

## 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, tele-medicine, geographic indicators (e.g. zip code, city or state).</p>		
Initial users	Future users	
<ul style="list-style-type: none"> <li>Community HIEs*</li> <li>Hospitals</li> <li>Physician groups and clinics</li> </ul> <p>*on behalf of their users which can be hospitals, health systems, clinics, groups, plans, CCOs, and providers</p>	<ul style="list-style-type: none"> <li>Stand-alone HISPs* – includes CareAccord</li> <li>EHR vendor driven solutions* (e.g., EPIC Care Everywhere, CommonWell)</li> <li>Health systems, CCOs, and providers (including physical, mental, dental, social service) through the web portal</li> </ul>	
Preconditions		
Assumptions and dependencies	Initial data sources	Future 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>Not all trust communities interact</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 (HISP, 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>Search criteria includes EHR restrictions (CCD, CCD-A, TIF, etc.)</li> </ul>	<ul style="list-style-type: none"> <li>Connected HPD directories</li> <li>CareAccord flat file and other flat files</li> <li>Common Credentialing, including hospital privileging</li> <li>Hospitals</li> </ul> <p>Note: Out of the gate, must also have meaningful users</p>	<ul style="list-style-type: none"> <li>Health plans – contracted providers</li> <li>CCO provider networks (state) – including care coordination team members</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> <li>Medicare EHR Incentive Program payment data (CMS)</li> </ul>

**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

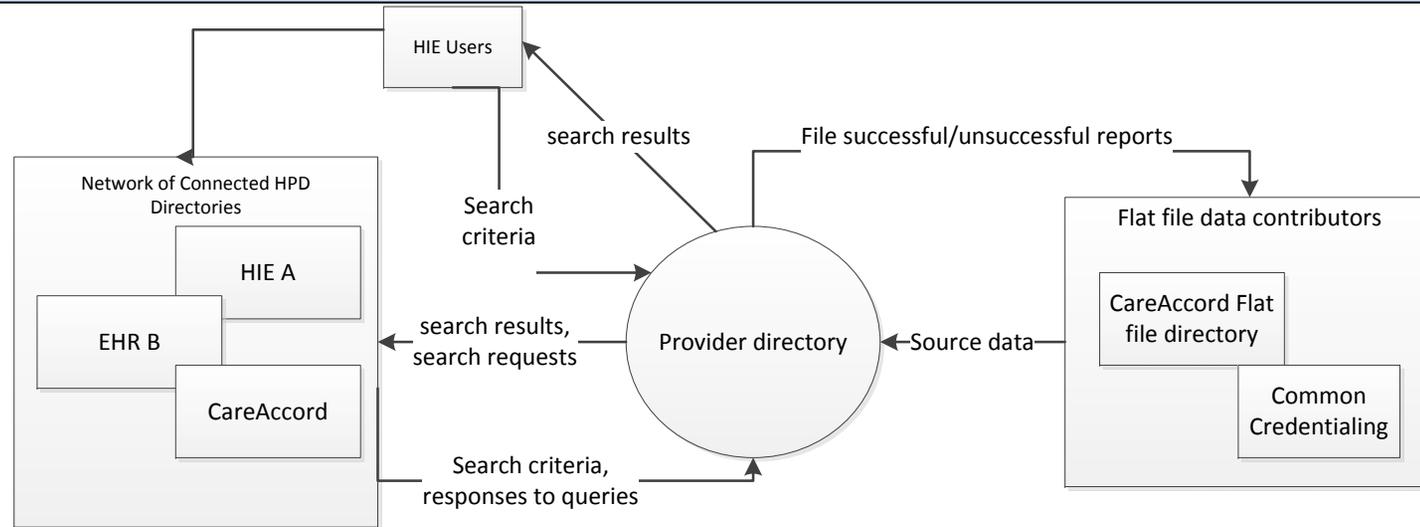
**Data elements**

Initially required	Secondary phase	Future use or low priority
<ul style="list-style-type: none"> <li>• Organization Address - includes billing, legal, mailing, and practice</li> <li>• Organization Contact</li> <li>• Organization Credentials</li> <li>• Organization Identifier</li> <li>• Organization Status (start and end dates)</li> <li>• Organization Type</li> <li>• Provider Phone</li> <li>• Organization Name</li> <li>• Organization Specialty</li> <li>• Provider "Identifiers" - NPI, Tax ID</li> <li>• Provider address</li> <li>• Provider Credentials</li> <li>• Provider Name</li> <li>• Provider Relationship (affiliations)</li> <li>• Provider Relationship (affiliations) start and end dates</li> <li>• Provider Specialty</li> </ul>	<ul style="list-style-type: none"> <li>• Organization - Accepting new patients</li> <li>• Organization - FQHC/Community health center flag</li> <li>• Organization - nights and weekends flag</li> <li>• Organization - PCPCH designation and tier</li> <li>• Organization hours of operation</li> <li>• Organization language</li> <li>• Provider - CCO affiliation</li> <li>• Provider - hours of operation</li> <li>• Provider - nights and weekends flag</li> <li>• Provider accepting new patients</li> <li>• Provider Language</li> <li>• Provider Philosophy of care</li> <li>• Provider Relationship (affiliations) historic</li> <li>• Provider date of birth</li> <li>• Provider e- mail address</li> <li>• Provider Gender</li> </ul>	

