Comparing Medicaid Claims Data Sources: The Pros and Cons of State, TAF, and APCD Data

November 28, 2023

With support from the
Commonwealth Fund and the
Robert Wood Johnson Foundation

Sponsors

Medicaid Data Learning Network

- A forum for TAF researchers to share what they have learned using the dataset, to develop consensus on best practices, to expand opportunities for health services researchers to use the data, and to share learnings with CMS and state Medicaid agencies.

State Health Research and Policy Interest Group

- A forum for health policy analysts, researchers, and policymakers to interact and discuss state-level research, research related to state health policy, and health services research from a state health policy perspective.

Housekeeping

- Please use the **Q&A function** to ask questions throughout the presentations. We will pull from the submitted questions during the Q&A portion.

- This webinar is being **recorded** and will be made available on AcademyHealth's website following the event. You will receive an email when the recording is available.

Agenda

1. Welcome & Introductions
2. New Resource: TAF Open Source Functions
3. Comparing Medicaid Claims Data Sources
    1. TAF Data – Carol Irvin, PhD, *Mathematica*
    2. State Data – Julie Donohue, PhD, *University of Pittsburgh*
    3. APCD Data – Josephine Porter, MPH, *APCD Council*
4. Q&A

AcademyHealth

TAF Open Source Functions

John McConnell, PhD, *Oregon Health & Science University*

Open-Source TAF Library

Lives on GitHub, source code available for any to see and revise locally

Is an R library – can be installed via devtools::install_github() and functions can be called in a similar manner to functions from tidyverse, data.table, etc.

Functions can be called from other programming languages (including Stata and SAS)

Functions cannot be used in the VRDC environment

Lines of Work

Managed care

Standardizing TAF Managed Care Information

Connecting Managed Care plans to Parent Companies

Condition definitions

Create lists of ICD9/10 codes that can be used to easily subset the TAF data to beneficiaries with certain conditions

Miscellaneous common TAF procedures

E.g. backfill demographic data for beneficiaries who answer demographic questions in some years but not others

APL Files (Managed Care)

Issues

Human-entered plan names, which are inconsistent and error-prone

More plan IDs than plan names (i.e. plan ID does not solve plan name inconsistency),

No data on which companies offer plans (in TAF, available via data.medicaid.gov)

Work In Progress

Create a map (.csv or similar) matching TAF managed care plan names to standard plan names used by data.medicaid.gov, which can then be used to match plans to parent companies

Condition Definitions

Completed Work

- Opioid Use Disorder
- Pregnancy

Miscellaneous Useful TAF Functions

Completed Work

Backfilling demographic data

Michigan County FIPS

Tennessee ICD Codes

Link to GitHub:

Includes detailed instructions for running functions, including from Stata

Github: chse-ohsu/taf.functions

Questions? Conor Hennessy <hennessc@ohsu.edu>

Tradeoffs in Medicaid Claims Sources

- Generalizability
- Data elements and quality
- Timeliness and acquisition process

AcademyHealth

Pros and Cons of the T-MSIS Analytic File Data

Carol Irvin, PhD, *Senior Fellow, Mathematica*

TAF Data

What is TAF?

- **Includes enrollment records for EVERYONE enrolled in Medicaid and CHIP**
- **Documents claims history for this population**
- **Has information for all providers and managed care plans that serve this population**

Legacy Data System

- Medicaid Statistical Information System (MSIS)
- Mandatory reporting for all states began in 1999 until 2015 when T-MSIS became mandatory
- Flat files submitted quarterly by states
- Learn about the history

15

TAF – Large Relational DataBase

- Annual Demographic and Eligibility (DE) file
  - 7 files (Base, Dates, Managed Care Enrollment, Waiver Enrollment, Money Follows the Person, Health Homes & State Plan Options, Disability & Need)
- Claims for inpatient, long-term care, prescription drugs (filled prescriptions), and other services
  - each with 3 files (Header, Line, and Occurrence)
- Annual Provider file
  - 9 files (Base, Taxonomy, Enrollment, Affiliated Groups, Affiliated Programs, Location, License, Identifiers, Bed Type)
- Annual Managed Care Plan file
  - 5 files (Base, Location, Service Area, Populations, Operating Authorities)

Pros and Cons

- Pros
  - Population data
    - Full population of everyone in Medicaid and CHIP, their services, and the providers and plans that serve them
  - Cross state analyses
    - Includes all states, DC, and 3 of 5 territories with Medicaid programs
    - Uniform format
  - Rich, longitudinal data (2016-2022 with more years coming)
    - Supports a large array of analyses
  - Passing through what the states report with few changes
    - Getting the state's data with few changes
  - Relatively easy to learn about the data
    - Resources on ResDAC
    - DQ Atlas
  - Timely

