



AGENCY FOR HEALTHCARE RESEARCH AND QUALITY



Creating the Physician and Physician Practice Research Database (3P-RD)

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AR APCD Data Users Group Meeting ♦ January 25, 2023

AHRQ Mission

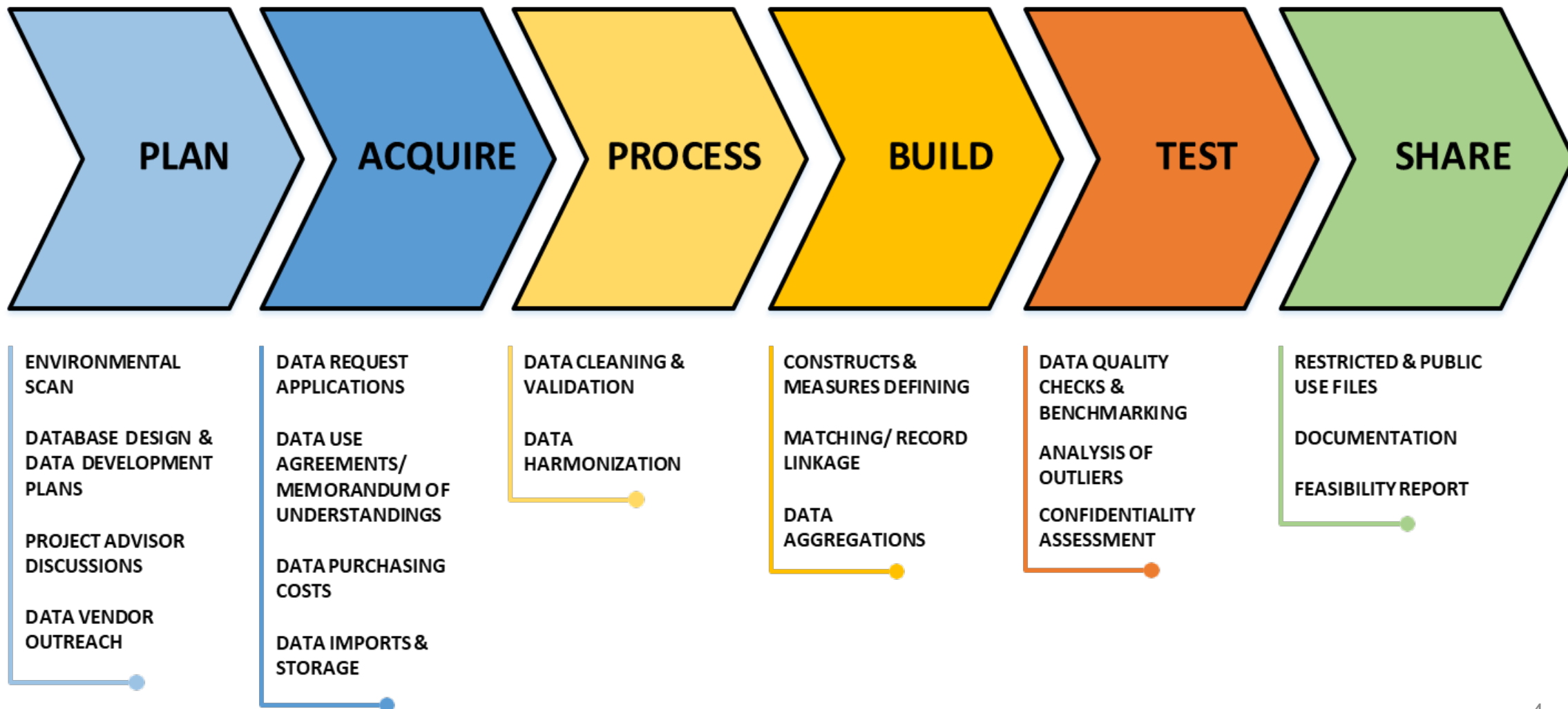


- “... to produce evidence to make healthcare safer, higher quality, more accessible, equitable, and affordable, and to work within the U.S. Department of Health and Human Services and with other partners to make sure that the evidence is understood and used...”
- Fund and conduct healthcare research
- Database Development and Dissemination
 - ▶ Long history
 - ▶ Medical Expenditure Panel Survey (MEPS), Healthcare Cost and Utilization Project (HCUP)

