USER INTERFACE): (USE 21)*

<p>Providers have to give this information to EVERYBODY Everybody has to go and get this from the provider (redundant, costly); No single point of entry; No single source; No standardization of data elements No applicable state or federal policies - no requirement or incentive for providers to tell plans anything</p>	<b>As is</b>	<b>To be</b>	<p>Single point of entry with std data elements Big need for plan specific data - potentially collect this information but not display it?  - network participation  - open and closed status by network  - languages  - handicap access  - gender</p>
<p>Participation is not mandatory - No incentive for providers to enter data; Big need for plan specific data - potentially collects this information but not display it? Compliance with CMS mandates - doesn't address plans that serve multiple states</p>	<b>Challenges</b>	<b>Benefits</b>	<p>Single point of entry for providers Single source for everyone else to pull from; Compliance with CMS mandates (in Oregon....doesn't address plans that serve multiple states)</p>

*RANKED USE 4: USE AS A DATA SOURCE TO REPORT ON NETWORK ADEQUACY (USE 20)*

We don't know the universe of providers in the state	We have a single authoritative source of the universe of provider; Tool to allow for retention data
Participation by all the providers	Database of all possible providers in the state

As is

To be

Challenges

Benefits

*RANKED USE 5: CONTACT INFO/CARE COORDINATION (USE 14)*

We don't know the universe of providers and we don't have their direct secure email address	We know the universe, have their email addresses, know whether they're accepting new patients
	Care coordination

As is

To be

Challenges

Benefits

## DATA ELEMENTS EVALUATION

As a homework exercise, PDAG members were asked to evaluate provider directory data elements. Responses provided have been used to update use cases.

Data elements were taken from the [IHE-HPD Provider Directory standard](#) (HPD) and fields from the Oregon Common Credentialing (CC) application. Elements in those sources, including those that are primary source verified (PSV) were indicated with an “x” in the column. The purpose of this exercise was to understand the following:

- 1) Which data elements are essential to be in the provider directory
- 2) The degree of accuracy for those elements
- 3) When they are needed (in regards to implementation phasing)

Nine PDAG members responded and their averaged responses are shown below:

Field	Description (taken from primarily from HPD standard)	PSV	HPD	CC	1) Essential	2) Accuracy	3) Timing
Organization - Accepting New Patients	Flag indicating whether the organization is accepting new patients				1.89	1.38	2.64
Organization - FQHC/Community Health Center Flag	Flag indicating whether the organization is an FQHC or community health center				2.33	1.78	2.36

Organization - Nights And Weekends Flag	Flag indicating whether the organization has after-hours operations				2.00	1.89	2.64
Organization - PCPCH Designation and Tier	Patient centered primary care home designation and tier				2.22	1.56	2.21
Organization Address	Physical address information for an organization. Each type of address can be primary or secondary. Addresses that are no longer valid are marked as Inactive. Three types of addresses are supported: Billing Address (legal), Mailing Address, Practice Address		x	x	1.00	1.00	1.00
Organization Contact	Multiple individuals who can be contacted in reference to this organization, including a phone number and e-mail address and fax. An individual role can be included in the name, instead of an individual.		x	x	1.29	1.43	1.42
Organization Credentials	This includes certifications or licenses earned by an organization.	x	x	x	1.44	1.44	1.81
Organization Hours of Operation					1.78	1.89	2.07
Organization Identifier	National, Regional or local identifier that uniquely identifies an organization, that may be publicly shared. Some examples are: National Provider Identifier #, Tax ID #		x	x	1.22	1.00	1.25
Organization Language	Language(s) that an Organization supports		x		1.89	2.00	2.00
Organization Name	This attribute contains multiple names for an organization including known names and legal name		x	x	1.22	1.11	1.13

Organization Specialty	Organization's specialization, a specific medical service, a specialization in treating a specific disease. Some specialties are: <ul style="list-style-type: none"> <li>• Psychiatry</li> <li>• Radiology</li> <li>• Endocrinology</li> </ul>		x		1.00	1.00	1.13
Organization Status	The status of this organization. Active – This organization is currently in existence. Inactive – This organization is no longer in existence	x	x	x	1.11	1.00	1.25
Organization Type	The type of organization represented. Some values are: Hospitals, HIEs, IDNs, Associations, Labs, Clinics, Departments, Pharmacies, Practice	x	x	x	1.56	1.39	1.38
Provider - EHR Name and Version					1.94	1.75	2.21
Provider - CCO Affiliation					2.00	1.38	1.93
Provider - Hours Of Operation	Times and days when the provider is available to see patients				1.67	1.78	1.93
Provider - Nights and Weekends Flag	Flag indicating whether the provider has after hours operations				1.78	1.89	1.92
Provider Phone	Includes business phone, mobile, pager, fax		x	x	1.22	1.19	1.21
Provider - Primary Care Provider Designation				x	1.44	1.11	1.56
Provider "Identifiers" - NPI, Tax ID	National, Regional or local identifier that uniquely identifies an individual that is okay to be publicly shared. Some examples are: National Provider Identifier #, Tax ID #, Hospital Issued Identifier		x	x	1.44	1.22	1.25
Provider Accepting New Patients	Flag indicating whether the provider is accepting new patients				1.89	1.67	2.44

Provider Address	Physical address information for an individual. An address can be designated as primary or secondary. Addresses that are no longer valid are marked as Inactive. Three types of addresses are supported: Billing (or legal), Practice, Mailing.		x	x	1.00	1.00	1.00
Provider Credentials	Includes certification(s), license(s) and degree(s) earned by an individual provider. Information includes the Credential #, the name of credential, issuing authority, issue date, valid dates.	x	x	x	1.00	1.00	1.00
Provider Date of Birth					2.13	1.71	2.00
Provider e-mail address	Electronic mailing addresses to receive general purpose communication but not related to medical records		x	x	1.78	1.38	1.71
Provider Gender			x	x	1.78	1.56	1.75
Provider Home address				x	3.00	2.50	3.00
Provider Language	Language(s) that the provider is fluent in.		x		1.78	1.78	2.29
Provider Name	Includes title, first name, middle name, last name, known names		x	x	1.00	1.00	1.00
Provider Philosophy of care	Individual's sub-specialty that further describes their practice (chiropractor - sports injuries, pediatrician - neonatologist)				1.67	2.00	2.31
Provider Practice Info	Telemedicine/full time part time			x	1.56	1.88	2.29
Provider Relationship (affiliations)	Business associations with an organization. There can be multiple types of relationship but this profile generically categorizes all relationship as		x	x	1.44	1.22	1.69

	"member-of".						
Provider Relationship (affiliations) Historic				x	2.00	2.00	2.36
Provider Relationship (affiliations) start and end dates	Start and end dates for an affiliation			x	1.67	1.67	2.19
Provider Specialty	Individual's specialization, a specific medical service, a specialization in treating a specific disease. Some types are: psychiatry, radiology		x	x	1.00	1.00	1.00
Provider SSN				x	2.63	1.67	2.50
Provider Status	The status of this individual. Active – currently practicing Inactive – currently not practicing, Retired, Deceased	x	x	x	1.00	1.00	2.69
Provider Type	Type of individual provider (e.g., physician)	x	x	x	1.00	1.00	1.13
Secure Messaging - Certification	Various kind of certificate information (encryption, signing, attribute) for the individual		x		1.88	1.57	2.17
Secure Messaging - Electronic Service URI	Reference to an entry in a systems directory or to a services definition page where this organization has its electronic access points defined.		x		1.88	1.57	2.17
Secure Messaging - Organization Certificate	Various kind of certificates (encryption, signing, attribute) information for the organization.		x		1.78	1.50	2.00
Secure Messaging - Organization Medical Records Delivery Email Address	Electronic mailing address of an organization where medical or administrative records can be sent.		x		1.75	1.43	1.83
Secure Messaging - Provider medical	Electronic mailing address of an individual		x		1.33	1.25	1.29

records deliver email address (Direct secure messaging address)	where medical or administrative records can be sent						
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## STATE DATA SOURCES

