

Development of the Data Warehouse Enrichment Database

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About

- HSRI - improving the systems that improve lives
- Partnership with NORC at the University of Chicago
- Projects utilizing the HSRI Enrichment Database
 - Maine APCD
 - Colorado APCD
 - Maine Hospital Encounter Database

AGENDA

01
Overview

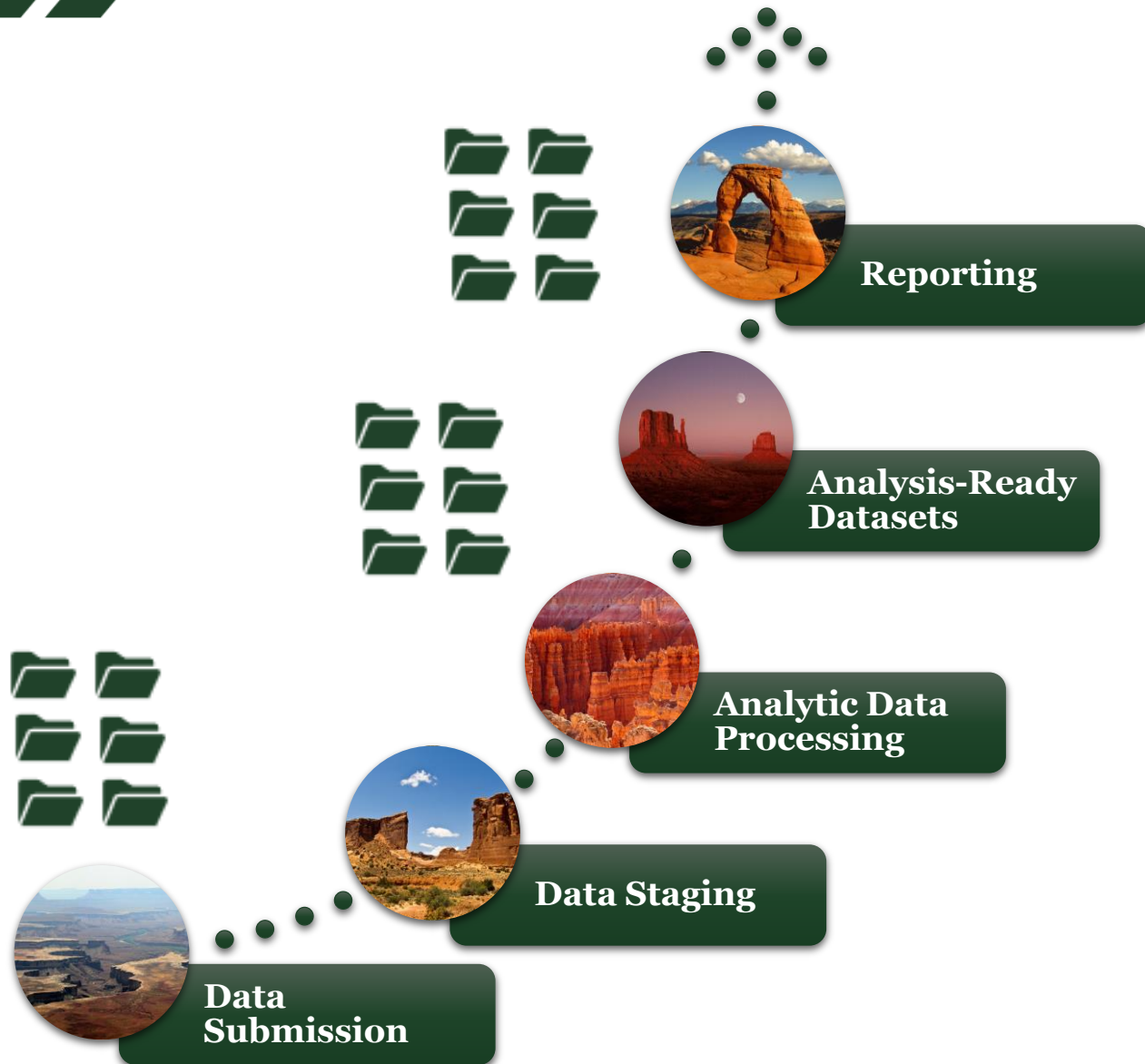
03
Reporting
Uses

02
Data Quality
Uses

04
Planned
Improvements

| OVERVIEW

APCD & Hospital Data Flow



- Value labels
 - Groupings, classifications
 - Crosswalks between classification systems
 - Lists of codes used as selection criteria
-
- Lists for data processing (e.g., active vs onboarding payers, dental submitters)
 - Lists of codes for creating “value-add” flags (e.g., ED flag, SUD flag)
-
- Data validation against standard lists