Motivation

- March 2020: COVID-19 National Emergency
- The Coronavirus Aid, Relief, and Economic Security Act (CARES Act) signed into law on March 27, 2020.
 - ▶ Federal response to economic consequences of COVID-19
 - ▶ Growing recognition of health care disparities issue
- How best to implement components of the CARES Act?
 - ▶ Lack of data on medical professionals and organizations to make informed decisions.
- AHRQ Response -- Physician and Physician Practice Database (3P-RD)

Project Overview



Planning Stage: Evaluate Data

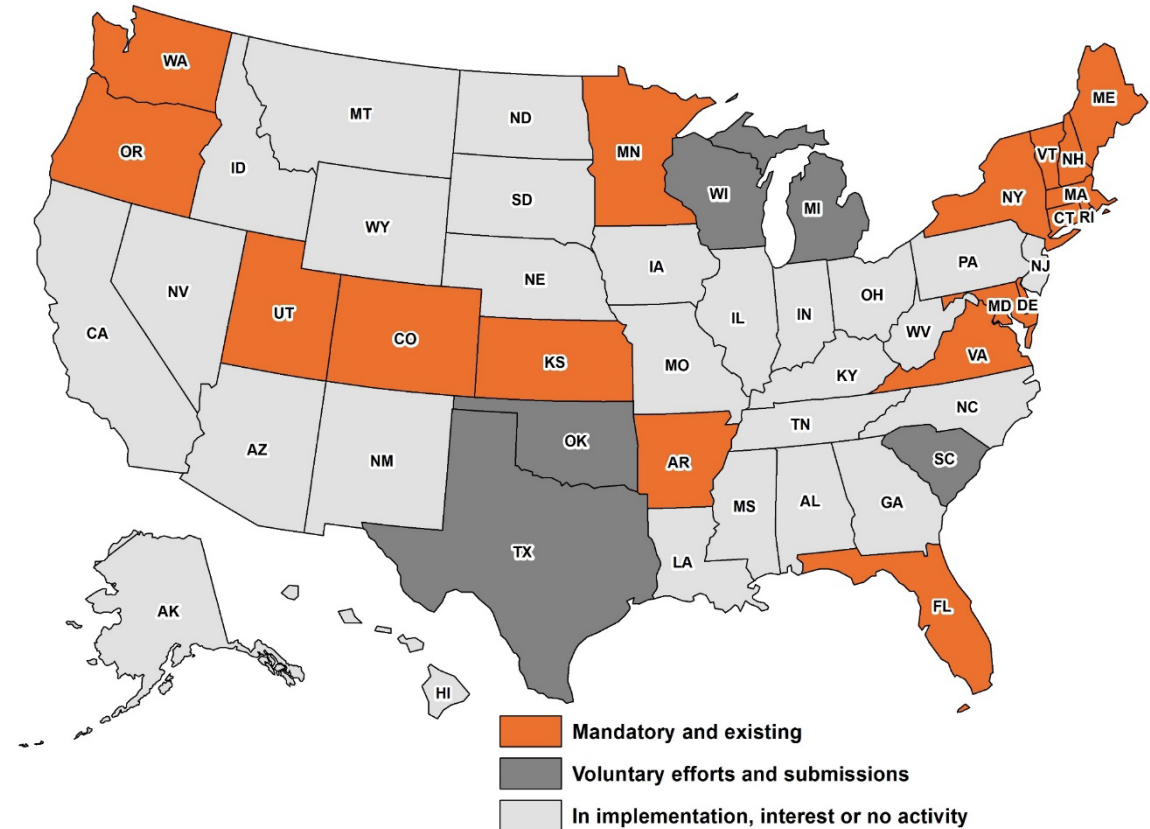


- Data Sources Common to States
 - ▶ Three (3) physician datasets (NPPES, FSMB, AMA Masterfile)
 - ▶ Four (4) physician practice datasets (MD-PPAS, PECOS, HCRIS, IQVIA OneKey)
- Data Sources Unique to States
 - ▶ Claims Databases (APCD and other claims sources)
 - ▶ State Medical Boards (SMB)
- Nine (9) other data sources considered
 - ▶ Association of American Medical Colleges
 - ▶ AHRQ's Compendium of U.S. Health Systems

