

Electronic Data and the Importance of Quality Controls

California Association of Health Plans Seminar:
Improving Health Care Data
Sharing and Exchange
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Presenters



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Today's Agenda

- **About QMetrics**
- **Electronic data & interoperability**
 - Goals
 - Syntax & format
 - Data integrity & accuracy
- **Data Aggregator Validation (DAV) program goals**
- **DAV program components & requirements**
 - Data governance
 - Workflow analysis
 - Code mapping, transformation, and normalization
 - Data structure versus data content evaluations
 - Primary Source Verification (PSV)
- **An HIE's perspective on the DAV experience & value**
- **Key takeaways**
- **Questions & comments**

About QMetrics



What Services Does QMetrics Offer?

- **Data Aggregator Validation & Audits**
- **Appointment & Experience Surveys**
- **Quality Measurement & Value Based Reporting**
- **Quality Improvement (Gap Closure)**
- **Health Equity Accreditation**
- **Advanced Analytics**
- **Encounter Data Completeness**

DAV Program & QMetrics

National Committee for Quality Assurance (NCQA) Data Aggregator Validation (DAV) Program

- QMetrics is the DAV Co-developer
 - Co-developed Standards, Protocols, and Guidelines
 - Designed sampling strategy and PSV process
- QMetrics is the only current validation firm

61

Validations

31

Organizations

18

States

15,696

Data Sources

2019

- Discovery Phase

2020

- Pilot Phase
 - 3 Validations

2021

- Early Adopter Phase (Spring)
 - 1 Validation
- **National Launch (July)**
- Cohort 1 & 2 (Summer & Fall)
 - 19 Validations

2022

- Cohorts 3 & 4 (Spring & Summer)
 - 29 Validations

2023

- Cohorts 5 (Winter) - In Progress
 - 9 Validations
- Cohort 6 (Summer) - TBD

Electronic Data & Interoperability



Electronic Data & Interoperability

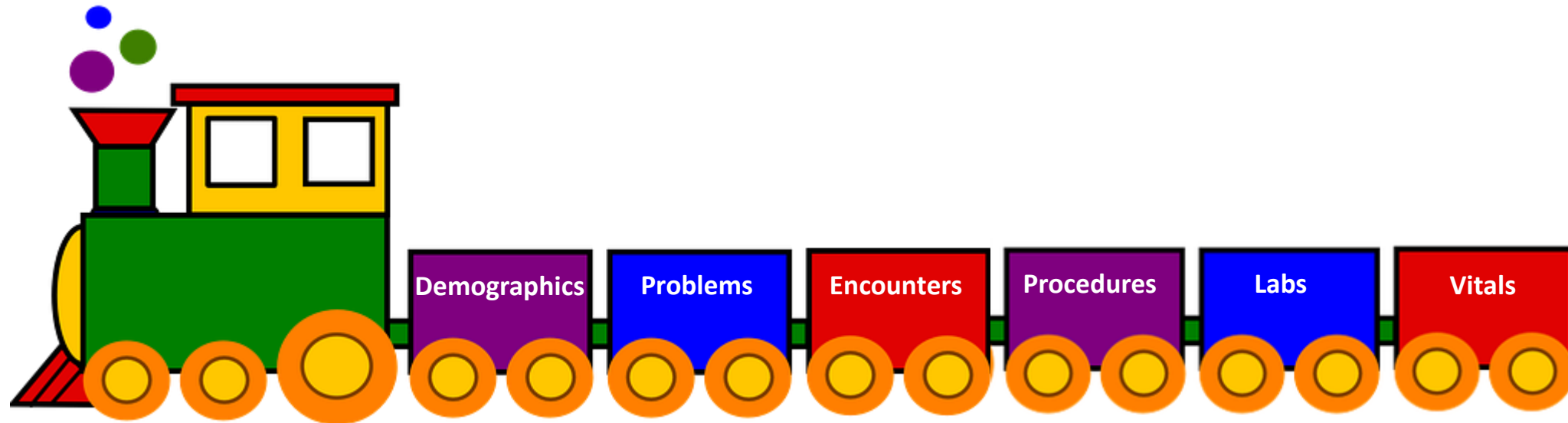
Data interoperability refers to the ways in which data is formatted that allow diverse datasets to be merged or aggregated in meaningful ways. *(National Library of Medicine Website)*

Data interoperability relies on metadata and data documentation, as without proper documentation researchers would not know which datasets and variables are comparable. *(National Library of Medicine Website)*



Interoperability – Traditional Oversight Approach

- **Focus on syntax and format (i.e., what goes where)**
 - EHR – ONC Certification
 - Conformance to HL7 CCD Implementation Guide
 - Conformance to HL7 FHIR Implementation Guide



What about Data integrity?

But what's in the cars of the train?

- Standard codes vs. non-standard codes.
- Are the codes mapped correctly?
- Do the data accurately reflect the care and services provided and are they supported by the EHR?

Simply passing data through, even if it is the right order and format, is no longer sufficient.

- Downstream clients need to be able to trust that the data they are given can be used in calculating quality measures that accurately represent the care being provided.

DAV Program Goals



The DAV Program: Role & Value

DAV complements and augments the traditional syntax / format / completeness data interoperability assessments and processes by ensuring that the accuracy and integrity of the data are maintained.

- Moves the audit function further “upstream” thereby increasing the value of the data earlier in the exchange process.
- The DAV program has the same rigor as a HEDIS® audit.
- Payers can use DAV validated data as standard supplemental data in quality measure reporting with no additional audit burden.
- The DAV audit is a different approach that often requires a different business objective for many data aggregators.

Frequently Asked Questions About DAV

Why are we responsible for data that is moving from *'Point A' to 'Point B'*

- Just because you are receiving information, doesn't mean that its accurate.

What's the Return on Investment (ROI)?

- Efficiencies in care delivery and care coordination; better utilization management; gap closure; furthering interoperability.

What's the consequence if it's not in place?

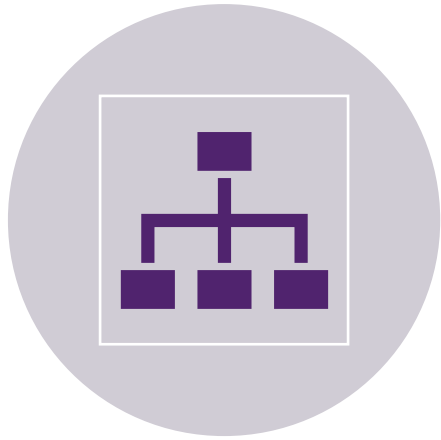
- Poor and ineffective policy decision; decrease in efficiency and bottlenecks; Distrust of technology and data; patient frustration and mistreatment; Delays in patient care; incomplete patient data.