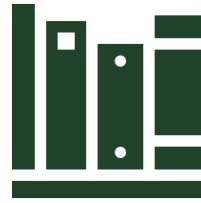
Building a “List of Lists”



Challenges



Increasing number
of lists needed in the
Data Warehouse



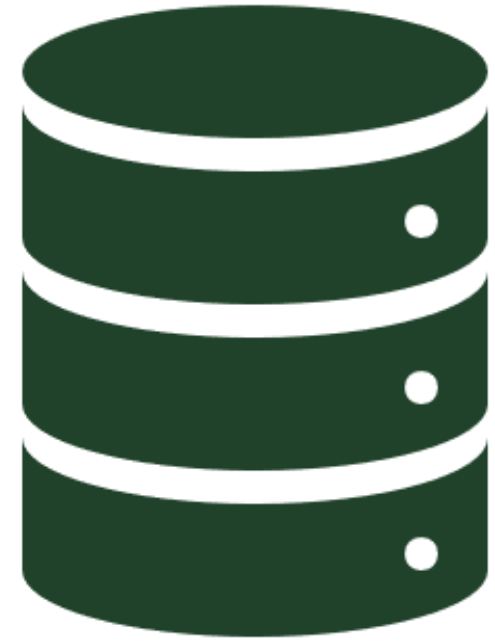
Different file formats
Varying update
schedule



Reporting needs

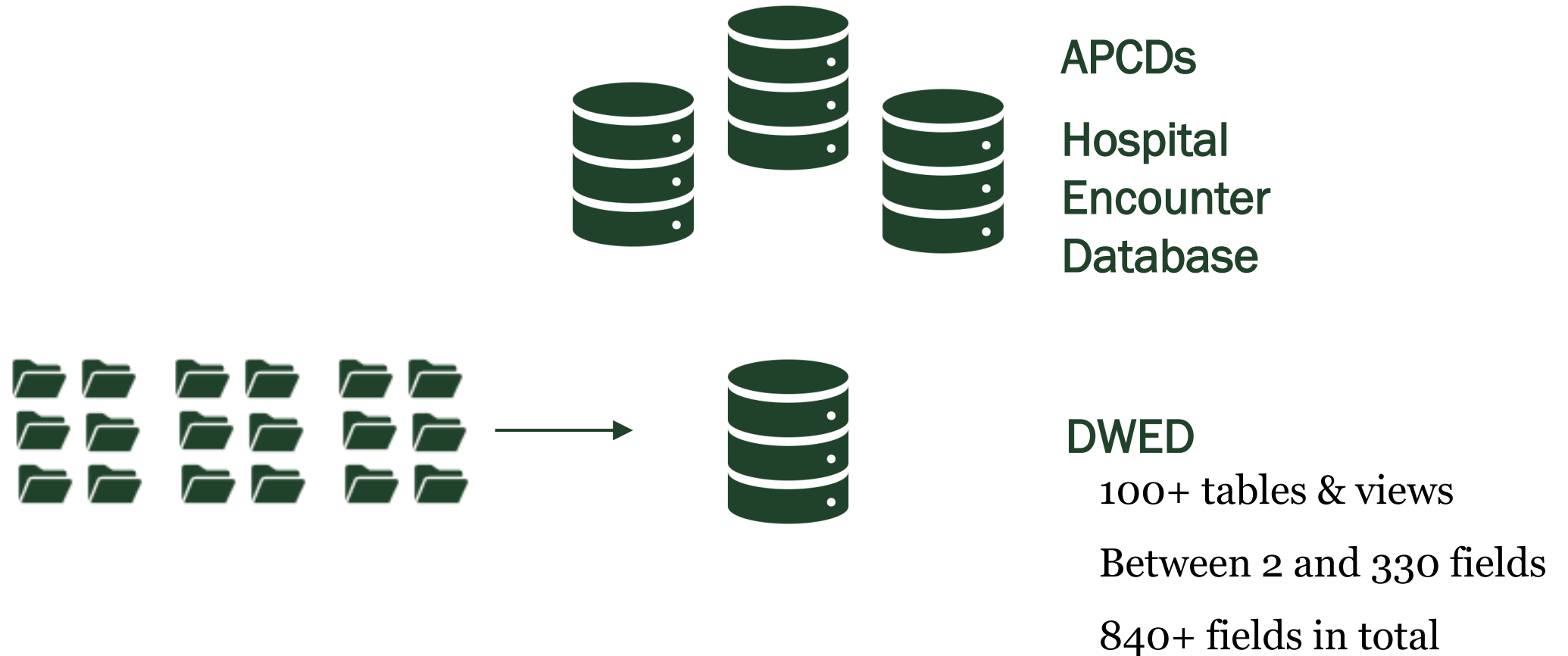
“List of Lists”