Data Acquisition Stage

- Obtained SMB data for 21 states
- Conducted outreach to 7 states for APCD data
- Obtained APCD data from four (4) states
- Obtained publicly available data
 - ▶ NPPES, PECOS, Compendium

States with APCDs Considered for the 3P-RD

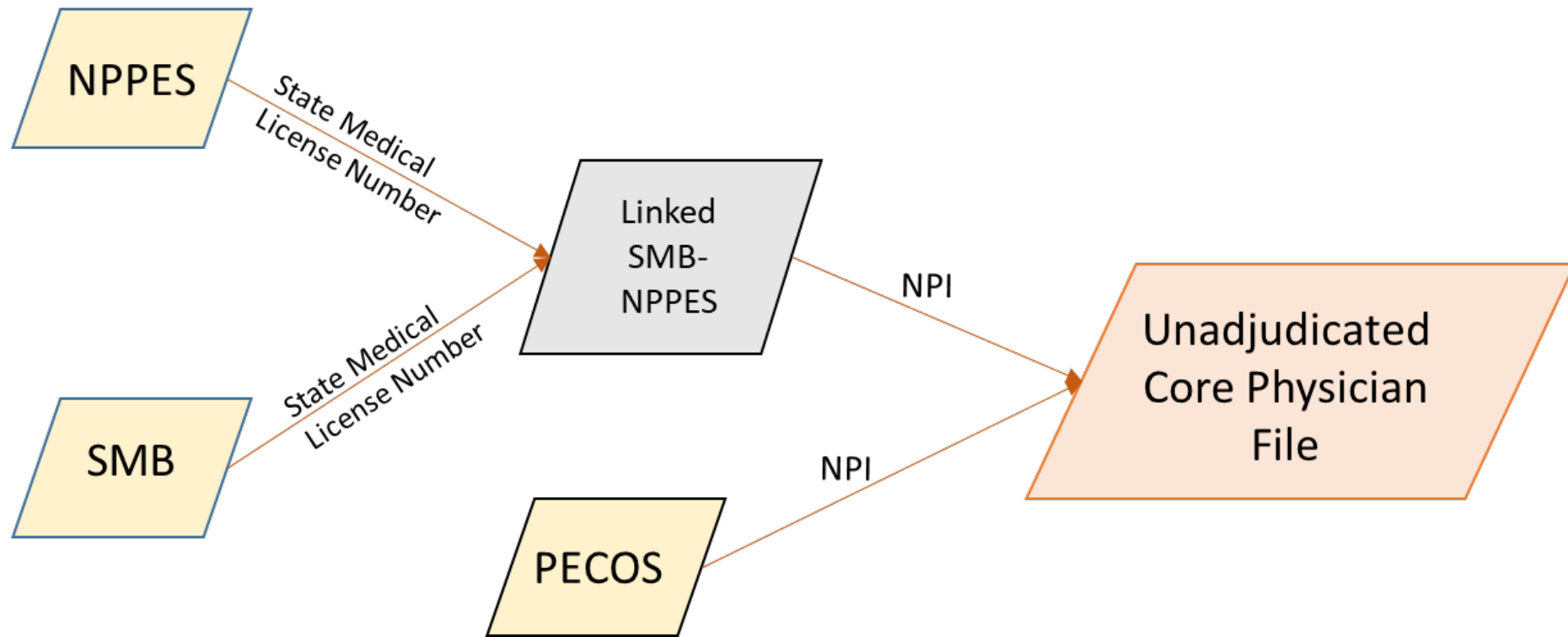


Process Stage

- Data Cleaning and Validation
 - ▶ Name, date, and full address clean-up
- Data Assessment and Harmonization
 - ▶ Specialty harmonization
 - ▶ Provider Adjudication
- Linking files to create the Core Physician File
 - ▶ Three linking variants created to link SMB and NPPES
 - ▶ Match status evaluated on first and last name using Jaro-Winkler

