National/California Provider Directory Efforts

Rim Cothren

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Two initiatives…

ONC / FHA HcDir	One concentrating on the data elements and exchange standards to meet many use cases
CA Provider Directory Collaborative	One concentrating on the business processes to validate provider data to support consumer-facing directories

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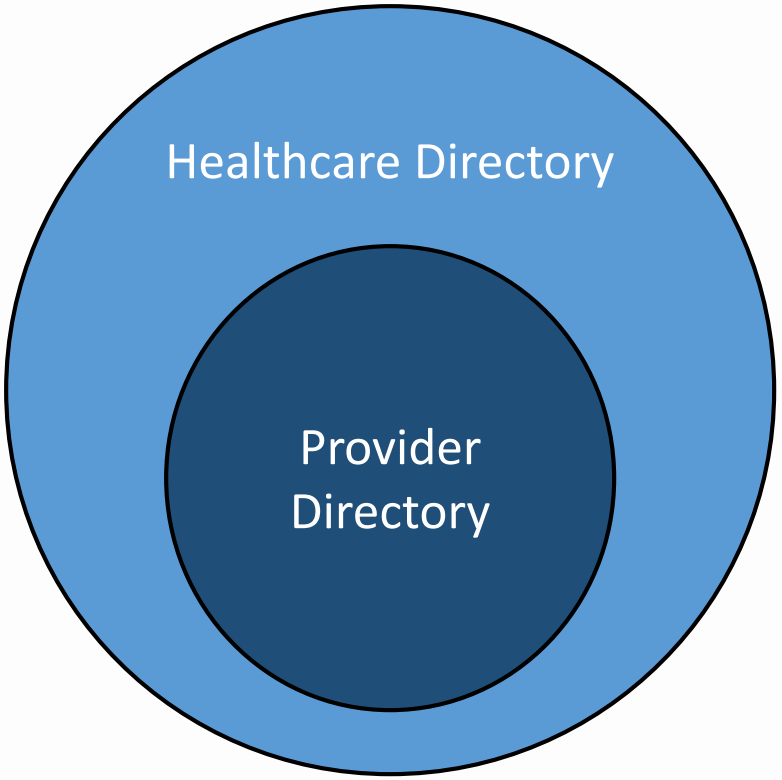
Healthcare Directory (HcDir)

- Continuation of the work from a workshop organized by ONC and FHA on April 5th and 6th of 2016
- What ONC/FHA took away from that meeting:
  - Strong interest in the federal government providing a validated core provider data set
  - Many use cases – all important for interoperability and care delivery
  - Need to prioritized and define data / validation / exchange requirements
- ⇨ Focus is now on use of FHIR

See https://oncprojectracking.healthit.gov/wiki/display/TechLabSC/Provider+Directory+Workshop

Larger than a “Provider Directory”



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Moving Parts

See https://oncprojectracking.healthit.gov/wiki/display/TechLabSC/HcDir+Tiger+Teams

Use Cases

- Basic Information Exchange
  - A1. Enable electronic exchange (e.g., IHE endpoints, FHIR server URLs, Direct addresses)
  - A2. Find an individual and/or organization
- Patient / Payer Focused
  - B1. Find provider accessibility information (specialty, office hours, languages spoken, taking patients)
  - B2. Relationship between provider and insurance plan (insurance accepted) or plan and provider (network)
  - B3. Plan selection and enrollment
  - B4. Claims management (adjudication, prior authorization, payment)

Use Cases

- Care Delivery / Value Based Care
  - C1. Provider relationship with a patient (e.g., for alerts)
  - C2. Provider relationship with other providers in context of a patient (e.g., care team communications)
- Others
  - D1. Provider credentialing
  - D2. Quality or regulatory reporting (e.g., aggregate data, plan networks)
  - D3. Detection of fraud; inappropriate approval of services and/or payment for services

“Priority” Use Cases

A1. Enable electronic exchange
A2. Find an individual and/or organization

B1. Find provider accessibility information
B2. Relationship between provider and insurance plan or plan and provider
B3. Plan selection and enrollment

C1. Provider relationship with a patient
C2. Provider relationship with other providers in context of a patient

D1. Provider credentialing

See https://oncprojectracking.healthit.gov/wiki/display/TechLabSC/Use+Cases+Tiger+Team

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Data Elements Tasks

1. Review reference standards and document relevant portions

   S&I, IHE HPD, ASC X12, FHIR ⇦

2. Draft recommended data elements

   Based on needs of use cases

   Include applicable relationships/constraints

   Identify/propose value sets

3. Describe validation processes

4. Describe restrictions

Data Elements

	A	B	C	D	E	F	G	H	I
1			Cardinality						
2		Information Requirement [1]	Ind	Org		A1	A2	B1	B2
3		**Demographics**							
4		Individual type	1..*	--		Yes	Yes	Yes	Yes
5		Organization type [6]	--	1..*		Yes	Yes	Yes	Yes
6		Name	1..1			Yes	Yes	Yes	Yes
7		Description	--	0..1					Yes
8		Alternate name (a.k.a., d.b.a., alias, historical)	0..*			Yes	Yes	Yes	Yes
9		Name type	1..1			Yes			Yes
10		Time period	1..1				Yes	Yes	
11		Primary Address [2]	0..1			Yes			
12		Alternate address (including historical) [2]	0..*			Yes	Yes	Yes	Yes
13		Address type	1..1			Yes	Yes	Yes	Yes
14		Time period	1..1				Yes	Yes	Yes
15		Gender	1..1	--		Yes	Yes	Yes	Yes
16		DOB/Age	1..1	--		Yes	Yes	Yes	Yes
17		Picture	0..1	--				Yes	
18									
19		**Identification**							
20		Global unique identifier [3] [7]	1..1	1..1			Imp	Imp	Yes
21		Identifier (NPI, etc.)	0..*	0..*		Yes	Yes	Yes	Yes
22		Type	1..1	1..1		Imp	Yes	Yes	Yes
23		Time period	1..1	1..1			Yes	Yes	Yes
24		License information (state, DEA, etc.)	0..*	0..*		Yes	Imp	Imp	Imp
25		Type	1..1	1..1		Imp	Imp	Imp	Imp
26		Time period	1..1	1..1			Imp	Imp	Imp
27		Tax ID	0..1	1..1		Yes			
28									
29		**Contact information**	1..*						
30		Telephone number	1..*			Yes	Yes	Yes	Yes
31		Via (reception, etc.)	0..1			Yes			
32		Type/purpose [4]	1..1			Imp	Yes	Yes	Yes

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What we learned…

1. There were more priority use cases
2. There were many missing data elements
3. There were many missing relationships
4. Code sets were woefully inadequate

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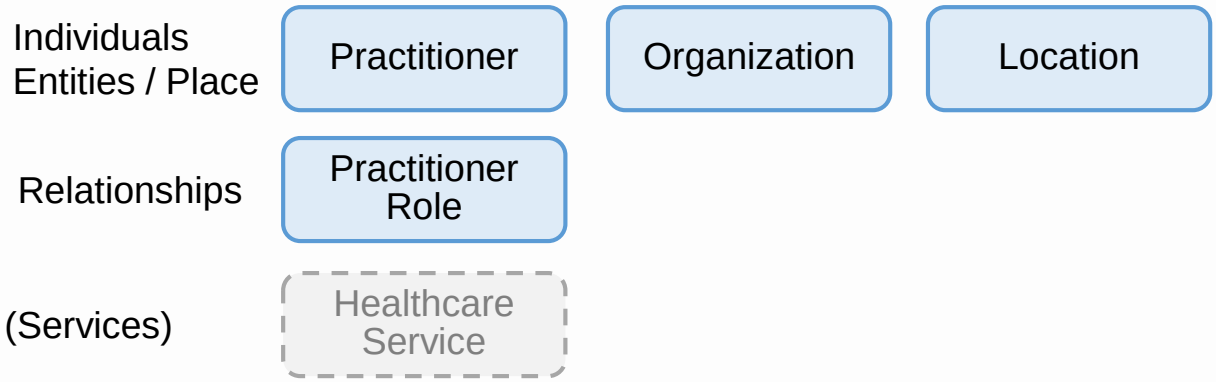
FHIR Resources (think “groups of elements”)

What most people think when you say “Provider Directory”



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New Concepts

New objects:	products
New relationships:	between organizations, members of networks
New processes:	validation
New participants:	plans (insurers)

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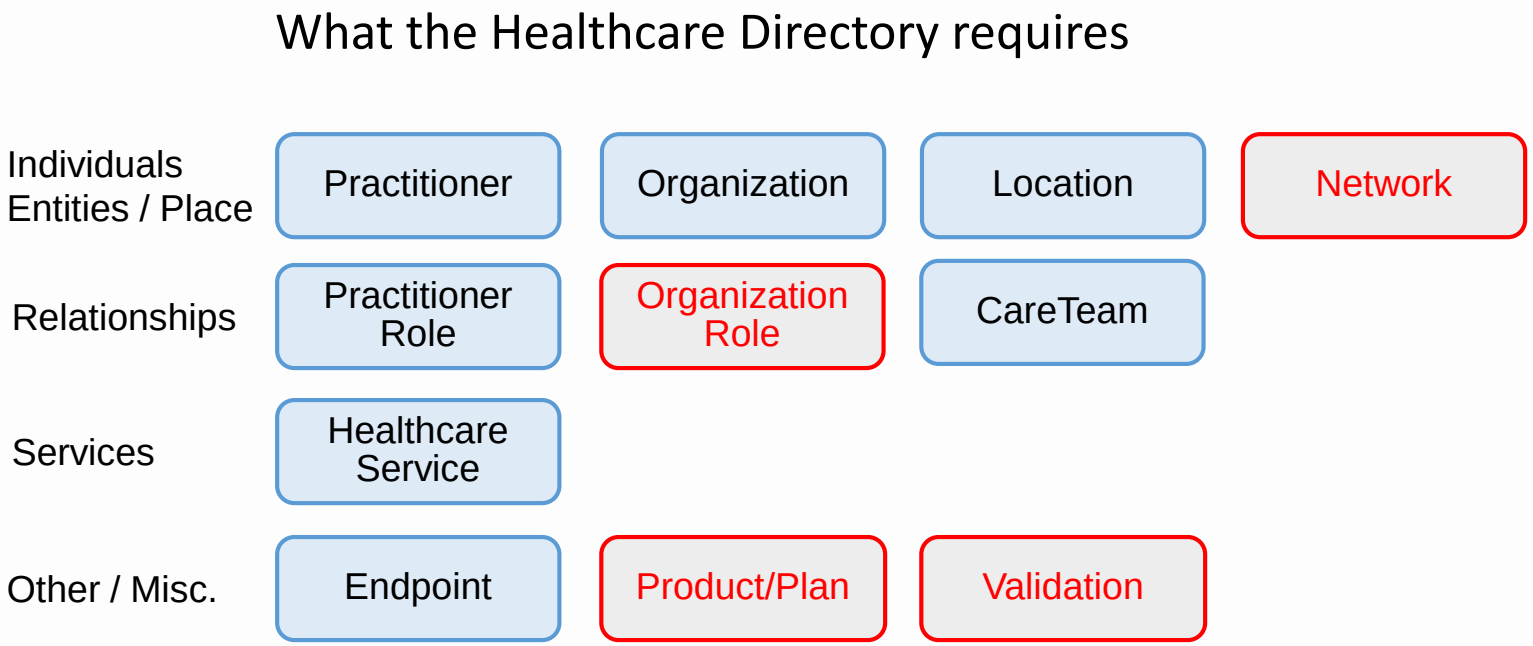
FHIR Resources (think “groups of elements”)