- National claim reporting standard lists
- Code classifications & groupings
- APCD & Hospital Encounters Business Rules
- Reporting use cases



Solution

DATA WAREHOUSE ENRICHMENT DATABASE (DWED)



Solution

DATA WAREHOUSE ENRICHMENT DATABASE (DWED)



Centralized,
accessible tracking
of release schedules

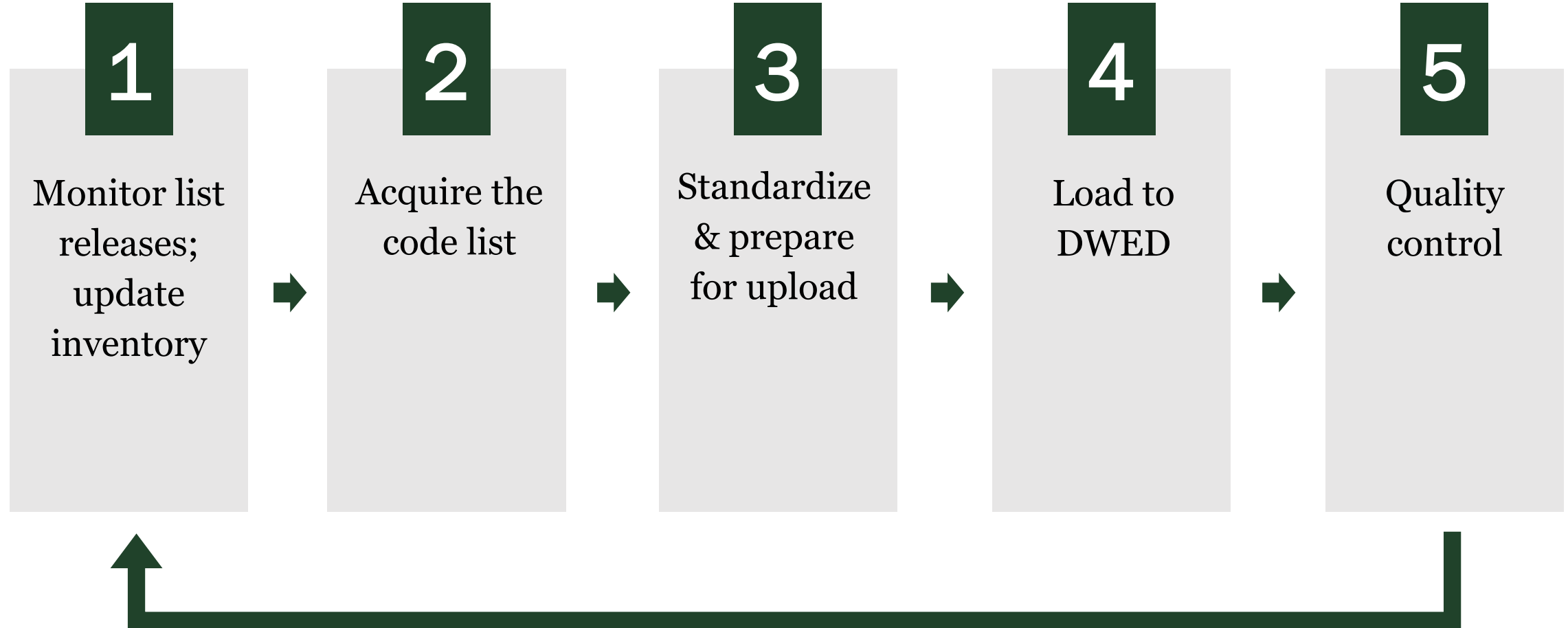


Dedicated resources
for DWED inventory
upkeep



Timely ingestion
following new
version release

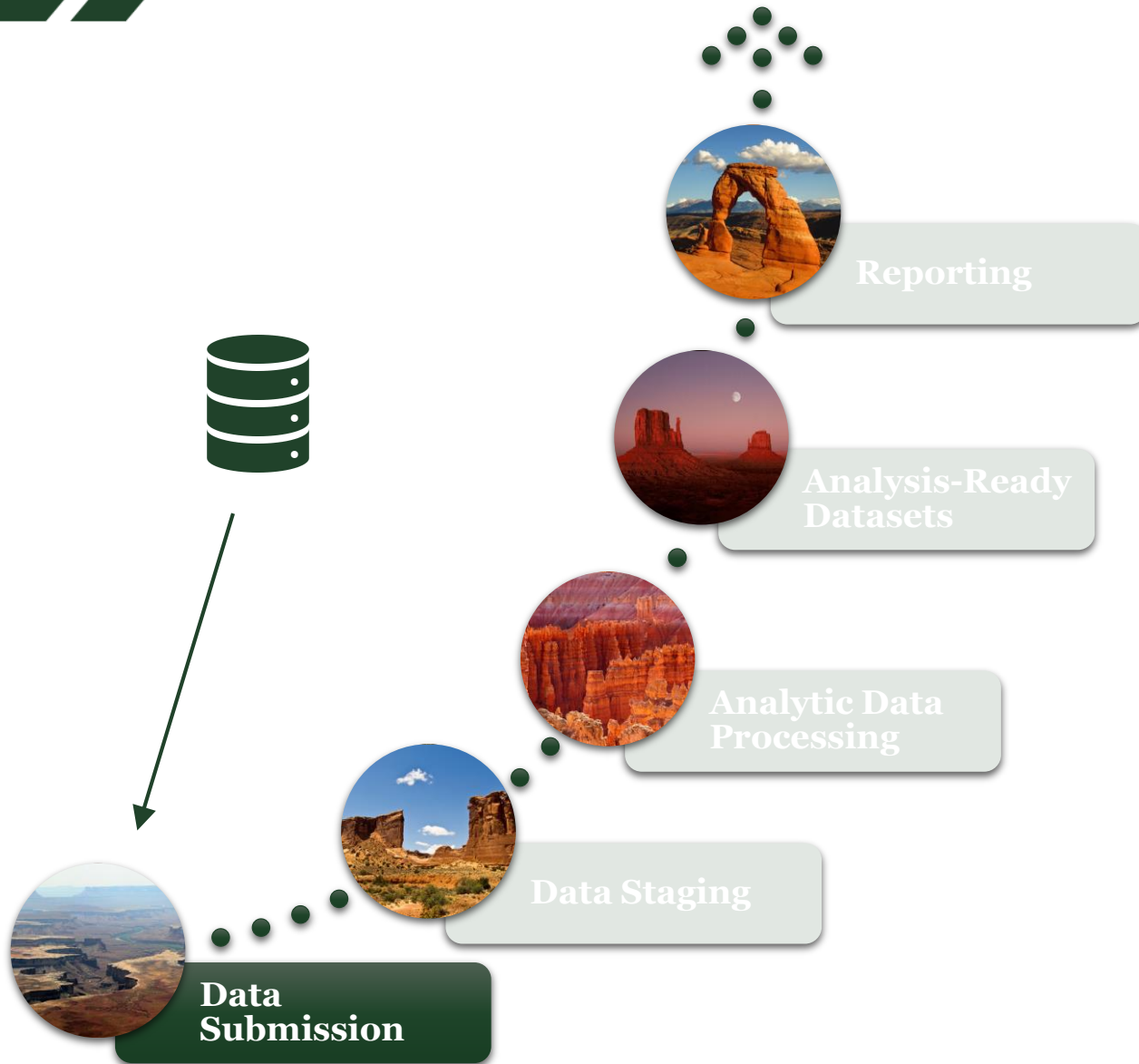
DWED Processing





DATA QUALITY USES

DWED for Data Intake