- Cons
  - Costs
    - Costly to purchase and costly to analyze
    - Lacks summary of claims information
  - Data quality issues
    - Quality is a moving target, varying by state and over time
  - Doesn't contain all the information an analysis may need
    - Most denied claims missing, but needed for quality-of-care measures
  - Passing through what the state reports even with known data quality issues
  - For some topics, the wealth of data elements can be confusing
    - e.g., home and community-based services
  - Timeliness

Working with State Medicaid Data

Julie Donohue, PhD, *Professor & Chair, Department of Health Policy & Management, University of Pittsburgh School of Public Health*

How to access state Medicaid data

- Direct contact with state Medicaid agency
- Thru a broad master agreement (30+ exist) or project-specific agreement
- Investigator- or state-initiated
- Grant- or contract-funded
- Data use agreement (DUA) or business associate agreement (BAA)

Advantages

- More recent data (1-9 month claims lag vs. 2+ years)
- Ability to link to other state data resources
- Connection to state agencies
  - More valid measurement
  - Dissemination and impact

Disadvantages

- Limits on states' ability to share data for research
  - Researchers must demonstrate the work supports administration of the Medicaid program – but shouldn't that be the goal??
- Securing a DUA/BAA can be very time-consuming
- May be difficult to scale beyond one state, limiting generalizability

More on advantages: data linkages

- Supplemental Nutrition Assistance Program (SNAP)
- Homeless Management Information System (HMIS)
- Criminal justice system
- Birth and death records
- Prescription drug monitoring system
- Public education system
- EMS
- And more…

Changes in Medicaid Utilization and Spending Associated with Homeless Adults' Entry into Permanent Supportive Housing

Mara A. G. Hollander, PhD[1,2], *Evan S. Cole, PhD*[3], *Julie M. Donohue, PhD*[3], *and Eric T. Roberts, PhD*[3]

[1]Department of Health Policy and Management, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, USA; [2]Center for Mental Health and Addiction Policy Research, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, USA; [3]Department of Health Policy and Management, University of Pittsburgh Graduate School of Public Health, Pittsburgh, PA, USA.

BACKGROUND: There is growing interest in financing housing and supportive services for homeless individuals through Medicaid. Permanent Supportive Housing (PSH), which integrates non-time-limited housing with supportive services for people who are disabled and chronically homeless, has seen rapid growth in the last decade, but clear evidence on the long-term impacts of PSH, needed to guide state efforts to finance some PSH services through

J Gen Intern Med 36(8):2353–60
DOI: 10.1007/s11606-020-06465-y

University of Pittsburgh | Health Policy and Management | School of Public Health

Churn in Supplemental Nutrition Assistance Program

Changes in Medicaid Expenditure and Acute Care Utilization

Liyang Xie, PhD, Jason O'Connor, PhD,† Steven Albert, PhD,‡ Tiffany Gary-Webb, PhD,§ Michael Sharbaugh, MPH,† Julie M. Donohue, PhD,† Molly Ennis, MPH,† Deborah Hutcheson, DCN,‖ and Evan S. Cole, PhD†*

Background: The Supplemental Nutrition Assistance Program (SNAP) provides financial assistance to low-income individuals and families to help them purchase food. However, when participants experience short-term disenrollment from the program, known as churn, it can disrupt their health care usage patterns or result in acute health care needs due to the loss of financial benefits and time burden required to reapply for SNAP.

The Supplemental Nutritional Assistance Program (SNAP), the largest domestic nutrition assistance program in the United States, plays a critical role in the safety net for low-income individuals.[1,2] As of 2019, SNAP provided benefits to ~36 million people in 18 million households each month.[3] Previous studies found that SNAP participation significantly improves health outcomes due to improved nutrition and the financial benefit of the program.[4–9] SNAP also helped fami-

Policy impact

Research Letter

FREE

August 22/29, 2017

Medication-Assisted Treatment and Opioid Use Before and After Overdose in Pennsylvania Medicaid

Winfred Frazier, MD, MPH[1]; Gerald Cochran, PhD[2]; Wei-Hsuan Lo-Ciganic, PhD, MS, MSPharm[3]; et al

» Author Affiliations | Article Information

JAMA. 2017;318(8):750-752. doi:10.1001/jama.2017.7818

Table 2. Medication Use Patterns Before and After Heroin or Opioid Overdose Events,