Process Stage

Core Physician File



Process Stage

- Physician characteristics in the Core Physician file are dependent on the SMB data
 - ▶ Global 3P-RD Provider ID
 - ▶ License status: AR and MN only contain information for physicians with active licenses
 - ▶ License dates
 - ▶ Physician name and sex
 - ▶ Military affiliation: CA, FL, TX, WA
 - ▶ Board certifications: MA, MD, MN, MT
 - ▶ Medical school location: AZ, CA, FL, MA, MN, NY, TX
 - ▶ Harmonized specialty information

Build Stage

- Finalizing the 13 3P-RD States
 - ▶ Four APCD states:
 - Arkansas, Colorado, Maryland, Washington
 - ▶ States with APCD programs or developing programs:
 - California, Florida, Massachusetts, Minnesota, New York, Texas
 - ▶ States for geographical representativeness:
 - Arizona (southwest), Missouri (borders AR), Montana (frontier)

Build Stage: Claims Variables

- All variables standardized across all states regardless of claims data source
- All states include
 - ▶ CMS Medicare FFS data
 - ▶ Medicaid data; data sources vary
 - AR 3P-RD uses the Medicaid data from the APCD
- Only states with APCD data include
 - ▶ Medicare Advantage data
 - ▶ Commercial data

Build Stage: Physician Variables

- NPI
- Actively practicing flag
- Types of insurance billed: Medicare, Medicaid, Commercial
- Patient panel age variables
- Claims per month (total and by payor)
- Patients per month (total and by payor)
- Claims per patient per month (total and by payor)
- Percentage of claims by payor
- Top procedures performed (code and category)
- Top diagnoses observed (code and category)

Build Stage: Practice Variables

- Identify Physician Practice sites (TIN-ORG NPI-Servicing Zip Code)
- Organizational NPI
- Number of 3P-RD physicians associated with practice
- Number of other providers associated with practice
- Total number of providers associated with practice
- Demographics of patient panel (% of patients in age groups, % female, % non-White, % Hispanic)
- Claims and patients per month
- Most common specialty
- PCP, Medical, Surgical focus for practice
- Hospitalist and Hospital based indicators
- Zip code of practice

Test Stage

- Benchmark against the Association of American Medical Colleges Workforce Survey

State	3P-RD Physicians	Workforce Survey Physicians	Difference (3PRD – AAMC)	% Difference from AAMC (Difference/AAMC)
Arkansas	25,354	18,343	7,011	38.22%

- Assess impact of cell suppression

Test Stage: Analysis of Outlier Data

- **Potential issue:** After visual inspection, there are excessively large values in the claims per month variables. When compared to the global average and median, these maximum values are outliers and should be further explored. Further, graphical representation shows the severity of the outlier when compared to other physicians in the file.

Test Stage: Analysis of Outlier Data

- The physician associated with the most claims per month has 14,021 max claims per month. The next closest three physicians have 3,251, 2,844, and 2,226, respectively.
 - ▶ The physician is based in Little Rock, Arkansas
 - ▶ Has medical specialization in infectious disease
 - ▶ Is currently a medical director for immunization of the Arkansas Department of Health, and has been appointed as the next director of Arkansas Department of Health (May, 2022).

Test Stage: Analysis of Outlier Data



- ***Final Findings:*** Based on the above information, the patterns seen among physicians with high max claims per months are similar to those seen in other states. It reveals there are multiple providers billing under the medical director.

3P-RD Key Elements



- Physician and Physician Practice files are linkable
- Global 3P-RD Provider ID will allow the identification of providers across state lines
- Can be used to answer key policy questions
 - ▶ Number of physicians have a license
 - ▶ Number of physicians with an active license actively provide care
 - ▶ Number of physicians with licenses that recently expired and can be re-called if necessary

Share Stage

- Public Use File (PUF)
 - ▶ Directory of physicians and practices
 - ▶ No variables from APCD data
- Restricted Use File (RUF)
 - ▶ Limited variables from APCD data
- Geographic PUF
 - ▶ Aggregated to the zip code level

Questions/Comments?