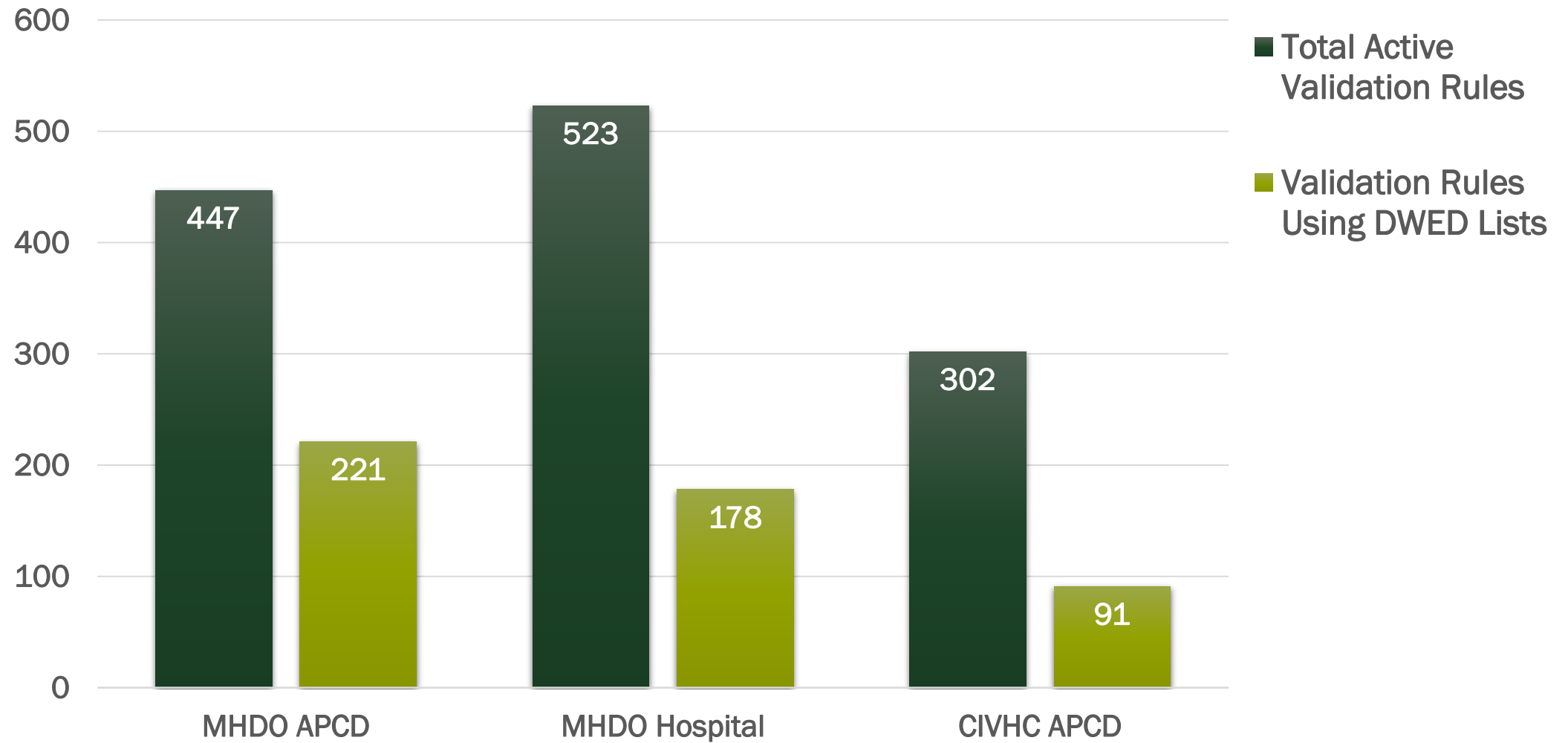
Example 1: Valid ICD-10 codes

- 🗄️ → ICD-10 Code List → indication of invalid values present in ICD-10 fields
- 🗄️ → ICD-9 Code List → confirm whether values present in ICD-10 fields are ICD-9 codes, rather than some other type of data submission issue

