Leveraging Cross-Program Data to Modernize Outreach & Enrollment in SNAP & Connected Benefits

Three Data Sharing Models Tested During the First Cohort of the Coordinating SNAP & Nutrition Supports Grant Program

Across the human services sector, a variety of data sharing models support state and local benefits access interventions and increasingly catalyzes longer-term systems transformation initiatives. Projects funded under the *Coordinating SNAP & Nutrition Supports (CSNS)* grant program deployed three distinct methods for sharing data in their projects, which were aimed at driving better customer service, simplifying access to the Supplemental Nutrition Assistance Program (SNAP) and connected benefits, and streamlining program delivery and workflows.[1] Through cross-program data sharing, these projects advanced agency priorities ranging from customer-focused service delivery modernizations, to strengthened outcomes evaluation, to organizational culture enhancements within and across agencies.

This issue brief draws insights from administering the CSNS grant cohort of six sites[2] to document the following for agencies and partners:

1. How data sharing models can advance program priorities
2. Easy-to-follow visual and narrative descriptions of three tested data sharing models
3. Considerations for embarking on data sharing across agencies or programs

While this brief is specifically dedicated to data-related lessons learned, future publications will offer more details on individual site projects and their outcomes.

***Coordinating SNAP and Nutrition Supports (CSNS)* is a cohort model grant program funded by Share Our Strength, No Kid Hungry and administered by the American Public Human Services Association (APHSA) with the goal of aligning the Supplemental Nutrition Assistance Program (SNAP) with other federal, state, and local nutrition supports.**

Sharing Data Can Help Administering Agencies Advance Their Priorities

Sites funded under the CSNS grant program leveraged data sharing and matching techniques to advance a variety of priorities that are common across many human services administering agencies, including:

- Streamline Enrollment and/or Referral Processes
- Evaluate Impact of Outreach and Retention Initiatives
- Measure Impact of Process and Practice Changes
- Increase Participation in SNAP and Related Programs
- Gain Visibility into Agency Data and Trends
- Ensure Referrals are Successful & Families' Needs are Met
- Increase Data Analytics Across Benefit Programs
- Deepen Understanding of Participant Characteristics Across Programs

[1] Read more about CSNS Projects.

[2] The first cohort of CSNS grants funded six site projects led by five states and one county agency: Hawai'i Department of Human Services, Kansas Department for Children and Families & Kansas Department of Health and Environment, Mecklenburg County (North Carolina) Department of Social Services, Michigan Department of Health and Human Services, New Jersey Department of Human Services, New Mexico Human Services Department & New Mexico Department of Health, WIC Program.

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Specifically, in their CSNS projects, agencies worked across systems and departments to analyze enrollment gaps in the programs that partners administer. CSNS sites used those analyses to develop enrollment- and retention-focused interventions, such as the Kansas team's targeted client outreach to populations overrepresented in enrollment gaps. Agencies also leveraged data sharing models to streamline referral and enrollment processes to eliminate steps customers need to take to apply for and receive needed services, exemplified by project teams in New Jersey and New Mexico deploying APIs, Decision Engines, and systems linkages to simplify WIC certification for families enrolled in SNAP and other related programs.

Administering the grant cohort, we learned that, depending on the data fields collected by and exchanged between agencies, analyses can reveal trends relating to participant characteristics and demographics such as age, race, location, languages spoken, and more. CSNS project teams in Michigan and Mecklenburg County, North Carolina demonstrated how these analyses can be deployed by agencies to develop and execute specific equity goals. For example, an analysis that reveals a wide participation gap among a population that primarily speaks a language other than English can be used to generate customer-focused improvements to program access for that specific population. Such was the case in Mecklenburg County, where through the collected data fields, analyses revealed a large proportion of Hispanic/Latino residents lacking access to nutrition assistance programs. Relatedly, the Hawai'i CSNS team demonstrated how agencies can use cross-program data analyses to more broadly understand trends across program areas and engage in multi-agency 'Ohana Nui[3], a multigenerational approach to improving family well-being, by connecting families to nutrition supports and replicating the data matching model to improve service delivery and customer experience.