Characteristics	Heroin Overdose (n = 2068)[a]			
	Before Overdose, No. of Patients (%)	After Overdose, No. of Patients (%)[a]	Estimated Difference (95% CI), Percentage Points[b]	*P* Value
Any prescription opioid use	894 (43.2)	822 (39.7)	−3.5 (−5.9 to −1.1)	.005
Prescription opioid duration ≥90 d	218 (10.5)	187 (9.0)	−1.5 (−2.7 to −0.3)	.01
Any medication-assisted treatment[c]	609 (29.4)	683 (33.0)	3.6 (1.4 to 5.8)	.002
Buprenorphine	397 (19.2)	419 (20.3)	1.1 (−0.8 to 2.9)	.27
Methadone	215 (10.4)	261 (12.6)	2.2 (0.7 to 3.8)	.005
Naltrexone	49 (2.4)	61 (3.0)	0.6 (−0.2 to 1.4)	.16

Department of Human Services

Pathway 1	• ED initiation of buprenorphine
Pathway 2	• Warm handoff to outpatient treatment
Pathway 3	• MOUD for pregnant women
Pathway 4	• Inpatient admission for MOUD

JAMA Health Forum

Original Investigation

Association Between Hospital Adoption of an Emergency Department Treatment Pathway for Opioid Use Disorder and Patient Initiation of Buprenorphine After Discharge

Keisha T. Solomon, PhD; Jason O'Connor, PhD; Jason B. Gibbons, PhD; Austin S. Kilaru, MD; Kenneth A. Feder, PhD; Lingshu Xue, PhD; Brendan Saloner, PhD; Elizabeth A. Stuart, PhD; Evan S. Cole, PhD; Eric Hulsey, DrPH; Zachary Meisel, MD; Esita Patel, PhD; Julie M. Donohue, Ph

Abstract

IMPORTANCE Emergency department (ED)–based initiation of buprenorphine has been shown to increase engagement in outpatient treatment and reduce the risk of subsequent opioid overdose; however, rates of buprenorphine treatment in the ED and follow-up care for opioid use disorder (OUD) remain low in the US. The Opioid Hospital Quality Improvement Program (O-HQIP), a statewide financial incentive program designed to increase engagement in OUD treatment for Medicaid-enrolled patients who have ED encounters, has the potential to increase ED-initiated buprenorphine treatment.

OBJECTIVE To evaluate the association between hospitals attesting to an ED buprenorphine treatment O-HQIP pathway and patients' subsequent initiation of buprenorphine treatment.

DESIGN, SETTING, AND PARTICIPANTS This cohort study included Pennsylvania patients aged 18 to 64 years with continuous Medicaid enrollment 6 months before their OUD ED encounter and at least 30 days after discharge between January 1, 2016, and December 31, 2020. Patients with a claim for medication for OUD 6 months before their index encounter were excluded.

Key Points

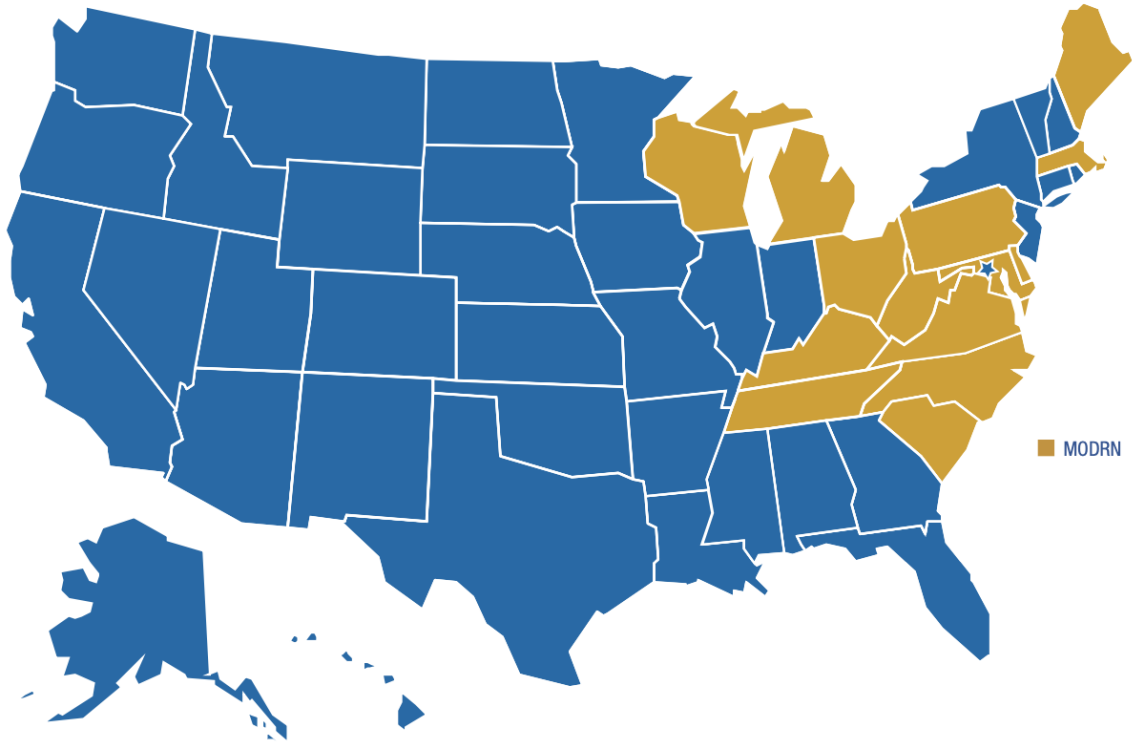
Question What is t
between hospitals
emergency departm
treatment Opioid H
Improvement Progr
pathway and patier
initiation of bupren