Provider Status (start and end dates)  
 Provider Type  
 Provider - EHR name and version  
 Provider – active license in other states  
 Secure Messaging - Organization Certificate  
 Secure Messaging - Provider medical records deliver email address (direct secure messaging address) – provider vs. establishment  
 Secure Messaging - Certification  
 Secure Messaging - Electronic Service URI  
 Secure Messaging - Organization Medical Records Delivery Email Address  
 Note: Data source, quality score needed on elements

- Provider practice info
- Provider - Primary Care Provider designation

### 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
- Other exchange requirements are made apparent to users such as:
  - Attachments required (CCD/CCD-A)
  - Text messages only
  - Provider identifiers (e.g., must have an NPI)
  - Unique documentation identifier

## Examples of 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)

## User Stories / Related Future Detailed Use Cases

- Use will be similar to participation in FFD
- Use information to validate current info but not replace it
- Extend care coordination but will need to know Direct exchange restrictions

## Key strategies for a successful implementation

- Improvement to workflow
- Value cases for end-users
- HIE or point to point
- Education around DSM

SAMPLE

## Use Case 8—Validation data sets

Use Case Description		
<p><b>Validation data sets (use #8):</b> 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.</p>		
Initial Users	Future Users	
<ul style="list-style-type: none"> <li>• State (Office of HIT, other Internal State Provider Directories)</li> <li>• Health Plans</li> <li>• CCOs</li> <li>• Clinics</li> <li>• Hospitals</li> <li>• Providers (including members of the care team)</li> <li>• Regional HIEs</li> </ul>		
Preconditions		
Assumptions and dependencies	Initial data sources	Future data sources
<p>Data Extracts are provided via a single agreed upon format to all consumers.</p> <p>Data Extracts do not contain historical data.</p> <p>Views of the data elements that also includes source, date of data, and quality ranking score.</p> <p>Only the most authoritative record is displayed. The highest level of data integrity is required for this use.</p>	<p>Common Credentialing</p> <p>Hospital (privileging)</p> <p>Connected HPD directories</p> <p>Health plans – contracted providers</p> <p>CCO provider networks (state)</p> <p>Medicaid EHR Incentive Program payment data (state)</p> <p>PCPCH data (state)</p> <p>Medicaid provider enrollment (state)</p> <p>Residential drug and alcohol treatment (state)</p> <p>What are we missing?</p>	
Common provider directory assumptions (applies to all uses)		
<p>1. Business Rules* are defined and followed in advance of data integration. Business rules will include:</p> <ul style="list-style-type: none"> <li>• Factors and calculations needed to produce a quality ranking score assessed to a source of data.</li> <li>• Matching algorithms for a unique provider with multiple data sources and exception handling processes for data that do not match.</li> </ul>		

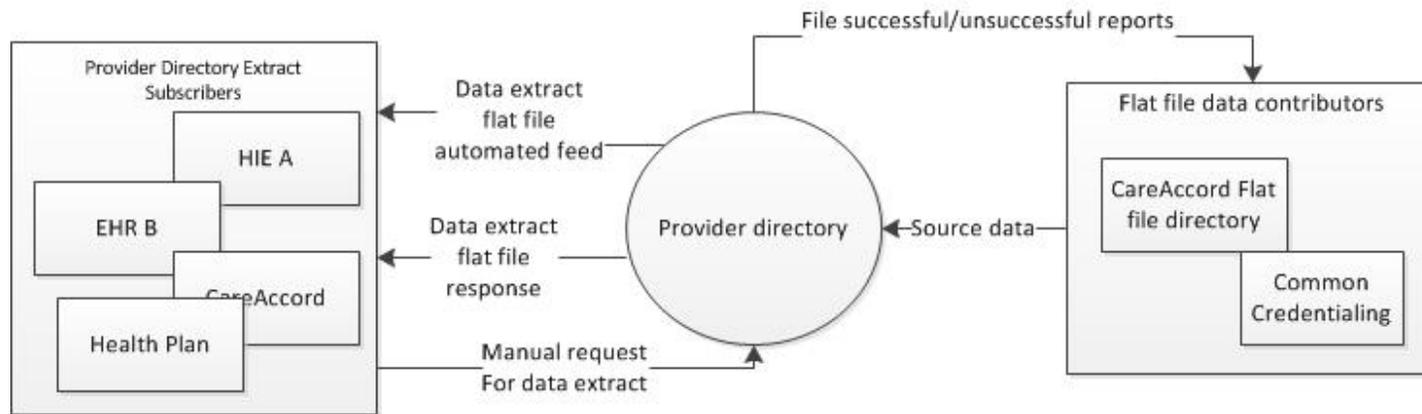
- Ranking of data sources based on the quality ranking score that assign precedence when there are multiple data sources for a unique provider (e.g., common credentialing data has a high degree of accuracy and is considered more authoritative than other sources).
  - Relationships that provide the ability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