As a homework exercise, PDAG members were asked to rank and evaluate 11 state data sources. The purpose was to understand the use of state data and prioritization of the data sources. Members were asked to rank each source based on a scale of 1 (being most important) to 10 (being least important). This information will also be used to inform discussions with the data sources:

State data source	What data do you expect/need to get from this source	What is it going to be used for?
(Rank 1) Additions and Mental Health (AMH) residential drug and alcohol treatment facilities	<ul style="list-style-type: none"> <li>• Treatment modalities</li> <li>• Contracted payers</li> <li>• facility demographics (including location)</li> <li>• accepting patients</li> <li>• licensing</li> </ul>	<p>Referring patients for mental health services, coordination of care</p> <p>Identify non-credentialed providers for mental health and chemical dependency care</p> <p>Rolling out services to these orgs is easier when we can work with the parent org</p>
CCO provider network tables (Rank 2)	<ul style="list-style-type: none"> <li>• Identify which providers are affiliated with which CCOs.</li> <li>• Provider contact information, accepting patients, locations, hours, specialties</li> </ul>	<p>Determine network adequacy, look at patterns when people travel out of network for care, etc.</p> <p>Referrals with CCO networks (when applicable)</p> <p>Network adequacy</p> <p>Helps with enrollment and outreach and also ensure we are getting CCDs from network members to support CCO reporting</p>
Medicaid - Provider Enrollment (Rank 3)	<ul style="list-style-type: none"> <li>• Specialty, accepting patients, location</li> <li>• Identification of providers serving Medicaid</li> <li>• Medicaid ID</li> </ul>	<p>Referrals and coordination of care</p> <p>Health plan validation</p>
Medicaid EHR Incentive Program: providers that have received payments for meaningful use/adoption of certified EHR technology	<ul style="list-style-type: none"> <li>• Flag providers that have received payments</li> <li>• stage of meaningful use</li> <li>• vendor and version</li> <li>• applicable dates</li> </ul>	<p>Evaluating/adjusting for impact of EHR technology</p> <p>Planning EHR integration -</p> <p>When we can integrate several practices that use the same</p>

(Rank 4)	<ul style="list-style-type: none"> <li>• Identification of Medicaid providers</li> </ul>	vendor is saves money on both sides.
Patient Centered Primary Care Home (PCPCH) (Rank 5)	<ul style="list-style-type: none"> <li>• Identification of PCPCH clinics</li> <li>• PCPCH tiers and when tiers were achieved</li> <li>• How tier was achieved</li> </ul> <p>(note: cannot be a binary field)</p>	Evaluating/adjusting for impact of PCPCH status Referrals and coordination of care Network adequacy
Nursing facilities (Rank 6)	<ul style="list-style-type: none"> <li>• facility demographics</li> <li>• licensing</li> </ul>	Coordination/transfer of care Rolling out services to these orgs is easier when we can work with the parent org
Children's Care (Rank 7)		Coordination/transfer of care
Assisted Living and Residential Care Facilities (Rank 8)	<ul style="list-style-type: none"> <li>• facility demographics</li> <li>• list of services provided by the organizations</li> <li>• population they serve</li> <li>• licensing</li> </ul>	Possible use for palliative care consulting; Coordination/transfer of care Rolling out services to these orgs is easier when we can work with the parent org
People with developmental disabilities (Rank 9)		Coordination/transfer of care
Medicare EHR Incentive Program: providers that have received payments for meaningful use (Rank 10)	<ul style="list-style-type: none"> <li>• Flag providers that have received payments, stage of MU, vendor, and dates</li> <li>• Identification of Medicare providers</li> </ul>	
Adult Foster Care (Rank 11)		Coordination/transfer of care

Questions for Group breakout sessions:

Name: \_\_\_\_\_

Group:  Analytics  HIE  Delivery  Plans

<b>Use description</b>
Comments:
<b>Likely users</b>
1. Are the likely users accurate?
2. Who else are we missing?
3. Who would be good "out of the gate" users?
<b>Data elements</b>
1. Which data elements are a must have for the use to work out of the gate (1)?
2. What are the ones that can be added in a later phase (2)?
3. Are there data elements that have a high accuracy rating that are not primary source verified? (PSV)
4. Are there ones that should be removed?(R)
5. Any to add?
6. Use your use case worksheet to categorize the data elements (1,2,R)
<b>Data sources</b>
1. Which data sources are a must have for the use to have value out of the gate? (1)?
2. What are the ones that can be added in a later phase (2)?
3. Are there ones that should be removed?(R) Any to add?
4. Use your use case worksheet to categorize the data elements (1,2,R)
<b>Additional questions</b>
1. What types of providers must be in the PD for this use to be beneficial out of the gate? How many? What should we add in later phases?

2. How/will your organization use the provider directory for this use case?

3. What are key strategies that we need to keep in mind to have implement this use successfully?

4. Other comments or items we need to add to the parking lot?

**Items to address in group discussion:**

- Use case description
- Likely users
  - Who would be good “out of the gate users”
- Of the required data elements, which ones are a must have for the use to work “out of the gate”?
- What types of providers must be in the Provider Directory for it to have value out of the gate? How many?
- Results
- Enabling activities/benefits
- How will your organization(s) use the provider directory for this use case?
- What are key strategies to implement this use successfully?

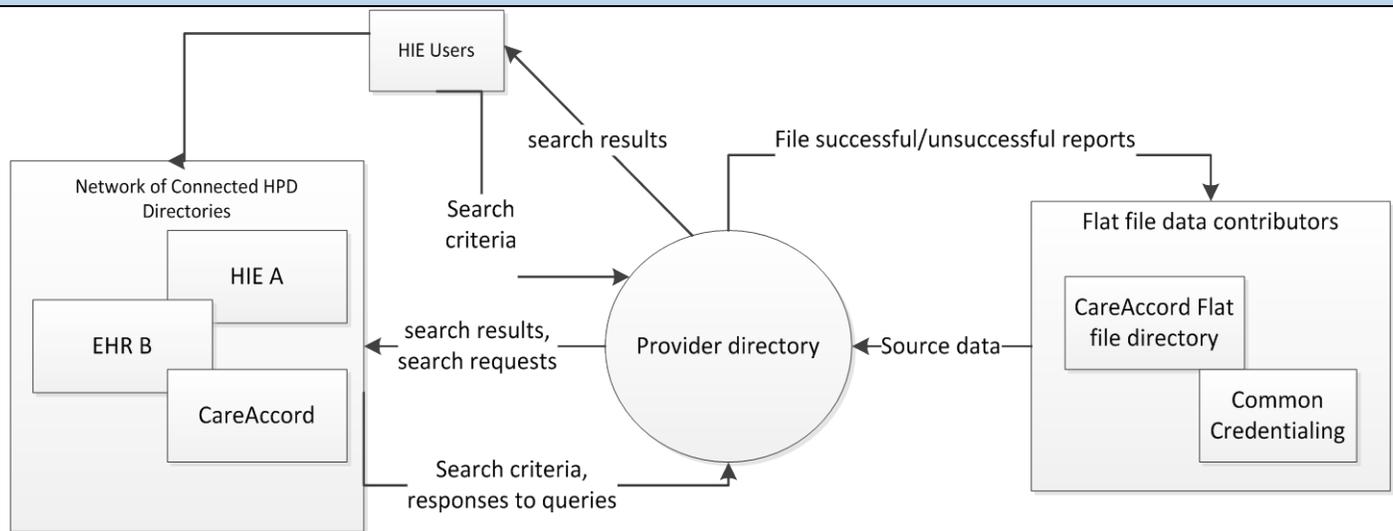
## Use Case 6 –Provider searches for Direct secure messaging (DSM) addresses