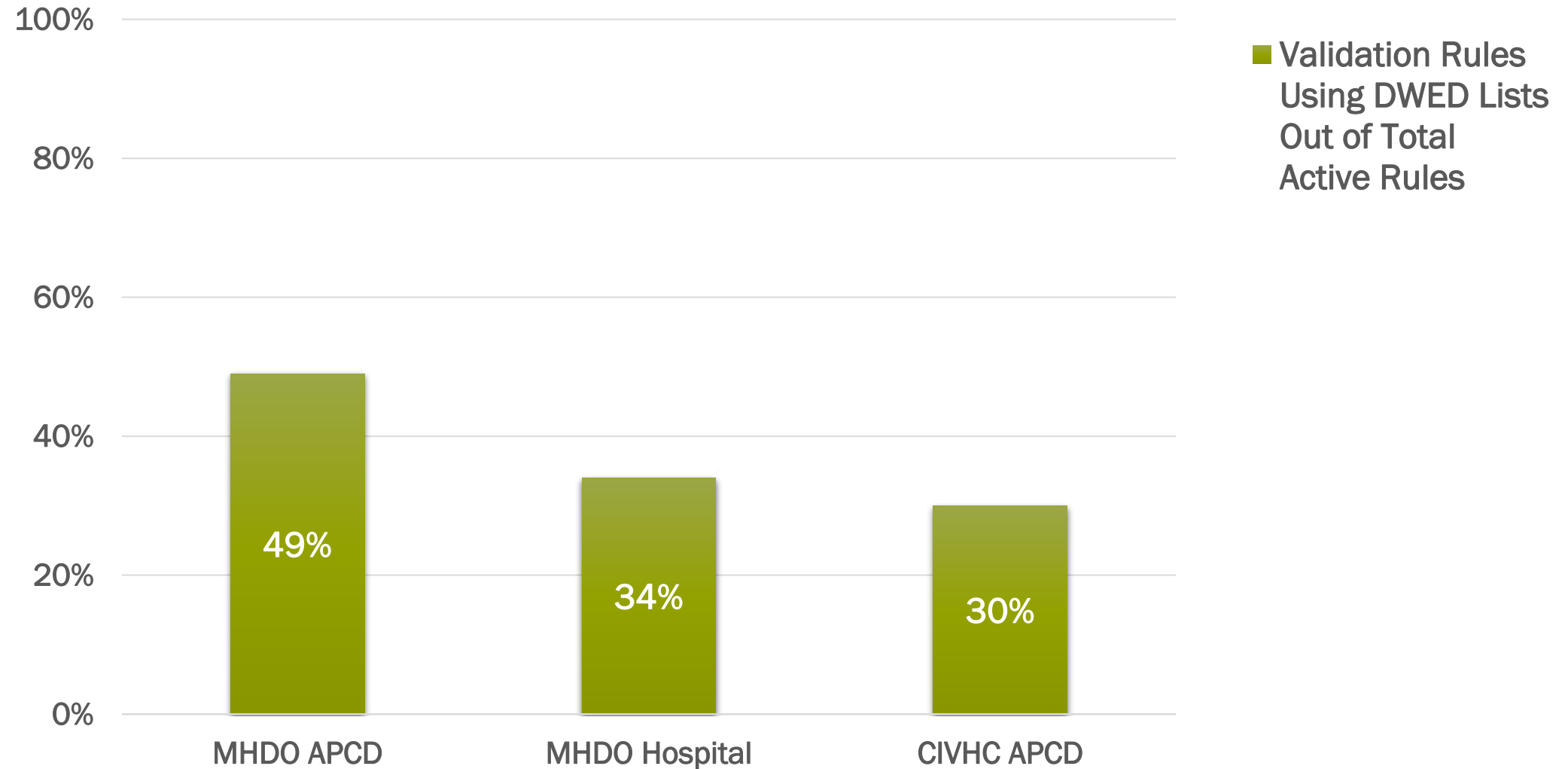
Example 2: Valid National Provider ID

- 🗄️ → NPI Registry List → applied to billing and servicing provider NPIs on claims
- ✓ High pass rate in 2017 APCD data