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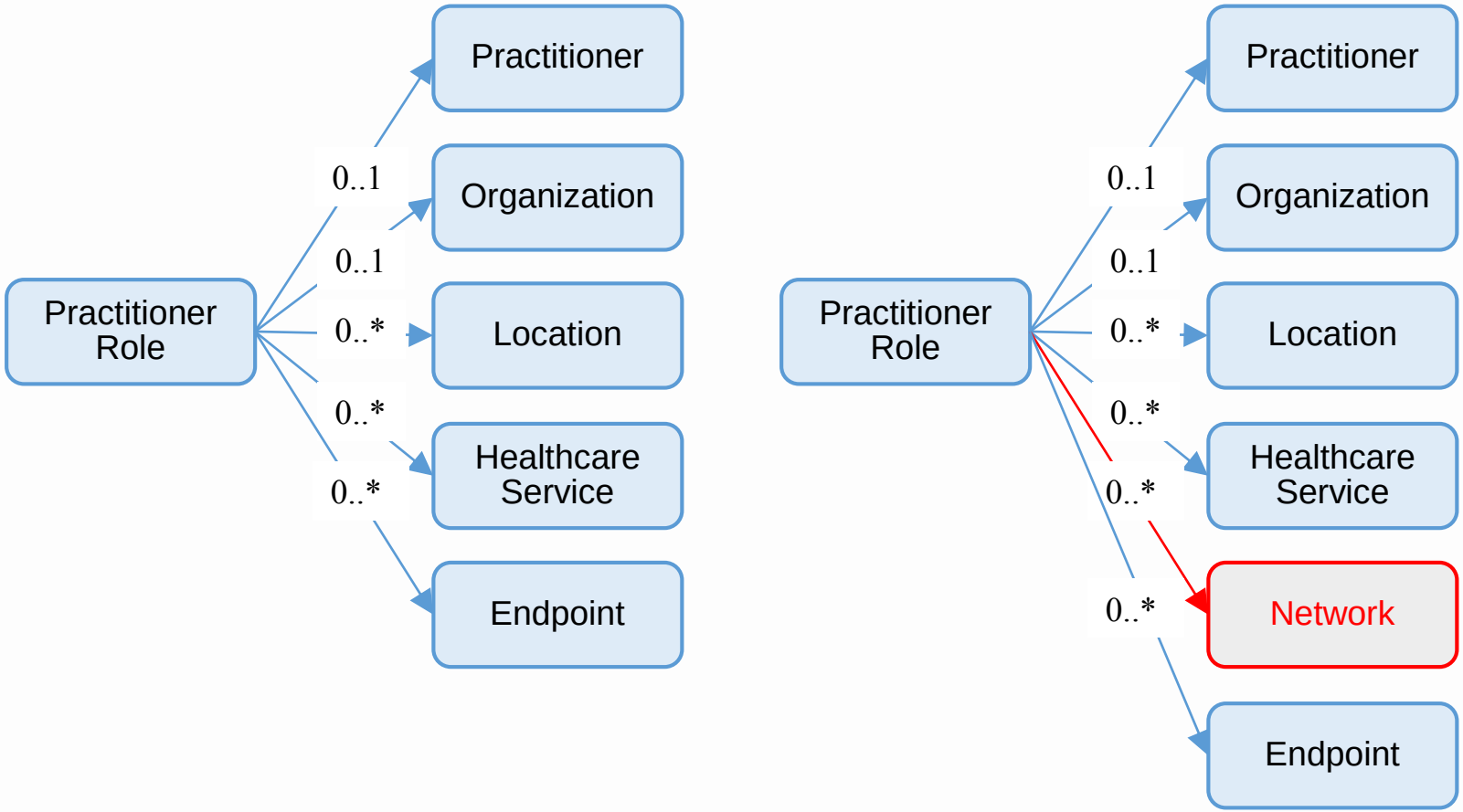
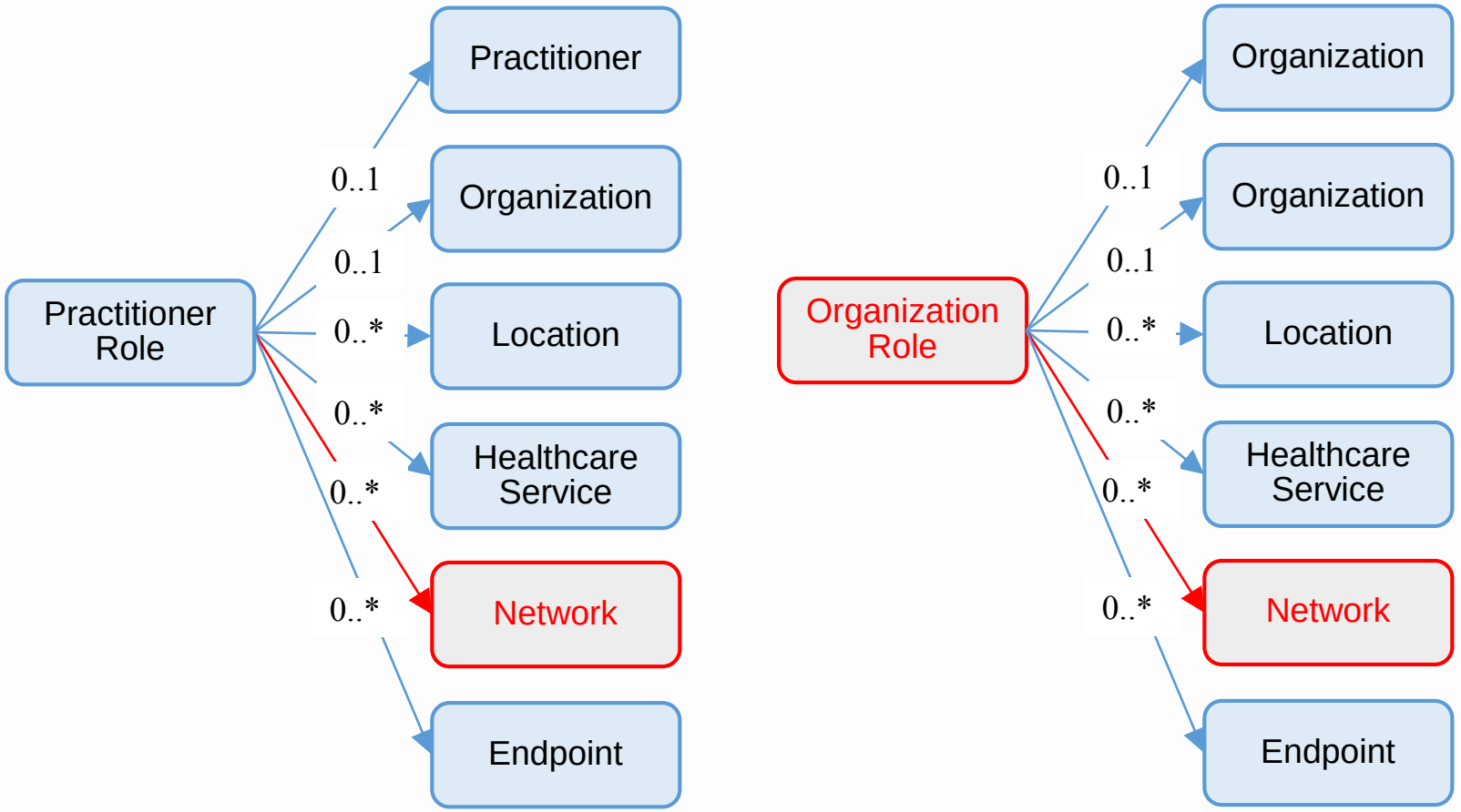
Resource Expansion



New Resources (new relationships)



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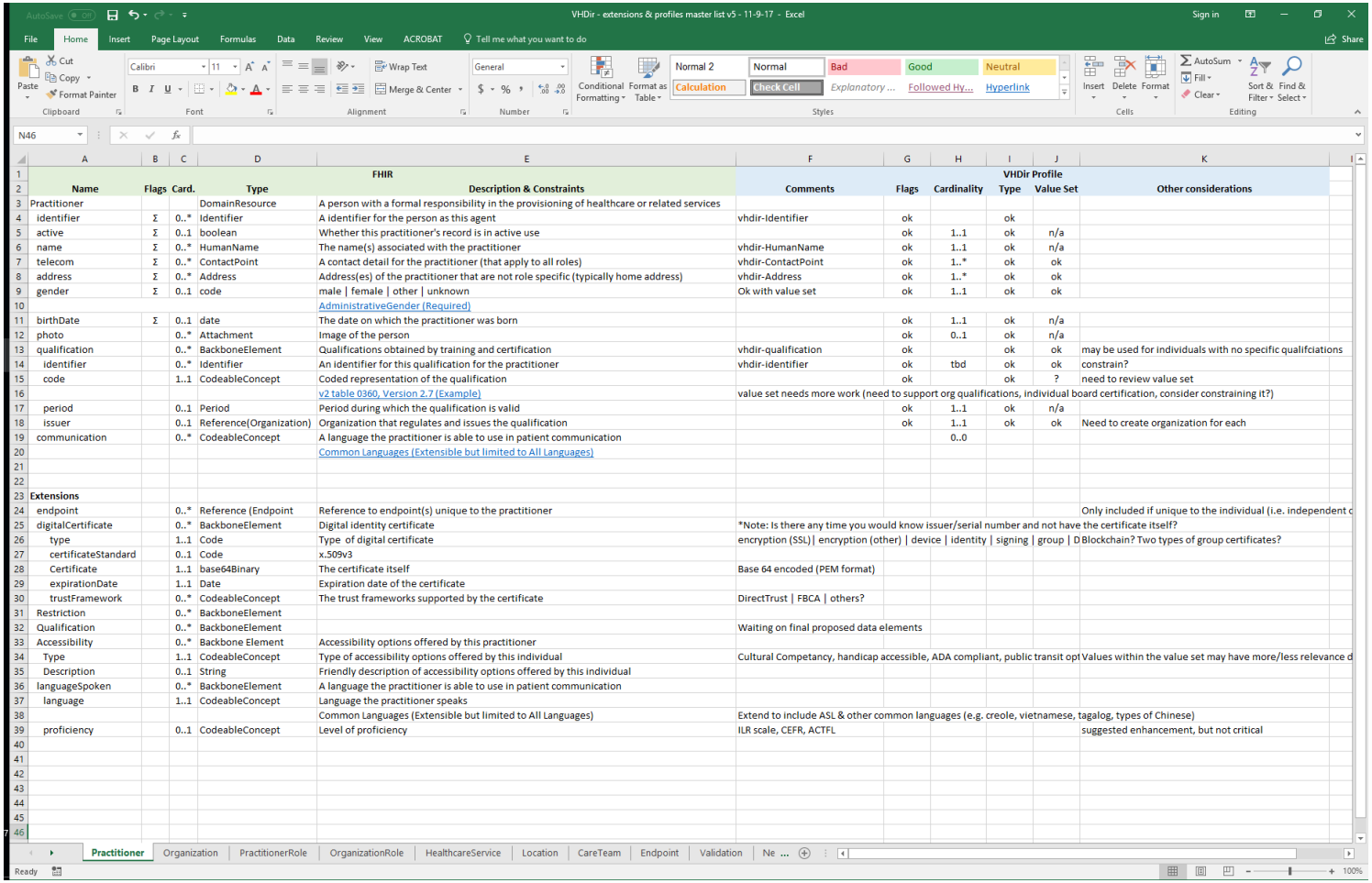
New Data Elements



VHDir - extensions & profiles master list v5 - 11-9-17 - Excel

				FHIR					VHDir Profile		
	Name	Flags	Card.	Type	Description & Constraints	Comments	Flags	Cardinality	Type	Value Set	Other considerations
3	Practitioner			DomainResource	A person with a formal responsibility in the provisioning of healthcare or related services						
4	identifier	Σ	0..*	Identifier	A identifier for the person as this agent	vhdir-Identifier	ok		ok		
5	active	Σ	0..1	boolean	Whether this practitioner's record is in active use		ok	1..1	ok	n/a	
6	name	Σ	0..*	HumanName	The name(s) associated with the practitioner	vhdir-HumanName	ok	1..1	ok	n/a	
7	telecom	Σ	0..*	ContactPoint	A contact detail for the practitioner (that apply to all roles)	vhdir-ContactPoint	ok	1..*	ok	ok	
8	address	Σ	0..*	Address	Address(es) of the practitioner that are not role specific (typically home address)	vhdir-Address	ok	1..*	ok	ok	
9	gender	Σ	0..1	code	male | female | other | unknown	Ok with value set	ok	1..1	ok	ok	
10					AdministrativeGender (Required)						
11	birthDate	Σ	0..1	date	The date on which the practitioner was born		ok	1..1	ok	n/a	
12	photo		0..*	Attachment	Image of the person		ok	0..1	ok	n/a	
13	qualification		0..*	BackboneElement	Qualifications obtained by training and certification	vhdir-qualification	ok		ok	ok	may be used for individuals with no specific qualifciations
14	identifier		0..*	Identifier	An identifier for this qualification for the practitioner	vhdir-identifier	ok	tbd	ok	ok	constrain?
15	code		1..1	CodeableConcept	Coded representation of the qualification		ok		ok	?	need to review value set
16					v2 table 0360, Version 2.7 (Example)	value set needs more work (need to support org qualifications, individual board certification, consider constraining it?)					
17	period		0..1	Period	Period during which the qualification is valid		ok	1..1	ok	n/a	
18	issuer		0..1	Reference(Organization)	Organization that regulates and issues the qualification		ok	1..1	ok	ok	Need to create organization for each
19	communication		0..*	CodeableConcept	A language the practitioner is able to use in patient communication			0..0			
20					Common Languages (Extensible but limited to All Languages)						
21											
22											
23	Extensions										
24	endpoint		0..*	Reference (Endpoint	Reference to endpoint(s) unique to the practitioner						Only included if unique to the individual (i.e. independent c
25	digitalCertificate		0..*	BackboneElement	Digital identity certificate	*Note: Is there any time you would know issuer/serial number and not have the certificate itself?					
26	type		1..1	Code	Type of digital certificate	encryption (SSL)| encryption (other) | device | identity | signing | group | D					Blockchain? Two types of group certificates?
27	certificateStandard		0..1	Code	x.509v3						
28	Certificate		1..1	base64Binary	The certificate itself	Base 64 encoded (PEM format)					
29	expirationDate		1..1	Date	Expiration date of the certificate						
30	trustFramework		0..*	CodeableConcept	The trust frameworks supported by the certificate	DirectTrust | FBCA | others?					
31	Restriction		0..*	BackboneElement							
32	Qualification		0..*	BackboneElement		Waiting on final proposed data elements					
33	Accessibility		0..*	Backbone Element	Accessibility options offered by this practitioner						
34	Type		1..1	CodeableConcept	Type of accessibility options offered by this individual	Cultural Competancy, handicap accessible, ADA compliant, public transit opt					Values within the value set may have more/less relevance d
35	Description		0..1	String	Friendly description of accessibility options offered by this individual						
36	languageSpoken		0..*	BackboneElement	A language the practitioner is able to use in patient communication						
37	language		1..1	CodeableConcept	Language the practitioner speaks						
38					Common Languages (Extensible but limited to All Languages)	Extend to include ASL & other common languages (e.g. creole, vietnamese, tagalog, types of Chinese)					
39	proficiency		0..1	CodeableConcept	Level of proficiency	ILR scale, CEFR, ACTFL					suggested enhancement, but not critical

