Unpacking Data Use in State TANF Agencies

Insights from the TANF Data Innovation Needs Assessment

Policymakers, program administrators, federal leaders, researchers, and advocates are increasingly focused on using administrative data to build evidence for improving government programs. Achieving this goal requires accessible data sources and the capacity to use them, yet stakeholders have little information about the baseline level of state capacity in these areas. How does one measure concepts such as “effective data use” and “analytic capacity?” This brief reports findings from a pioneering and comprehensive needs assessment that examined the capacity of Temporary Assistance for Needy Families (TANF) programs in 54 U.S. states and territories to analyze data used for program improvement, monitoring, and evidence-building. The needs assessment provides a foundation for technical assistance and continued improvement for the TANF program and may also provide valuable insights and frameworks for other state-administered human services programs.

State TANF agency personnel report that their agencies regularly review data and rely on staff members with substantial data skills. However, states struggle with resource and capacity limitations ranging from inadequate staff time to poor data access. Meanwhile, stakeholders at both the state and national levels want to increase the use of data to better inform TANF policies and serve families with low incomes more effectively. Informed by the national needs assessment, this brief suggests ways in which stakeholders, including the federal government, can work with states to address barriers to TANF data use.
Overview

In fiscal year 2019, the TANF program had federal and state maintenance-of-effort expenditures totaling $31 billion for cash assistance; work, education, and job-training activities; child care; child welfare; and other services. The federal government provides block grants to states, which have significant flexibility in how the funds are spent to help families with low incomes achieve economic self-sufficiency. State expenditures must be aligned with the purposes of the TANF program, and states must also contribute funds in amounts tied to historic spending. Congress designed the funding model, in part, to foster experimentation across states and territories. In effect, this approach created 54 laboratories for programming that aims to assist families in need and promote self-sufficiency through employment.

Understanding what parts of the program are working requires measurement, data, and research. TANF agencies collect data from cash assistance recipients for program eligibility, benefit provision, and compliance activities. In 2017, the Administration for Children and Families (ACF), within the U.S. Department of Health and Human Services (HHS), launched the TANF Data Innovation (TDI) project (Box 1 presents an overview of the TDI project) to strengthen agencies’ use of TANF, employment, and other administrative data to better inform policy, manage programs, and improve services. TDI is being led by MDRC in part-

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**Box 1. TANF Data Innovation (TDI) Project**

The TANF Data Innovation (TDI) project includes a needs assessment, support for federal use of TANF data, efforts to support the use of federally reported TANF data, and the TANF Data Collaborative (TDC).

**TDC Activities**

- Coaching, training, and technical assistance for eight pilot state partners on data-driven projects.
- Support for TANF agencies in accessing and using participant employment and earnings data.
- Opportunities for TANF agency staff members to meet and learn from each other.
- Resources for using TANF data to support sustained capacity gains at www.tanfdata.org.

**TDC Sponsors**

Office of Planning, Research, and Evaluation and Office of Family Assistance
Administration for Children and Families
U.S. Department of Health and Human Services

**TDI Team**

MDRC (project lead)
Chapin Hall at the University of Chicago
Actionable Intelligence for Social Policy (AISP) at the University of Pennsylvania
Coleridge Initiative
nership with Chapin Hall at the University of Chicago, Actionable Intelligence for Social Policy at the University of Pennsylvania, and the Coleridge Initiative.

For the needs assessment, the research team, led by Chapin Hall at the University of Chicago, used a combination of methods including stakeholder interviews, a survey about data infrastructure and data practices, and an assessment of publicly available reports and analyses (as described in Box 2). Because many of the team’s data collection activities concentrated on TANF agencies, the results are primarily about the cash assistance programs these agencies administer, rather than the full range of TANF block grant expenditures.

The team found several reasons to be positive about the breadth of data use in TANF programs. For example, most state agencies have trained staff members and have developed technical resources to conduct, and in some cases publish, analyses to guide program management.