Findings In this co
difference-in-differ
of 17 428 Medicaid-
an opioid use disor
department encour
buprenorphine trea
pathway was associ
significantly increas

University of Pittsburgh | Health Policy and Management School of Public Health

Strategies for scaling

Medicaid Outcomes Distributed Research Network (MODRN)



AcademyHealth

APCD Overview

Josephine Porter, MPH, *Co-Chair, APCD Council;*
Chief Strategy Officer, NH Center for Justice and Equity;
Adjunct Professor, University of New Hampshire

About the APCD Council

The APCD Council is a learning collaborative of government, private, non-profit, and academic organizations focused on improving the development and deployment of state-based all payer claims databases (APCDs). The APCD Council is a program partnership of the National Association of Health Data Organizations (NAHDO) and the Institute for Health Policy and Practice (IHPP) at the University of New Hampshire (UNH).

Our Work

- Early-Stage Technical Assistance to States
- Shared Learning
- Catalyzing States to Achieve Mutual Goals
- Advocacy for State and Federal Policies

What is an All-Payer Claims Database (APCD)?

Databases, created by state mandate, that typically include data derived from medical, pharmacy, and dental claims with eligibility and provider files from private and public payers:

- Insurance carriers (medical, dental, TPAs, PBMs)
- Public payers (Medicaid, Medicare)

Typically Included Information

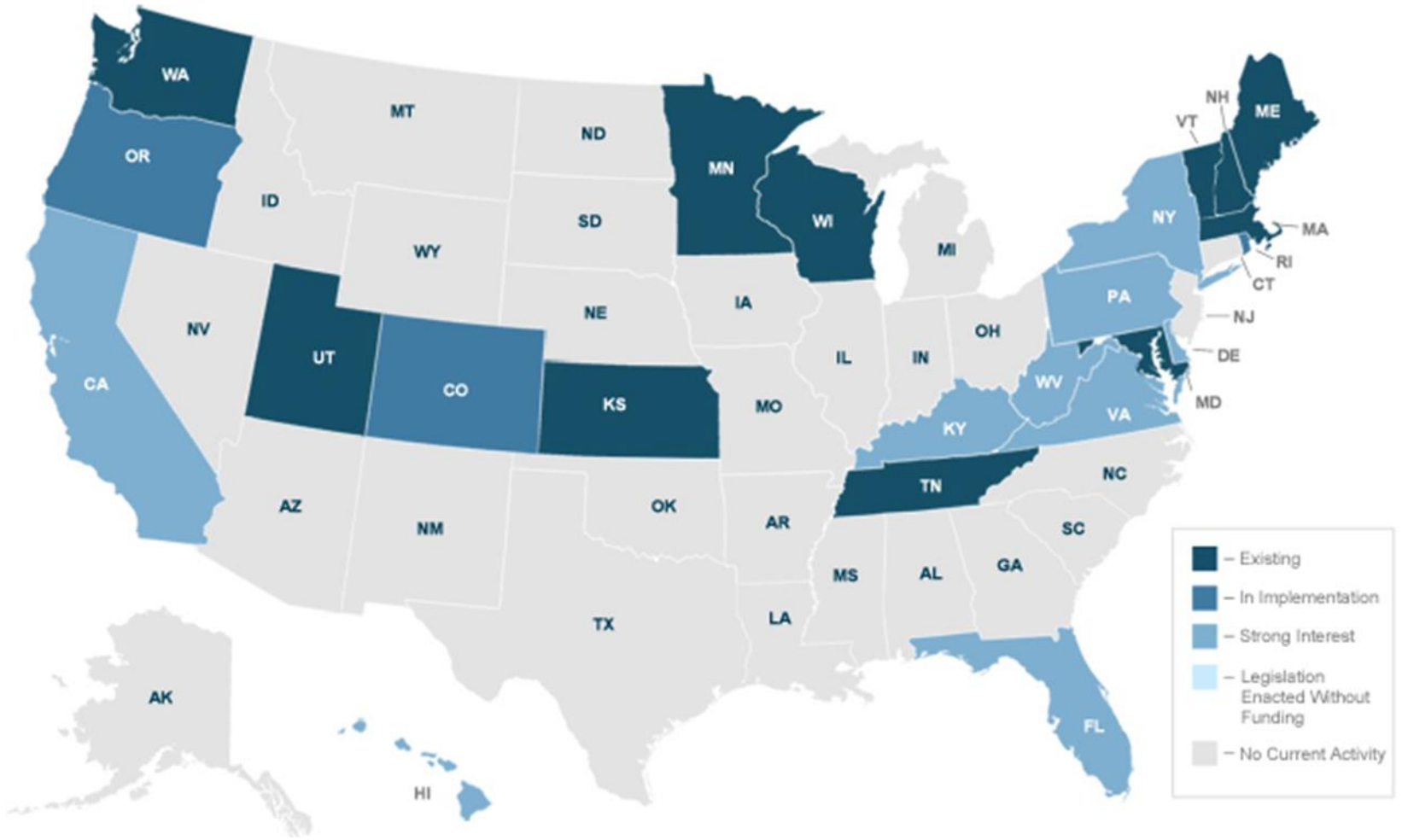
- Social Security Number or Member Identifier
- Patient demographics(date of birth, gender, residence, relationship to subscriber)
- Type of product (HMO, POS, Indemnity, etc.)
- Type of contract (single person, family, etc.)
- Diagnosis codes (including E-codes)
- Procedure codes (ICD, CPT, HCPC, CDT)
- NDC code / generic indicator / other Rx
- Revenue codes
- Service dates
- Service provider (name, tax id, payer id, specialty code, city, state, zip code)
- Prescribing physician
- Plan charges & payments
- Member liabilities (co-pay, coinsurance, deductible)
- Date paid
- Type of bill
- Facility type
- Other 835/837 fields