Practitioner | Organization | PractitionerRole | OrganizationRole | HealthcareService | Location | CareTeam | Endpoint | Validation | Ne ...

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What we learned…

1. FHIR isn’t ready yet
2. Most vendors are not implementing STU3
   - Either staying with DSTU2
   - Waiting for STU4

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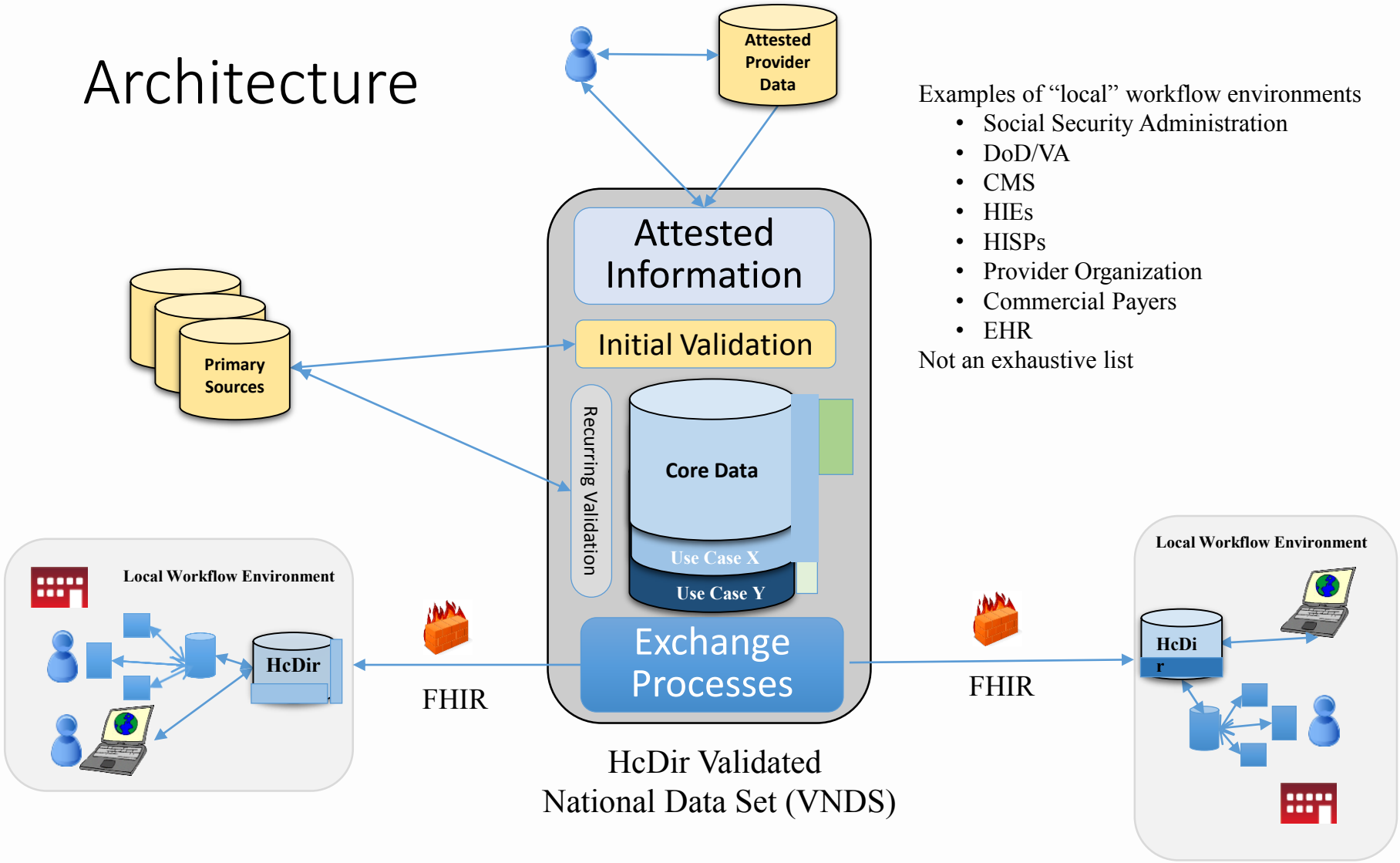
Architecture



HcDir Validated National Data Set (VNDS)

Examples of "local" workflow environments

- Social Security Administration
- DoD/VA
- CMS
- HIEs
- HISPs
- Provider Organization
- Commercial Payers
- EHR

Not an exhaustive list

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What we learned…

People want…

1. Realtime queries for specific records
2. Batch downloads of subsections of a directory
   - “All the providers, organizations, plans in California”
   - “All the providers on a specific network”
3. Notification of changes
   - Subscribe / publish model

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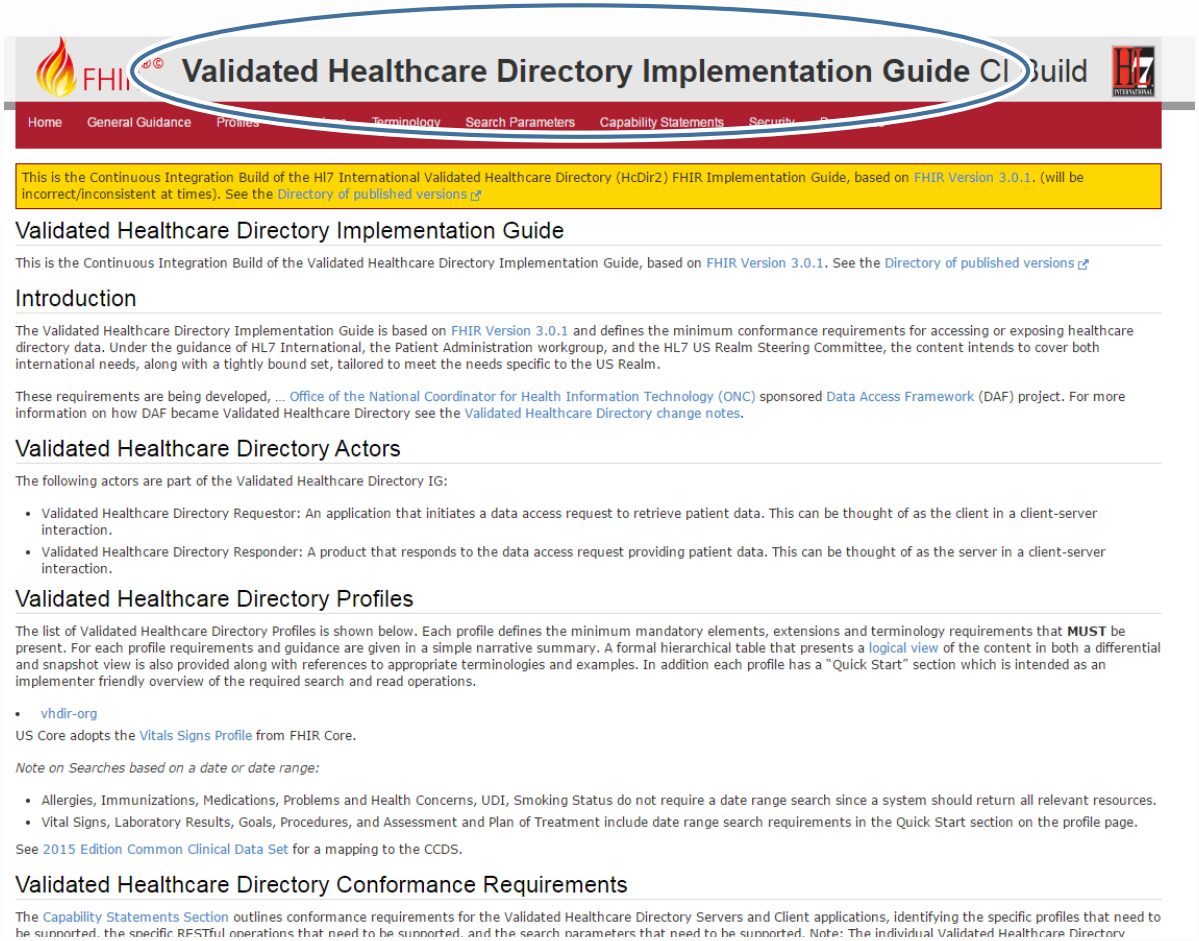
HcDir → VHDir



Validated Healthcare Directory Implementation Guide CI Build

Home | General Guidance | Profiles | Terminology | Search Parameters | Capability Statements | Security

This is the Continuous Integration Build of the Hl7 International Validated Healthcare Directory (HcDir2) FHIR Implementation Guide, based on FHIR Version 3.0.1. (will be incorrect/inconsistent at times). See the Directory of published versions

Validated Healthcare Directory Implementation Guide

This is the Continuous Integration Build of the Validated Healthcare Directory Implementation Guide, based on FHIR Version 3.0.1. See the Directory of published versions

Introduction

The Validated Healthcare Directory Implementation Guide is based on FHIR Version 3.0.1 and defines the minimum conformance requirements for accessing or exposing healthcare directory data. Under the guidance of HL7 International, the Patient Administration workgroup, and the HL7 US Realm Steering Committee, the content intends to cover both international needs, along with a tightly bound set, tailored to meet the needs specific to the US Realm.

These requirements are being developed, ... Office of the National Coordinator for Health Information Technology (ONC) sponsored Data Access Framework (DAF) project. For more information on how DAF became Validated Healthcare Directory see the Validated Healthcare Directory change notes.

Validated Healthcare Directory Actors

The following actors are part of the Validated Healthcare Directory IG:

- Validated Healthcare Directory Requestor: An application that initiates a data access request to retrieve patient data. This can be thought of as the client in a client-server interaction.
- Validated Healthcare Directory Responder: A product that responds to the data access request providing patient data. This can be thought of as the server in a client-server interaction.

Validated Healthcare Directory Profiles

The list of Validated Healthcare Directory Profiles is shown below. Each profile defines the minimum mandatory elements, extensions and terminology requirements that **MUST** be present. For each profile requirements and guidance are given in a simple narrative summary. A formal hierarchical table that presents a logical view of the content in both a differential and snapshot view is also provided along with references to appropriate terminologies and examples. In addition each profile has a "Quick Start" section which is intended as an implementer friendly overview of the required search and read operations.

- vhdir-org

US Core adopts the Vitals Signs Profile from FHIR Core.

Note on Searches based on a date or date range:

- Allergies, Immunizations, Medications, Problems and Health Concerns, UDI, Smoking Status do not require a date range search since a system should return all relevant resources.
- Vital Signs, Laboratory Results, Goals, Procedures, and Assessment and Plan of Treatment include date range search requirements in the Quick Start section on the profile page.

See 2015 Edition Common Clinical Data Set for a mapping to the CCDS.

