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Children's Behavioral Health System Data Infrastructure & Use of Data for System Improvement

Recommendations for Connecticut's Public Child- and Family-Serving Behavioral Health System




Jill Farrell, Robert Plant, Terry Shaw, Deborah Harburger, & Michelle Zabel

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A Complex System Requires a Comprehensive Data Infrastructure

The **children's behavioral health system** is composed of multiple entities that deliver, coordinate, and/or fund prevention, early intervention, and treatment services for children, youth, and their families, including behavioral health, education, child welfare, juvenile justice, and developmental disabilities.

Systems, providers, families, and stakeholders require **access to and use of data** across all levels of system performance – from information on individual service provision to system functioning across a state.

Report Content

- Key terms and components
- Model approaches, best practices, and innovations for data infrastructure and use of data for quality improvement (QI)
  - Examples from other states
- CT's children's behavioral health data infrastructure
  - Strengths and limitations
- Recommendations for moving forward
- Glossary
- Profiles of CT's primary data systems and partnerships

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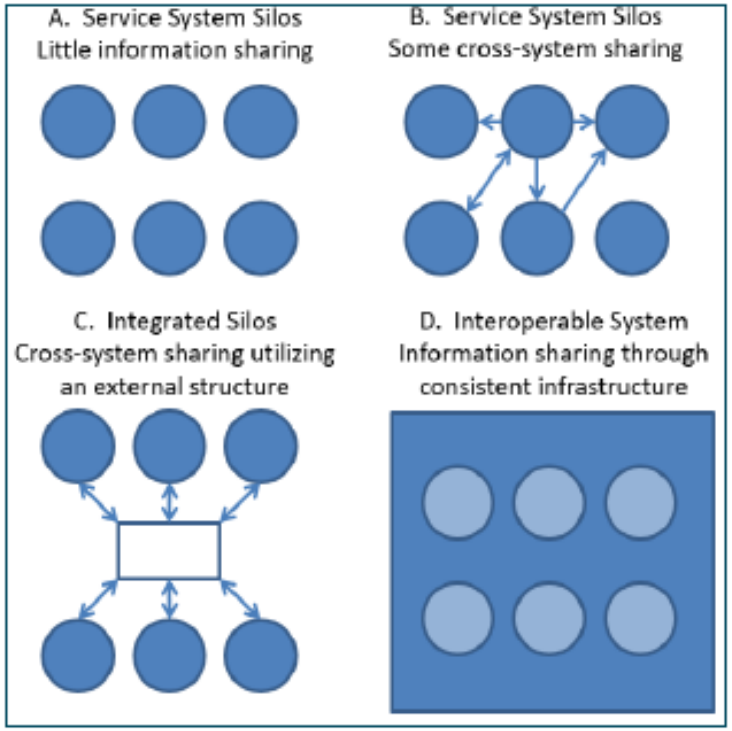
Key Terms & Components

Data infrastructure is composed of systems, technologies, and processes for data collection, storage, management, processing, analysis, and reporting.

- Data systems
- Data sharing
- Data linking or integration
- Integrated data systems
- Interoperable data systems

Figure 1: Collaborative/Cooperative Data Structures



(Adapted from Shaw et al., 2016)

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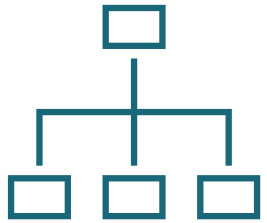
Key Terms & Components

Data governance is the framework for overseeing the policies, standards, processes, roles, and technologies that ensure the effective management and use of data.

Central to effective data governance—and a major concern in any discussion of data sharing, linking, and interoperability—is **data security** and **privacy**.

Effective **consent management** is essential to ethical and legal behavioral health data sharing.



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Challenges to Data Integration

- Data quality
- Data structure inconsistencies
- Technology
- Staff capacity and expertise
- Resources (i.e., funding)
- Leadership
- Trust between contributing partners

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Children's Behavioral Health Data Infrastructure Elements

Foundational infrastructure	• Enable integration across agencies and sectors
Governance structure	• Accountability, standardization, and clear rules for data sharing
Sustainable funding and staffing models	• System maintenance and analytic capacity
Analytic, reporting, and transparency mechanisms	• Dashboards and open data portals
Standardized performance measures and QI frameworks	• System oversight and service improvement
Innovative technology	• Real-time service access tools, AI, etc.

National Approaches to Data Infrastructure and Integration

System	Purpose	Data	Status
Statewide Longitudinal Data System (SLDS)	Track individual data over time across domains (e.g., education, workforce)	Early care and education, K-12, postsecondary and the workforce	Funded in all states; 33 fully operational
All-Payer Claims Database (APCD)	Analyze healthcare cost, use, and efficiency	Insurance claims: medical, behavioral health, dental, pharmacy	18 states mandate; 30+ active or interested
Health Information Exchange (HIE)	Share real-time patient health information across providers	Health records, including behavioral health	Most states have at least one HIE