**Data elements**

Initially required	Secondary phase	Future use or low priority
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 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	Organization - FQHC/Community health center flag Organization - PCPCH designation and tier Provider date of birth Provider Relationship (affiliations) historic	

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

**Examples of 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

**User Stories / Related Future Detailed Use Cases**

**Key strategies for a successful implementation**

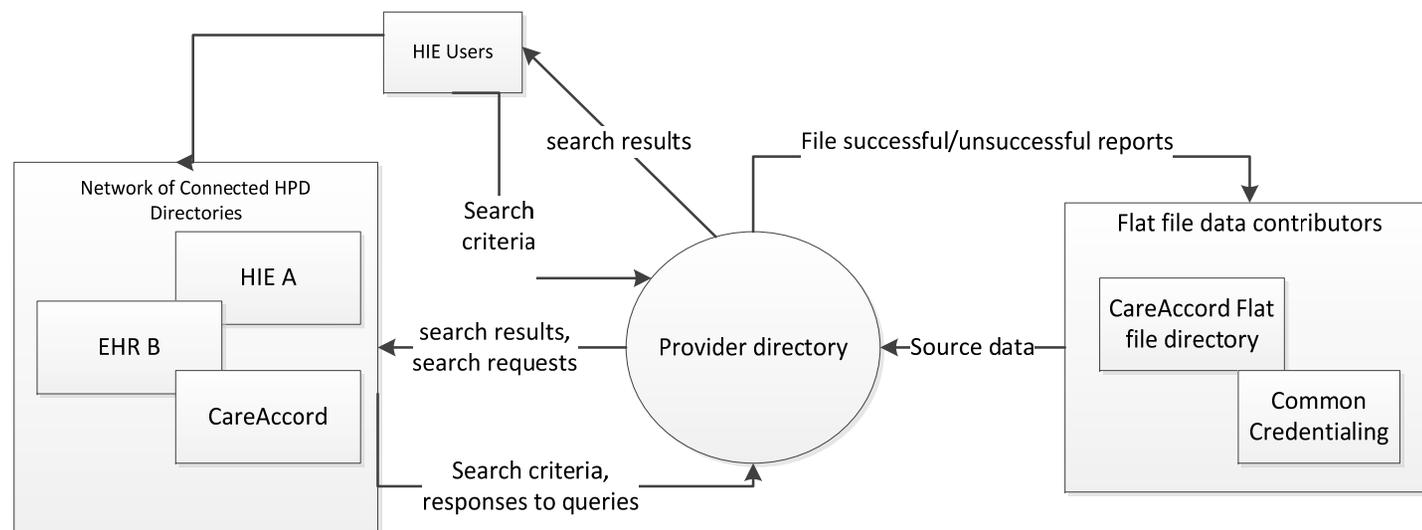
## Use Case 15 – Provider Search

Use Case Description	
<p><b>Provider Search (use 15/16)</b> 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 as well as indicate if the query should also be submitted to the HPD network.</p> <p>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.</p> <p style="text-align: center;"><b>And/or</b></p> <p>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.</p>	
Initial Users	Future Users
<ul style="list-style-type: none"><li>• State programs and offices (OHA analytics, Office of HIT, Department of Human Services, Health Systems)</li><li>• Health Plans</li><li>• CCOs</li><li>• Clinics</li><li>• Hospitals (including Hospital owned or associated Clinics)</li><li>• Providers (including members of the care team)</li><li>• HIEs- including Community HIEs, EHR vendor driven solutions, and CareAccord</li><li>• IPAs</li></ul>	<ul style="list-style-type: none"><li>• Small Clinics (without access to large organization shared EHR or HIE)</li><li>• Individual Providers (probably private practice without access to large organization shared EHR or HIE)</li></ul>

