

# National Telehealth Data Warehouse

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**Project Lead:** Jason Goldwater and Greg Hall

**Description:** Designed to collect, integrate, analyze, and disseminate telehealth data across multiple academic health centers to improve care delivery, inform policy, and advance research, with a particular focus on underserved rural communities.

**Objectives:**

- Develop and Implement a Sustainability Model
- Full Data Ingestion
- Research and Dissemination
- Presentation of Findings
- Marketing and Outreach Expansion

# Welcome to the National Telehealth Data Warehouse



## **COMPREHENSIVE TELEHEALTH DATA**

Curated datasets covering telehealth adoption, utilization, and patient outcomes



## **TRANSFORMATIVE RESEARCH AND POLICY**

Enabling evidence-based decision-making to advance telehealth integration



## **COLLABORATIVE PARTNERSHIPS**

Connecting healthcare organizations to unlock telehealth insights



## **USER-FRIENDLY DATA ACCESS**

Intuitive tools and resources for seamless data exploration and analysis

**THE NATIONAL TELEHEALTH DATA WAREHOUSE IS A TRANSFORMATIVE PLATFORM THAT EMPOWERS THE HEALTHCARE COMMUNITY TO DRIVE THE FUTURE OF TELEHEALTH THROUGH DATA-DRIVEN INSIGHTS AND EVIDENCE-BASED POLICYMAKING.**

# Architecture and Infrastructure



## **SECURE CLOUD-BASED PLATFORM**

Hosted by UMMC to ensure data security and reliability



## **DATA VISUALIZATION TOOLS**

Leverages Tableau and Power BI for interactive dashboards and reporting



## **INTEROPERABLE AND SCALABLE**

Designed to integrate with external systems and accommodate growing data needs



## **SUPPORTS APIS**

Enables seamless integration and data access for research and analysis

**THIS CLOUD-BASED PLATFORM PROVIDES A SECURE, FLEXIBLE, AND DATA-DRIVEN ENVIRONMENT TO SUPPORT RESEARCH AND ANALYSIS NEEDS.**

### NATIONAL TELEHEALTH DATA WAREHOUSE

University of Mississippi Medical Center · HRSA-Funded · Dashboard | Data Explorer | Papers | Request Access | About

TOTAL ENCOUNTERS

4.7 Million

↑ 18% vs prior year

PARTICIPATING PROGRAMS

42 Programs

Across 31 states

AVG. COST PER ENCOUNTER

\$127

Range: \$48–\$340

RX ORDERS ISSUED

61%

Of all encounters

Telehealth Utilization Over Time (Annual Encounter Volume)

| Year       | 2019 | 2020* | 2021* | 2022 | 2023 | 2024 | 2025 | Trend  |
|------------|------|-------|-------|------|------|------|------|--------|
| Encounters | 14K  | 108K  | 159K  | 142K | 129K | 148K | 170K | ▲ +12x |

\* COVID surge years

Insurance Breakdown

34%  
Medicare

28%  
Medicaid

26%  
Private

8%  
Self-Pay

4%  
Other

Conditions Treated via Telehealth

| Condition                    | %   |
|------------------------------|-----|
| Major depressive disorder    | 14% |
| Generalized anxiety disorder | 11% |
| PTSD                         | 7%  |
| Substance use disorder       | 6%  |
| Bipolar disorder             | 5%  |
| Type 2 diabetes              | 10% |
| Hypertension                 | 9%  |
| COPD                         | 5%  |
| CHF / cardiac                | 5%  |
| Chronic kidney disease       | 4%  |
| Asthma / hypothyroidism      | 3%  |

Purple = mental health · Blue = chronic disease

Urban vs. Rural Site Concentration

| Site     | '17 | '18 | '19 | '20 | '21 | '22 | '23 | '24 | ▲ ▼   |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-------|
| Urban    | 68% | 66% | 64% | 61% | 59% | 58% | 55% | 52% | ▼ -16 |
| Suburban | 19% | 20% | 21% | 22% | 22% | 23% | 24% | 24% | ▲ +5  |
| Rural    | 10% | 11% | 12% | 13% | 15% | 15% | 17% | 18% | ▲ +8  |
| Frontier | 3%  | 3%  | 3%  | 4%  | 4%  | 4%  | 4%  | 6%  | ▲ +3  |

Values = % of originating sites · ▲ ▼ = 2017–2024 trend (pp)

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# Telehealth Data Management Goals



## **CENTRALIZED TELEHEALTH DATA REPOSITORY**

Aggregate and store telehealth data from multiple sources in a centralized database



## **LONGITUDINAL AND CROSS-PROGRAM ANALYSIS**

Enable in-depth analysis of telehealth trends and utilization patterns over time and across different programs