DAV Program Components & Requirements

- Data Governance
- Workflow Analysis
- Code Mapping, Transformation, and Normalization
- Data Structure versus Data Content Evaluations
- Primary Source Verification



Data Governance



WHAT IS DATA
GOVERNANCE?



IMPORTANCE OF
ESTABLISHING A DATA
GOVERNANCE
FRAMEWORK



BEST PRACTICES AND
CONSIDERATIONS

Data Governance

What is Data Governance?

- The management of data quality, usage/access, and security across an organization.
 - Data Governance is consistently evolving based upon the needs of an organization, data sources, and technologies used.
- Consists of organizational cross-functional teams.
- Organizational development of policy, standards, and process to support the data lifecycle (acquisition, storage, analysis, and disposal).

Data Governance - Importance

Importance of establishing a data governance framework?

- Improves cross-functional communication and collaboration between teams.
- Improves organizational efficiencies.
- Encourages accountability throughout an organization.
- Creates internal rules and compliance requirements for data.
- Protects data integrity.
- Decreases cybersecurity risk.
- Improve organizational and regulatory compliance.



Data Governance – Best Practices

- **Organizational structure with established roles and responsibilities at various levels (governance committee members, data stewards, stakeholders).**
- **Adopting and enforcing clear policies and procedures.**
 - Ensures data are collected, managed, stored, transmitted, used, reported, and destroy appropriately.
 - Outlined process for monitoring compliance.
 - Transparent communication to all stakeholders.

Data Governance – Best Practices

- **Established data inventories**

- Data files; computer equipment; software.
- Data records have appropriate categorization to minimize disclosure of Protected Health Information (PHI).

- **Data content management**

- Established policies to justify collection of sensitive data; ensuring compliance with local, state, and federal regulations.

- **Data records management**

- Established policies for handling of records throughout all stages of the data lifecycle.

Workflow Analysis



WHAT IS WORKFLOW
ANALYSIS

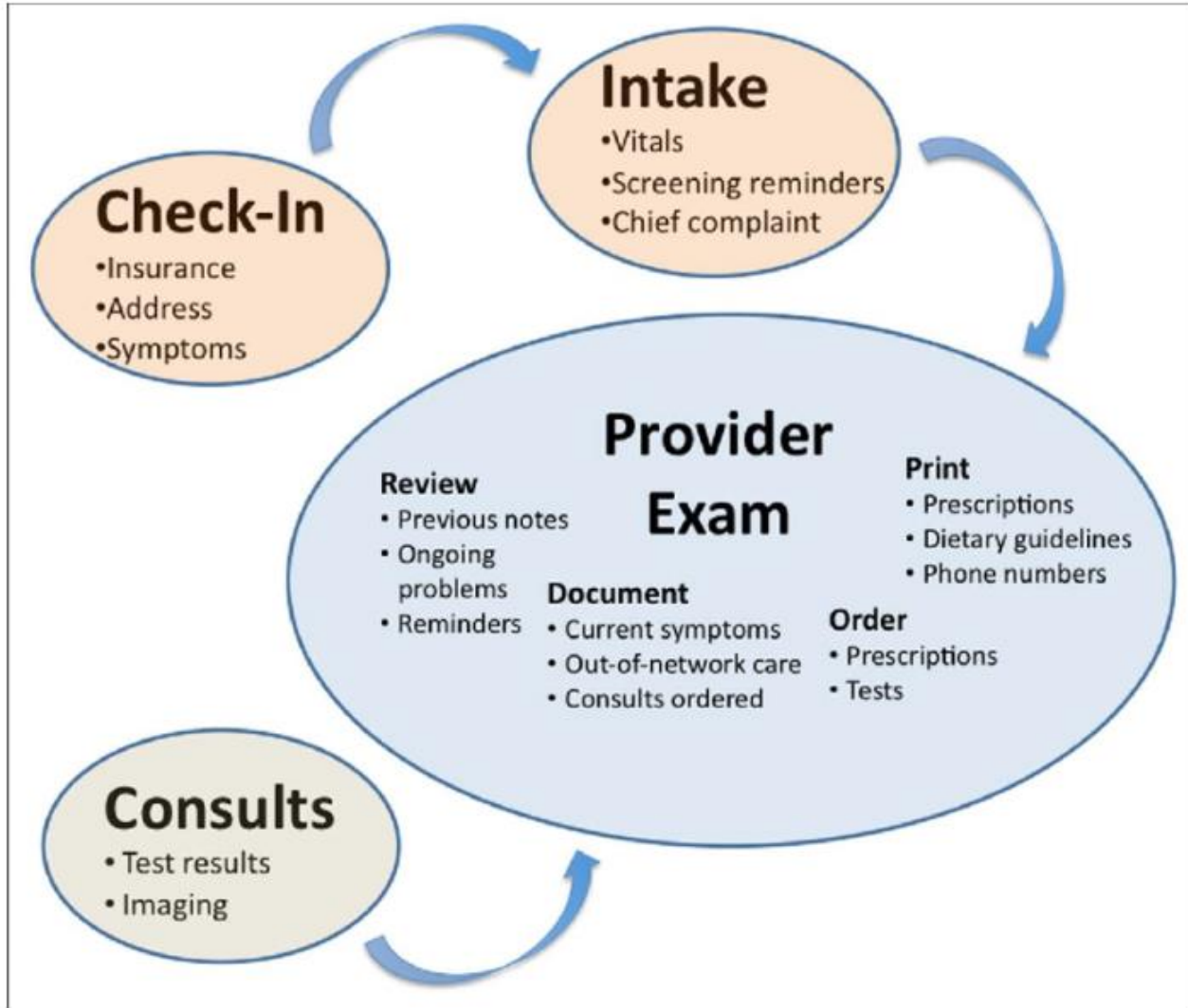


IMPORTANCE OF
WORKFLOW ANALYSIS



IMPACT OF WORKFLOW
ANALYSIS IN DATA
COMPLETENESS AND DATA
QUALITY

What Is Workflow Analysis



The process of examining an organizations step by step processes.

Workflow Analysis - Importance

What is the importance of workflow analysis?

- Standardize processes and expectations.
- Improve operational efficiency.
- Secure collaboration with external partners.
- Identifies process improvements.
- Eliminate redundant tasks and bottlenecks.
- Identify changes.
- Eliminate data loss.