Use Case Description	
<p><b>Provider searches for DSM addresses (use 6)</b> Use the provider directory to search for Direct secure messaging addresses. The search will allow the input of optional search criteria such as name, specialty, telemedicine, geographic indicators (e.g. zip code, city or state).</p>	
Likely users	
<p>On behalf of their users, which can be hospitals, health systems, clinics, groups, plans, CCOs, and practitioners, the following:</p> <ul style="list-style-type: none"> <li>• Community HIEs</li> <li>• EHR vendor driven solutions (e.g., EPIC Care Everywhere, CommonWell)</li> <li>• CareAccord</li> <li>• Can also be – hospitals, health systems, clinics, groups, CCOs, and practitioners through the web portal</li> </ul>	
Preconditions	
Assumptions	Data sources
<ul style="list-style-type: none"> <li>• Trust accredited HISP status must be known and only DSM addresses that are part of a trust community shown</li> <li>• HPD network of connected directories is established and functioning for the Directory</li> <li>• DSM addresses from the CareAccord flat file are still made available for those sources that are not able to connect to the HPD network of connected directories.</li> <li>• Queries returned and accessed through a user’s HIT solution (HIE, EHR, or CareAccord portal) are limited to the configuration of those solutions and may not support all fields/results that are in the Directory</li> </ul>	Connected HPD directories CareAccord flat file Common Credentialing Hospital (privileging) Health plans – contracted providers CCO provider networks (state) Medicaid EHR Incentive Program payment data (state) PCPCH data (state) Medicaid provider enrollment (state) Residential drug and alcohol treatment (state) Medicare EHR Incentive Program payment data (CMS)
Data elements	
Required	Optional
Organization Address Organization Address Organization Contact Organization Credentials Organization Identifier Organization Name Organization Specialty Organization Status Organization Type Provider Phone	Organization - Accepting new patients Organization - FQHC/Community health center flag Organization - nights and weekends flag Organization - PCPCH designation and tier Organization hours of operation Organization language Provider - EHR name and version Provider - CCO affiliation Provider - hours of operation

Provider - Primary Care Provider designation  
 Provider "Identifiers" - NPI, Tax ID  
 Provider address  
 Provider Credentials  
 Provider date of birth  
 Provider e- mail address  
 Provider Gender  
 Provider Name  
 Provider practice info  
 Provider Relationship (affiliations)  
 Provider Relationship (affiliations) start and end dates  
 Provider Specialty  
 Provider Status  
 Provider Type  
 Secure Messaging - Organization Certificate  
 Secure Messaging - Provider medical records deliver email address (direct secure messaging address)  
 Secure Messaging - Certification  
 Secure Messaging - Electronic Service URI  
 Secure Messaging - Organization Medical Records Delivery Email Address

Provider - nights and weekends flag  
 Provider accepting new patients  
 Provider Language  
 Provider Philosophy of care  
 Provider Relationship (affiliations) historic

### Context diagram



### Results

- Data views display matched, normalized, and unified data from multiple sources for a distinct provider:
  - When multiple, identical records are returned for a provider, the record will only show up once
  - When there is missing data from one source such as a middle name, that is provided from another source, for a matched provider, the data will be merged
  - Unique affiliations are represented for a provider with start and end dates

- Data with lower quality ranking scores may still be displayed as part of the matched record for a provider if it results in being the “best record” for a provider
- Web interface to users will allow users to filter data and view results where only certain data that meet specified criteria will be included in the return of extract results
- Query results may be accessed through
  - User’s HIT solution (e.g., EHR)
  - Directory web portal
  - Extract of results, in XML, CSV, TXT, Excel formats

### Enabling activities and benefits

- Security and privacy- knowing the right place to send and receive records
- Complete one-stop shop for knowing who, where, how to contact providers (formerly use #14)
- Improved care coordination/efficiency for discharge planning, etc. (formerly use #14)
- Resource time/cost in managing directories decreased
- Knowing the EHR vendor and version aids in implementation and rollout strategies
- Helps providers find other providers that have adopted 2014 or 2015 Certified EHR Technology and are looking to exchange information in order to meet meaningful use (formerly use #7)

### Common provider directory assumptions (applies to all uses)

#### 1. Business Rules\* are defined and followed in advance of data integration. Business rules will include:

- ~ Factors and calculations needed to produce a quality ranking score assessed to a source of data
- ~ Matching algorithms for a unique provider with multiple data sources and exception handling processes for data that do not match
- ~ Ranking of data sources based on the quality ranking score that assign precedence when there are multiple data sources for a unique provider (e.g., common credentialing data has a high degree of accuracy and is considered more authoritative than other sources)
- ~ Relationships that provide the ability to query the integrated data
- ~ Which data elements are verified by the provider directory program operations team
- ~ Which data sources and their associated elements contribute to the data set (data sources must meet data governance policies in order to be part of the provider directory)

#### 2. The Provider Directory must include a minimum percentage of providers within Oregon and minimum amount of data in order to be a viable source of data.

#### 3. Users have been properly authenticated and authorized to access the provider directory

#### 4. Data use agreements and authorizations with contributing data sources/connected HPD participants are established

#### 5. Directory has user support documentation to define data elements, express accuracy of elements, etc.

### Use Case 8–Validation data sets

#### Use Case Description

**Validation data sets (use #8):** The Provider Directory provides an authoritative gestalt of providers (e.g. Name, Degree, NPI, Specialty, etc.), clinics (e.g., Name, Street Address, PCPCH Tier, Tax ID etc.), medical groups, hospitals, and payers (including CCOs) – as well as affiliations between those entities (e.g., providers that belong to a clinic(s), clinics that belong to a medical group, etc.) via a flat file extract to subscribers for the purpose of validating the subscribers own provider directories are accurate and current. The subscriber can validate a plan’s, health care organizations, or

programs own provider directory data performing a comparison of the information within their Provider Directory to the large extract.

### Likely users

- State (Office of HIT, other Internal State Provider Directories)
- Health Plans
- CCOs
- *Clinics*
- *Hospitals*
- *Providers (including members of the care team)*
- *Regional HIEs*

### Preconditions

#### Assumptions

Data Extracts are provided via a single agreed upon format to all consumers.

Data Extracts do not contain historical data.

Views of the data elements that also includes source, date of data, and quality ranking score.

Only the most authoritative record is displayed. The highest level of data integrity is required for this use.