## **GRANTEE REPORTING AND FEDERAL OVERSIGHT**

Provide a platform for grantees to report on telehealth outcomes and for federal agencies to monitor program performance



## **DATA PRIVACY, SECURITY, AND COMPLIANCE**

Implement robust data protection measures to ensure patient confidentiality and adherence to relevant regulations

**BY ESTABLISHING A CENTRALIZED TELEHEALTH DATA REPOSITORY, THE PROJECT WILL SUPPORT COMPREHENSIVE ANALYSIS, GRANTEE REPORTING, AND COMPLIANCE - ULTIMATELY DRIVING IMPROVED TELEHEALTH OUTCOMES.**

## Current partner onboarding and publication readiness

### 1. Infrastructure complete

Full construction of the warehouse is complete  
UMMC's data ingested

### 2. Data transfer anticipated from MUSC in April 2026

Continuing to finalize Data Usage Agreement (DUA) from UNC

### 3. Governance nearly finalized

Framework for governance to receive data is almost finalized

### 4. Next phase

Partner ingestion, multi-site analytics, and publication development  
Three peer reviewed publications anticipated

# What Comes After 2026?

Transition from a grant-built asset to a nationally hosted, state-supported utility

**Federal funding built the warehouse. A trusted national host can sustain the platform, while participating states and entities support ongoing operations.**

## **1. Federal investment created the asset**

- National telehealth data warehouse
- Governance framework and DUAs
- Common data model and ingestion workflows
- Initial dashboarding and proof of concept

## **2. Neutral national host sustains the platform**

- Prestigious convener (e.g. organization, consortium, or coordinating center)
- Operates infrastructure, onboarding, compliance, and benchmarking
- Keeps stewardship neutral and multi-state

## **3. States/entities support operations**

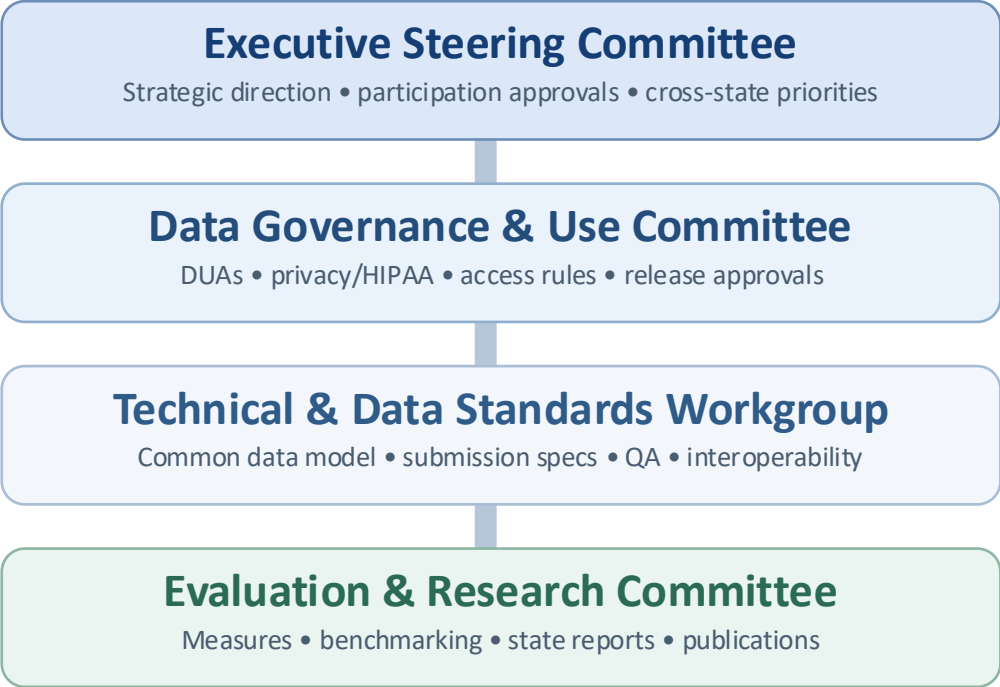
- Annual participation or service fees
- Maintenance, security, upgrades, and help desk
- Dashboards, analytic briefs, and custom evaluation support

**Bottom line: the goal is not to end with a successful grant — it is to create durable national infrastructure for telehealth evaluation.**

Recommended multi-level model to support state participation, data trust, and outcome evaluation

### Who is represented

- State Medicaid agency
- State health department
- Participating health systems
- Academic / evaluation partner
- Legal / privacy representative
- Patient or rural community voice