Preconditions		
Assumptions and Dependencies	Initial Data sources	Future 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> <li>All Commonly Credentialed Practitioners with Medicaid ID's will be present in some form within the Provider Directory.</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>Health plans – contracted providers</li> <li>CCO provider networks (state)</li> <li>Medicaid provider enrollment (state)</li> </ul> </li> <li>Connected HPD directories</li> </ul>	<ul style="list-style-type: none"> <li>PCPCH data (state)</li> <li>Residential Drug/Alcohol Treatment (state)</li> <li>Hospital (privileging)</li> <li>Medicaid EHR Incentive Program payment data (state)</li> </ul>
Common provider directory assumptions (applies to all uses)		
<ol style="list-style-type: none"> <li>Business Rules* are defined and followed in advance of data integration. Business rules will include: <ul style="list-style-type: none"> <li>Factors and calculations needed to produce a quality ranking score assessed to a source of data.</li> <li>Matching algorithms for a unique provider with multiple data sources and exception handling processes for data that do not match.</li> <li>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).</li> <li>Relationships that provide the ability to query the integrated data.</li> <li>Which data elements are verified by the provider directory program operations team.</li> <li>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).</li> </ul> </li> <li>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.</li> <li>Users have been properly authenticated and authorized to access the provider directory.</li> <li>Data use agreements and authorizations with contributing data sources/connected HPD participants are established.</li> </ol>		

Data elements		
Initially Required	Secondary Phase	Future Use or Low Priority
Organization Address Organization Contact Organization Credentials Organization Identifier Organization Name Organization Specialty Organization Status Organization Type Provider - EHR Name and Version Provider - CCO affiliation Provider Phone Provider "Identifiers" - NPI, Tax ID, Medicaid ID Provider Address (with Clinic Name) Provider Credentials Provider e-mail Address (with Type Indicator e.g. Primary, Preferred, Office Email, etc.) Provider Name 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) Hospital Affiliations (From Common Credentialing)	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 - Nights and Weekends Flag Provider Accepting New Patients Provider Date of Birth Provider Gender Provider Language Provider Relationship (affiliations) historic Provider SSN Provider - hours of operation Provider - Primary Care Provider Designation Provider Practice Info (Telemedicine Indicator) Provider Philosophy of Care	Addition of all Licensed Provider Types (TBD selecting which specific Provider Types apply to this specific use case e.g. Optometrists, Behavioral Health, Dental, Pharmacists, Routine Vision, Alternative Care)

## 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)

<ul style="list-style-type: none"> <li>○ Directory web portal</li> <li>● Extract of results, in XML, CSV, TXT, Excel, RDF formats</li> <li>●</li> </ul>	
Enabling activities and benefits	User Stories / Related Future Detailed Use Cases
<ul style="list-style-type: none"> <li>● Validated data</li> <li>● Security and privacy- knowing the right place to send and receive records</li> <li>● Complete one-stop shop for knowing who, where, how to contact providers</li> <li>● Improved care coordination/efficiency for discharge planning, etc. (use #14)</li> <li>● Resource time/cost in managing directories decreased</li> <li>● 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)</li> </ul>	<ul style="list-style-type: none"> <li>● Acute Care/ED finding a provider for Referrals to out of network or to providers outside of known geographic regions</li> <li>● Look-up out of network providers to locate DSM for Referrals or Care Coordination</li> <li>● HPO/CCO Validate/Clarification to resolve confusing or conflicting information about a Provider</li> <li>● Determine Credentialing / Network Affiliations</li> <li>● Determine DSM Address for Hospital</li> </ul>
Key strategies for a successful implementation	
<ul style="list-style-type: none"> <li>● Simple to use</li> <li>● Intuitive</li> <li>● Must work every time</li> </ul>	

## 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. The user will have the option of configuring the data elements included in the result set.</p>		
Initial Users	Future Users	
<ul style="list-style-type: none"> <li>• State               <ul style="list-style-type: none"> <li>○ OHA Analytics</li> <li>○ OHA Office of HIT</li> </ul> </li> <li>• Research/ analytics departments at hospitals, health systems, clinics, plans, and academic centers               <ul style="list-style-type: none"> <li>○ OHSU-CHSE</li> <li>○ Q-Corp</li> <li>○ Providence CORE</li> <li>○ Neil Wallace at PSU</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• State               <ul style="list-style-type: none"> <li>○ DHS Office of Forecasting and Research</li> <li>○ Public Health</li> </ul> </li> <li>• Research/ analytics departments at hospitals, health systems, clinics, plans, academic centers, and community/private organizations               <ul style="list-style-type: none"> <li>○ OCHIN</li> </ul> </li> </ul>	
Preconditions		
Assumptions and Dependencies	Initial Data Sources	Future 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>	<ul style="list-style-type: none"> <li>• Common credentialing</li> <li>• Hospital (privileging)</li> <li>• <i>Connected HPD directories*</i></li> </ul> <p>*Only be able to pull current data and would cache historical data</p>	<ul style="list-style-type: none"> <li>• PCPCH data (state)</li> <li>• Medicaid EHR Incentive Program payment data (state)</li> <li>• Medicare EHR Incentive Program payment data (CMS public data)</li> <li>• Medicaid provider enrollment (state)</li> <li>• CCO provider networks (state)</li> <li>• Health plans – contracted providers</li> </ul>