#### Data sources

Common Credentialing  
Hospital (privileging)  
Connected HPD directories  
Health plans – contracted providers  
CCO provider networks (state)  
*Medicaid EHR Incentive Program payment data (state)*  
*PCPCH data (state)*  
*Medicaid provider enrollment (state)*  
*Residential drug and alcohol treatment (state)*  
*What are we missing?*

### Data elements

#### Required

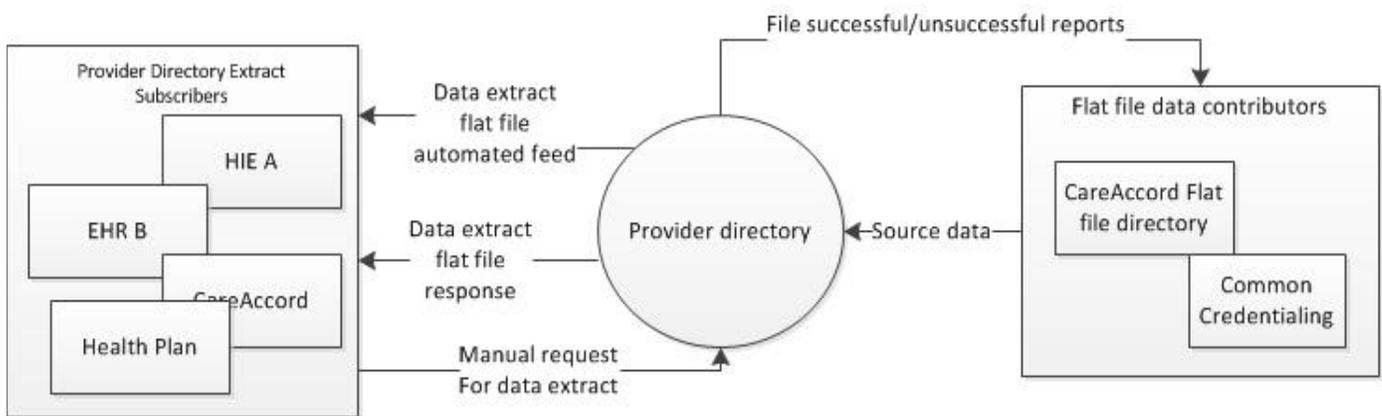
Organization - Accepting new patients  
Organization - nights and weekends flag  
Organization Address  
Organization Contact  
Organization Credentials  
Organization hours of operation  
Organization Identifier  
Organization language  
Organization Name  
Organization Specialty  
Organization Status  
Organization Type  
Provider - EHR name and version  
Provider - CCO affiliation

#### Optional

Organization - FQHC/Community health center flag  
Organization - PCPCH designation and tier  
Provider date of birth  
Provider Relationship (affiliations) historic

Provider - hours of operation  
 Provider - nights and weekends flag  
 Provider Phone  
 Provider - Primary Care Provider designation  
 Provider "Identifiers" - NPI, Tax ID  
 Provider accepting new patients  
 Provider address  
 Provider Credentials  
 Provider e- mail address  
 Provider Gender  
 Provider Language  
 Provider Name  
 Provider Philosophy of care  
 Provider practice info  
 Provider Relationship (affiliations)  
 Provider Relationship (affiliations) start and end dates  
 Provider Specialty  
 Provider Status  
 Provider Type  
 Secure Messaging - Certification  
 Secure Messaging - Electronic Service URI  
 Secure Messaging - Organization Certificate  
 Secure Messaging - Organization Medical Records Delivery  
 Email Address  
 Secure messaging - Provider medical records deliver email  
 address (Direct secure messaging address)

Context diagram



## Results

- Data extracts normalized and unified data from multiple sources for each distinct provider in the extract
- Data extracts produced by the provider directory contain a set of data elements which denotes the source, date of data, and quality ranking score
- Data extracts contain current authoritative data
- Web interface to users will allow users to filter data and extract results (local Provider Directory only) where only certain data that meet specified criteria will be included in the return of extract
- Data extracts may be exported in XML, CSV, TXT, Excel formats
  - Integrated database and views of the data elements that also includes source, date of data, and quality ranking score
  - Data displayed are only the most authoritative and accurate data for a given provider
  - Ability to pull data is seamless to the user no matter where the data is sourced.
  - Ability to select data elements from certain data sources and filter data based on certain criteria if setting up custom export of data

## Enabling activities and benefits

Authoritative Provider data and data extracts from the provider directory can be used as a data source to:

- Validate individual Provider demographics, addresses, affiliations, etc.
- Validate mass Provider demographics, addresses, affiliations, etc. using data extract.
- Integrate/combine other sources authoritative Provider Directories into subscribers Provider Directory
- Supplement existing data

Reduces redundant and duplicated administrative processes

Meet regulatory requirements

## Common provider directory assumptions (applies to all uses)

**1. Business Rules\* are defined and followed in advance of data integration. Business rules will include:**

~ Factors and calculations needed to produce a quality ranking score assessed to a source of data

~ Matching algorithms for a unique provider with multiple data sources and exception handling processes for data that do not match

~ Ranking of data sources based on the quality ranking score that assign precedence when there are multiple data sources for a unique provider (e.g., common credentialing data has a high degree of accuracy and is considered more authoritative than other sources)

~ Relationships that provide the ability to query the integrated data

~ Which data elements are verified by the provider directory program operations team

~ Which data sources and their associated elements contribute to the data set (data sources must meet data governance policies in order to be part of the provider directory)

**2. The Provider Directory must include a minimum percentage of providers within Oregon and minimum amount of data in order to be a viable source of data.**

**3. Users have been properly authenticated and authorized to access the provider directory**

**4. Data use agreements and authorizations with contributing data sources/connected HPD participants are established**

**5. Directory has user support documentation to define data elements, express accuracy of elements, etc.**



## Use Case 15 – Provider Search

### Use Case Description

**Provider Search (use 15/16)** Use the provider directory to initiate a search for a single provider or multiple providers with the ability to input optional search criteria such as name, specialty, telemedicine, geographic indicators (e.g. zip code, city or state). The user will be able to select one or more data sources to include in their search.

- A. The search will be conducted against the state’s local integrated provider directory database. The provider directory search results will contains information stored in the database that meets the search criteria. The data returned will include a default set of data elements. The user will have the option of configuring the data elements included in the result set.

**And/or**

- B. The search will be conducted against the connected HPD data sources. The provider directory search results will contain information stored in the database that meets the search criteria. The data returned will include a default set of data elements. The user will have the option of configuring the data elements included in the result set. The data elements available will be limited based upon what is supported by the HPD format. Extracts may not be provided or are limited due to data-use agreements. The data contained in the search results performed against the Federated HPD sources will not be stored in the local integrated provider directory database.