**Box 2. Comprehensive National Review of Data Use in TANF Agencies**

- **TANF agency survey**
  An online survey of the 54 states and territories that operate TANF was distributed to agency administrators. Seven survey modules focused on different areas of TANF data usage were completed by corresponding subject matter experts; 48 of 54 agencies responded.
  
  Data collected February 2019 - July 2019

- **Stakeholder interviews**
  In-depth interviews were conducted with external experts from federal and local government agencies and human service, research, and technology organizations.

  Data collected September 2018 - May 2019

- **Public document review**
  A total of 291 documents were collected in a systematic review of online public reports and analyses that used TANF data and were published from January 2015 to July 2019.

  Data collected January 2019 - December 2019
However, states reported human and financial resource limitations that created barriers to the use of data (as shown in Figure 1). In particular, agency staff time is often prioritized to meet program administration responsibilities, federal compliance activities, legislative requests, and budget cycles, leaving limited bandwidth for data analysis and evaluation. At the same time, all TANF stakeholders want to understand what parts of the program work. Beyond using data for basic monitoring and reporting purposes, they want data to show how TANF policies do or do not advance the goals of the program. Stakeholders also want to understand what strategies work best for different local populations and environments. These topics require not only improved data use at the state level but also changes in how data are analyzed nationally and used in the national TANF conversation.

### Bright Spots in Agency Data Use

**Information is flowing to TANF decision-makers.** Survey respondents from 38 of 44 states (86%) indicate their TANF leadership receives reports of aggregated administrative data on a weekly or monthly basis. Figure 2 summarizes the types of information about TANF recipients commonly captured in these reports. In 70% of states, staff analysts also create ad hoc reports more than once per quarter. The research team’s
review of public documents supports these statements, as 43% of states have made monthly caseload reports public within the last five years.

**TANF agencies have access to a consistent set of data elements.** Table 1 lists elements for which at least 80% of agencies reported having verified data.\(^5\) Furthermore, respondents overwhelmingly reported that their state retains historical data, rather than overwriting these data. Retained data include payment information, household composition, income, employment, sanctions, and address information.

**Agency staff members have knowledge of fundamental data analysis techniques and tools.** Respondents from more than 60% of states confirmed that one or more staff members were at least moderately knowledgeable about measurement, aggregation, and visualization techniques,\(^6\) although knowledge of more advanced research methods was less common (as shown in Figure 3). Likewise, a majority of states had at least one staff member with intermediate to expert knowledge of tools used for aggregation, reporting, and descriptive analysis, such as Excel and SQL; states were less likely to have staff members with expertise in tools more commonly used for statistical analysis, such as SAS or R (shown in Figure 4).

**TANF staff members rate their agency’s data use highly.** All respondents were asked: "From your perspective, how well does your agency use data to inform program decision-making?" Possible responses ranged from 1 (not well at all) to 10 (extremely well). Just 11% of respondents rated their state a 3 or lower, while 60% of respondents rated their state a 7 or better.\(^7\)
### Table 1. Commonly Available Data Elements Held by TANF Agencies

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>ELEMENT</th>
<th>STATES WHERE DATA ELEMENT IS INTEGRATED FROM ANOTHER DATA SYSTEM (%)</th>
<th>STATES WHERE DATA ELEMENT IS NOT INTEGRATED FROM ANOTHER DATA SYSTEM BUT COLLECTED OR VERIFIED BY AGENCY STAFF (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal identifiers</td>
<td>Birthdate</td>
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<td>27</td>
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<tr>
<td></td>
<td>Name</td>
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<td>16</td>
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<td>32</td>
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<tr>
<td></td>
<td>Employer</td>
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<td></td>
<td>Income</td>
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<td>21</td>
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<td>Work activity type</td>
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<tr>
<td></td>
<td>Work activity dates of participation</td>
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<td>66</td>
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<td>Work activity pay</td>
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<td>50</td>
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<tr>
<td>Participation in other programs</td>
<td>Child support</td>
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<td>21</td>
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<tr>
<td></td>
<td>Disability assistance</td>
<td>68</td>
<td>23</td>
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<tr>
<td></td>
<td>Food assistance</td>
<td>64</td>
<td>36</td>
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<tr>
<td></td>
<td>Medical assistance</td>
<td>66</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td>Subsidized child care</td>
<td>57</td>
<td>36</td>
</tr>
</tbody>
</table>

**SOURCE:** Calculations using data from the TANF agency survey, Data Collection and Documentation module. Sample size = 44.