<ul style="list-style-type: none"> <li>• Primary care and common specialties (e.g. OBGYN, radiology, dentistry, mental health) are included with information for at least 80% of all Medicaid providers statewide</li> </ul>		<ul style="list-style-type: none"> <li>• Residential drug and alcohol treatment (state)</li> <li>• FQHC (state/OPCA?)</li> <li>• Other existing provider directories (e.g. Q-Corp, OCHIN-FQHC)</li> </ul>
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**Common provider directory assumptions (applies to all uses)**

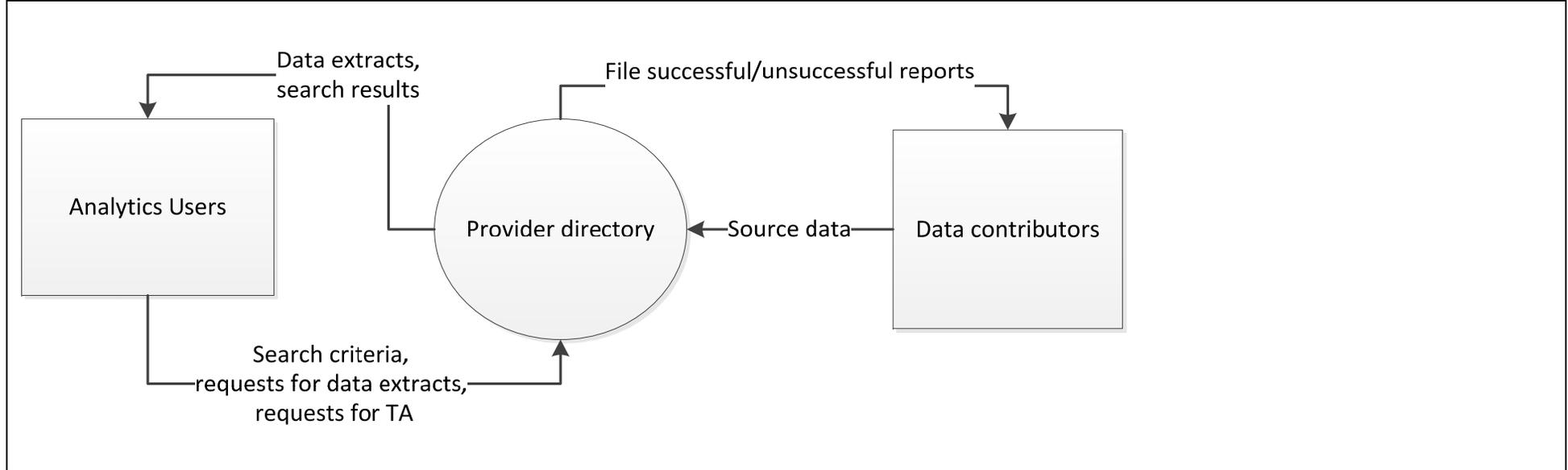
1. Business Rules\* are defined and followed in advance of data integration. Business rules will include:
  - Factors and calculations needed to produce a quality ranking score assessed to a source of data.
  - Matching algorithms for a unique provider with multiple data sources and exception handling 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

**Data elements**

Initially Required	Secondary Phase	Future Use or Low Priority
<ul style="list-style-type: none"> <li>• Organization address – includes billing, legal, mailing, and practice</li> <li>• Organization identifiers (NPI, Tax ID, Medicaid ID, etc.)</li> <li>• Organization name</li> <li>• Organization specialties</li> <li>• Organization Start/End Dates</li> <li>• Organization type (e.g., hospital, CCO, HIE, plan, lab)</li> <li>• Provider Primary Care Provider designation</li> <li>• Provider identifiers (NPI, Medicaid ID, etc.)</li> <li>• Provider credentials (degrees)</li> <li>• Provider address (practice)</li> </ul>	<ul style="list-style-type: none"> <li>• Organization - FQHC flag</li> <li>• Organization - Rural Health Center flag</li> <li>• Organization - School-Based Health Center flag</li> <li>• Organization - Indian/Tribal Health Center flag</li> <li>• Organization - PCPCH designation, tier, qualifications for designation, and recognition date</li> <li>• Organization - Accepting new patients</li> </ul>	<ul style="list-style-type: none"> <li>• Organization status</li> <li>• Provider email address (not related to medical records)</li> <li>• Provider name</li> <li>• Provider Status</li> <li>• Provider Type</li> <li>• Organization credentials (certifications and licenses)</li> <li>• Organization hours of operation</li> <li>• Organization language(s)</li> <li>• Provider hours of operation</li> <li>• Provider nights and weekends flag</li> <li>• Provider - Accepting new patients</li> <li>• Provider credentials (certifications and licenses)</li> <li>• Provider gender</li> </ul>