Validated Healthcare Directory Conformance Requirements

The Capability Statements Section outlines conformance requirements for the Validated Healthcare Directory Servers and Client applications, identifying the specific profiles that need to be supported, the specific RESTful operations that need to be supported, and the search parameters that need to be supported. Note: The individual Validated Healthcare Directory

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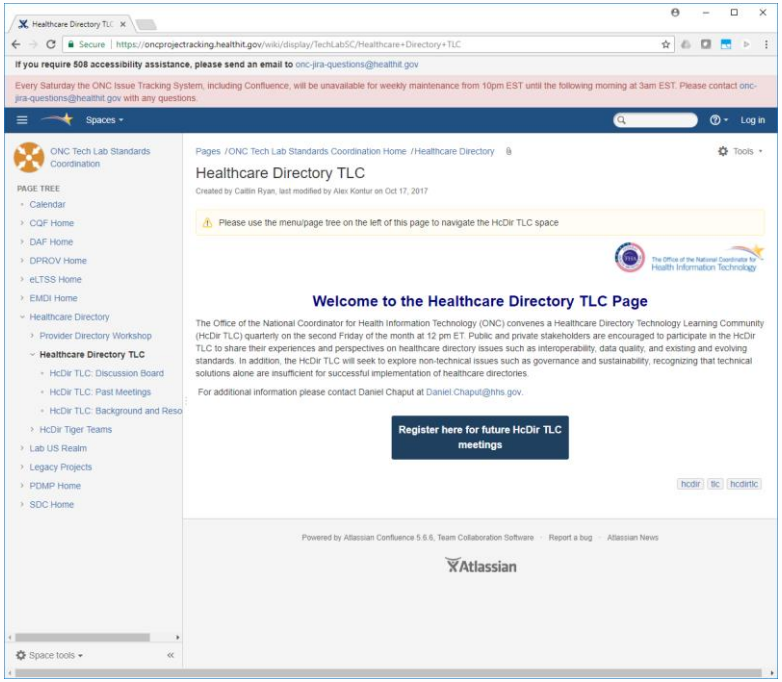
Next steps… a work in progress

- Draft a update to FHIR for STU4
- Draft an implementation guide that constrains STU4

See https://oncprojectracking.healthit.gov/wiki/display/TechLabSC/Healthcare+Directory+TLC



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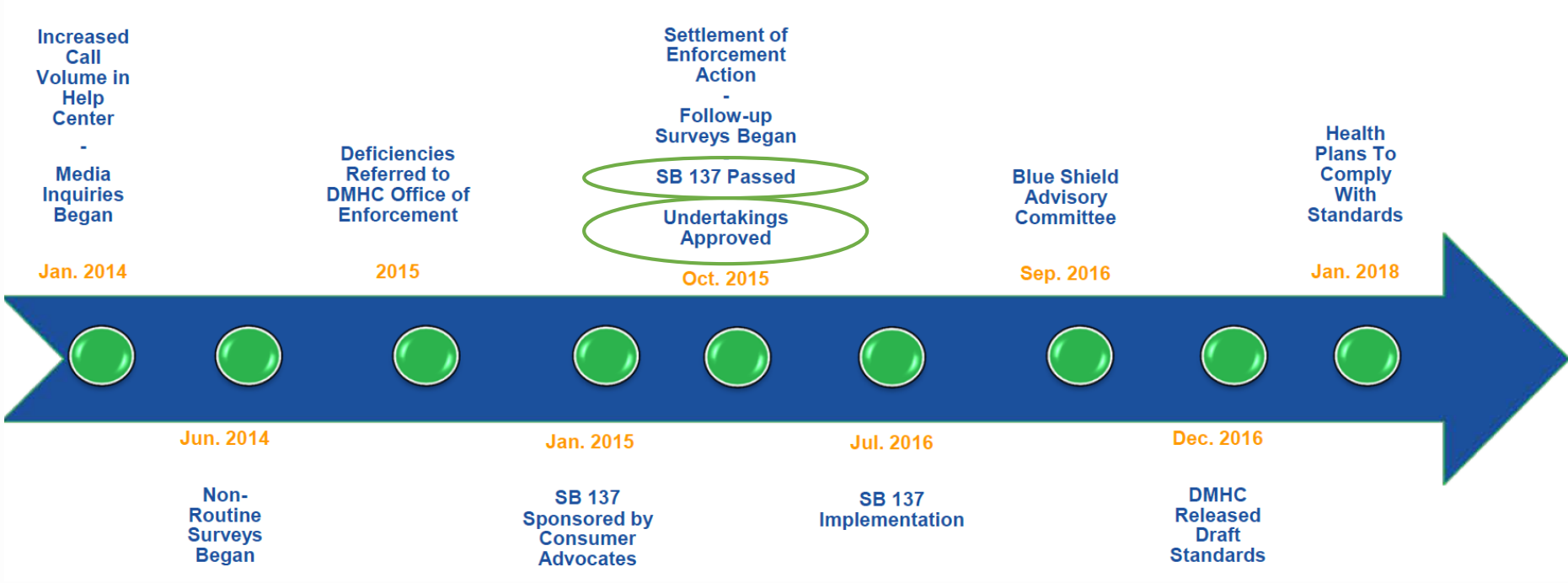
Pause for questions…

The problem…

- Post-ACA, consumers increasingly rely on provider directories to review networks when choosing a plan
- New network designs use limited network size as a tool to manage cost and improve quality
- Longstanding challenges around the accuracy of provider data are magnified by:
  - Provider confusion
  - Quickly changing data
  - Outdated systems and processes
  - Reliance on factors outside the plans control
- Complicated by complex and uncoordinated regulatory requirements:
  - Federal Requirements (Medicare, Medicaid, QHP)
  - State Requirements (SB 137, DHCS, and Covered California)

History…


Increased Call Volume in Help Center - Media Inquiries Began
Jan. 2014
Jun. 2014
Non-Routine Surveys Began
Deficiencies Referred to DMHC Office of Enforcement
2015
Settlement of Enforcement Action - Follow-up Surveys Began
SB 137 Passed
Undertakings Approved
Oct. 2015
Jan. 2015
SB 137 Sponsored by Consumer Advocates
Jul. 2016
SB 137 Implementation
Blue Shield Advisory Committee
Sep. 2016
Dec. 2016
DMHC Released Draft Standards
Health Plans To Comply With Standards
Jan. 2018

Enter state legislature…

- SB 137 establishes requirements on health plans and health insurers (carriers) to:
  - make available updated consumer-facing provider directories
  - providing information about contracting providers
  - including those who are accepting new patients
  - updated quarterly in paper and weekly online
  - available on carrier websites without requiring searchers to create or access an account or commit to signing up for the plan
  - include whether the provider or staff speaks any non-English language
  - include if there is access for persons with disabilities

See https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160SB137

Enter state legislature…

- SB 137 calls for accuracy:
  - Plans/insurers must promptly investigate and correct any issues within 30 business days
  - Providers must inform the plan within five business days if they are not accepting new patients or become open to new patients
  - Allows the plan to remove the provider from provider directory, delay payment or reimbursement, or even terminate a provider contract

CA Provider Directory Collaborative

Goal:

The development of a statewide centralized provider directory database for the purpose of creating a single portal for consumers to access information, for providers to access and update their data, and for health plans to meet their legal obligations regarding provider directories and invite all California health plans, including Medi-Cal managed care plans, to participate.

Sponsor:

"The Undertaking"

Blue Shield of California commits $50 Million to strengthen the health care delivery system, in particular the Medi-Cal delivery system, through programs that are intended to improve infrastructure at the plan and provider level.

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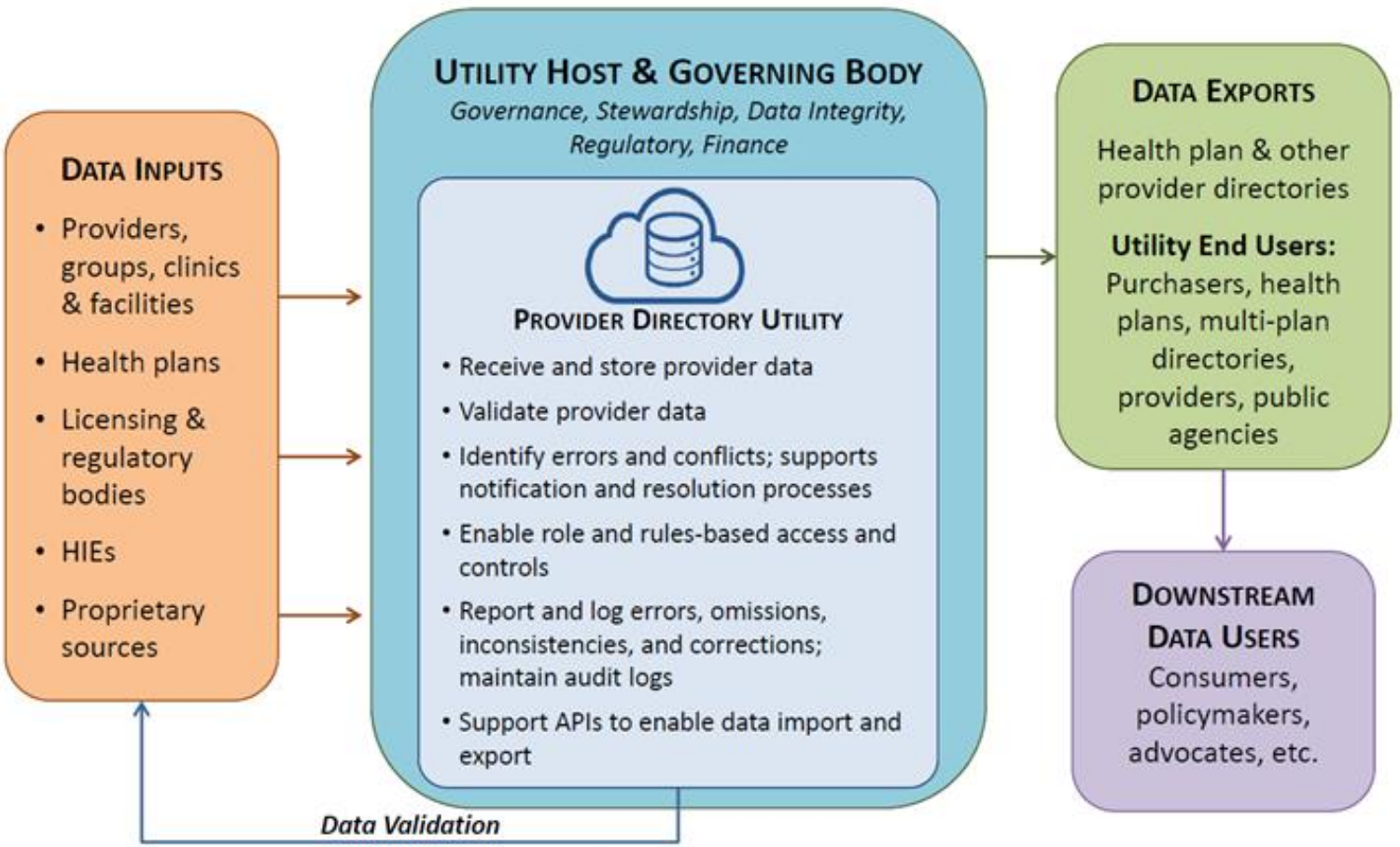
The solution…