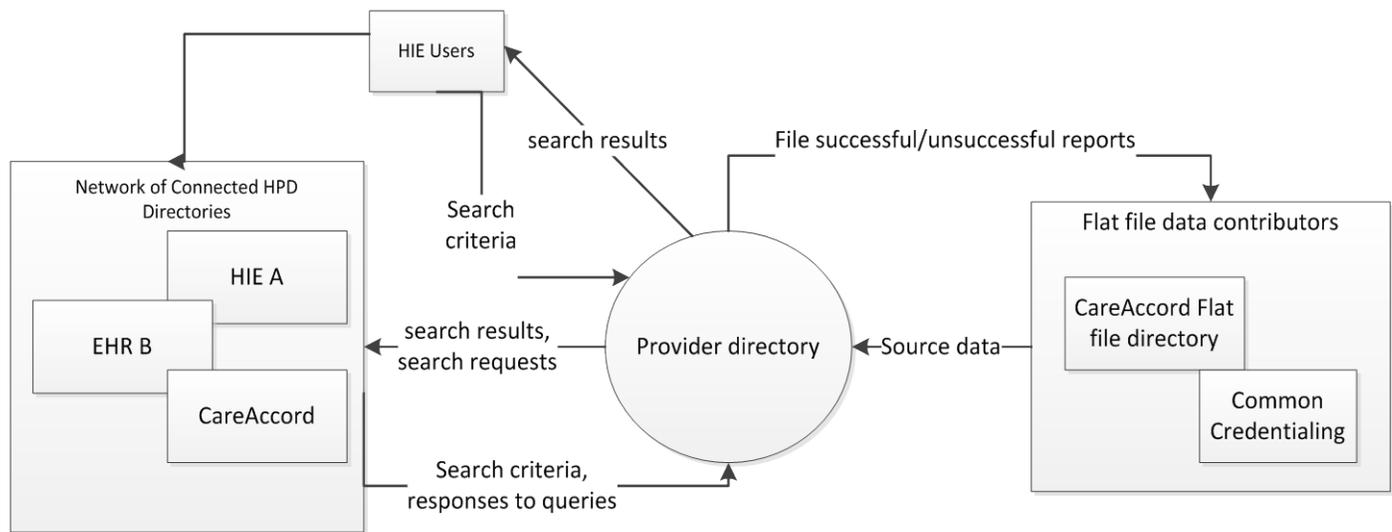
### Likely users

- State programs and offices (OHA analytics, Office of HIT, Department of Human Services, Health Systems)
- Health Plans
- CCOs
- Clinics
- Hospitals
- Providers (including members of the care team)
- HIEs- including Community HIEs, EHR vendor driven solutions, and CareAccord

Preconditions	
Assumptions	Data sources
<ul style="list-style-type: none"> <li>Trust accredited HISP status must be known and only DSM addresses that are part of a trust community shown</li> <li>HPD network of connected directories is established and functioning for the Directory</li> <li>DSM addresses from the CareAccord flat file are still made available for those sources that are not able to connect to the HPD network of connected directories.</li> <li>Queries returned and accessed through a user's HIT solution (HIE, EHR, or CareAccord portal) are limited to the configuration of those solutions and may not support all fields/results that are in the Directory</li> <li>Ability to support search criteria is available to the user to limit search results.</li> <li>Data Extracts are provided via a single agreed upon format to all consumers.</li> <li>Data Extracts do not contain historical data.</li> <li>Views of the data elements that also includes source, date of data, and quality ranking score</li> </ul>	<ul style="list-style-type: none"> <li>Local state provider directory that will include integrated data from the following: <ul style="list-style-type: none"> <li>Common credentialing</li> <li>CareAccord flat file</li> <li>Hospital (privileging)</li> <li>Health plans – contracted providers</li> <li>CCO provider networks (state)</li> <li>Medicaid EHR Incentive Program payment data (state)</li> <li>PCPCH data (state)</li> <li>Medicaid provider enrollment (state)</li> <li>Residential drug and alcohol treatment (state)</li> </ul> </li> <li>Connected HPD directories</li> </ul>

Data elements	
Required	Optional
Organization Address	Organization - Accepting new patients
Organization Contact	Organization - FQHC/Community health center flag
Organization Credentials	Organization - nights and weekends flag
Organization Identifier	Organization - PCPCH designation and tier
Organization Name	Organization hours of operation
Organization Specialty	Organization language
Organization Status	Provider - nights and weekends flag
Organization Type	Provider accepting new patients
Provider - EHR name and version	Provider date of birth
Provider - CCO affiliation	Provider Gender
Provider - hours of operation	Provider Language
Provider Phone	Provider Relationship (affiliations) historic
Provider - Primary Care Provider designation	Provider SSN
Provider "Identifiers" - NPI, Tax ID	
Provider address	
Provider Credentials	
Provider e- mail address	
Provider Name	
Provider Philosophy of care	
Provider practice info	
Provider Relationship (affiliations)	
Provider Relationship (affiliations) start and end dates	
Provider Specialty	
Provider Status	
Provider Type	
Secure messaging - Certification	
Secure Messaging - Electronic Service URI	
Secure messaging - Organization Certificate	
Secure messaging - Organization Medical Records Delivery Email Address	
Secure messaging - Provider medical records deliver email address (direct secure messaging address)	

## Context Diagrams



## Results

- Integrated results set that includes data descriptors including source, date of data, and quality ranking score.
- Seamless integration of results presented to the user.
- Ability to select data source(s) and filter data based on filter criteria while viewing results via the web portal.
- Ability to export data.
- Data extracts display matched, normalized, and unified data from multiple sources for a distinct provider:
  - When multiple, identical records are returned for a provider, the record will only show up once.
  - When there is missing data from one source such as a middle name, that is provided from another source, for a matched provider, the data will be merged.
  - Unique affiliations are represented for a provider with start and end dates.
  - Data with lower quality ranking scores may still be displayed as part of the matched record for a provider if it results in being the "best record" for a provider.
- Data extracts produced by the provider directory contain a set of data elements which denotes the source, date of data, and quality ranking score.
- Web interface to users will allow users to filter data and view results where only certain data that meet specified criteria will be included in the return of extract results.
- Data extracts may be exported in XML, CSV, TXT, Excel formats.
- Query results may be accessed through
  - User's HIT solution (e.g., EHR)
  - Directory web portal
- Extract of results, in XML, CSV, TXT, Excel formats

## Enabling activities and benefits

- Validated data
- Security and privacy- knowing the right place to send and receive records
- Complete one-stop shop for knowing who, where, how to contact providers
- Improved care coordination/efficiency for discharge planning, etc. (use #14)
- Resource time/cost in managing directories decreased
- Helps providers find other providers that have adopted 2014 or 2015 Certified EHR Technology and are looking to

exchange information in order to meet meaningful use (formerly use #7)

**Common provider directory assumptions (applies to all uses)**

**1. Business Rules\* are defined and followed in advance of data integration. Business rules will include:**

~ Factors and calculations needed to produce a quality ranking score assessed to a source of data.

~ Matching algorithms for a unique provider with multiple data sources and exception handling processes for data that do not match.

~ Ranking of data sources based on the quality ranking score that assign precedence when there are multiple data sources for a unique provider (e.g., common credentialing data has a high degree of accuracy and is considered more authoritative than other sources).

~ Relationships that provide the ability to query the integrated data.

~ Which data elements are verified by the provider directory program operations team.

~ Which data sources and their associated elements contribute to the data set (data sources must meet data governance policies in order to be part of the provider directory).