Workflow Analysis - Impact

What is the impact of poor workflow analysis?

- Failure to adopt new technologies and/or processes.
- Failure to maximize technology.
- Failure in transmission of data from *'Point A'* to *'Point B'*.
 - Data loss
- Process redundancy.



Code Mapping, Transformation & Normalization



STANDARD CODES VERSUS
NON-STANDARD /
PROPRIETARY CODES



DEFINITIONS



BEST PRACTICES

Code Mapping, Transformation & Normalization

Standard codes

- ICD-9, ICD-10, CPT / CDT, CVX, HCPCS, LOINC, SNOMED, RxNorm, NDC

Non-standard codes

- Any codes that are developed that are not a part of the Standard Codes listed.
 - EHR / EMR proprietary codes
 - State specific codes

Functions of standardized coding

- Access to complete & accurate clinical data
- Practitioner alerts, reminders and decision support systems
- Links to medical knowledge
- Research & epidemiological studies
- Healthcare claims
- Public health

Code Mapping, Transformation & Normalization

- **Data Mapping**

An overarching term that can encompass data parsing, data transformation, and data normalization.

- **Data Parsing**

The moving of a data element from a field in an original file to a different field in a destination file. The value of the data element is not modified or changed from its original state.

- **Data Transformation**

When the data observation is changed from its original state to a different value.

- **Data Normalization**

Occurs when a data observation value is expressed in a different way (i.e. conversion of feet to inches).

Code Mapping, Transformation & Normalization

Data Parsing

Patient Last Name	Patient First Name	Date of Birth	Provider	Diagnosis	Procedure
Smith	Ann	MM/DD/YYYY	Dr. Robins	XXX	XXX
Jones	Beth	MM/DD/YYYY	Dr. Robins	XXX	XXX
Wallace	Carmen	MM/DD/YYYY	Dr. Robins	XXX	XXX

Patient First Name	Patient Last Name	Date of Birth	Provider	Diagnosis	Procedure
Ann	Smith	MM/DD/YYYY	Dr. Robins	XXX	XXX
Beth	Jones	MM/DD/YYYY	Dr. Robins	XXX	XXX
Carmen	Wallace	MM/DD/YYYY	Dr. Robins	XXX	XXX

Data Normalization

5 Ft 7in = 67in

56 Kg = 123.46 lbs

Data Transformation

Non Standard Code	NonStandard Code Description		Code System	Standard Code	Standard Code Description
ABC123	Diabetes T1 No Comp	→	ICD10	E10.9	Type 1 diabetes mellitus without complications
Non Standard Code	NonStandard Code Description		Code System	Standard Code	Standard Code Description
Null	Diabetes T1 No Comp	→	ICD10	E10.9	Type 1 diabetes mellitus without complications



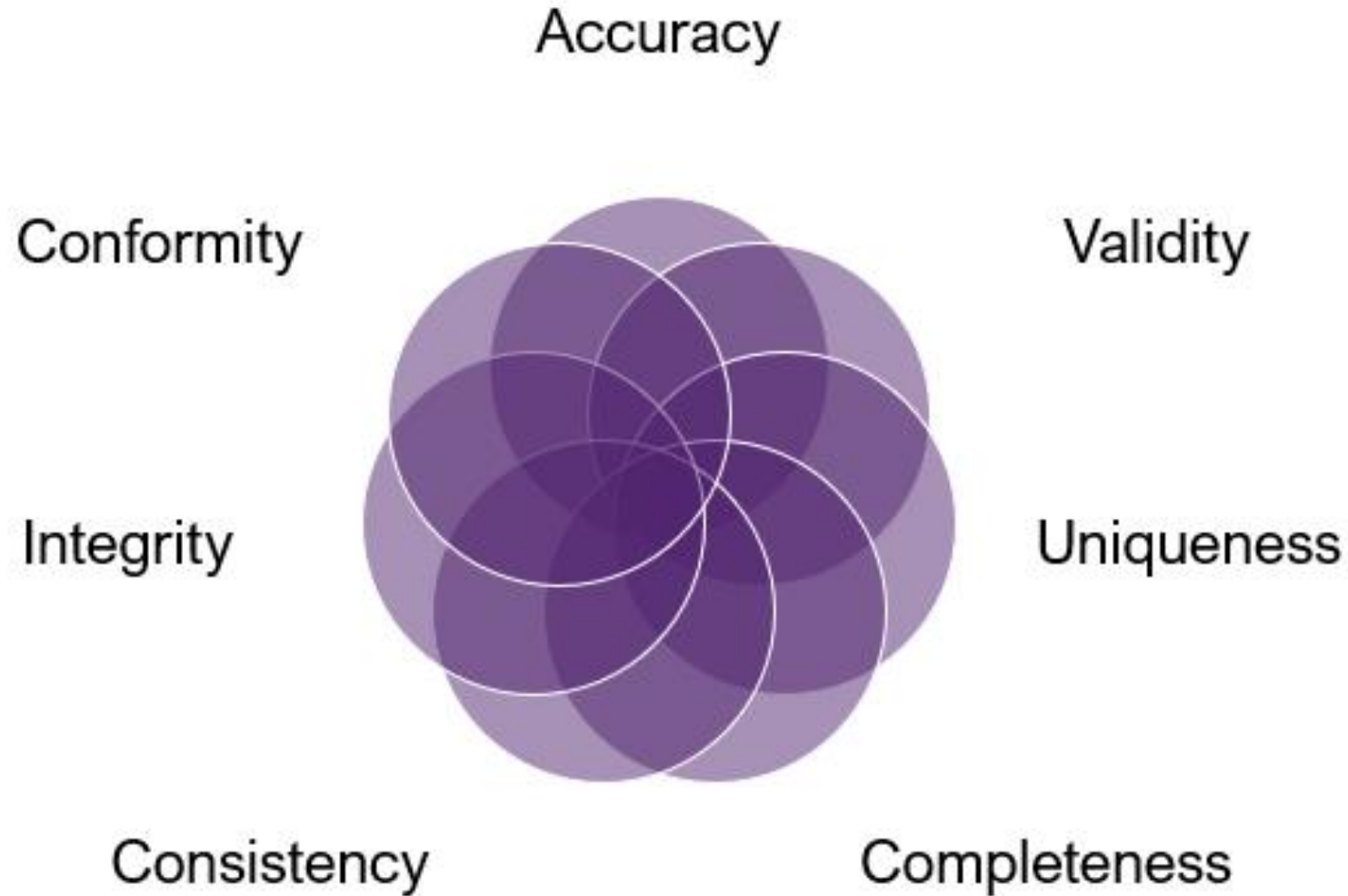
Code Mapping, Transformation & Normalization

Best Practices

- **Develop & maintain tracking of all transformation activities**
 - Original (raw)
 - Transformed
- **Assess accuracy and appropriateness of transformations (at least annually)**
- **Assess for data duplication**
- **Assess for invalid / missing data**
 - Processes to correct and remedy



Data Structure Vs. Data Content Evaluations



Data Structure Vs. Data Content Evaluations

Data accuracy (content)

- **Error free data that is reliable and a consistent source of data truth (correct and valid values)**

Importance

- Incorrect information can lead to an incorrect diagnosis and treatment plan.
- Misplaced zero in patient dosage could result in a medication error and undue harm.