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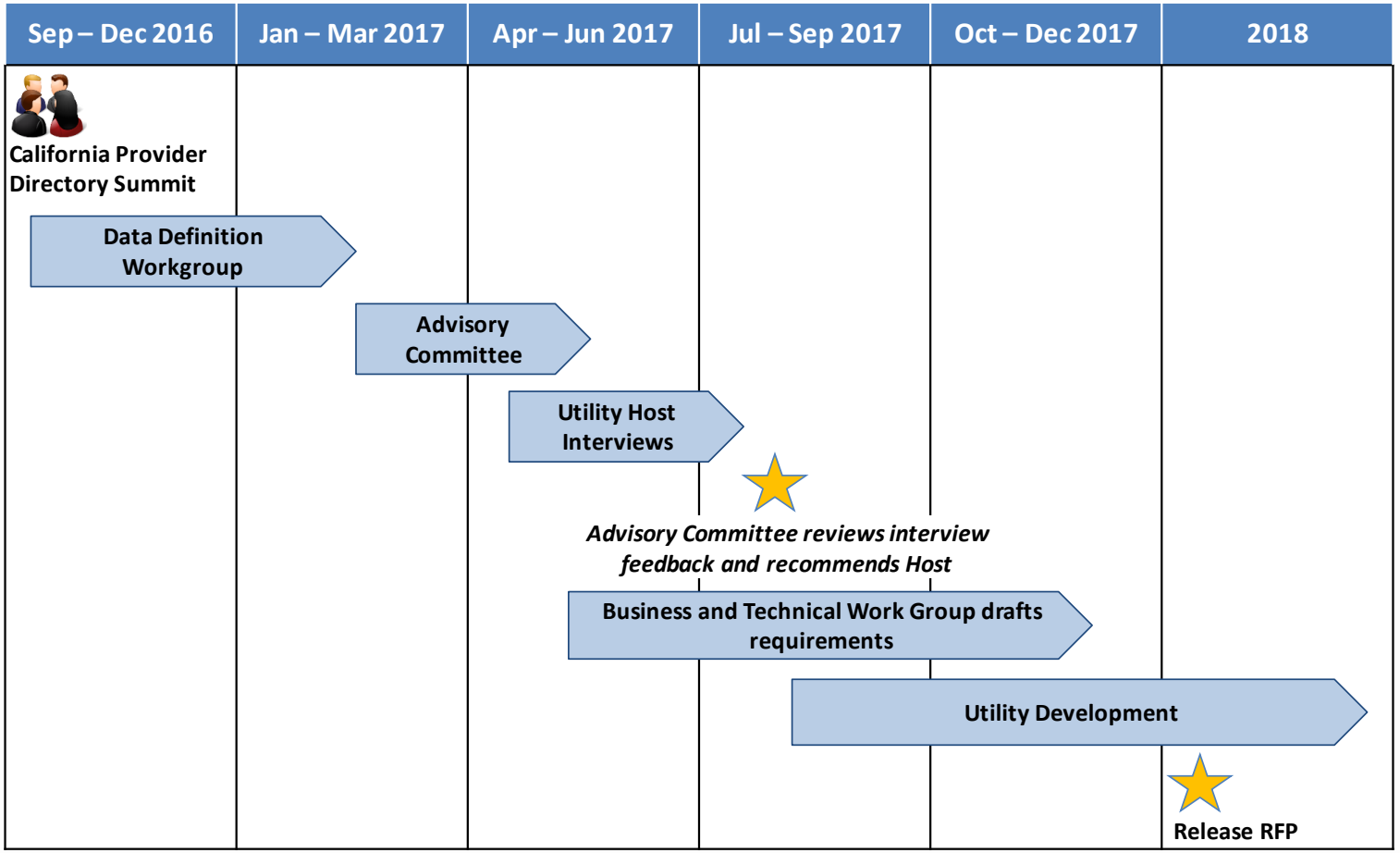
Timeline



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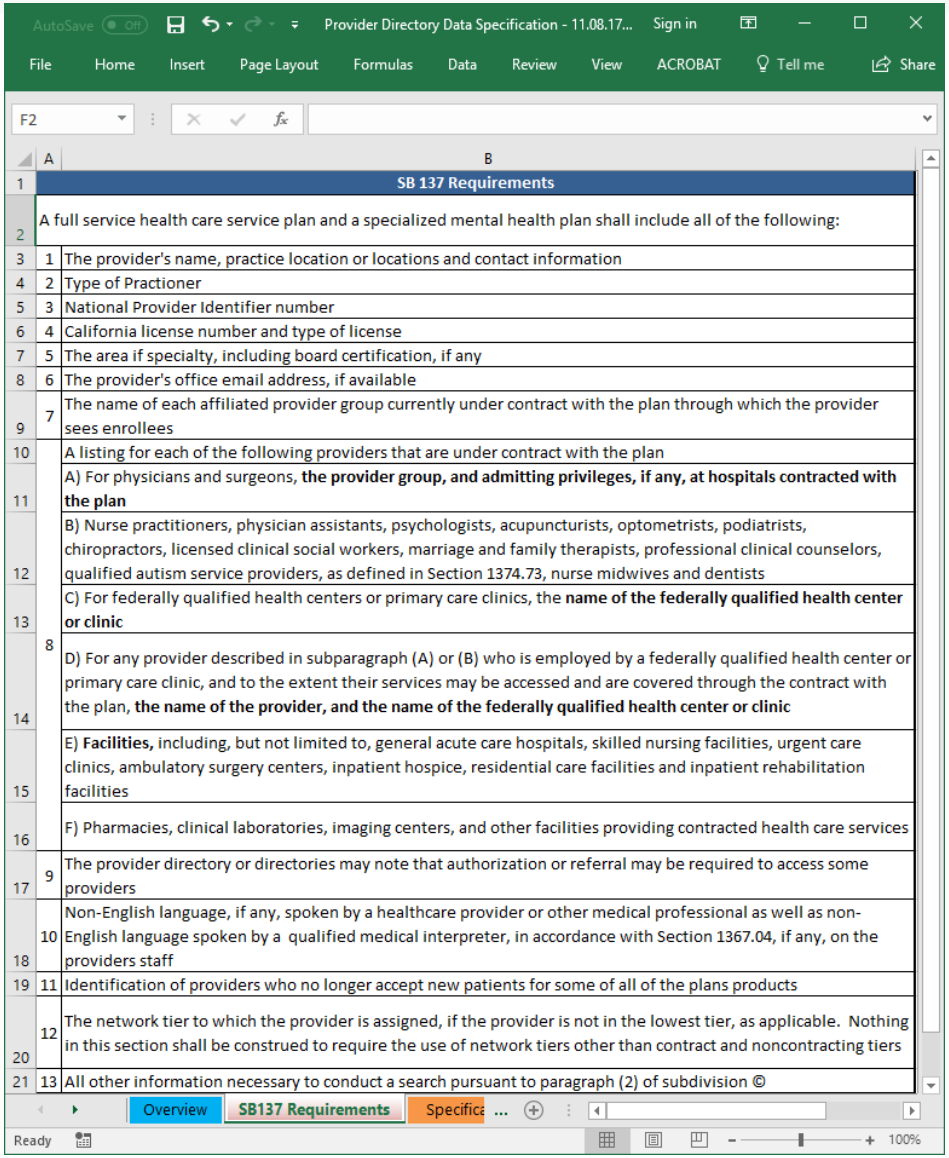
Data Elements

SB 137 calls out specific requirements for the provider directory

Reviewed by Data Elements Workgroup to prepare recommendations to Department of Managed Health Care



	A	B
1		**SB 137 Requirements**
2		A full service health care service plan and a specialized mental health plan shall include all of the following:
3	1	The provider's name, practice location or locations and contact information
4	2	Type of Practioner
5	3	National Provider Identifier number
6	4	California license number and type of license
7	5	The area if specialty, including board certification, if any
8	6	The provider's office email address, if available
9	7	The name of each affiliated provider group currently under contract with the plan through which the provider sees enrollees
10	8	A listing for each of the following providers that are under contract with the plan
11		A) For physicians and surgeons, **the provider group, and admitting privileges, if any, at hospitals contracted with the plan**
12		B) Nurse practitioners, physician assistants, psychologists, acupuncturists, optometrists, podiatrists, chiropractors, licensed clinical social workers, marriage and family therapists, professional clinical counselors, qualified autism service providers, as defined in Section 1374.73, nurse midwives and dentists
13		C) For federally qualified health centers or primary care clinics, the **name of the federally qualified health center or clinic**
14		D) For any provider described in subparagraph (A) or (B) who is employed by a federally qualified health center or primary care clinic, and to the extent their services may be accessed and are covered through the contract with the plan, **the name of the provider, and the name of the federally qualified health center or clinic**
15		E) **Facilities,** including, but not limited to, general acute care hospitals, skilled nursing facilities, urgent care clinics, ambulatory surgery centers, inpatient hospice, residential care facilities and inpatient rehabilitation facilities
16		F) Pharmacies, clinical laboratories, imaging centers, and other facilities providing contracted health care services
17	9	The provider directory or directories may note that authorization or referral may be required to access some providers
18	10	Non-English language, if any, spoken by a healthcare provider or other medical professional as well as non-English language spoken by a qualified medical interpreter, in accordance with Section 1367.04, if any, on the providers staff
19	11	Identification of providers who no longer accept new patients for some of all of the plans products
20	12	The network tier to which the provider is assigned, if the provider is not in the lowest tier, as applicable. Nothing in this section shall be construed to require the use of network tiers other than contract and noncontracting tiers
21	13	All other information necessary to conduct a search pursuant to paragraph (2) of subdivision ©

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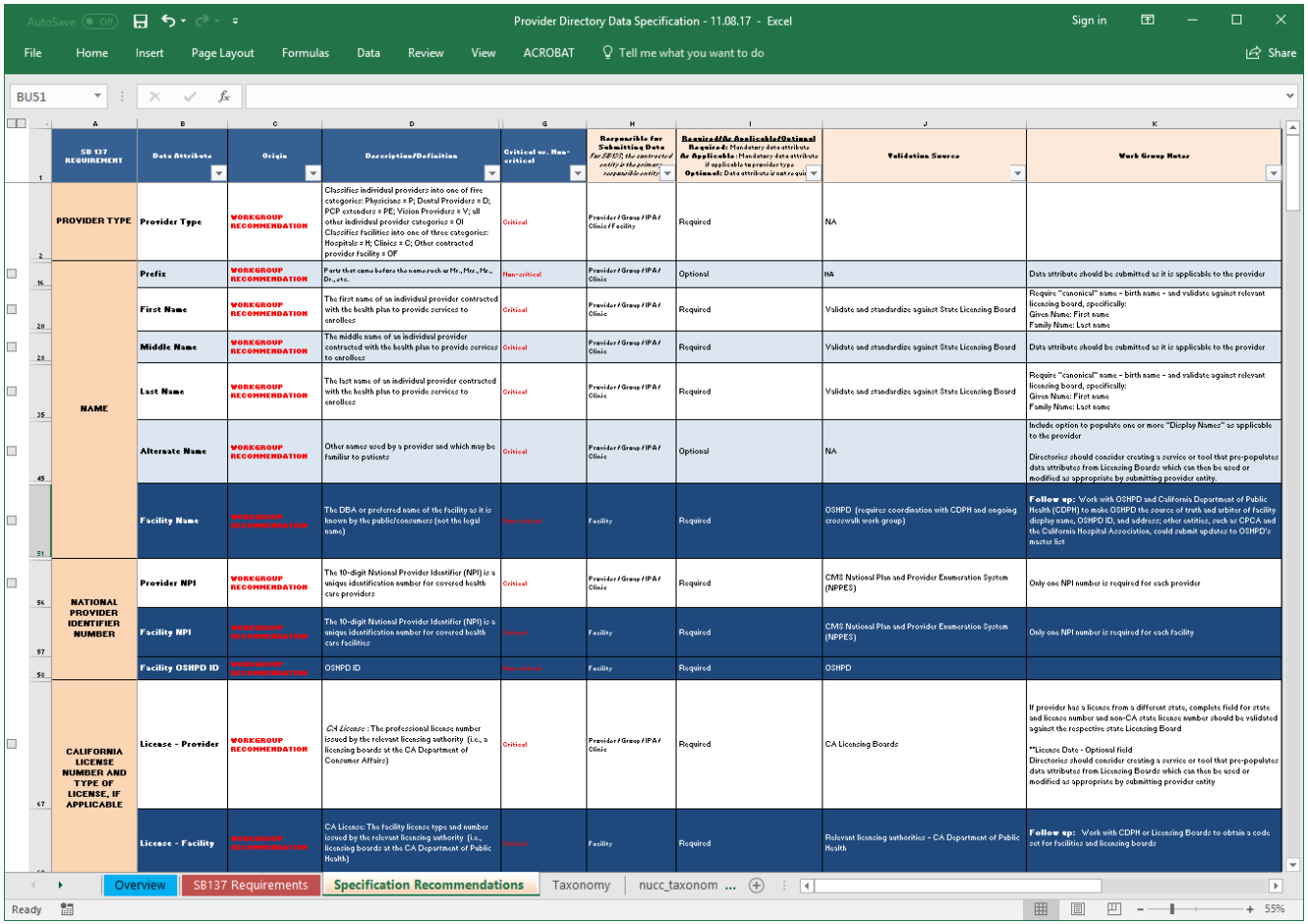
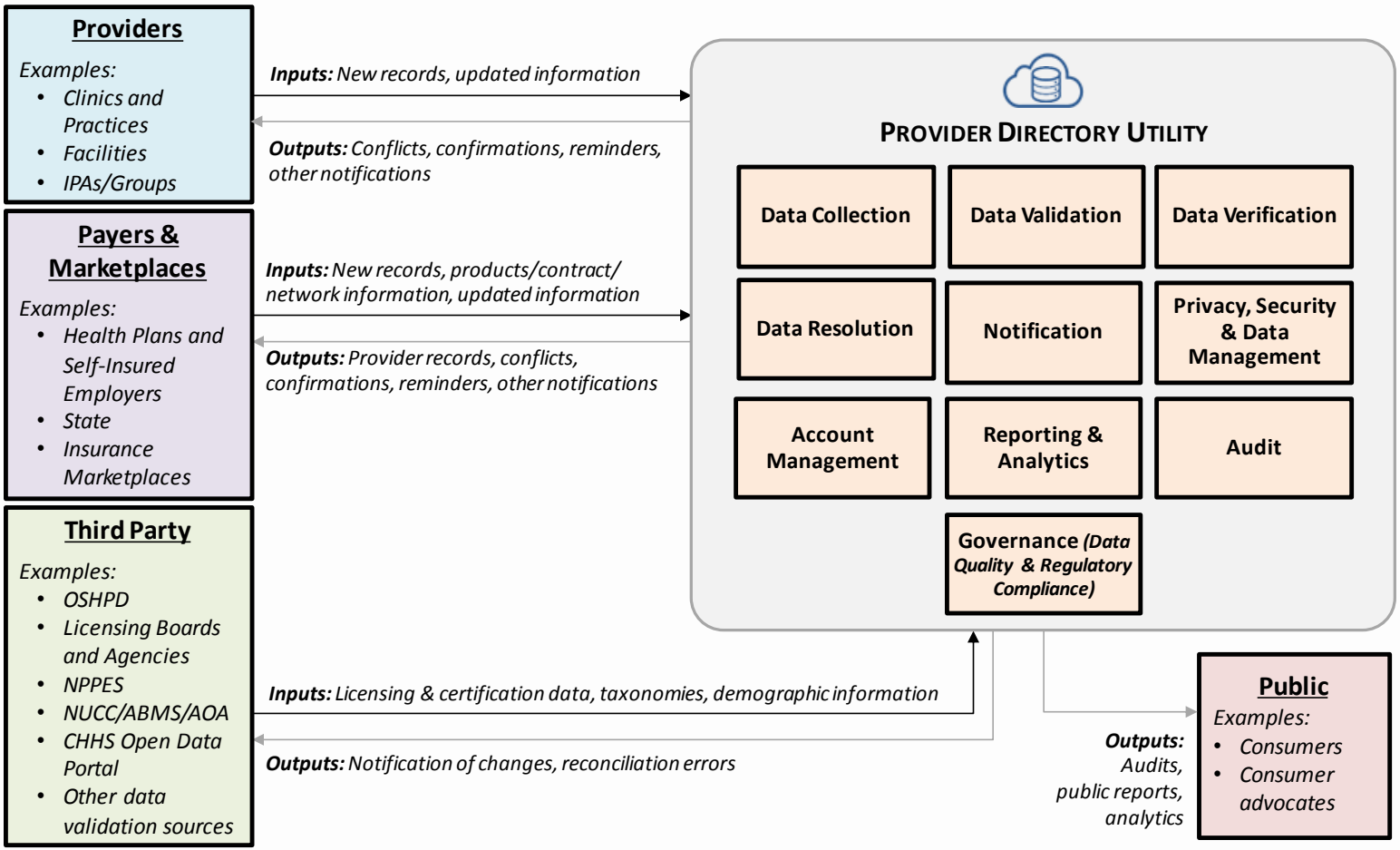
Data Elements