**2. The Provider Directory must include a minimum percentage of providers within Oregon and minimum amount of data in order to be a viable source of data.**

**3. Users have been properly authenticated and authorized to access the provider directory**

**4. Data use agreements and authorizations with contributing data sources/connected HPD participants are established**

**5. Directory has user support documentation to define data elements, express accuracy of elements, etc.**

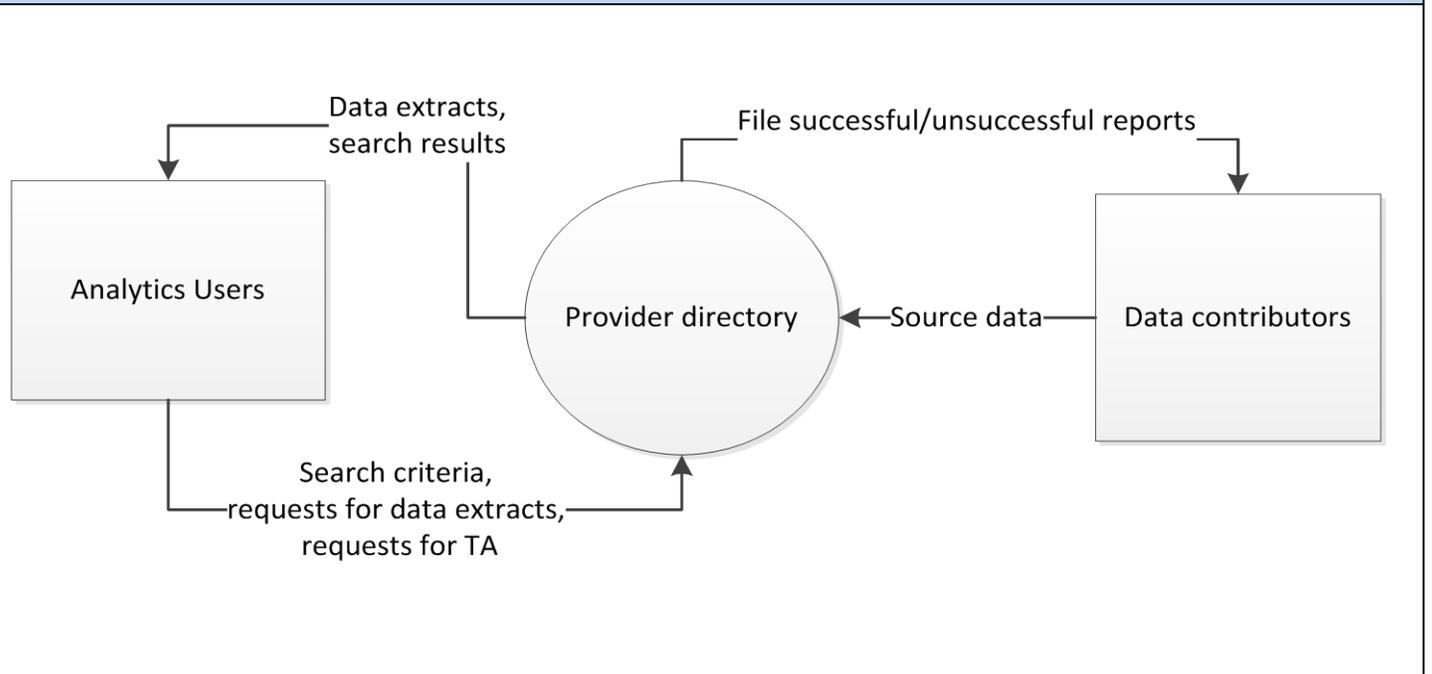
## Use Case 24 –Provider data sets for analytics

Use Case Description	
<p><b>(24) Provider data sets for analytics:</b> The provider directory makes an extract of the flat file data (current and historical) available to analytics extract subscribers. The extract will contain information about providers (e.g. Name, Degree, NPI, Specialty, etc.), clinics (e.g. Name, Street Address, PCPCH Tier, Tax ID, etc.), medical groups, hospitals, and payers (including CCOs) - as well as affiliations between these entities (e.g. providers that belong to a clinic(s), clinics that belong to a medical group, etc.).</p> <p>Knowing the effective dates (e.g., provider start and end dates with a particular clinic) is essential; knowing the source of the data is also important. The user will have the option of configuring the data elements included in the result set.</p>	
Likely users	
<ul style="list-style-type: none"> <li>• State (e.g., OHA analytics, Office of HIT, DHS Office of Forecasting and Research)</li> <li>• Research/ analytics departments at hospitals, health systems, clinics, plans</li> </ul>	
Preconditions	
Assumptions	Data sources
<ul style="list-style-type: none"> <li>• Historical data are available but will be limited at implementation. As data changes, historical data will be available.</li> <li>• Required level of data accuracy is not as high as other provider directory uses</li> <li>• Data from the network connected HPD directories may be limited based on ability of participating directories to respond to ‘wild card’ searches for providers and caching ability of the PD.</li> </ul>	<p>Common credentialing Hospital (privileging) <i>Connected HPD directories*</i> Health plans – contracted providers CCO provider networks (state) Medicaid EHR Incentive Program payment data (state) Medicare EHR Incentive Program payment data (CMS public data) PCPCH data (state) Medicaid provider enrollment (state) Residential drug and alcohol treatment (state)</p> <p>*Only be able to pull current data</p>
Data elements	
Required	Optional
<p>Organization - FQHC flag Organization - Rural Health Center flag Organization - School-Based Health Center flag Organization - Indian/Tribal Health Center flag Organization - PCPCH designation, tier, qualifications for designation, and recognition date Organization address – includes billing, legal, mailing, and practice Organization identifiers (NPI, Tax ID, Medicaid ID, etc.) Organization name Organization specialties Organization status</p>	<p>Organization - Accepting new patients Organization nights and weekends flag Organization credentials (certifications and licenses) Organization hours of operation Organization language(s) Provider EHR vendor, product, and version Provider hours of operation Provider nights and weekends flag Provider - Accepting new patients Provider gender</p>

Organization type (e.g., hospital, CCO, HIE, plan, lab)  
 Provider Primary Care Provider designation  
 Provider identifiers (NPI, Medicaid ID, etc.)  
 Provider credentials (certifications, licenses, and degrees)  
 Provider address - includes billing, legal, mailing, and practice  
 Provider email address (not related to medical records)  
 Provider name  
 Provider Relationship (affiliations)  
 Provider Relationship (affiliations) start and end dates  
 Provider Specialty  
 Provider Status  
 Provider Type

Provider language  
 Provider Philosophy of care  
 Provider practice info (telemedicine, full-time/part-time)

### Context diagram



### Results

- Data extracts display matched, normalized, and unified data from multiple sources for a distinct provider:
  - When multiple, identical records are returned for a provider, the record will only show up once
  - When there is missing data from one source such as a middle name, that is provided from another source, for a matched provider, the data will be merged. Users will be able to know the data sources for the elements in the merged record.
  - Unique affiliations are represented for a provider with start and end dates
  - Data with lower quality ranking scores may still be displayed as part of the matched record for a provider if it results in being the “best record” for a provider.
- Data extracts produced by the provider directory contain a set of data elements which denotes the source, date of data, and quality ranking score
- Data extracts contain current and historical data and may be filtered on date range
- Web interface to users will allow users to filter data and view results where only certain data that meet specified criteria will be included in the return of extract results
- Data extracts may be exported in XML, CSV, TXT, Excel formats

## Examples of enabling activities and benefits

Analytics data extracts from the provider directory can be used as a data source to:

- Enable matching of data, such as claims data, to a variety of characteristics such as PCPCH tier, CCO affiliation, plan affiliation, hospital privileging, etc.
- Drill down to report at a variety of levels of care, such as at a health plan, hospital, HIE, provider, and practice level and highlight how care may vary by practice location or by program affiliation (PCPCH, CCO) (formerly use #18)
- Better monitoring of quality and access to care
- Report on the effects of new policies and programs, increase the accuracy and viability of that work
- Control for various provider/entity characteristics. (E.g., Estimate the effects of CCOs while controlling for the effects of PCPCH)
- Network adequacy monitoring (formerly use #20)
- Assess practice flow patterns
- Identify clinics or groups within a CCO that require intervention because they are not meeting benchmarks or thresholds for a program or to highlight clinics or programs that are performing well (formerly use #13)
- Identify clinics or groups that performing well and ability to isolate what works for improving quality and/or reducing cost (e.g., FQHCs doing a better job caring for Medicaid patients and promote best practices for other clinics to follow) (formerly use #19)
- Support the Medicaid EHR Incentive program audits by having access to historical affiliations data, allowing linkages from providers to their groups and clinics (formerly use #10)
- Support identification of which EHRs are being used by providers / practices in the Medicaid and Medicare EHR incentive programs; generate information on EHR market share

## Common provider directory assumptions (applies to all uses)

**1. Business Rules\* are defined and followed in advance of data integration. Business rules will include:**

~ Factors and calculations needed to produce a quality ranking score assessed to a source of data

~ Matching algorithms for a unique provider with multiple data sources and exception handling processes for data that do not match

~ Ranking of data sources based on the quality ranking score that assign precedence when there are multiple data sources for a unique provider (e.g., common credentialing data has a high degree of accuracy and is considered more authoritative than other sources)

~ Relationships that provide the ability to query the integrated data

~ Which data elements are verified by the provider directory program operations team (and how frequently / recently it was verified?)

~ Which data sources and their associated elements contribute to the data set (data sources must meet data governance policies in order to be part of the provider directory)

**2. The Provider Directory must include a minimum percentage of providers within Oregon and minimum amount of data in order to be a viable source of data.**

**3. Users have been properly authenticated and authorized to access the provider directory**

**4. Data use agreements and authorizations with contributing data sources/connected HPD participants are established**

**5. Directory has user support documentation to define data elements, express accuracy of elements, etc.**

Data Elements from August 2015 homework				
Field	Description (taken from primarily from HPD standard)	PSV	HPD	CC
Organization - Accepting New Patients	Flag indicating whether the organization is accepting new patients			
Organization - FQHC/Community Health Center Flag	Flag indicating whether the organization is an FQHC or community health center			
Organization - Nights And Weekends Flag	Flag indicating whether the organization has after-hours operations			
Organization - PCPCH Designation and Tier	Patient centered primary care home designation and tier			
Organization Address	Physical address information for an organization. Each type of address can be primary or secondary. Addresses that are no longer valid are marked as Inactive. Three types of addresses are supported: Billing Address (legal), Mailing Address, Practice Address		x	x
Organization Contact	Multiple individuals who can be contacted in reference to this organization, including a phone number and e-mail address and fax. An individual role can be included in the name, instead of an individual.		x	x
Organization Credentials	This includes certifications or licenses earned by an organization.	x	x	x
Organization Hours of Operation				
Organization Identifier	National, Regional or local identifier that uniquely identifies an organization, that may be publicly shared. Some examples are: National Provider Identifier #, Tax ID #		x	x
Organization Language	Language(s) that an Organization supports		x	
Organization Name	This attribute contains multiple names for an organization including known names and legal name		x	x
Organization Specialty	Organization's specialization, a specific medical service, a specialization in treating a specific disease. Some specialties are: <ul style="list-style-type: none"> <li>• Psychiatry</li> <li>• Radiology</li> <li>• Endocrinology</li> </ul>		x	
Organization Status	The status of this organization. Active – This organization is currently in existence. Inactive – This organization is no longer in existence	x	x	x
Organization Type	The type of organization represented. Some values are: Hospitals, HIEs, IDNs, Associations, Labs, Clinics, Departments, Pharmacies, Practice	x	x	x
Provider - EHR Name and Version				
Provider - CCO Affiliation				
Provider - Hours Of Operation	Times and days when the provider is available to see patients			
Provider - Nights and Weekends Flag	Flag indicating whether the provider has after hours operations			

Provider Phone	Includes business phone, mobile, pager, fax		X	X
Provider - Primary Care Provider Designation				X
Provider "Identifiers" - NPI, Tax ID	National, Regional or local identifier that uniquely identifies an individual that is okay to be publicly shared. Some examples are: National Provider Identifier #, Tax ID #, Hospital Issued Identifier		X	X
Provider Accepting New Patients	Flag indicating whether the provider is accepting new patients			
Provider Address	Physical address information for an individual. An address can be designated as primary or secondary. Addresses that are no longer valid are marked as Inactive. Three types of addresses are supported: Billing (or legal), Practice, Mailing.		X	X
Provider Credentials	Includes certification(s), license(s) and degree(s) earned by an individual provider. Information includes the Credential #, the name of credential, issuing authority, issue date, valid dates.	X	X	X
Provider Date of Birth				
Provider e-mail address	Electronic mailing addresses to receive general purpose communication but not related to medical records		X	X
Provider Gender			X	X
Provider Home address				X
Provider Language	Language(s) that the provider is fluent in.		X	
Provider Name	Includes title, first name, middle name, last name, known names		X	X
Provider Philosophy of care	Individual's sub-specialty that further describes their practice (chiropractor - sports injuries, pediatrician - neonatologist)			
Provider Practice Info	Telemedicine/full time part time			X
Provider Relationship (affiliations)	Business associations with an organization. There can be multiple types of relationship but this profile generically categorizes all relationship as "member-of".		X	X
Provider Relationship (affiliations) Historic				X
Provider Relationship (affiliations) start and end dates	Start and end dates for an affiliation			X
Provider Specialty	Individual's specialization, a specific medical service, a specialization in treating a specific disease. Some types are: psychiatry, radiology		X	X
Provider SSN				X
Provider Status	The status of this individual. Active – currently practicing Inactive – currently not practicing, Retired, Deceased	X	X	X
Provider Type	Type of individual provider (e.g., physician)	X	X	X
Secure Messaging - Certification	Various kind of certificate information (encryption, signing, attribute) for the individual		X	
Secure Messaging - Electronic Service URI	Reference to an entry in a systems directory or to a services definition page where this organization has its electronic access points defined.		X	
Secure Messaging - Organization Certificate	Various kind of certificates (encryption, signing, attribute) information for the organization.		X	

Secure Messaging - Organization Medical Records Delivery Email Address	Electronic mailing address of an organization where medical or administrative records can be sent.		x	
Secure Messaging - Provider medical records deliver email address (Direct secure messaging address)	Electronic mailing address of an individual where medical or administrative records can be sent		x	

**Current Health IT Oversight and Governance**  
***External Group Membership Lists***  
***October 2015***

Oregon Health Authority's Health Information Technology Oversight Council			
<i>Updated: October 2015</i>			
Richard (Rich) Bodager, CPA, MBA	CEO <i>Board Chair</i>	Southern Oregon Cardiology/Jefferson HIE	Medford, OR
Maili Boynay	IS Director Ambulatory Community Systems	Legacy Health	Portland, OR
Robert (Bob) Brown	Retired Advocate <i>Board Vice-Chair</i>	Allies for Healthier Oregon	Portland, OR
Erick Doolen	COO	PacificSource	Springfield, OR
Chuck Fischer	IT Director	Advantage Dental	Redmond, OR
Valerie Fong, RN	CNIO	Providence Health & Services	Portland, OR
Charles (Bud) Garrison	Director, Clinical Informatics	Oregon Health & Science University	Portland, OR
Brandon Gatke	CIO	Cascadia Behavioral Healthcare	Portland, OR
Amy Henninger, MD	Site Medical Director	Multnomah County Health Department	Portland, OR
Mark Hetz	CIO	Asante Health System	Medford, OR
Betty Kramp, RN	Clinical Applications Coordinator	United States Public Health Service (Currently: Indian Health Services, Klamath Tribal Health & Family Services)	Chiloquin, OR
Sarah Laiosa, DO	Physician	Harney District Hospital Family Care	Burns, OR
Jim Rickards, MD	Health Strategy Officer	Yamhill Community Care Organization	McMinnville, OR
Sonney Sapra	CIO	Tuality Healthcare	Hillsboro, OR
Greg Van Pelt	President	Oregon Health Leadership Council	Portland, OR