<ul style="list-style-type: none"> <li>• Provider Relationship (affiliations)</li> <li>• Provider Relationship (affiliations) start and end dates</li> <li>• Provider Specialty</li> </ul>	<ul style="list-style-type: none"> <li>• Organization nights and weekends flag</li> <li>• Provider EHR vendor, product, and version</li> <li>• Provider language</li> <li>• Provider practice info (telemedicine, full-time/part-time)</li> </ul>	<ul style="list-style-type: none"> <li>• Provider Philosophy of care</li> <li>• Provider Address (billing, legal, mailing)</li> </ul>
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### 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

**User Stories / Related Future Detailed Use Cases**

- Link it with claims data to identify who/where care is being provided
- Sample research questions
  - Network adequacy
  - Practice variation
  - Effects of policies implemented in specific practice sites
  - Evidence of “spillover” of coordinated care model

**Key strategies for a successful implementation**

- To the extent possible, keep it simple – provide the best result for each provider/organization (may be more than one result if affiliations have changed)
- Make historical data available
- Make extracts available in usable formats (e.g., txt/csv)
- Allow for user specifications (e.g., include xx specialties as of xx date)

## Provider Directory Standards and Regulations

AGENCY/ORGANIZATION	PROVIDER DIRECTORY PROCESSES/DATA	FREQUENCY OF UPDATES
<b>Utilizations Review Accreditation Commission (URAC)</b>	<p>Credentialing and contracting processes are completed and a provider initially approved for network participation is</p> <ol style="list-style-type: none"> <li>1) Displayed in online provider directories</li> <li>2) Flagged for inclusion in subsequent hard copy versions of the provider directory</li> </ol> <p>Determination is made that provider is not re-credentialed for any reason/no longer meets the credentialing requirements and is removed from the online directory</p> <p>Determination that provider is no longer participating in the network and is removed from:</p> <ol style="list-style-type: none"> <li>1) Electronic versions of the provider directory</li> <li>2) Flagged for removal in subsequent hard copy versions of the provider directory</li> </ol>	<p>45 calendar days</p> <p>5 business days</p> <p>45 calendar days</p>
<b>CMS Medicare Advantage</b>	<p>Information is captured regarding:</p> <ol style="list-style-type: none"> <li>1) Accepting new patients/availability in network</li> <li>2) Provider's location and contact information</li> <li>3) Specialty, medical group, and any institutional affiliations</li> </ol>	Monthly
<b>CMS Medicaid Managed Care</b>	<p>Information is captured regarding:</p> <ol style="list-style-type: none"> <li>1) Accepting new patients/availability in network</li> <li>2) Provider's location and contact information</li> <li>3) Office hours or other changes that affect availability</li> </ol>	Quarterly
	<p>Standardized network information provided in electronic format for eventual inclusion in a nationwide provider database</p>	<i>CMS is considering - on or after Calendar Year 2017</i>
<b>CMS Healthcare.gov insurers (ACA)</b>	<p>Credentialing and contracting processes are completed and a provider initially approved for network participation is</p> <ol style="list-style-type: none"> <li>1) Displayed in online provider directories</li> <li>2) Flagged for inclusion in subsequent hard copy versions of the provider directory</li> </ol> <p>Determination is made that provider is not re-credentialed for any reason/no longer meets the credentialing requirements and is removed from the online directory</p> <p>Determination that provider is no longer participating in the network and is removed from:</p> <ol style="list-style-type: none"> <li>1) Electronic versions of the provider directory</li> <li>2) Flagged for removal in subsequent hard copy versions of the provider directory</li> </ol>	<p>30 calendar days</p> <p>30 calendar days</p> <p>30 calendar days</p>