**NOTE:** Question text was: “For each type of information, please indicate the source for that information or if that information is not accessible for TANF program management. If the information is added from multiple sources, check all that apply. If respondent marked either “integrated with TANF data from another system (periodic match)” or “integrated with TANF data from another data system (real time),” the state is included in the third column. If the respondent marked “collected or verified by agency staff or contractors” but not one of these data integration options, the state is included in the fourth column.”
Limited staff capacity still restricts what agencies can do. Before an agency can use data for program management and decision-making, staff must extract and analyze those data to produce usable reports and analyses. While many data systems automatically generate routine reports, data-driven agency leaders need staff who can prepare and analyze the information for ad hoc questions. Staff time and expertise are particularly necessary for more complex analyses such as research on program effectiveness; these projects require a sustained investment of staff time over weeks, months, or even years.

As shown in Figure 1, 75% of responding states reported a lack of staff time as a barrier to data use. One factor may be a limited ability to allocate time to TANF among other responsibilities. Many respondents in data analyst and researcher roles work across multiple state programs, with only 21% of data analysts and 50% of researchers reporting they work primarily on TANF.

In qualitative interviews, multiple stakeholders described data teams where staff capacity to extract or analyze data was limited. The most common topic that states pointed to as a high or medium priority for technical assistance was structuring data for analysis, with 91% of responding states prioritizing this area. Eighty-six percent of states cited data visualization, the second-top technical assistance priority, as shown in Figure 5. These responses suggest that while states are able to manipulate data, create reports, and perform descriptive analyses, agencies would like to have even more capacity in these areas.
States were less likely to identify examples of the kind of complex analyses that pinpoint “what works” than they were to cite descriptive statistics and caseload reports. As Figure 6 demonstrates, almost all responding states thought their agencies were effective at reporting and performance management tasks. By contrast, only about two-thirds of states reported being effective at program evaluation and quality improvement. Given constraints on staff time and capacity, it is not surprising that states are more likely to concentrate their limited resources on analyses that inform day-to-day program operations.

Partnerships with external researchers and universities can provide capacity for new data products and more complex analyses. However, partnerships require time and attention from agency staff members, and external partners must provide value to agency needs. In one question about the usefulness of research conducted outside the TANF agency with administrative data from the agency, 65% of TANF directors who had worked with an external partner described that research as moderately, very, or extremely useful to the agency’s operations and planning. By contrast, 35% described the research as only slightly or not at all useful.
Users may not be able to understand or trust the data. Gaps in data documentation and limited validation of data quality make it harder to use data effectively or interpret the results of analyses. High-quality, well-documented data can be quickly referenced to check numbers and answer questions. But when data are poorly understood and quality is untested, analysts must invest time in exploring and researching particular data elements before getting to the desired analysis or rely on oral tradition to transfer this knowledge to new users. Lack of documentation and low quality can handicap agencies that otherwise have access to data and the personnel and technical capacity to use that information.

Fewer than 50% of state respondents described any aspect of their data (including basic data dictionary information such as field values, code values, and data types) as “well documented.” Less than one-third of respondents said their agencies had good documentation in important areas such as limitations of certain fields and details about how data are collected. Without this information, an analyst cannot fully understand how the data reflect program activities and effectively interpret analytic results, and as long-time employees retire, essential institutional knowledge leaves with them.