Visualizing Data Sharing Across Agencies

This section offers visual diagrams displaying various data-sharing models to show human services agencies—and their partners—how the models work differently and can be used for a variety of purposes. It also outlines requirements for adopting the models in practice, with consideration for the technical infrastructure needed as well as maintenance factors.

Figure 1. High-level Data Sharing Process

Prepare by collecting source materials from all involved agencies, including:

- Data Formatting Guides
- Security Protocols
- Data Sharing / Use Agreements

These materials may need to be created uniquely for your initiative if there are no suitable existing resources.

Data elements needed are determined by use case(s), such as:

- targeting outreach;
- performing equity analyses;
- tracking interventions; and,
- evaluating impact.

Data is shared between entities based on established secure procedures, such as via secure file transfer protocol (SFTP).

Files are sent manually by the designated data steward at agreed-upon intervals or may be programmed to be automatically updated.

Datasets may be analyzed by one or all parties and utilized for a variety of purposes in accordance with data sharing and use agreements, and based on each entities' capabilities.

[3] 'Ohana Nui is a proven approach that capitalizes on Hawai'i's unique multigenerational family structure and provides a framework for human service delivery that positions whole families for a chance at greater well-being. Read more: https://humanservices.hawaii.gov/blog/ohana-nui-kicks-off/

Three Tested Models for Sharing Data

The visuals in this section depict the flow of data in three models used by CSNS sites.

Model #1
Match
Cross-Program Data

Model #2
Aggregate
Cross-Program Data

Model #3
Automate
Cross-Program Referrals

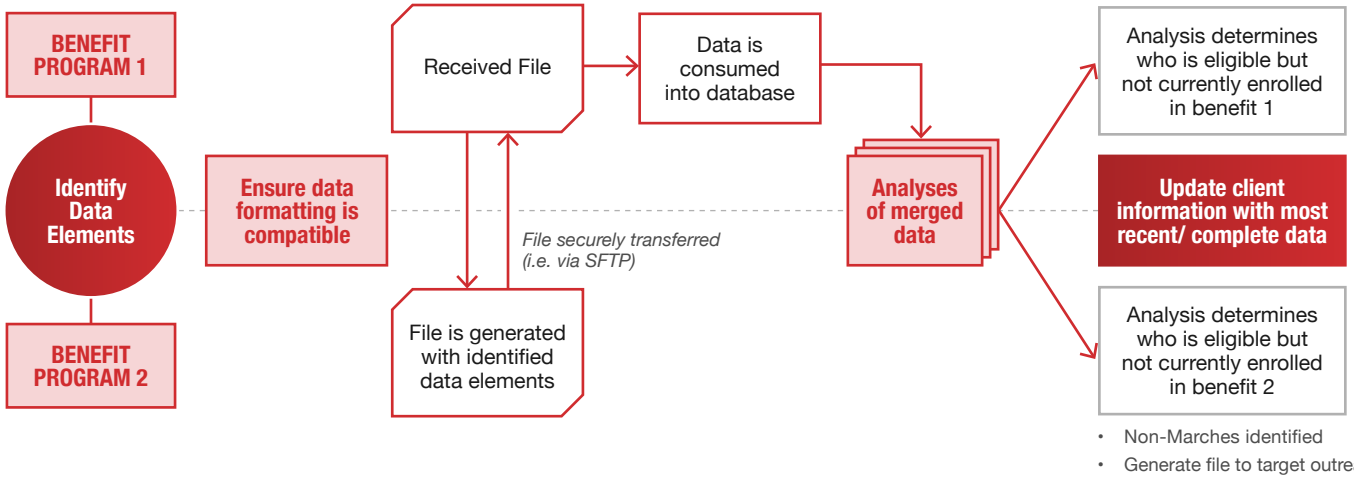
Data Sharing Model #1: Match Cross-Program Data

In this model, data is shared between two or more agencies or benefit programs. Program administrators jointly identify data elements to be shared at the beginning and then ensure data formatting is compatible. Generally, one program will generate a file with the identified elements and send it to the other program. The receiving agency confirms that data has been received in the correct format, and then consumes the dataset in its database to merge data from the partner agency with its own case data. From there, analyses of merged data can be performed to understand participation trends across programs. Often, this model is used to target outreach to people who are participating in one benefit and appear eligible for others but are not yet enrolled in those programs. Additionally, client information that has been shared can be updated with the most recent, reliable data.