# Provider Directory Standards and Regulations

AGENCY/ORGANIZATION	PROVIDER DIRECTORY PROCESSES/DATA	FREQUENCY OF UPDATES
Oregon Network Adequacy	<p>The health carrier must make the following data elements available through an electronic provider directory for each network plan in a searchable format:</p> <p><u>For health care professionals:</u> name, gender, participating office location(s), specialty (if applicable), medical group affiliations (if applicable), facility affiliations (if applicable), participating facility affiliations (if applicable), languages spoken other than English (if applicable), and whether accepting new patients</p> <p><u>For hospitals:</u> hospital name, hospital type (e.g. acute, rehabilitations, children’s), participating hospital locations, and hospital accreditation status</p> <p><u>For facilities, other than hospitals, by type:</u> facility name, facility type, type of service performed, and participating facility location(s)</p>	At least monthly
	<p>Additionally, the health carrier must make the following data elements available through an electronic provider directory for each network plan:</p> <p><u>For health care professionals:</u> contact information, board certification(s), and languages spoken other than English by clinical staff (if applicable)</p> <p><u>For hospitals:</u> telephone number</p> <p><u>For facilities, other than hospitals, by type:</u> telephone number</p>	<p>At least monthly</p> <p><i>Law goes into effect on 1/1/2017</i></p>

- Agencies/organizations that do not have applicable Provider Directory Process/Data information include:*
- Accreditation Association for Ambulatory Health Care (AAAHC)
  - America’s Health Insurance Plan (AHIP)
  - Det Norske Veritas (DNV)
  - National Committee for Quality Assurance (NCQA)
  - The Joint Commission (TJC)

Parking lot questions 11-12-2015

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?
Data elements – start and end dates	Do the start/end dates always refer to the organization data element or could it refer to other data elements (e.g. EHR vendor/product/version)?
Provider types	Can/will/(when will) dentists be included the PD (thinking about the emphasis on integration of oral health)? (Is common credentialing the best source of information for dentists)?

Field	Description (taken from primarily from HPD standard)	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	PSV
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	PSV
Organization Credentials	This includes certifications or licenses earned by an organization.	x	PSV
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	PSV
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	PSV
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	PSV
Organization Type	The type of organization represented. Some values are: Hospitals, HIEs, IDNs, Associations, Labs, Clinics, Departments, Pharmacies, Practice	x	PSV
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	V
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	PSV
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	V
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	PSV
Provider SSN			X
Provider Status	The status of this individual. Active – currently practicing Inactive – currently not practicing, Retired, Deceased	X	PSV
Provider Type	Type of individual provider (e.g., physician)	X	PSV
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	

PSV= primary source verified  
V=Verified

### Common Credentialing practitioner types:

- (a) Acupuncturists.
- (b) Audiologists.
- (c) Certified Registered Nurse Anesthetist.
- (d) Chiropractor.
- (e) Clinical Nurse Specialist.
- (f) Doctor of Dental Medicine.
- (g) Doctor of Dental Surgery.
- (h) Doctor of Medicine.
- (i) Doctor of Osteopathy.
- (j) Doctor of Podiatric Medicine.
- (k) Licensed Clinical Social Worker.
- (l) Licensed Dieticians.
- (m) Licensed Marriage and Family Therapists.
- (n) Licensed Massage Therapists.
- (o) Licensed Professional Counselor.
- (p) Naturopathic Physician.
- (q) Nurse Practitioner.
- (r) Occupational Therapists.
- (s) Optometrist.
- (t) Oral and Maxillofacial Surgeons.
- (u) Psychologists.
- (v) Physical Therapists.
- (w) Physician Assistants.
- (x) Psychologist Associate.
- (y) Registered Nurse First Assistant.
- (z) Speech Therapists.

**Oregon Common Credentialing Program**  
**Fee Structure Options and Considerations**

As mandated by Oregon Senate Bill 604 (2013), the Oregon Common Credentialing Program has been established by The Oregon Health Authority (OHA) as a new program that will provide credentialing organizations access to information necessary to credential and recredential health care practitioners. The cost to administer the Program will be covered by fees charged to credentialing organizations and health care practitioners. Below is a table identifying fee structure options and considerations as determined through extensive analysis of Request for Information responses, an environmental scan, discussions with the Common Credentialing Advisory Group (CCAG) and other stakeholders, as well as other operational assumptions and principles. Although exact costs to administer the Program are still unknown, preferences for the fee structure have been identified. All stakeholder discussions, considerations, and preferences will be taken into consideration by OHA in the finalization of a fee structure once the exact cost is known.