While high numbers of states reported using system restrictions (in particular, blocking invalid and null values) to maintain data quality, smaller numbers reported using training, data audits, or validation against other sources to confirm data accuracy. Overall, low adoption of common data quality strategies (shown in Figure 7) leaves open questions about the accuracy and consistency of elements in agency data systems. Interviewees also pointed to quality concerns in certain data elements, especially those that are valuable analytically but that are collected or verified inconsistently because they are not essential for agencies’ frontline practice, such as reasons for case closures.
Some states have modernized data systems, but other systems are increasingly becoming obsolete. As data systems age, and especially as they begin to date back decades, they become increasingly challenging to manage and use. Systems may rely on outdated hardware or may lack the many advances in storage and computing that make it easier to maintain, adapt, and use data for analysis. Older systems are also harder to connect to modern tools and technologies and have likely been retrofitted several times—a process that can contribute to confusing, messy, or poorly documented data.

Responses to open-ended questions highlighted these challenges with older systems, but also challenges with new systems. Some states struggled to access timely data from legacy systems, while other states with newer systems expressed frustration with adjusting to them. Unfamiliar systems may seem less flexible. System transitions can also lead to discrepancies in data migrated from legacy systems.

To contextualize state technical capacity, the team asked survey respondents for the age of their agencies’ primary data systems. A plurality of states (17 of 43, or 40%) reported their data systems were more than 20 years old. A significant minority of states (10 of 43, or 23%) reported data systems that were less than five years old. This surge of recent system upgrades reflects increased investments in Medicaid eligibility systems funded through the Affordable Care Act and a contemporaneous federal waiver allowing those upgrades to occur in shared human services data systems without cost sharing between programs. The resultant systems integrate eligibility and enrollment data collection across a range of safety net programs, including TANF.
Agencies report access to employment data for TANF recipients, but access for analytical purposes continues to be a challenge. The promotion of work is one of the central purposes of the TANF program; employment outcomes are of pivotal interest to program administrators and policymakers at both the state and federal levels. Data on employment and wages for both current and former recipients are essential to guide program operations and inform evaluative research.

Based on evidence from across needs assessment activities, it appears states have access to wage data for verification purposes but are often limited in how they may use these data analytically. Additionally, many states do not have access to employment data for former TANF recipients.

Eighty-nine percent of responding states (40 of 45) indicated having access to employment data for analytic purposes, especially access to unemployment insurance data (reported by 82% of states). However, agency descriptions of the wage data sources they use suggest that some respondents interpreted the question differently than the team intended. In particular, states cited sources like Social Security, National Directory of New Hires, and Equifax. Currently, these data sources are generally restricted for legal and practical reasons, and states commonly use them only to verify eligibility. The survey did not ask for further details about wage data access, leaving the status of access to data on employment over time and data on former TANF recipients unknown from the survey itself.

Challenges accessing wage data for analysis figured prominently in stakeholder interviews; the TDI team observed the same challenges in technical assistance efforts working directly with states. Even among nominations for the TDI pilot initiative—where a stated require-
ment was having access to wage data about current and former TANF recipients for analytical purposes—only about half of the self-nominated agencies had access to this type of data.

Given the evidence across multiple sources, many agencies likely do not have the kind of access to wage data that would facilitate data-informed, outcomes-oriented policy and decision-making for TANF caseloads.

**Strategies to Improve Data Use in TANF Agencies**

This section describes activities to extend capacity for TANF data analysis in each of the identified areas for growth. TDI implemented many of these activities in state technical assistance efforts.

**Activities to improve human and technical capacity.** Questions of resources—financial and in terms of staff time—underlie barriers related to capacity and data systems. Even within this fundamental reality, certain activities may enable agencies to capitalize on existing human and technical resources.

- Provide training and professional development opportunities for agency analysts in data preparation, data management, and basic analytic techniques.
- Take advantage of opportunities to use existing extracts, such as the TANF data that states are required to submit to HHS, for analytical purposes.
- Develop best practices for effective relationships between TANF agencies and external research partners and guidance for implementing those practices.

**Activities to improve data quality and expand data documentation.** High-quality, well-documented, analysis-ready administrative data are not commonly available in the public sector. States would benefit from guidance on best practices to document data, assess the quality, and prepare the information for analysis.