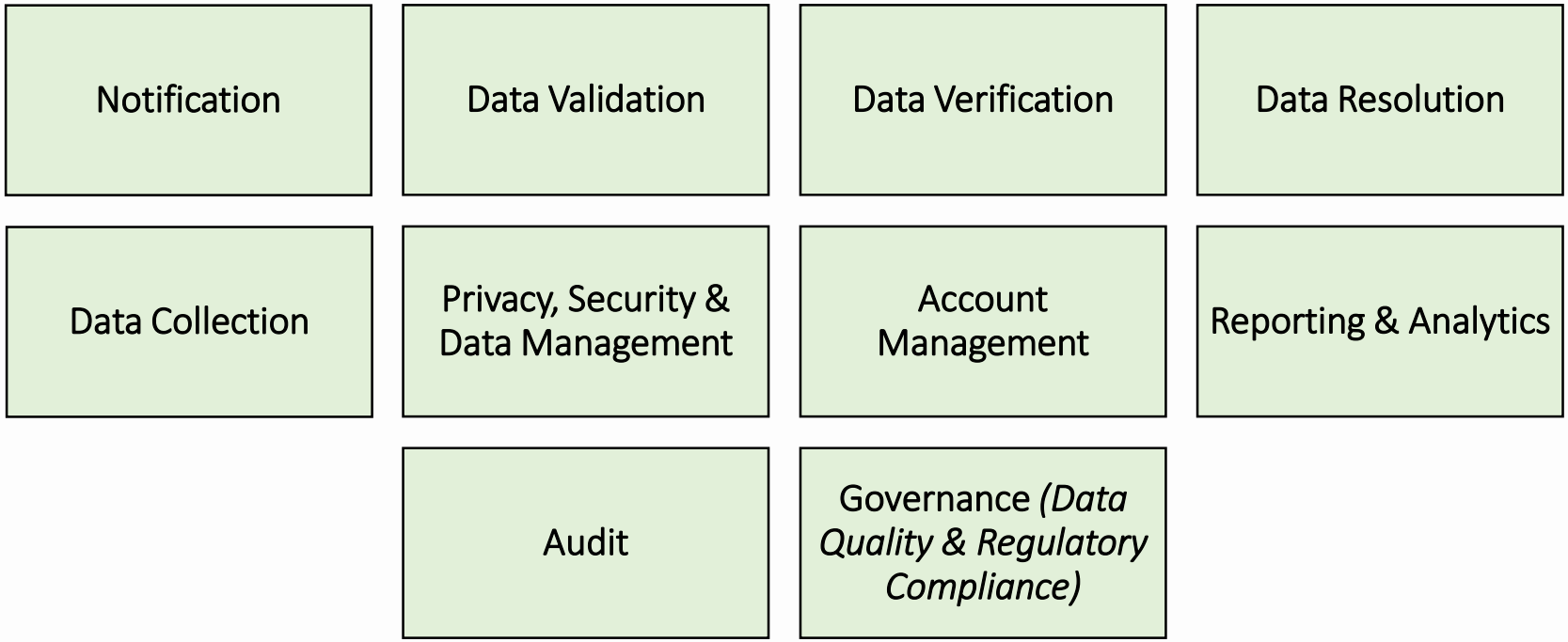


	SB 137 REQUIREMENT	Data Attribute	Origin	Description/Definition	Critical vs. Non-critical	Responsible for Submitting Data *For SB137, the contracted entity is the primary responsible entity*	Require d/As Applicable/Optional **Required:** Mandatory data attribute **As Applicable:** Mandatory data attribute if applicable to provider type **Optional:** Data attribute is not req	Validation Source	Work Group Notes
2	PROVIDER TYPE	Provider Type	WORKGROUP RECOMMENDATION	Classifies individual providers into one of five categories: Physicians = P; Dental Providers = D; PCP extenders = PE; Vision Providers = V; all other individual provider categories = OI Classifies facilities into one of three categories: Hospitals = H; Clinics = C; Other contracted provider facility = OF	Critical	Provider / Group / IPA / Clinic / Facility	Required	NA	
16	NAME	Prefix	WORKGROUP RECOMMENDATION	Parts that come before the name such as Mr., Mrs., Ms., Dr., etc.	Non-critical	Provider / Group / IPA / Clinic	Optional	NA	Data attribute should be submitted as it is applicable to the provider
20		First Name	WORKGROUP RECOMMENDATION	The first name of an individual provider contracted with the health plan to provide services to enrollees	Critical	Provider / Group / IPA / Clinic	Required	Validate and standardize against State Licensing Board	Require "canonical" name - birth name - and validate against relevant licensing board, specifically: Given Name: First name Family Name: Last name
28		Middle Name	WORKGROUP RECOMMENDATION	The middle name of an individual provider contracted with the health plan to provide services to enrollees	Critical	Provider / Group / IPA / Clinic	Required	Validate and standardize against State Licensing Board	Data attribute should be submitted as it is applicable to the provider
35		Last Name	WORKGROUP RECOMMENDATION	The last name of an individual provider contracted with the health plan to provide services to enrollees	Critical	Provider / Group / IPA / Clinic	Required	Validate and standardize against State Licensing Board	Require "canonical" name - birth name - and validate against relevant licensing board, specifically: Given Name: First name Family Name: Last name
45		Alternate Name	WORKGROUP RECOMMENDATION	Other names used by a provider and which may be familiar to patients	Critical	Provider / Group / IPA / Clinic	Optional	NA	Include option to populate one or more "Display Names" as applicable to the provider Directories should consider creating a service or tool that pre-populates data attributes from Licensing Boards which can then be used or modified as appropriate by submitting provider entity.
51		Facility Name	WORKGROUP RECOMMENDATION	The DBA or preferred name of the facility as it is known by the public/consumers (not the legal name)	Non-critical	Facility	Required	OSHPD (requires coordination with CDPH and ongoing crosswalk work group)	**Follow up:** Work with OSHPD and California Department of Public Health (CDPH) to make OSHPD the source of truth and arbiter of facility display name, OSHPD ID, and address; other entities, such as CPCA and the California Hospital Association, could submit updates to OSHPD's master list
56	NATIONAL PROVIDER IDENTIFIER NUMBER	Provider NPI	WORKGROUP RECOMMENDATION	The 10-digit National Provider Identifier (NPI) is a unique identification number for covered health care providers	Critical	Provider / Group / IPA / Clinic	Required	CMS National Plan and Provider Enumeration System (NPPES)	Only one NPI number is required for each provider
57		Facility NPI	WORKGROUP RECOMMENDATION	The 10-digit National Provider Identifier (NPI) is a unique identification number for covered health care facilities	Critical	Facility	Required	CMS National Plan and Provider Enumeration System (NPPES)	Only one NPI number is required for each facility
58		Facility OSHPD ID	WORKGROUP RECOMMENDATION	OSHPD ID	Non-critical	Facility	Required	OSHPD	
67	CALIFORNIA LICENSE NUMBER AND TYPE OF LICENSE, IF APPLICABLE	License - Provider	WORKGROUP RECOMMENDATION	*CA License* : The professional license number issued by the relevant licensing authority (i.e., a licensing boards at the CA Department of Consumer Affairs)	Critical	Provider / Group / IPA / Clinic	Required	CA Licensing Boards	If provider has a license from a different state, complete field for state and license number and non-CA state license number should be validated against the respective state Licensing Board **License Date - Optional field Directories should consider creating a service or tool that pre-populates data attributes from Licensing Boards which can then be used or modified as appropriate by submitting provider entity
		License - Facility	WORKGROUP RECOMMENDATION	CA License: The facility license type and number issued by the relevant licensing authority (i.e., licensing boards at the CA Department of Public Health)	Critical	Facility	Required	Relevant licensing authorities - CA Department of Public Health	**Follow up:** Work with CDPH or Licensing Boards to obtain a code set for Facilities and licensing boards