TYPE OF FEE	DESCRIPTION	STRUCTURE	BENEFITS	CHALLENGES	CONSIDERATIONS
<b>Credentialing Organizations</b>					
<b>One-Time Setup Fee</b>	One-time setup fee charged to each credentialing organization (CO) that: - Supports account set-up - Allows 24 hour access to a centralized repository for practitioner credentialing information - Allows access to profile reports - Supports the cost of implementation	Flat Fee	- Simpler billing administration - All COs signing up for the same service	- Would not account for large vs. small COs (some ASCs have just one practitioner on the panel) - COs will have different level of benefit and therefore shouldn't have to cover an equal amount of the cost	- If implementation cost is low enough, this would be the preferred method - Simplest way to administer a one-time setup fee as it does not require an analysis of credentialing organizations panel size or revenue
		Tiered Fee (generally preferred)	- Accounts for a differential rate for large vs. small COs	- Difficulty in determining the appropriate amount (e.g., determine by practitioner panel, membership, or revenue)	- If implementation cost is moderate, this would be the preferred method (preferred by majority CCAG) - Tiers can be determine using a formal with the total number of expected health care practitioners as the denominator and the credentialing organizations panel size as the numerator - Can be based on revenue, but would need to determine how to capture this information
		Flat Fee, + Amortization	- Would account for large vs. small COs	- Difficulty in determining appropriate amount to amortize (e.g., determine by practitioner panel, membership, or revenue)	- If implementation cost is high, this would be the preferred method - Would need an actuary's opinion/analysis to determine amount to be amortized and for how long
<b>Transactional Fee</b> (ongoing operations and maintenance costs)	Transactional fee at initial credentialing and credentialing that: - Allows 24 hour access to purchases practitioner files through the recredentialing period - Supports primary source verification of records to national standards - Supports notifications of changes to practitioner credentialing information - Allows access to standardized and ad hoc reports reporting capabilities	Flat Fee (generally preferred)	- Practitioners are all using the same application	- Would not account for practitioners that have different levels of credentialing requirements	- A flat fee is preferred to distribute the costs - Recredentialing cost should be same as initial credentialing - Could assess a higher fee for those with accrediting bodies requiring more extensive reviews - Could assess a higher fee for more complicated cases
		Tiered Fee; based on Practitioner Type	- Would account for different levels of credentialing requirements - Two tiers could be physician vs. allied health practitioner	- Difficulty in determining the appropriate amount (e.g., physician vs. allied health practitioner) - Difficulty in defining allied practitioner	Not preferred
<b>Expedited Credentialing Fee</b>	Fee established to allow COs to request established for alternative levels of services	Flat Fee	- Would allow for a way expedite credentialing verifications if needed	- Cost would be above and beyond scope, relying on vendor to set this fee amount and procedures.	Identified as necessary
<b>Health Care Practitioners</b>					
<b>Initial Application Fee</b>	Initial application fee charged to each health care practitioner that will be used to cover the cost of implementation	Flat Fee	- Simpler billing administration - All practitioners use the same credentialing application	- Would not account for different levels of credentialing requirements	- Preferred by the CCAG due to the application need being the same across all providers
		Tiered Fee; based on Practitioner Type	- Would account for practitioners that have different levels of credentialing requirements - Two tiers could be physician vs. allied health practitioner	- Difficulty in determining the appropriate amount (e.g., determine by practitioner panel, membership, or revenue)	- If cost is low, a tiered fee would not be necessary
<b>Delegation Agreements</b>					
<b>Capitated Fee</b>	Capitated fee charged to each organization with a delegation agreement	Annual Capitated Fee	- Would ensure the sharing of the solution costs and protect its financial viability	- May be burdensome to track how many practitioners are under each agreement	- Need to do more work on this fee approach to ensure the cost correlates with the reduced workload attributable to the agreements
<b>Data Users</b>					
<b>Data Use Fee</b>	Fee for data use outside the scope of credentialing (e.g., provider directory, Medicaid provider enrollment, etc.)	Undetermined	- Would ensure the cost of sharing information is supported - Could help support general solution maintenance	- May be difficult to determine cost of sharing the data	- Type and extent of use may be different for each type of use or use partner - Will need to coordinate multiple state user fees (e.g., common credentialing and provider directory fees)

## Fee Structure Principles

Below are draft fee structure principles developed by the OHA based on Common Credentialing principles:

Principle #	Principle Description
1*	Fee development for health care organizations and providers must be delicately balanced considering the benefits they may experience and their respective resources
2*	Ensure that costs are not a barrier to participation
3*	Fees should be equitably balanced between different organization types considering their required level of participation
4*	Fees for health care organizations should be equitably balanced consider the size and types of its health care organization
5*	A specific portion of the fees should be specifically allocated for information technology and operational quality assurance activities
6	Be efficient and economical to administer, ensuring a simplified billing approach
7	Fees should be transparent and justifiable in how they are developed
8*	Fees should be stable (not vary considerably year to year) and predictable with changes based only on scope adjustments, CPI increases, and increases in participants
9*	Fees should produce a predictable income to support the costs of operating common credentialing which should include allocations for information technology and operational quality assurance activities and security.
10	Ensure that costs of specific, individually requested processes that are not of general application should be borne by those making such requests

\*Denotes PDAG's input is needed