- Document and disseminate best practices to increase data quality.
- Emphasize the importance of user guides, comprehensive training, and documentation as part of the implementation of a new data system.
- Propose methods to document administrative data.
- Request or require external researchers to provide data documentation back to the TANF agency as part of partnership agreements.
Activities to expand access to wage data. Without access to comprehensive data on the employment and earnings of both current and former TANF recipients, agencies are operating blind in terms of their program’s results.

- Foster cross-agency data sharing between TANF agencies and state Labor Market Information offices.
- Encourage opportunities for state TANF analyses to use wage data for analytical purposes.

Expanding the National TANF Data Conversation

Stakeholders in state and federal government, as well as those in the research and advocacy communities, broadly desire to understand program outcomes and ultimately what works for TANF and other public programs. TANF stakeholders, including agency administrators, federal administrators, researchers, and policymakers, seek the insights that expanded analytic capacity can provide. Interviewees repeatedly reiterated the importance of understanding the long-term outcomes of TANF recipients. The survey results reinforce this sentiment: About two-thirds of TANF administrators reported that employment outcomes are among the top concerns for their agencies; a majority of interviewees also ranked program effectiveness among the top priorities.

These questions of “what works” are broader than individual state capacity to use TANF data; instead, answering these questions requires sharing and discussing research findings across states and among stakeholder groups. The flexibility of the TANF program allows states the discretion to vary their policies, but states cannot take advantage of successes or lessons learned from their peers without cross-state conversations and evidence sharing. Addressing the challenges to state data use outlined in the previous section will increase the capacity of states to understand program outcomes, but this alone will not meet the general desire for more evidence-based TANF policy. The TDI project team is creating opportunities to promote multistate collaboration and communication, further developing the role of states in a national TANF data conversation.

One way to share experiences and findings across states is through publicly disseminated publications. Such publications can help build the field because they are accessible for general scrutiny and understanding. While academic publication by states is rare, other means of dissemination can still lead to exchanges among states and inform stakeholders. Dissemination allows state agencies to build on each other’s work, so that each agency does not need to develop its own approaches. The public document review identified four state agencies that have recently published evaluation reports, although respondents said that more than 50% of their agencies have conducted an evaluation using agency personnel and 27% have conducted evaluations with other governmental entities. To the extent that dissemination of state results will benefit the national TANF conversation, the research team’s review suggests that states may need additional support to increase dissemination.
of in-house analyses. States have limited staff time and face competing incentives around public disclosure of results.

**Conclusion**

There are reasons for optimism about TANF agencies’ data use. Agency staff members express satisfaction with how data are used. Leadership regularly receives reports on an array of mission-critical activities. Agencies say that analysts have high degrees of proficiency in reporting activities and tools for descriptive analysis.

At the same time, states face resource and capacity limitations, including limited staff time, data system challenges, gaps in data documentation and data quality, and restrictions in connecting TANF data with comprehensive employment information. The TDI team has concentrated on some of these gaps in designing technical assistance efforts, but the depth and breadth of the challenges require additional assistance to states.

Finally, stakeholders both inside and outside of TANF agencies want to push beyond reporting activities to better understand what works and why for the families TANF serves. Developing new skills and routines offers TANF programs the opportunity to share knowledge through publication of analyses as well as to foster collaboration and complementary analytic work across jurisdictions.

**Notes and References**

1. There are 54 agencies that operate TANF in the United States: 50 states, the District of Columbia, and three territories (Guam, Puerto Rico, and the Virgin Islands). In this brief, “states” refers to both states and territories. Federally recognized tribes also operate tribal TANF programs; these were not surveyed.


4. States that participated in the survey did not all respond to all items or modules; this brief includes information about the number of responding states by item. The number of responding states ranges from 43 to 45.

5. “Verified data” includes data elements supplied or verified by staff members or incorporated from another data system. Data exclusively collected from client self-reports are not considered verified.

6. Includes the following categories: “Descriptive statistics,” “Performance indicators,” “Data manipulation,” and “Data visualization.”
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The front page of the report has been edited to change “REPORT NO. 2021-94” to “OPRE Report No. 2021-94”. The last page has been edited to include the suggested citation for the report.

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