Data Structure Vs. Data Content Evaluations

Data consistency (content)

- **All instances of data are the same across multiple data sets**

Importance

- Increases usability of the data

Data completeness (content)

- **Data contains all observations made during a clinical encounter**
- **Identification of required fields and optional fields**

Importance

- Improves patient care and identifies public health initiatives

Data Structure Vs. Data Content Evaluations

Data validity (content)

- **Process of checking the integrity, accuracy, and quality of data before use. (valid, reliable, reproducible)**

Importance

- Increases usability of the data; increases data trust

Data uniqueness (content)

- **Each data record should be unique, otherwise there is a risk of accessing outdated information**

Importance

- Improved accuracy; reduction in duplication

Data Structure Vs. Data Content Evaluations

Data integrity (content)

- **Overall accuracy, completeness, and consistency of data**
- **Security of data transmissions from one party to another**

Importance

- Increases usability and trust of the data through its lifecycle

Data conformity (structure)

- **How well data aligns to industry-wide standards**

Importance

- Improves consistency of data and data trust

Primary Source Verification (PSV)

What is PSV?

Value of PSV

Challenges of PSV

Designing a Successful PSV Process

Define PSV Methodology & Workflow

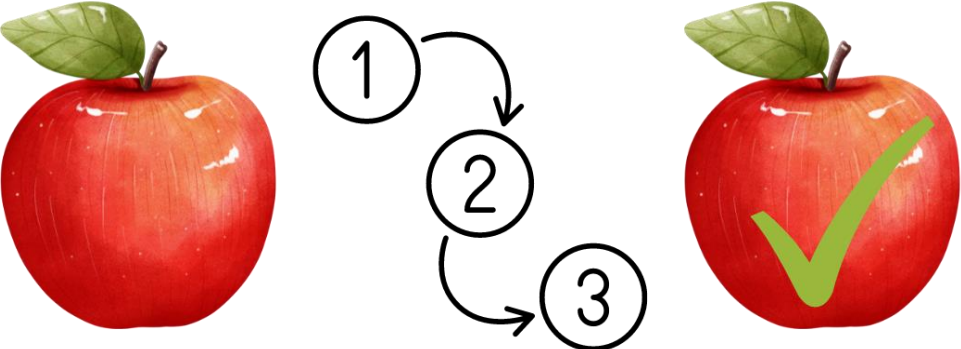
Engage Key Stakeholders

Gather the PSV Team

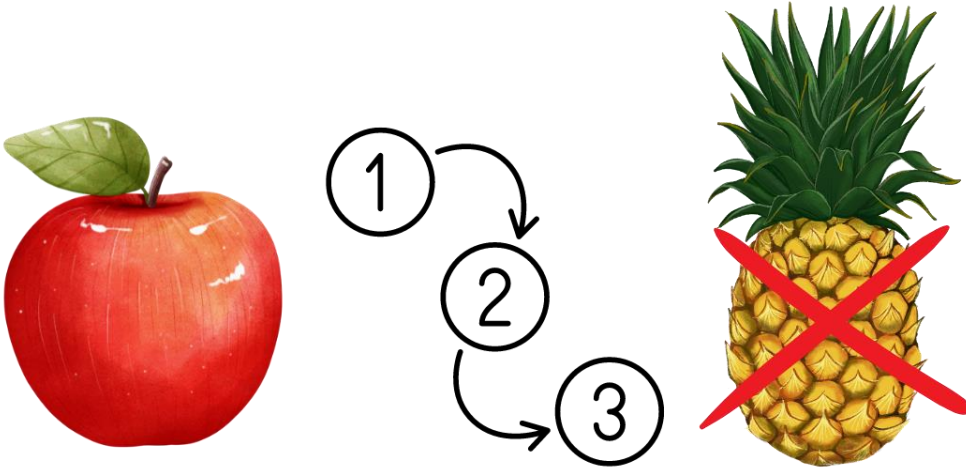
Reporting

What is Primary Source Verification?

The reconciliation of data from an outbound file to the original (primary) data source to ensure data integrity.



Original Source | Process | Outbound File



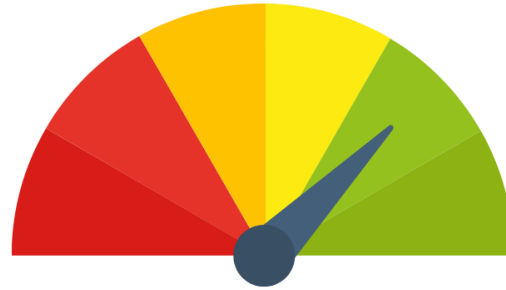
Original Source | Process | Outbound File

Primary Source Verification – Value



Tests data quality controls across:

- Data governance
- Workflow analysis
- Code mapping, transformation, and normalization
- Data structure
- Data content



Builds confidence in the use of the data for:

- Non-clinical use
- Clinical use

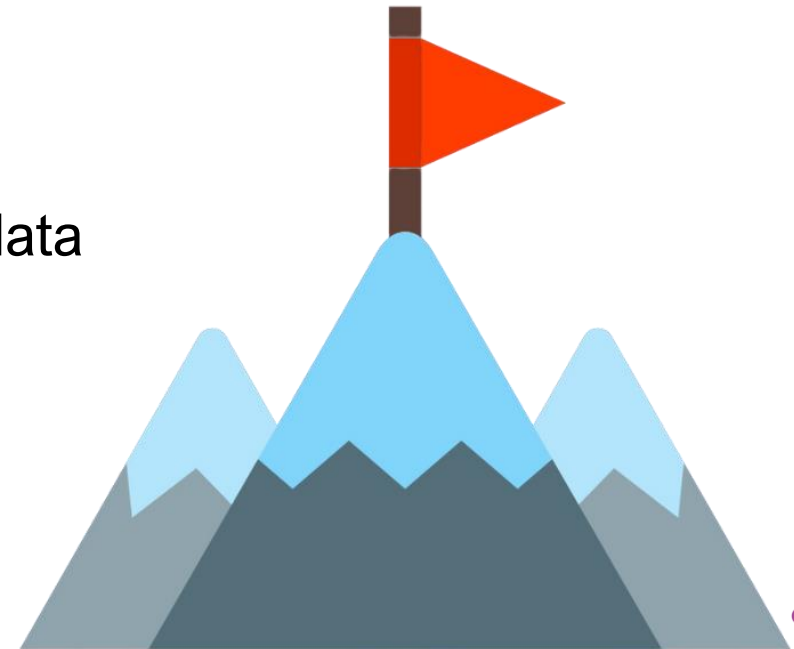


Identifies discrepancies that can result in:

- Reduction in the value of the data
- Loss of revenue
- Injury or demise of the patient

Primary Source Verification – Challenges

- **Requires:**
 - Stakeholder participation & understanding of PSV value
 - Resources
 - Time
 - Detailed approach
- **Team's level of PSV experience**
 - Medical record retrieval
 - Need for a clinical resource
 - Understanding & assessing the clinical context of data
- **Attempt to evaluate everything at once**
- **Overwhelmed by data discrepancies**
- **Gaps in methodology & workflow**



Primary Source Verification – Example

Patient	Age	Height	Weight
A			68 kg
B			150 lbs
C			2400 lbs
D			2400 oz

Primary Source Verification – Example

	Patient	Age	Height	Weight
✓	A			68 kg
✓	B			150 lbs
?	C			2400 lbs
✓	D			2400 oz





Primary Source Verification – Example

	Patient	Age	Height	Weight
?	A	6 mths		68 kg
✓	B	18 yrs		150 lbs
?	C	35 yrs		2400 lbs
✓	D	40 yrs		2400 oz