DWED for Data Intake



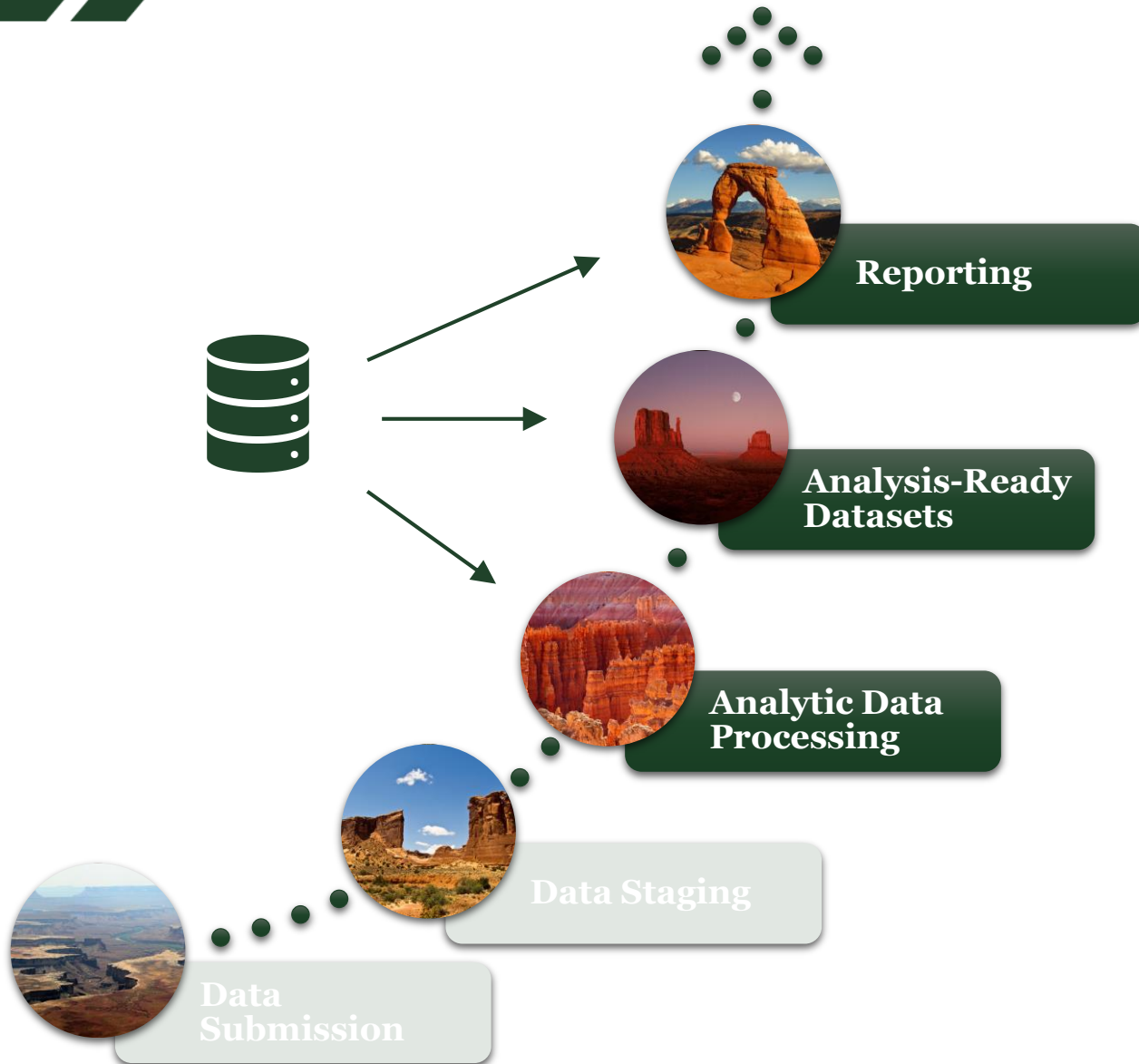
DWED for Data Intake





REPORTING USES

DWED for Reports



Example: Hospital ED-involved encounters with an external cause of injury code for unintentional fall

- ED visits / list of revenue codes & CPT procedure codes → ED flag created in release datasets
- ICD-10 Codes → select specified range of codes, valid codes only
- AHRQ HCUP Clinical Classification Software (CCS) for ICD-10-CM → List of diagnosis codes classified as "External cause codes: Fall"
- ZIP Codes, States → remove encounters for out-of-state patients
- ICD-10 Code Descriptions → Add labels with detail about type of fall injury
- Geographical Groupings → Crosswalk ZIP codes, add county labels, FIPS codes, longitude and latitude

DWED for Reports

- Facilitates reporting processes
- Adaptable to new or changing reporting needs
 - Established, efficient integration process for new lists
- Tracking historical versions of code sets
 - Longitudinal analyses



PLANNED IMPROVEMENTS

Planned Improvements



Process
Refinements

List
Derivations

List
Additions



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Thank You.