Model #1 in Practice

This model was used by the **New Jersey CSNS team** to share and match data between agencies administering SNAP and WIC with the goal of identifying families who are eligible for both programs but not dually enrolled. Agencies then used match results to notify families of their eligibility for the program in which they were not already participating.

Model #1: Matching Cross-Program Data



Technical Infrastructure Considerations	Maintenance Considerations
• Capability to extract, share, and match datasets across programs • This model can be scaled by leveraging modern approaches to data exchange and analysis, such as approaches for example that leverage application programming interfaces (APIs) and robotic process automation (RPA).	• Can be performed on demand or at periodic intervals as determined by the need • Can be automated for more consistent insight into program reach and gaps

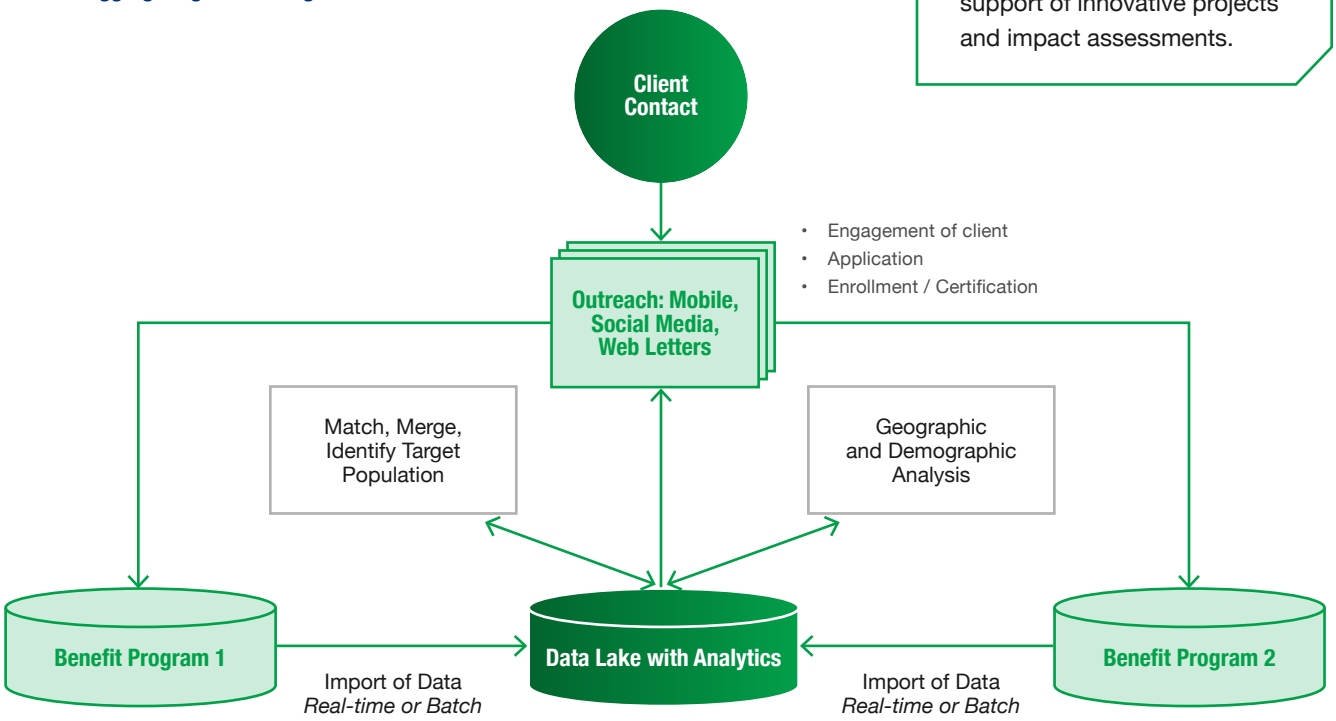
Data Sharing Model #2: Aggregate Cross-Agency Datasets in Data Lake

In this model, data from multiple systems is aggregated in a centralized database, referred to here as a "data lake." Similar to Model #1, administrators must identify data elements that will be shared and aggregated at the start and agree on data formatting standards. In this model, all agencies will generate files with the agreed-upon datasets, which are then fed into the data lake, rather than one agency receiving and consuming another agency's data. Once all of the agreed-upon data is housed in the data lake, data analyses can be performed. By centralizing data from multiple systems, this model enables a more robust view of cross-program data than Model #1, especially if the data lake is regularly maintained. While Model #1 is well-suited to specific initiatives requiring data sharing – such as targeted outreach – Model #2 can be leveraged to glean deeper insights from data to determine priorities and strategically plan evidence-based projects and test process changes as a result.