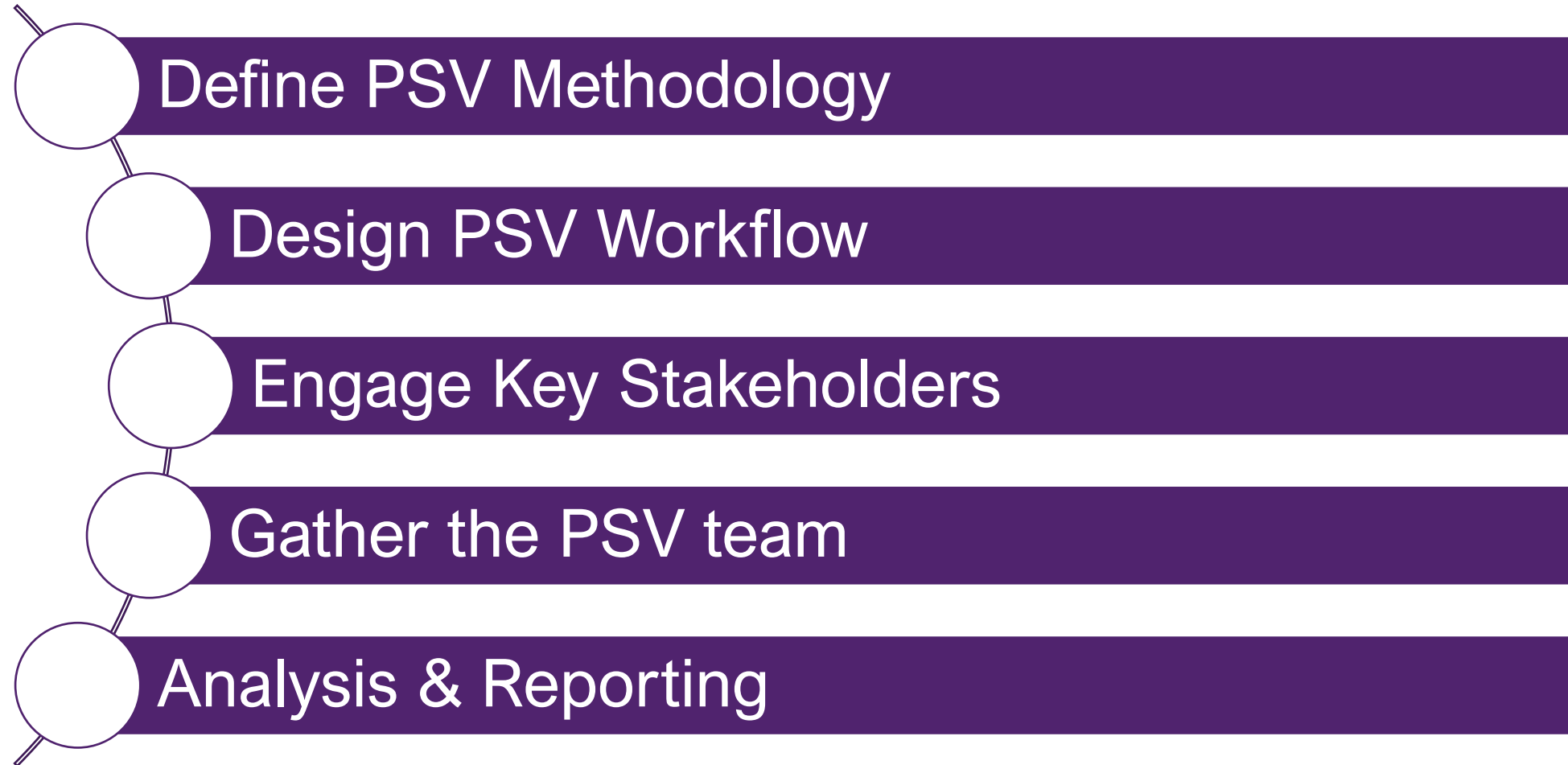
Primary Source Verification – Example

	Patient	Age	Height	Weight
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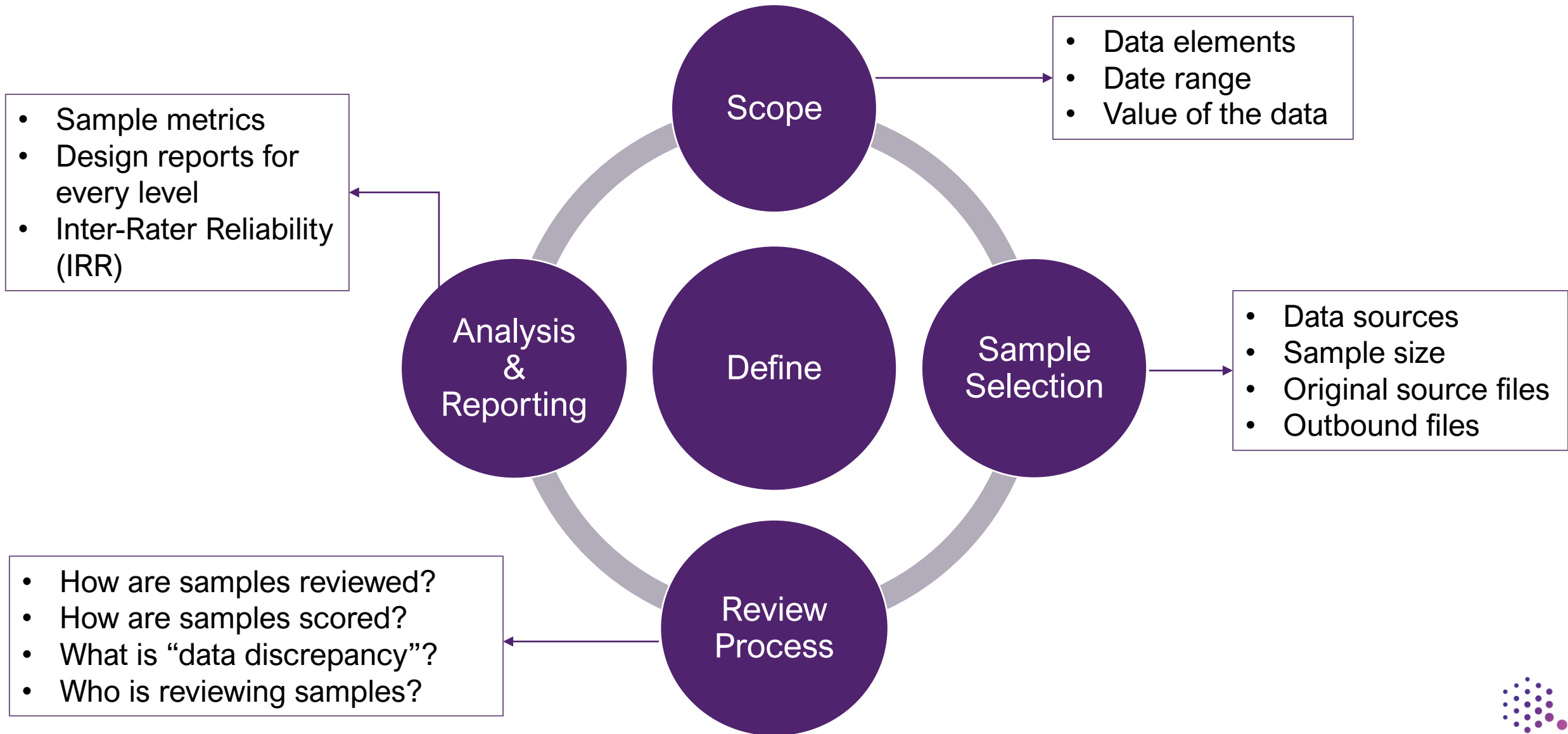
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Design Successful PSV Process



Primary Source Verification – Methodology



Primary Source Verification – Methodology

Starting Place

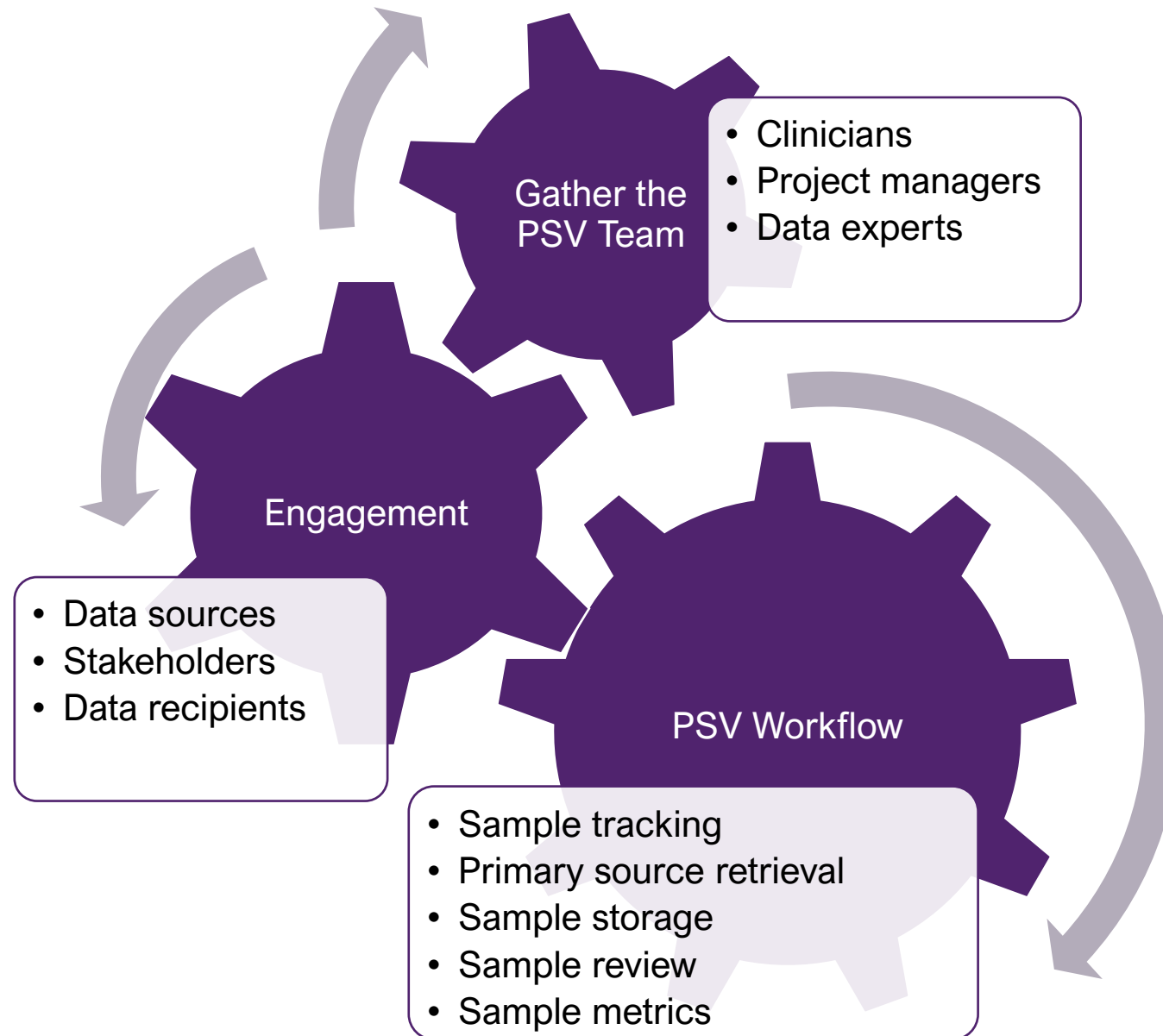
- Known issues
- Suspected issues
- Audit methodology & findings
- Onboarding new data sources