State & Local Approaches to Data Infrastructure and Integration

Initiative	Key Details	Takeaways
Allegheny County (PA) Department of Human Services (DHS) Data Warehouse	Links 27 sources, including behavioral health, child welfare, substance use; emphasizes transparency and public access	• Innovative pooled funding • Robust staffing and analytic capacity • Strong data governance
South Carolina Integrated Data System (SC IDS)	Links 21+ sources, including Medicaid, mental health, substance use, and social services data	• Sustainability (since the 1970s) • Statutory authority • Strong data governance
Massachusetts EOTSS & Center for Health Information and Analysis (CHIA)	Data sharing across state agencies (DUAs, Data Leadership Council, MOU) and data analytics/dashboards	• Strong data governance • Independent analytic capacity • Behavioral health dashboards

Model Approaches & Best Practices in Quality Improvement

- **Performance measures as a foundation**
  - E.g., Service capacity, access to care, engagement and retention, process and fidelity, clinical outcomes, participant satisfaction, health equity and disparities
  - Federal measures (e.g., HEDIS, Child Core Set)
- **Frameworks for CQI**
  - Plan-Do-Study-Act (PDSA), Results-Based Accountability (RBA), etc.
- **Teams and collaboratives drive improvement**
  - Implementation teams, Quality Improvement (QI) teams, Learning Collaboratives and Networks
- **Dashboards for transparency and accountability**
  - Data visualization to support performance management and CQI

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Key CT Data Systems & Partnerships

System	Type	Population
Quality Metrics Reporting & Service Delivery, Performance Management, and Evaluation CT Behavioral Health Partnership & Carelon	Integrated	Medicaid members
Provider Information Exchange (PIE) & EBP Tracker CT Dept. of Children and Families & CHDI	Single System	Recipients of community-based services contracted by DCF
Contractor Data Collection System (CDCS) Judicial Branch Court Support Services Division	Single System	Recipients of services contracted or operated by JB-CSSD
All-Payer Claims Database (APCD) CT Office of Health Strategy	Integrated	Recipients of services covered by public and private health insurance
P20 WIN (SLDS) CT Office of Policy and Management	Integrated	Individuals involved with 13 CT State Agencies and 2 Nonprofits
Connie (HIE) CT Office of Health Strategy	Interoperable	Individuals who received services from a CT-licensed healthcare provider who utilizes an EHR

Additional CT Partners & Resources

- Office of Policy and Management (OPM) - Data and Policy Analytics (DAPA) Division
  - CT State Data Plan
  - CT Open Data Portal
  - P20 WIN
  - Geographic Information System (GIS) Office
  - Data Sharing Playbook
  - Responsible AI Framework*
- Office for Health Strategy (OHS)
  - Health Information Technology Advisory Council (HITAC)
  - Oversees the State's APCD and HIE

- Children's Behavioral Health Plan Implementation Advisory Board's Data Integration Workgroup
- DataHaven
- CTData Collaborative
- State Epidemiological Outcomes Workgroup (SEOW) Prevention Data Portal
- DPH's Connecticut School Health Survey (CSHS)
- And more!

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Strengths

- Strong state expertise in data governance, integration, etc.
- Foundational infrastructure: SLDS, APCD, & HIE
- Robust data assets across agencies and partners
- Strong analytic and QI partners
- Public dashboards expanding (APCD Behavioral Health Dashboard)

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Gaps & Opportunities

- ⚠ Data not available / integrated across all populations or services
- ⚠ Lag times in data availability (especially claims)
- ⚠ Variation in data definitions and quality
- ⚠ Limited data on capacity, waitlists, or unmet need
- ⚠ Fragmented reporting & dashboards
- ⚠ Not all funded services have QI processes in place

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Recommendations

Establish a **Children's Behavioral Health Data Workgroup** with the expertise and capacity to plan and support strategies that strengthen the state's behavioral health infrastructure, along with robust reporting mechanisms to ensure accountability.

- Focus on data infrastructure, QI improvement planning, and implementation activities that support a whole population focus with an equity lens
- Identify data gaps, advance consistent performance measures, support QI processes, and ensure accessible and actionable data
- Representative of key stakeholders, including individuals from the TCB and CBHPIAB, youth and families with lived experience, state agencies and organizations (data sources)
- Collaborate with OPM in support of the State Data Plan

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Workgroup Priority Activities

Foundational Activities (Year 1)

a) Develop a 3- to 5-year data plan

b) Establish a regular reporting process

Initial Activities and Low-Hanging Fruit (Years 1-2)

a) Map data elements and uses across current systems to identify gaps

b) Identify performance measures that align with the TCB's strategic goals and State priorities

c) Prioritize filling critical gaps in data collection and use of data for QI

Workgroup Priority Activities

Capacity-Building Activities (Years 2-3)

a) Identify opportunities to leverage P20 WIN, APCD, and Connie for performance measures, analysis, and evaluation
b) Develop and disseminate clear guidance on data sharing and consent
c) Promote development of agency-specific dashboards
d) Consolidate online behavioral health data reporting

Long-Term Enhancements (Years 3-5)

a) Recommend development of additional public-facing dashboards
b) Understand relevant laws and guidelines for AI use in CT; identify opportunities to reduce burden/improve practices
c) Ensure accountability and transparency

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Closing Takeaways

- Connecticut has a strong foundation for data governance, integration, and analysis.
- Continued work is needed to strengthen the TCB's and state partners' ability to use data effectively for decision-making and system improvement.
- Next steps for developing the data infrastructure should be guided by the TCB's and State's goals and priorities.
- A coordinated data workgroup—with broad representation of data stewards and other key stakeholders—can help align and move this work forward.