Model #2 in Practice

This model was used by the **Kansas CSNS team** to aggregate case data from multiple programs with the goal of collecting, visualizing, and analyzing program metrics to improve outcomes. The Kansas CSNS team leveraged data shared across agencies to inform targeted WIC and SNAP outreach campaigns. This is just one example of how data collected in this way can be leveraged by agencies in support of innovative projects and impact assessments.

Model #2: Aggregating Cross-Program Data



Technical Infrastructure Considerations	Maintenance Considerations
• Frequent (ideally automated) data sharing procedure enables best outcomes	• This model requires maintenance of data lake and continuous commitment to data stewardship • Dashboards and reports can be generated manually or automated according to agency needs and priorities

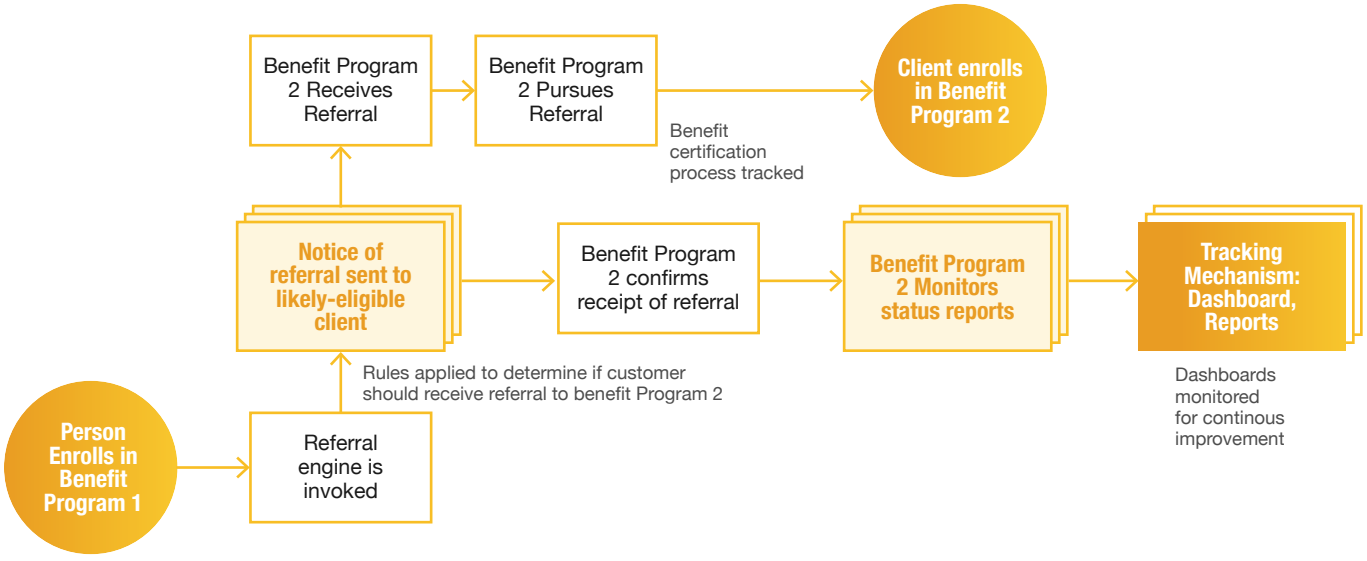
Data Sharing Model #3: Automate Cross-Program Referrals

In this model, data is shared from one agency to another automatically when a customer contacts and interacts with an agency (such as at the point of SNAP eligibility determination). The flow chart shows this at the instance where a person applies for one benefit, triggering the automated referral engine. The referral engine checks the customer's application for the initial benefit and determines if the customer meets the necessary criteria to receive a referral for another program. If the person meets the basic eligibility criteria for another program based on the information provided to the agency, their information will be shared with a partner agency. Then, the partner agency will pursue the referral to help the customer enroll in the other program(s) for which they appear eligible. This model enables swift action for the client to become more seamlessly enrolled in multiple services; however, it does not provide robust analytics on the front end, as Models #1 and #2 do. That said, agencies using this model can leverage tracking mechanisms such as dashboards that, over time, will offer insights that can inform continuous improvement efforts.