Questions to Consider

- Which data elements have the highest value or use by key stakeholders?
- What component of data elements are needed for the data to be valuable?
- Which data discrepancies have an impact to the data recipient?
- What data values are reasonable, and which are not?



Design Successful PSV Process



Design Successful PSV Process

Starting Place

- Audit methodology & findings
- Utilizing in-house resources & processes
- Engaging health plan Partners

Questions to Consider

- Which data elements have the highest value or use by key stakeholders?
- What is the timeline?
- Which stakeholders are willing to participate?
- How does that interact with other audits?

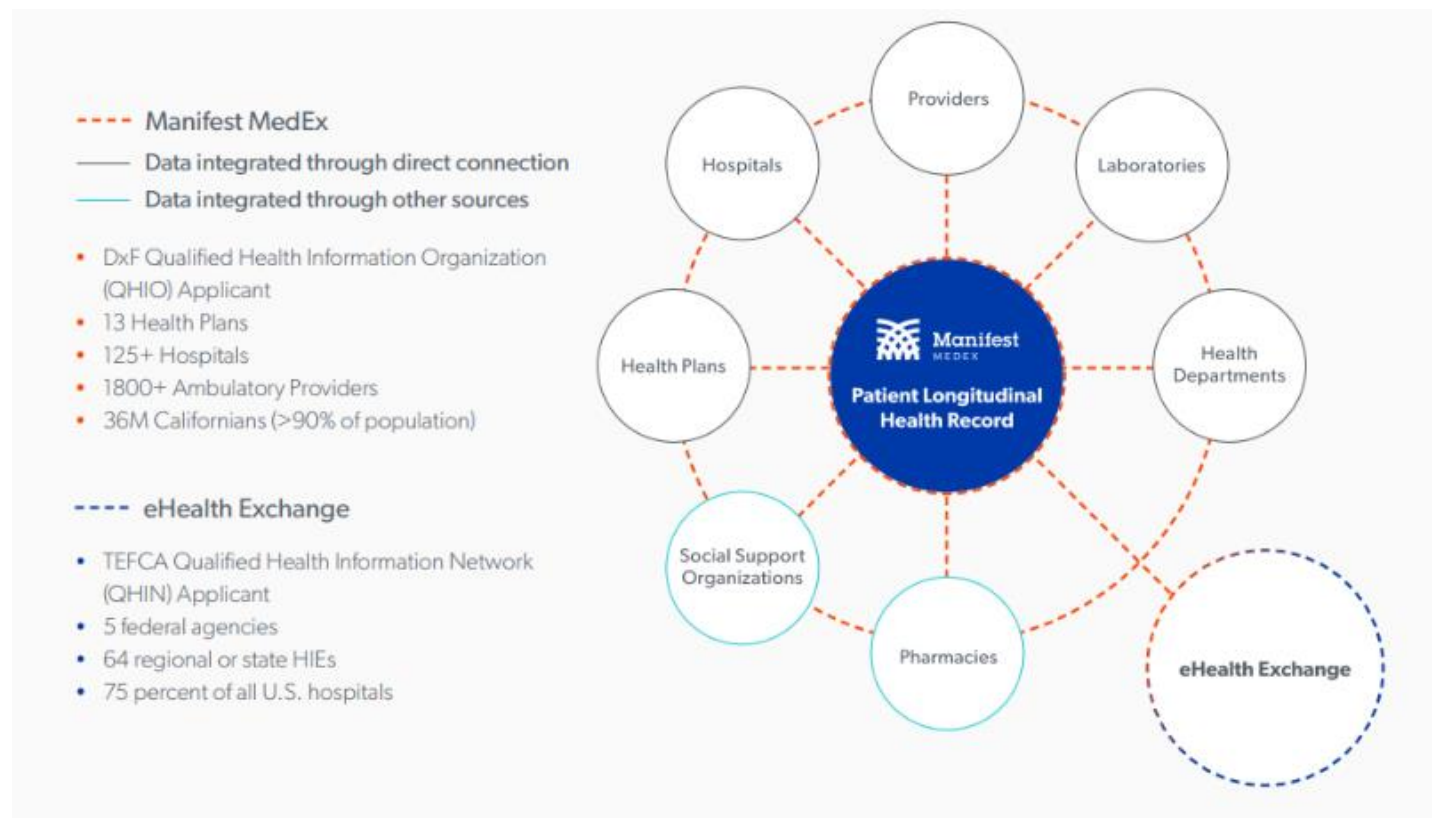
AN HIE'S PERSPECTIVE ON THE DAV EXPERIENCE & VALUE





A CALIFORNIA NETWORK WITH NATIONAL CONNECTIVITY

Manifest MedEx is CA's only statewide nonprofit HIO that exchanges health data with national and other regional networks, ensuring participants can share data across a broad healthcare ecosystem

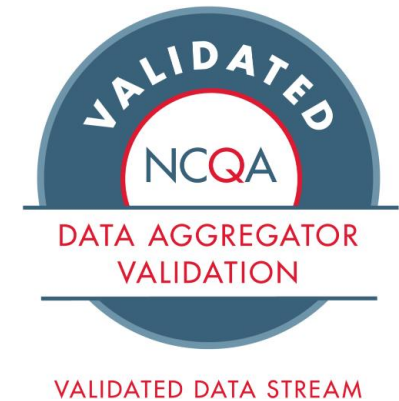


Manifest MedEx intends to apply to become a CalHHS Data Exchange Framework Qualified Health Information Organization (QHIO)