Typically Not Included Information

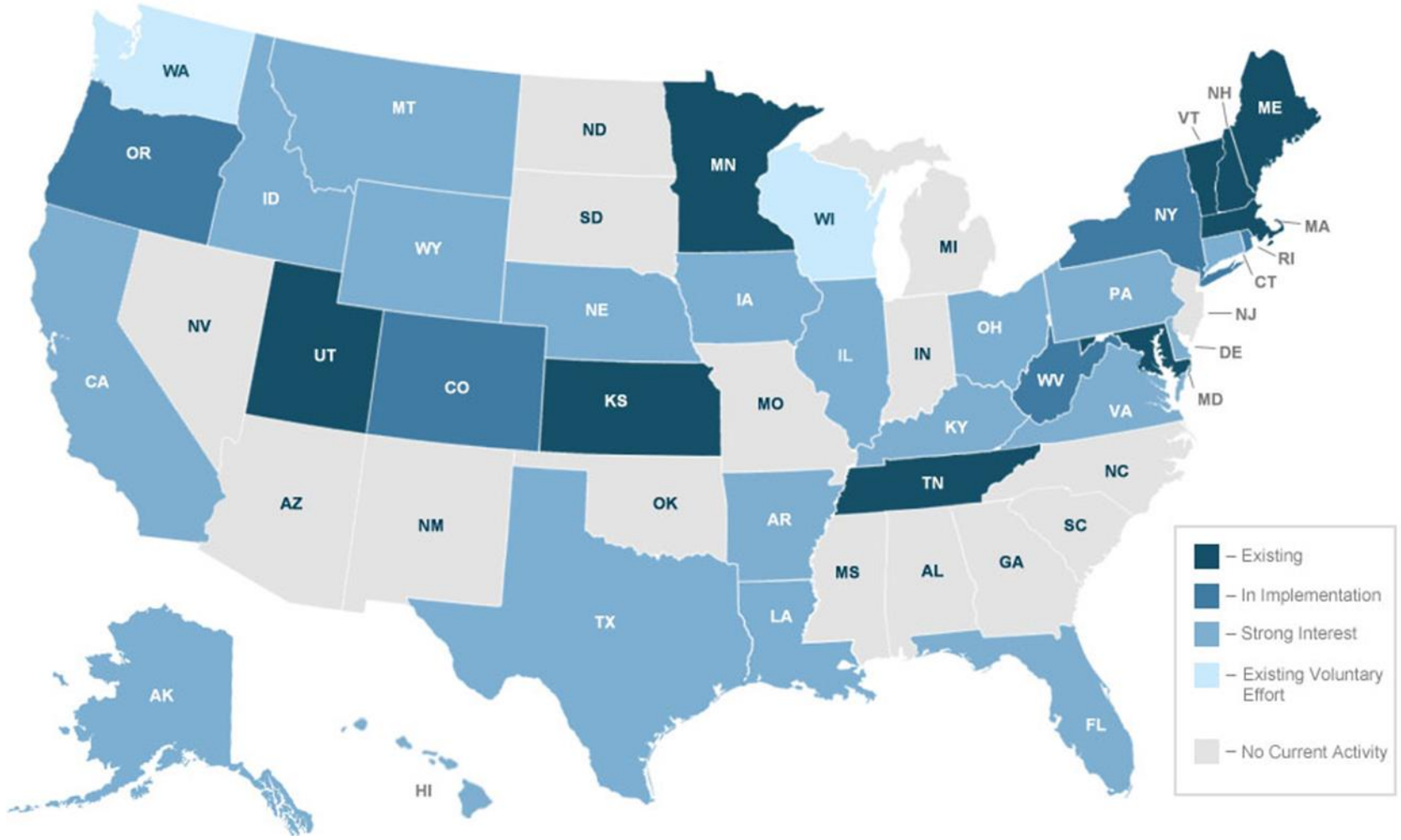
- Services provided to uninsured
- Denied claims
- Workers' compensation claims
- Referrals
- Test results from lab work, imaging, etc.
- Premium information*
- Alternative payment models*