Model #3 in Practice

This model was used by the **New Mexico CSNS team** to automate WIC referrals for families who are applying for SNAP and related benefits and services. This approach relieves families of finding assistance options and initiating application and enrollment processes by using the information and verifications they've already shared with peer government agencies to help people access additional supportive services available to their families.

Model #3: Automating Cross-Program Referrals



Technical Infrastructure Considerations	Maintenance Considerations
• Systems ability to link or integrate across benefits	• This model can be used on demand or at periodic intervals as determined by the need • This model can also be automated for more consistent insight into program reach and gaps

Considerations for Data Sharing Across Agencies & Programs

This section reviews some of the enabling factors that, through administering the CSNS cohort, we have identified as contributors to successful cross-program data sharing. It also outlines the expertise areas required for launching a data-sharing initiative, executing a comprehensive data sharing agreement (DSA), and employing data that has been shared to generate impactful process changes.

Enabling Factors

1 Leadership commitment to cross-program coordination

In CSNS projects, we observed that leadership across involved agencies played a strong role in championing cross-program coordination. This commitment to the overall goal from leadership was paramount to the success of initiatives charging toward that goal. From this experience, we recommend that program directors serve as project sponsors for projects that advance cross-program alignment priorities.

2 Strong vendor relationships

Across CSNS projects, vendor and contractor relationships played a key role bringing technology-oriented tasks to completion. Vendor relationships with data and technology subject matter experts as well as expert project managers proved highly beneficial to these initiatives. From this experience, we gleaned that strong working relationships with vendors can bolster projects aimed at achieving cross-program alignment.

3 Specific plans for data analysis & use cases

It is common for agencies to set goals of collaborating more closely across program areas, or even to name data sharing and integrations as a priority. While these are certainly worthy goals and priorities, we have observed that these must be accompanied by specific plans to analyze shared data and use analyses to make program improvements. Sharing data, or even matching and analyzing data, cannot improve service delivery, streamline workflows, enhance customer experiences, or otherwise modernize benefit programs. Making headway towards these priorities requires not only analysis of data, but also willingness and ability across agencies to deploy findings to innovate processes and practices.

BENEFITS & LIMITATIONS OF THREE TESTED DATA SHARING MODELS

	BENEFITS	LIMITATIONS	EXAMPLE USE CASE
MODEL #1 Match Cross-Program Data	Relatively low technical infrastructure requirements Vast scalability potential when paired with automation	Unstandardized datasets present challenges Often conducted manually or through a batching process, which can be resource-intensive	Targeted outreach to eligible non-participating individuals
MODEL #2 Aggregate Cross-Agency Datasets	Data is stored in a shared space such as a Data Lake Robust analytic and data visualization opportunities	Requires advanced data sharing & governance capabilities Initial build-out can be resource intensive and requires close cross-agency coordination	Geographic and demographic analysis of program performance
MODEL #3 Automate Cross-Program Referrals	Streamlines customer-centric referral process by eliminating multitude of steps for agency staff and clients Can integrate with existing agency business processes	Initial build-out can be resource intensive and requires close cross-agency coordination Automatic referral system must be monitored and continuously refined to remain secure, compliant, and accurate	Automatically and accurately refer people applying for one program to other benefits and services based on information collected at application

Core Expertise Areas Required for Most Data Sharing Initiatives

Administering the first CSNS cohort, APHSA and Share Our Strength have documented core expertise areas that are required for launching a successful data-sharing initiative, executing a comprehensive data sharing agreement (DSA), and employing data that has been shared to generate impactful process changes. Data-sharing projects generally require expertise in: legal and policy, program operations, data systems, analytics, and monitoring and evaluation.