Business Process



Business Processes



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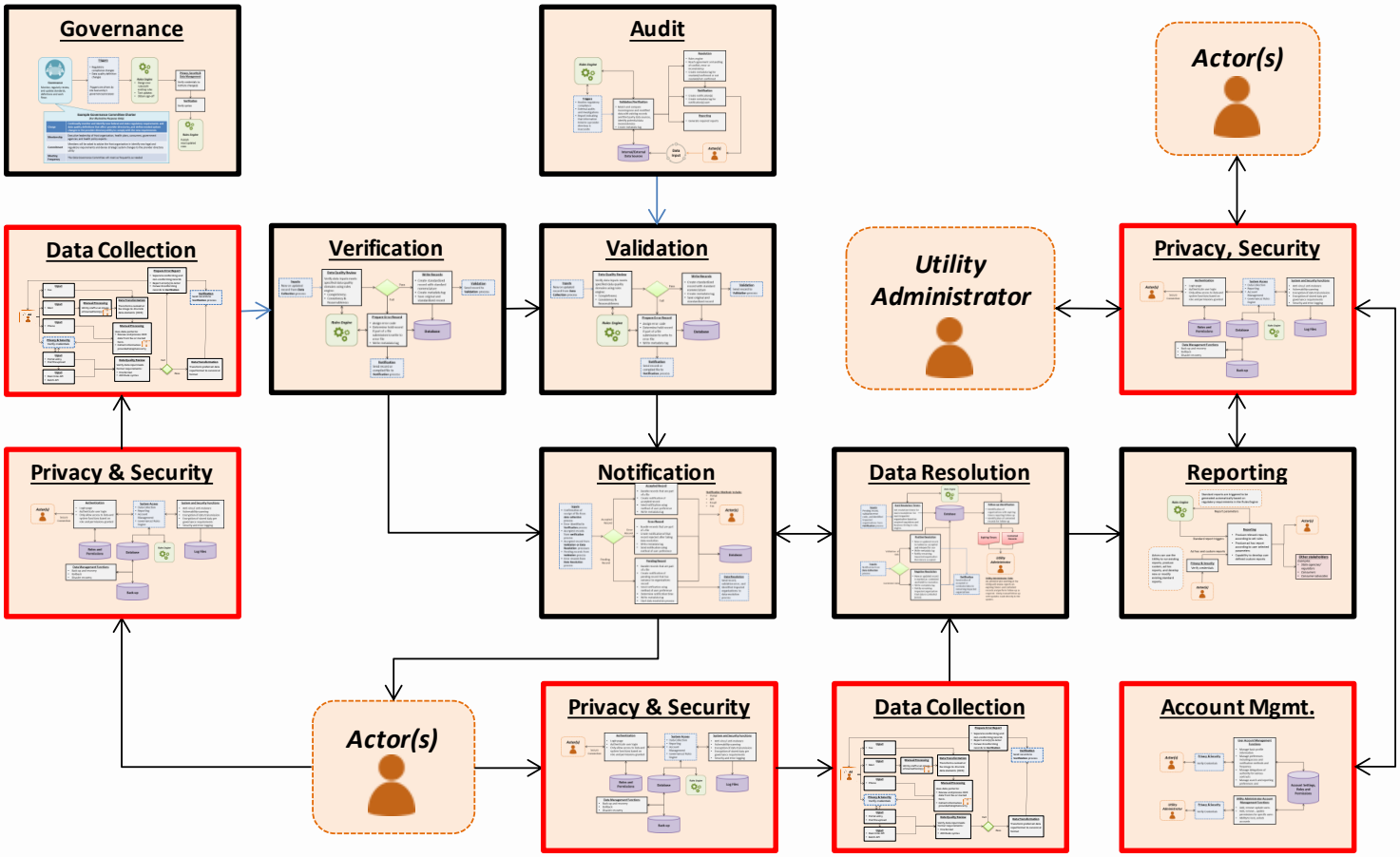
High-Level Flows



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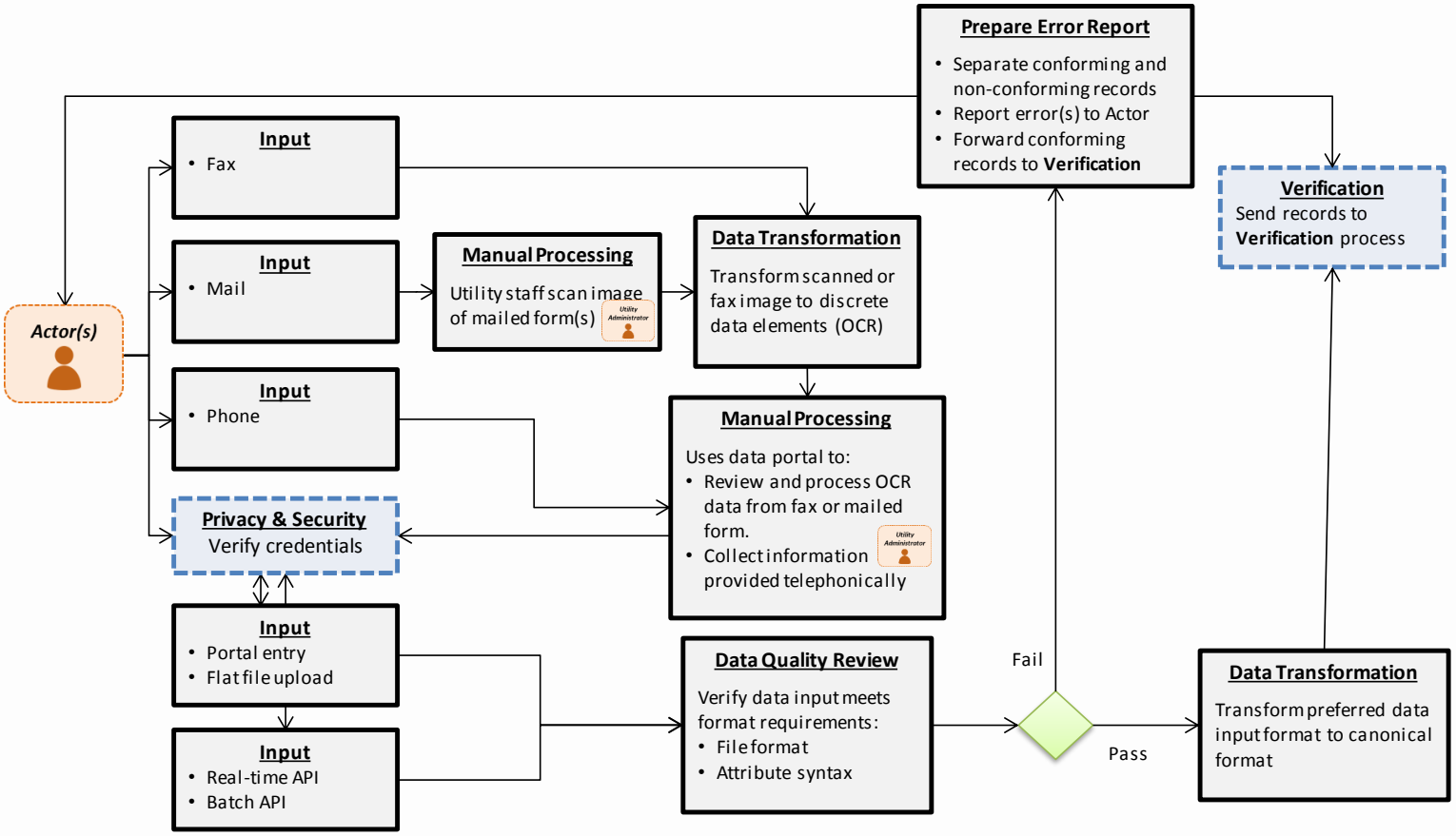
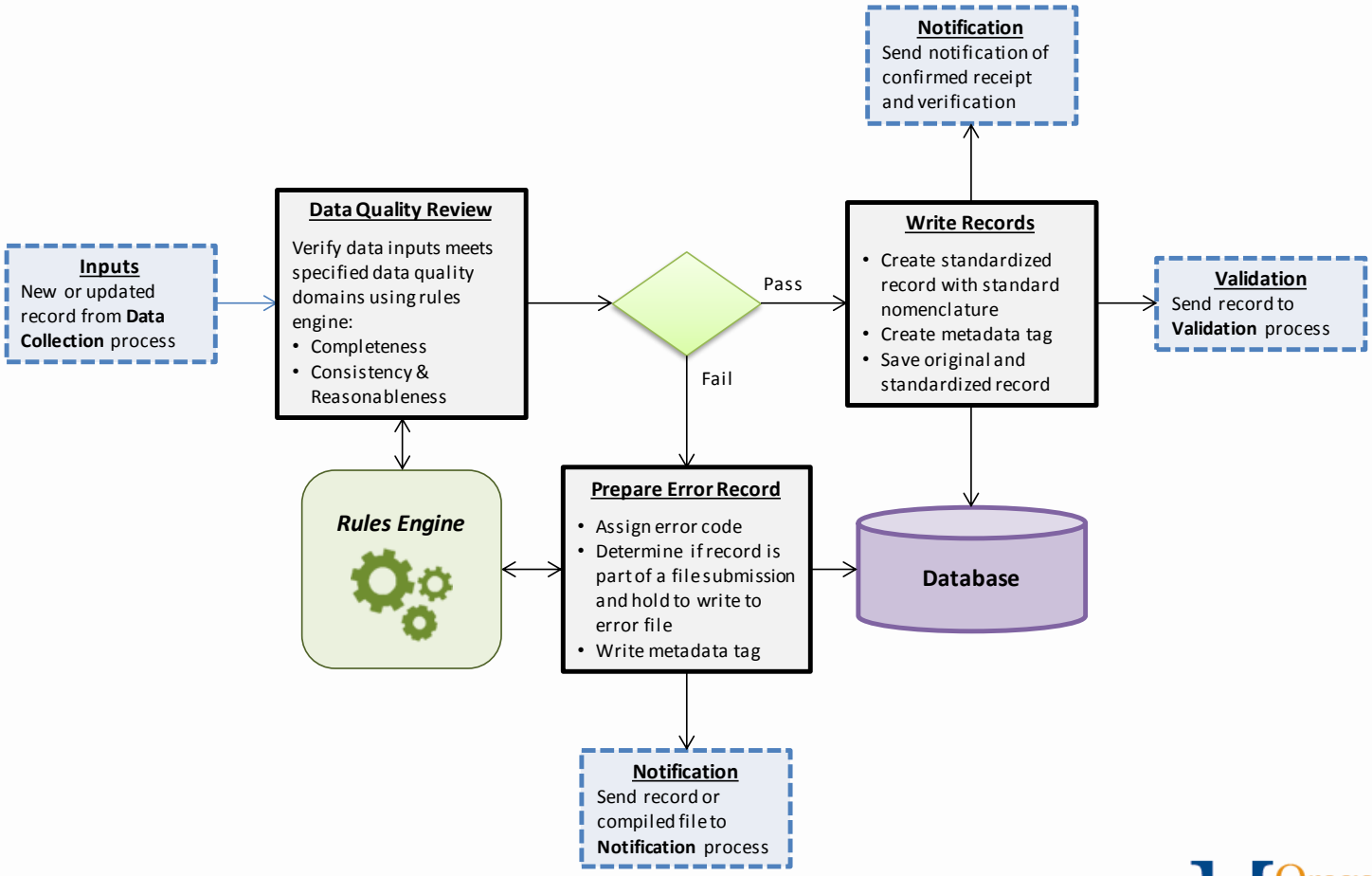
Collection Data Flow