* States exploring/piloting collection

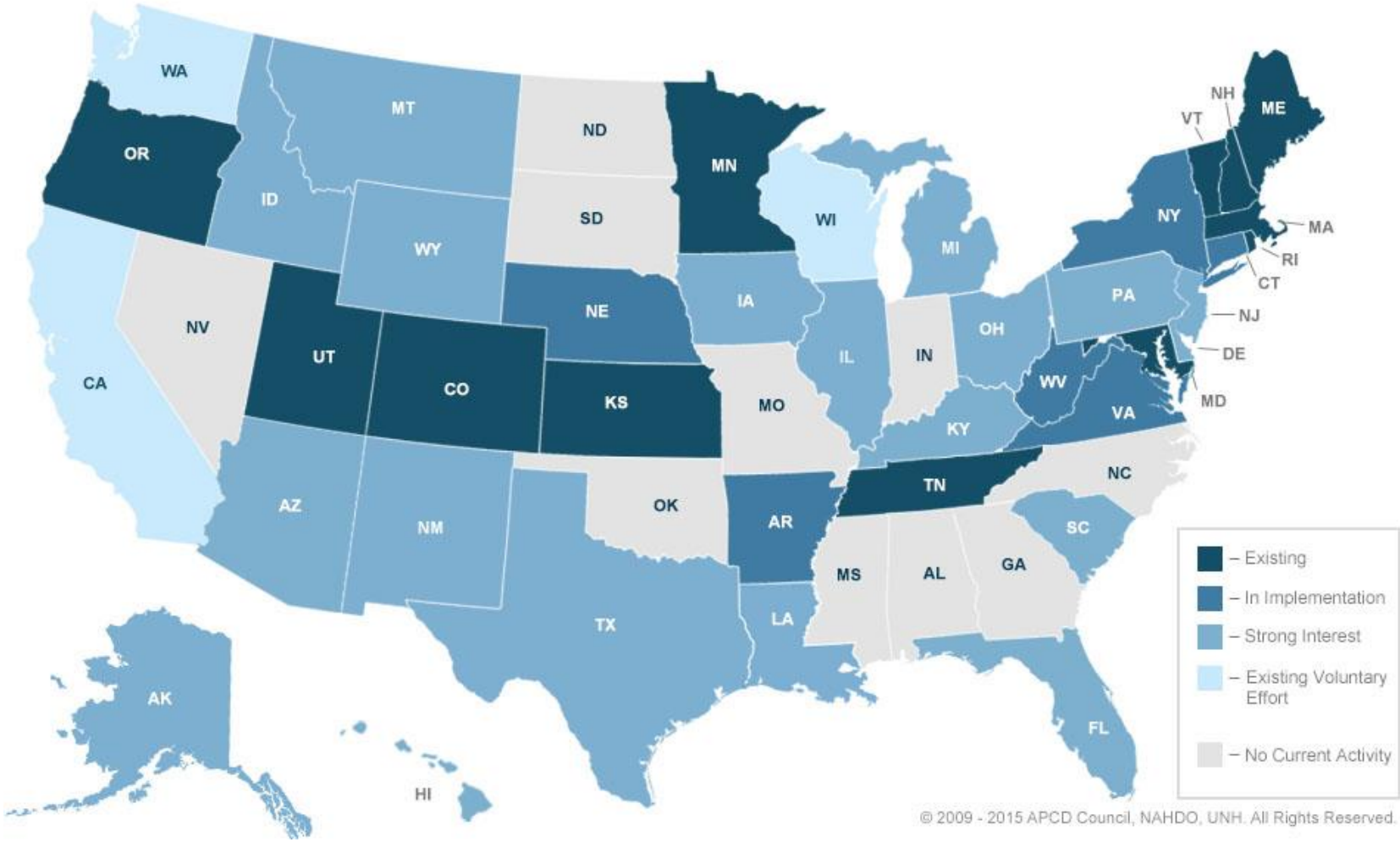
Status 2010



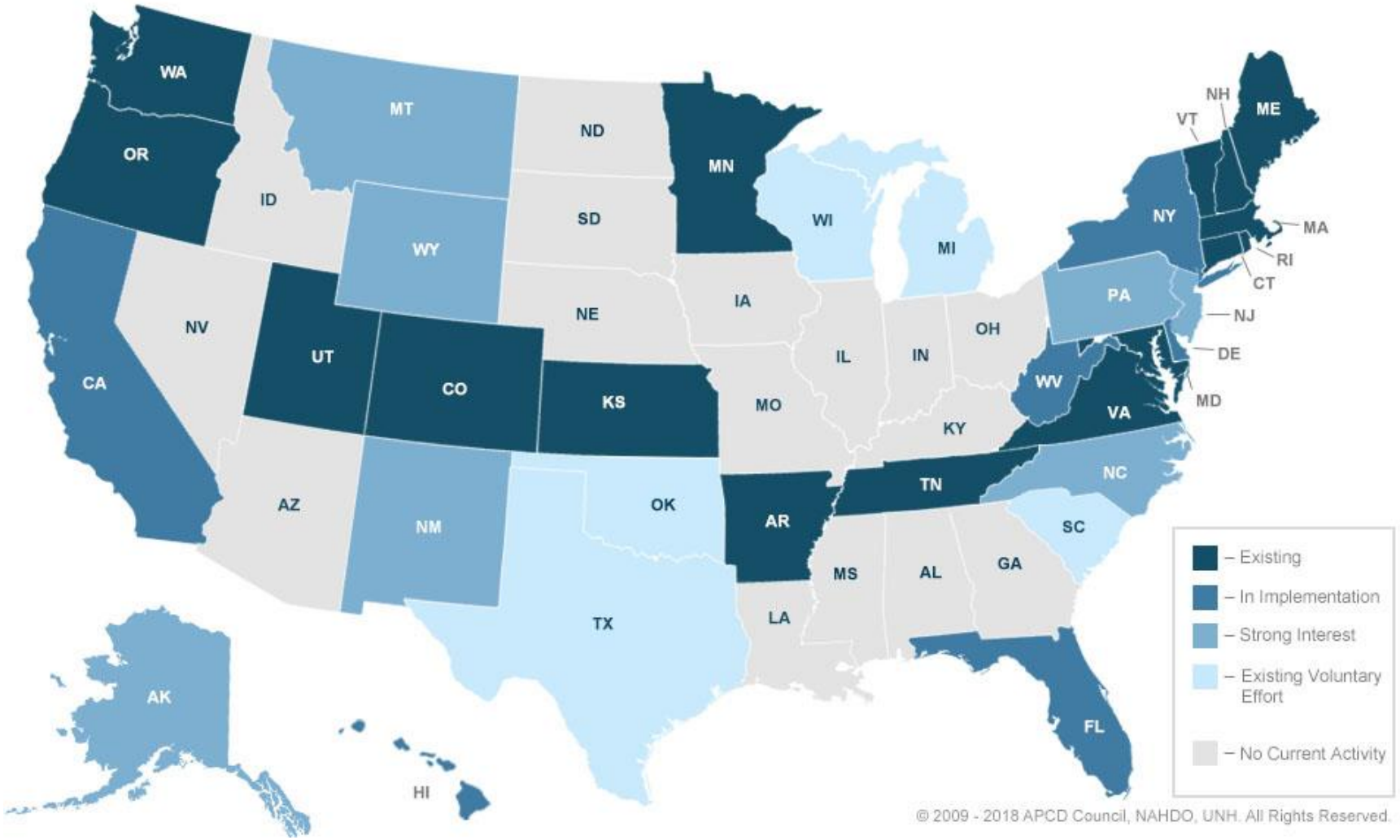
Status 2012



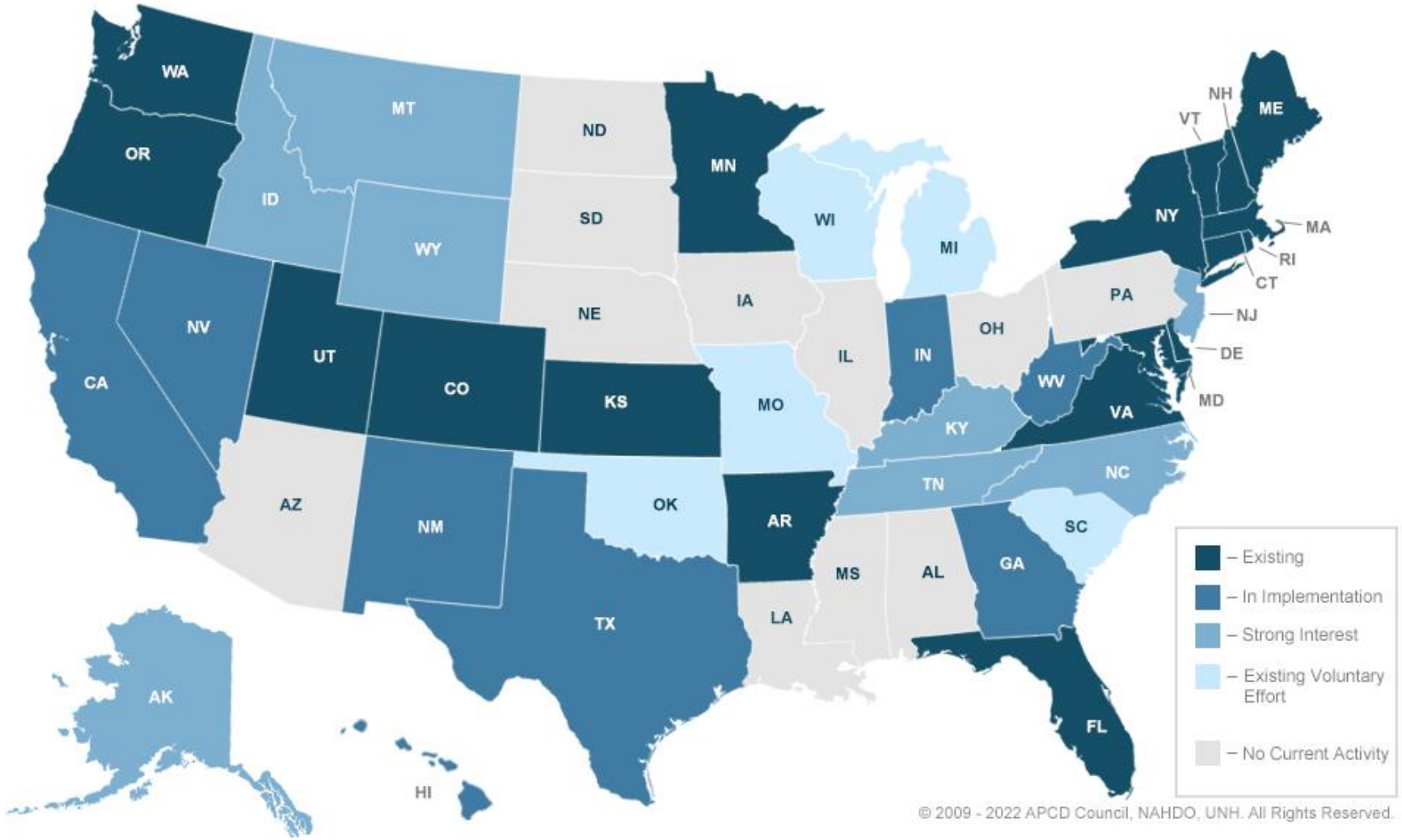
Status 2015



Status 2018



State Progress Map 2022



Contact Information

Jo Porter
Jo.Porter@unh.edu

Norm Thurston
nthurston@nahdo.org

Amy Costello
Amy.Costello@unh.edu

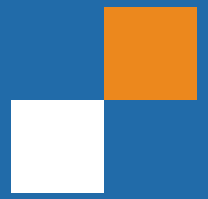
Charles Hawley
chawley@nahdo.org

www.apcdcouncil.org

www.apcdshowcase.org

info@apcdcouncil.org

@APCDCouncil



Q&A

AcademyHealth

Thank you!

Next MDLN webinar: February 20th

- Introducing the **T-MSIS Analytic Files Analysis Reporting (TAR) Checklist** and other data quality resources for researchers.

Please feel free to reach out with any related questions or information.

- Sarah Gordon: gordonsh@bu.edu
- Susan Kennedy: susan.kennedy@academyhealth.org
- John McConnell: mcconnjo@ohsu.edu
- Will Schpero: wls4001@med.cornell.edu