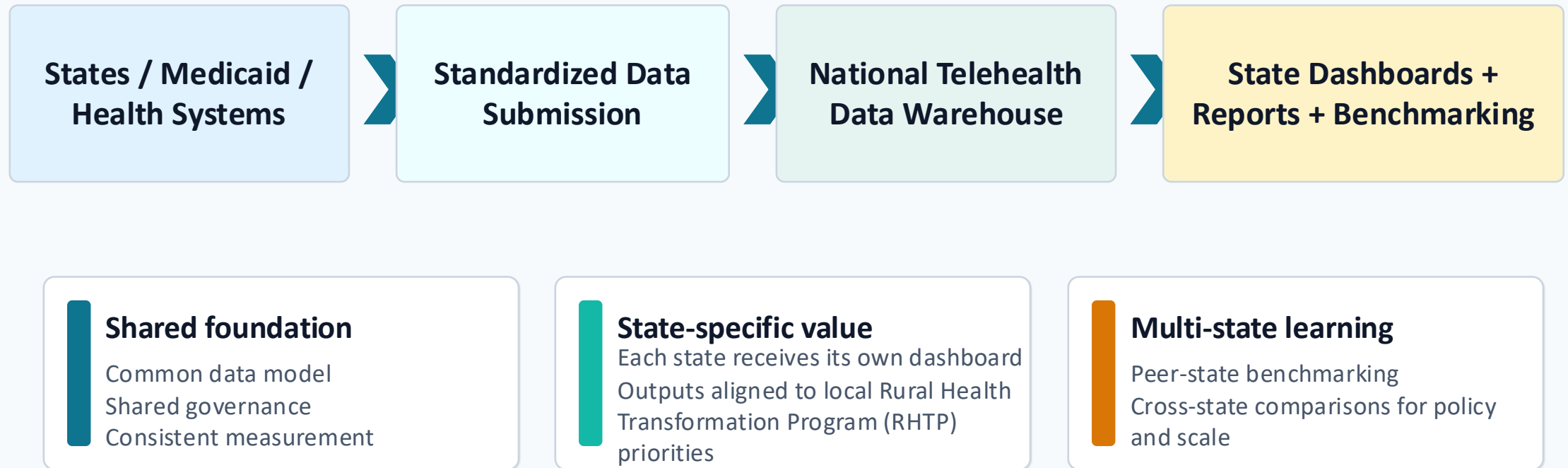
### What governance enables

- Standard state onboarding
- Defined data submission schedule
- Data quality review and feedback loop
- Approved dashboard metrics
- State-specific reports + benchmarking
- Publication and data release oversight

Practical recommendation: start with a small steering committee + formal data governance committee + technical workgroup + evaluation committee, with clear decision rights for DUAs, metric definitions, data access, and publication approval.

# From National Warehouse to State / Health Systems Evaluation

A shared data infrastructure can help states measure telehealth access, outcomes, and sustainability without building separate analytics systems.



A national warehouse can serve as the evaluation backbone for state telehealth transformation efforts.

# Core Data Elements States /Health Systems Could Submit

States can start with a minimum dataset and expand over time as governance, claims access, and analytic maturity grow.

## Utilization

- Telehealth visit volume
- Video, audio-only, async, RPM
- Specialty and service line mix

## Access

- Wait times
- Rural reach by region or county
- Referral completion and scheduling

## Outcomes

- Readmissions
- ED visits and hospitalizations
- Chronic disease measures when available

## Financial Impact

- Payer mix and reimbursement
- Avoided transfers or travel
- Program cost, savings, and ROI

Start with a minimum common dataset. Expand to richer operational, clinical, and financial measures over time.

# What States / Health Systems Receive in Return

The warehouse should return policy-ready, operationally useful, and publication-quality insights to participating states.

1

## State dashboard

Telehealth trends by region, modality, service line, and population

2

## Outcome evaluation

Baseline vs post-implementation changes in access, quality, utilization, and cost

3

## Benchmarking

Comparison against peer states, peer systems, or rural regions

4

## Decision support

Evidence for Medicaid strategy, policy refinement, and sustainability planning

5

## Research output

Multi-site datasets that support dissemination and publishable analyses

One submission pathway can generate dashboards, evaluation, benchmarking, and strategy support for each state.

## Why This Matters

A common telehealth measurement framework helps states move from activity tracking to true outcome evaluation.

### Accountability

Measure whether telehealth investments are improving access, utilization, and outcomes.

### Benchmarking

Identify which telehealth models perform best across peer states and rural regions.

### Sustainability

Support reimbursement, Medicaid strategy, and value-based care decisions with real data.

### Scale

Create a multi-state learning system that accelerates replication and dissemination.

**The National Telehealth Data Warehouse can help states / health systems move from fragmented telehealth activity tracking to consistent evaluation of access, quality, cost, and sustainability under RHTP.**

The warehouse becomes not just a repository, but a shared evaluation utility for rural transformation.

The Telehealth Centers of Excellence(COE) develop resources for telehealth organizations, researchers, providers, and staff based on their experience, research, and innovation.

[TelehealthCOE.org](https://TelehealthCOE.org)

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