Verification Data Flow



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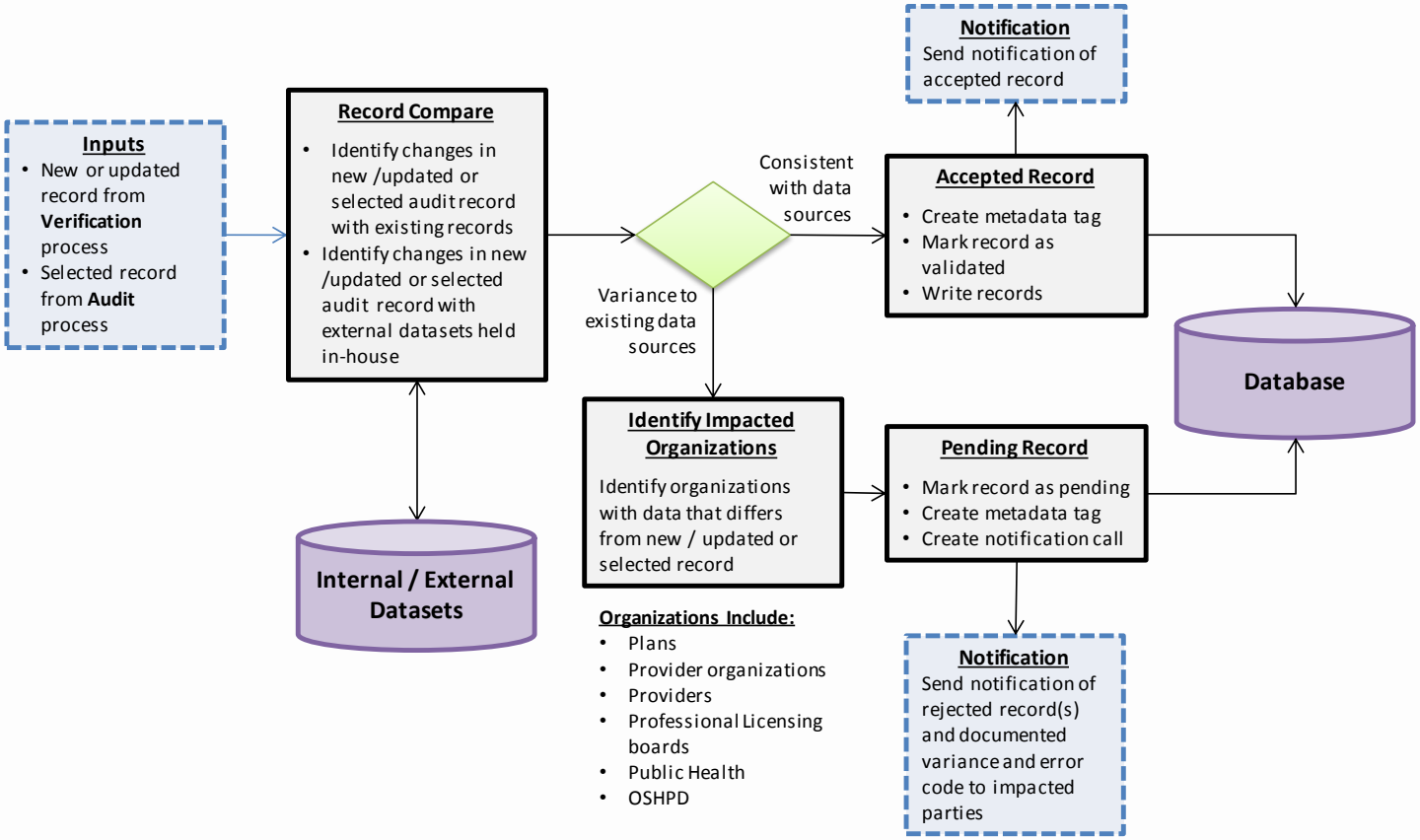
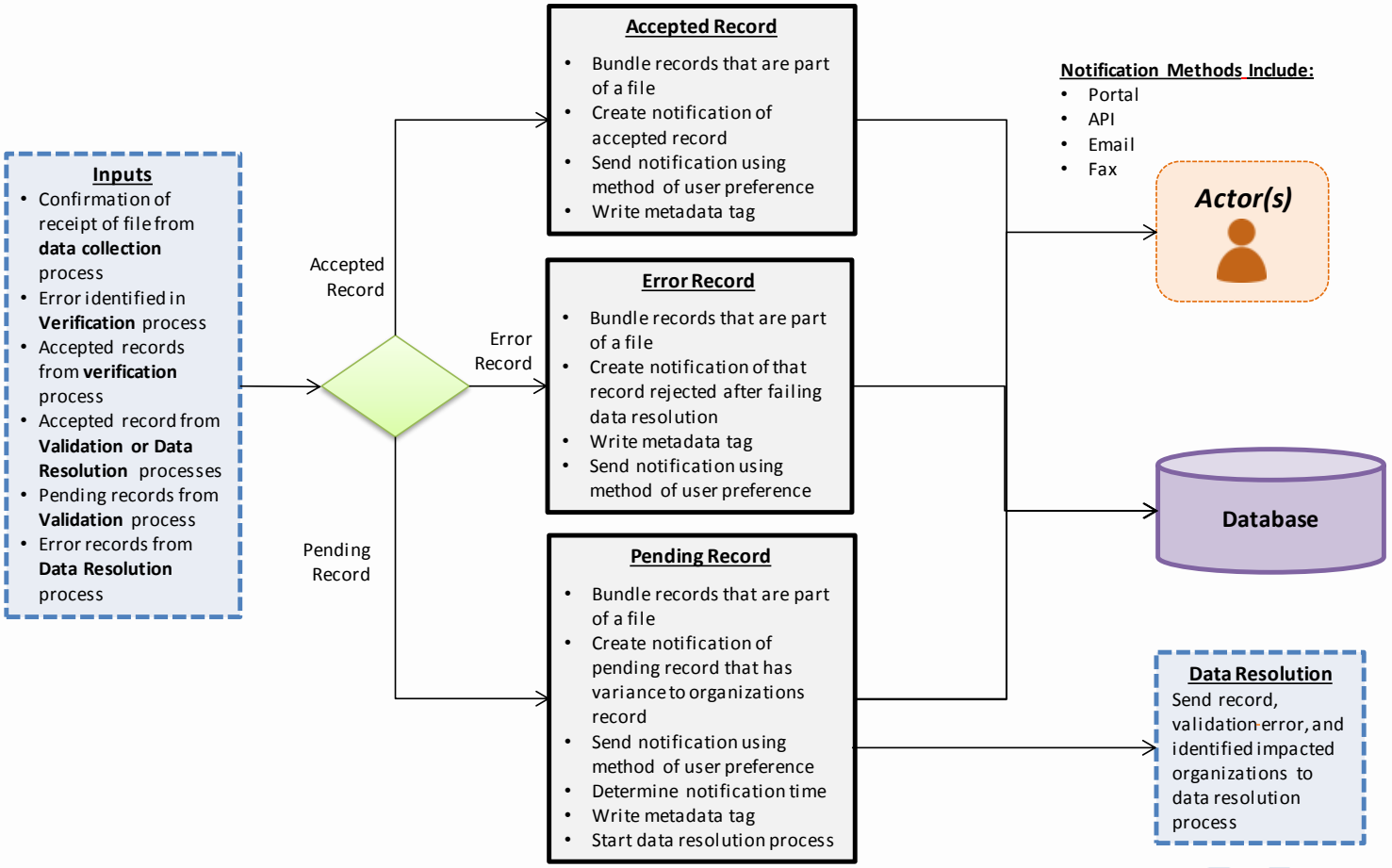
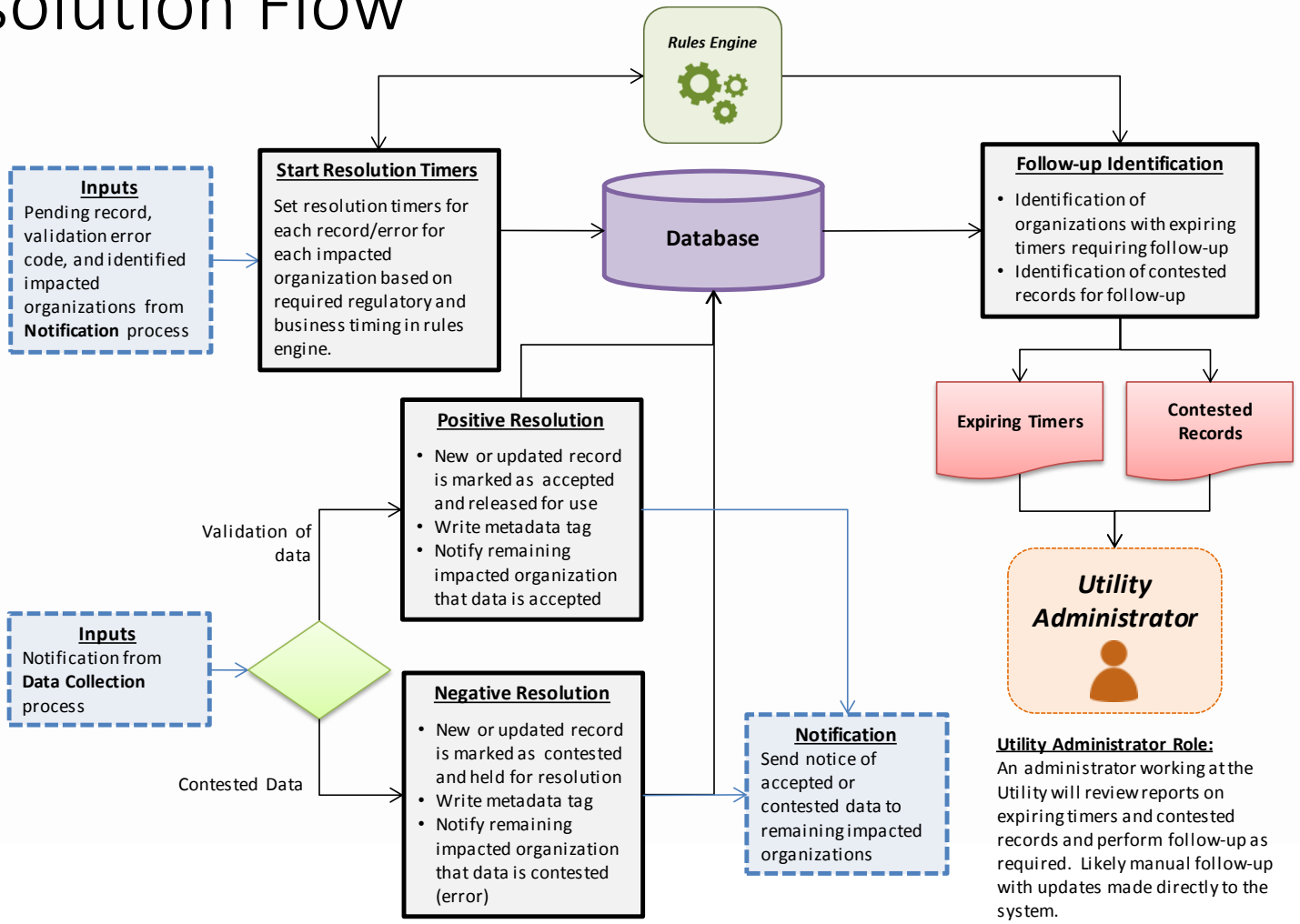
Validation Data Flow



Notification Flow



Resolution Flow



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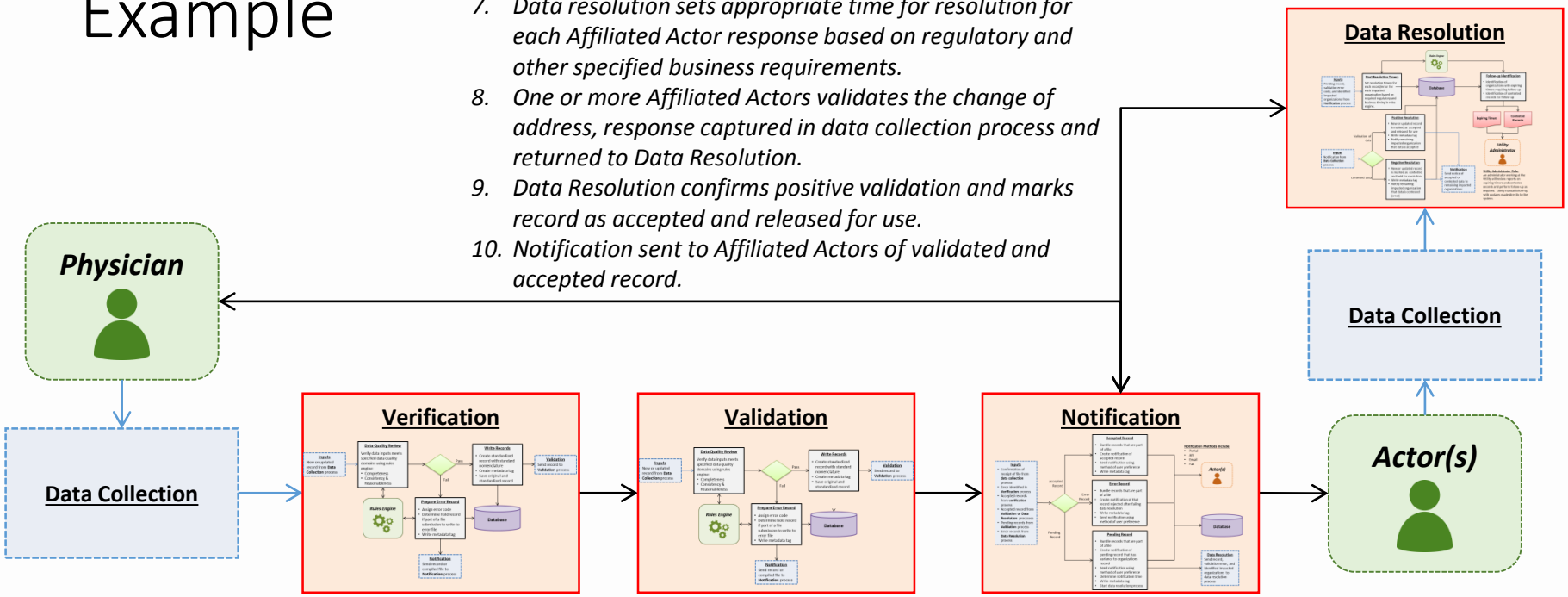
Example

7. *Data resolution sets appropriate time for resolution for each Affiliated Actor response based on regulatory and other specified business requirements.*
8. *One or more Affiliated Actors validates the change of address, response captured in data collection process and returned to Data Resolution.*
9. *Data Resolution confirms positive validation and marks record as accepted and released for use.*
10. *Notification sent to Affiliated Actors of validated and accepted record.*



1. *Physician changes practice address. Change record sent to verification from data collection process.*
2. *Record submitted passes verification quality checks, record are sent to Validation Process.*
3. *Updated record compared against existing data and does not match any existing records provided by physician, physician group or contracted Health Plans A, B and C.*
4. *Record marked as pending and saved to database. Record and error code indicating change of address sent to Notification Process.*

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Next steps… a work in progress

- Draft high-level requirements out for public comment
- RFP planned for vendor to provider utility service

See https://plus.google.com/communities/112670235620127621740?np=rdGe6ZGa31WZzRGclZWZjRDMkpnbilXdyJnb10GakN2MxoHL0Yme6V2My9mMpVGc11mMyk2cixme5JmcvFnbod3MzEje

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