MANIFEST MEDEX PARTICIPATION IN NCQA DAV PROGRAM

- MX has earned NCQA Validated Data Streams for 3 consecutive years
 - Part of pilot and early adopter programs
- Currently working towards earning designation for MY2023
- Manifest MedEx is among only 24 organizations in the country to pass NCQA's rigorous validation process and earn their Validated Data Stream designation
- Nine plans are planning on using validated data from MX in 2023





MX VALIDATED DATA STREAMS

- **Historical Data Feed:** All validated data for all members with clinical data in the MX network
- **Incremental Data Feeds:** Monthly or quarterly incremental data feed of all validated data
- **Format:** NCQA conformant CCDA format and an optional pre-approved flat file format
 - 67% of plans prefer a flat file specific to their HEDIS engine

MX Success Over Time

	2020	2021	2022
DAV Validated Sites	50	713	1,223
Percent of MX Network DAV Validated	6%	47%	64%



KEY BENEFITS OF VALIDATED DATA FOR HEALTH PLANS



Saves time

- Validated data provided by MX is treated as standard supplemental data meaning *no PSV is required by the plan!*
- Reduce burden of “chart chasing” and responding to validation requests



Ensures data accuracy

- Establish confidence that the data provided to the plan matches the data in their EHR
- Better able to identify and provide the care individuals need — like vaccinations and preventive screenings — while avoiding duplicative tests and treatments, which add to overall healthcare costs



Simplifies audit process

- Does not require section 5a of the HEDIS® audit to be completed and reviewed with auditors



CHALLENGES & OPPORTUNITIES

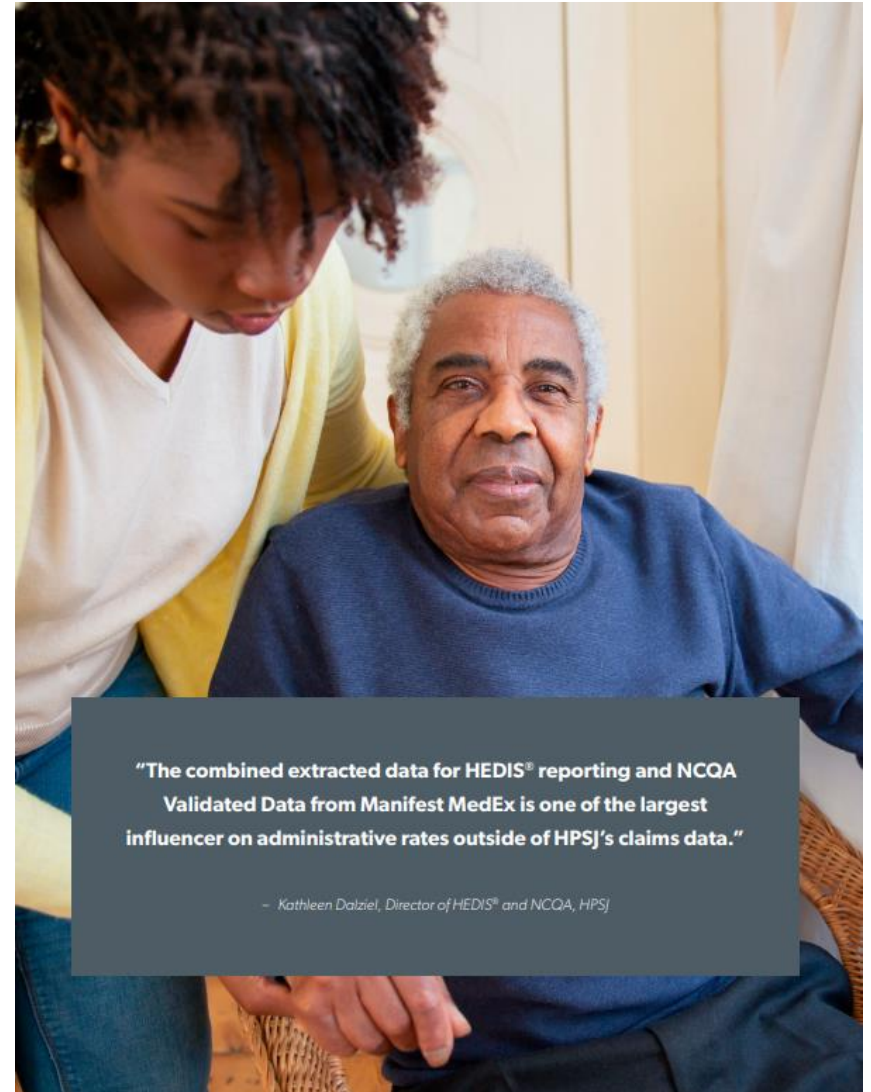
- PSV
- EHR or workflow changes at a practice require vigilance of data feeds
- Engagement with practices and plans
- Depending on NCQA direction, FHIR could simplify the process but EHRs will need to support that connectivity





LEVERAGING HIE DATA TO STREAMLINE HEDIS® REPORTING

- Health Plan of San Joaquin (HPSJ) uses NCQA-validated data as standard supplemental data and clinical data extracts for HEDIS® reporting
- The data provided by MX not only increased HEDIS® scores, but also the improved accuracy in gaps in care reporting, helping close gaps and reduce time and effort needed for hybrid chart review





USE CASE – HEALTH PLAN OF SAN JOAQUIN

In Reporting Year 2022, the Health Plan of San Joaquin (HPSJ) saw the following increases from improved accuracy with data from MX:

- **16.5%** Increase in Comprehensive Diabetes Care Hemoglobin A1c*
- **8.2%** Increase in Administrative Rate for Controlling High Blood Pressure
- **4.8%** Increase in Administrative Rate for Childhood Immunization Status
- **3.7%** Increase in Administrative Rate of Lead Screening in Children
- **2.3%** Increase in Immunizations for Adolescents
- **1.8%** Increase in Overall Rate for CIS-Combo 10
- **1.2%** Increase in Overall Immunizations for Adolescents – Combo 2 Reporting

**MX was the second-largest supplier of A1c data after Quest Diagnostics.*

KEY TAKEAWAYS



Key Takeaways

- **DAV augments traditional interoperability activities**
- **DAV ensures data integrity**
- **DAV components include**
 - Data governance
 - Workflow analysis
 - Code mapping, transformation, & normalization
 - Data structure versus data content evaluations
 - Primary Source Verification
- **More data ≠ data accuracy or completeness**
- **Data errors = data loss to recipients**

Questions ?



Q METRICS