**Oregon Health Authority’s Health Information Technology and Health Information Exchange Community and Organizational Panel (HCOP)**

*Updated: May 2015*

Gina Bianco	Acting Executive Director	Jefferson Health Information Exchange	Medford, OR
Pat Bracknell	Executive Director	Central Oregon Health Connect	Bend, OR
Susan Kirchoff	Consultant	Emergency Department Information Exchange (EDIE)	Portland, OR
Brittney Matero	CareAccord Director	CareAccord	Beaverton, OR
Stephanie Mendenhall	Service Integration Manager	Jackson County Health & Human Services	Medford, OR
Klint Peterson	Project Manager	IHN-CCO Regional Health Information Collaborative	Corvallis, OR
Deborah Rumsey	Executive Director	Children’s Health Alliance	Portland, OR

**Oregon Health Authority’s Health Information Technology Advisory Group**

*Updated: September 2015*

Chris Diaz	VP of Information Technology & Services	FamilyCare CCO	Portland, OR
Shayne Dunbar	Programmer/Analyst	Trillium CCO	Eugene, OR
Phil Greenhill	CEO	WOAH	Coos Bay, OR
Chuck Hofmann	Physician, St. Alphonsus Medical Group	Eastern Oregon CCO	La Grande, OR
Nancy Rickenbach	Director of Data Analytics	Willamette Valley Community Health	Salem, OR
Amit Shah, MD	Senior Medical Director	CareOregon (Jackson Care Connect, Columbia Pacific CCO)	Portland, OR (and Southern OR)
Brian Wetter	VP, Business Intelligence and Infrastructure	PacificSource	Springfield, OR
Justin Zesiger	IT Director	AllCare CCO	Grants Pass, OR

Oregon Health Authority's Provider Directory Advisory Group			
Updated: April 2015			
Gina Bianco	Acting Executive Director	Jefferson HIE	Medford, OR
Christopher Boyd	Data Analyst Supervisor	Women's Healthcare Associates	Portland, OR
MaryKay Brady	Consultant	Oregon Medical Association	Molalla, OR
Monica Clark	Business Systems Analyst	Kaiser Permanente	Portland, OR
Mary Dallas, MD	Chief Medical Information Officer	St. Charles Health System	Bend, OR
Liz Hubert	Asst. Director Provider Systems & Strategy <i>PDAG Co-Chair</i>	Regence Blue Cross Blue Shield	Portland, OR
Martin Martinez	IT VP	PacificSource	Springfield, OR
Laura McKeane	Oral Health Integration Coordinator	AllCare	Grants Pass, OR
Maggie Mellon	Senior Digital Product Manager	Providence Health & Services	Portland, OR
Kelly Keith	IT Admin	Greater Oregon Behavioral Health	The Dalles, OR
Jessica Perak	Manager, Provider Analytics, Underwriting & Actuarial	Moda	Portland, OR
Robert Power	VP-Chief Information Officer <i>PDAG Co-Chair</i>	Samaritan Health Services	Corvallis, OR
Stephanie Renfro	Research Associate	OHSU Center for Health Systems Effectiveness	Portland, OR
Nikki Vlandis	Provider Data Mgmt. and Credentialing	FamilyCare	Portland, OR
Hongcheng Zhao	CIO	Portland IPA	Portland, OR

Common Credentialing Advisory Group			
<i>Updated: October 2015</i>			
Debra Bartel	FACMPE - Clinic Administrator	Portland Diabetes & Endocrinology Center PC	Portland, OR
William C. Donlon	Oral & Maxillo-Facial Surgeon	Retired	Ashland, OR
Erick Doolen	Chief Information Officer/SVP of Operations <i>CCAG Co-Chair</i>	Pacific Source	Springfield, OR
Larlene Dunsmuir	Family Nurse Practitioner	Oregon Nurses Association/Nurse Practitioners of Oregon	Oregon City, OR
Michael Duran	Psychiatrist	Oregon State Hospital	Salem, OR
Tooba Durrani	Practitioner	Oregon Association of Acupuncture and Oriental Medicine (OAAOM)	Portland, OR
Denal Everidge	Medical Staff Coordinator	Oregon Health & Sciences University	Portland, OR
Kevin Ewanchyna	Chief Medical Officer <i>CCAG Co-Chair</i>	Samaritan Health Plans/Intercommunity Health Network CCO	Corvallis, OR
Andre Fortin	Manager, Provider Relations	LifeWise Health Plan of Oregon	Portland, OR
Stephen Godowski	Credentialing Coordinator	Therapeutic Associates, Inc. & NW Rehab Alliance	Tigard, OR
Kathleen Haley	Executive Director	Oregon Medical Board	Portland, OR
Joanne Jene	Physician/Anesthesiologist/ Retired	Oregon Medical Association/Oregon Society of Anesthesiologists	Portland, OR
Rebecca L. Jensen	Manager	Kaiser Permanente	Portland, OR
Shannon Jones	Human Resources Manager, Dentist Relations and Recruitment	Willamette Dental Group	Hillsboro, OR
Kecia Norling	Administrator	Northwest Ambulatory Surgery Center	Portland, OR
Joan A. Sonnenburg	Director Medical Staff Services	Mercy Medical Center	Roseburg, OR
Nicholetta Vlandis	Senior Manager, Provider Education Services, Credentialing & PDM	FamilyCare CCO	Portland, OR

Oregon Health Leadership Council’s Emergency Department Information Exchange (EDIE) Utility Governance Committee

Updated: October 2015

Note: New Members to be approved at November 12<sup>th</sup>, 2015 meeting

Mark Hetz	CIO	Asante Health	Medford, OR
Kelly Kaiser	CEO	Samaritan Health Plans	Corvallis, OR
Hospital Member <i>Open Position</i>			
Jaime Nichols	Director of Continuous Improvement	Salem Health	Salem, OR
Dan Grigg	CEO	Morrow County Health District	Heppner, OR
Sheri Redman	Director of Provider Operations	The Regence Group	Portland, OR
Brian Wetter	VP, Business Intelligence and Infrastructure	PacificSource Health Plans	Springfield, OR
Bill Murray	COO	Family Care	Portland, OR
Patrice Korjenek	COO	Trillium	Eugene, OR
CCO Member <i>Open Position</i>			
Prasanna Chandran	Family Practice	The Portland Clinic	Portland, OR
Sharon Meieran	Emergency Physician	Kaiser Permanente	Portland, OR
Amit Shah	Senior Medical Director	CareOregon	Portland, OR
Andy Van Pelt	COO	OAHHS	Portland, OR
Susan Otter	Director of Health Information Technology	Oregon Health Authority	Portland, OR
At-Large Member <i>Open Position</i>			