Legal & Policy

Early engagement of policy staff and legal councils across agencies is paramount to executing a strong data sharing agreement Strong vendor relationships

Program Operations

Staff charged with operating programs and carry out business processes and service delivery must be represented on project teams for initiatives to have meaningful impact

Data Systems

Staff who operate agency data systems act as data stewards in cross-program data sharing initiatives to ensure data can be accurately matched and consumed into agency systems

Analytics

Data analysts and data scientists conduct cross-program data analyses to uncover trends and gaps in program access, enabling data-informed program modernization

Monitoring & Evaluation

Staff charged with program monitoring, evaluation, and reporting play important roles in projects by tracking key performance indicators (such as enrollment, participation, or churn rates)

Subject-Matter Expertise for Specific Data Sharing Use Cases

In addition to the expertise areas listed above, we have also learned that more specific subject-matter expertise enhances various types of initiatives enabled by data sharing. These subject matter expertise areas include Customer service and engagement (such as outreach), user research, data architecture, and data visualization.

Customer Service & Engagement

Staff who specialize in client interaction and outreach development can play important roles in developing high impact customer-facing interventions in data sharing projects

User Research

User researchers can ensure program and product enhancements satisfy user (sometimes staff, sometimes customers) needs, and are easy to use

Data Architecture

Data architects can examine and improve how data is collected and stored so that their agency's data is easily compatible with that of other agencies

Data Visualization

Staff specializing in data visualization can contribute robust dashboards and easy-to-understand data visuals enabling clear understanding of project impact and opportunity areas

Data Sharing & Matching Artifacts

Example Data Sharing Agreements

- Hawai`i's CSNS Site Team executed this **Memorandum of Agreement** during their CSNS project to memorialize the data sharing partnership between the Department of Health and the Department of Human Services to increase co-enrollment between SNAP and WIC.
- New Jersey's CSNS Site Team executed this **Data Sharing Agreement** to carry out their data-matching project. The linked version is redacted for security reasons.
- This **template** Data Sharing Agreement was originally used in a cross-agency data matching project in Virginia. It was also shared with CSNS sites, and the Kansas team was able to adapt this DSA template to their needs to generate a tailored DSA for their CSNS outreach project.

Additional Data Matching Resources Are Available on the Digital Benefits Hub

This brief contributes to a robust and growing body of resources focused on data innovation in the human services sector. A broader cross-section of useful resources is available on the **Digital Benefits Hub**.[4] Resources cover related topic areas such as tips for executing effective Data Sharing Agreements based on learnings from pilot projects in four states[5] and a step-by-step guide to conducting smooth and efficient data sharing projects that are permissible and secure.[6]

Conclusion

In the process of administering the CSNS cohort and grant, APHSA and Share Our Strength gained important insights about cross-program data analysis. Drawing on the lessons we have learned and documented, this issue brief intends to share observations specifically regarding data sharing and matching with groups across the human services sector, in service of promoting promising practice and driving innovation. This brief also describes the ways CSNS sites leveraged three data sharing models to advance common priorities across the human services sector in order to influence others to test new data sharing methods in service of aspirational agency and cross-sector goals. By visualizing and describing the models used by CSNS sites, this brief aims to demystify the data sharing process, particularly for non-technical professionals and leaders who seek to leverage data insights for improved programmatic outcomes. Finally, this brief distilled learnings from CSNS projects into a short-list of considerations for embarking on data sharing across agencies or programs to offer helpful guidance for future related initiatives across states and communities that stand to benefit from our direct experience.

In 2023, APHSA and Share Our Strength will publish additional CSNS products based on learnings from our first cohort of sites. Short reports covering site project outcomes will be produced as Project Impact Briefs. These will complement our 2022 Project Case Studies, which described the action plans for each site and the outcomes they strove to impact.

For more information about this project, contact Jess Maneely at APHSA: jmaneely@aphsa.org

[4] The Digital Benefits Hub (www.digitalbenefitshub.org) is a new tool for practitioners to showcase and easily find resources, case studies, and implementation tools—and learn from peers who are transforming delivery of public benefits and services. The Digital Benefits Hub is brought to you by the Digital Benefits Network at the Beeck Center for Social Impact + Innovation at Georgetown University and the American Public Human Services Association (APHSA), with information and resources from governments and organizations across the country.

[5] https://www.digitalbenefitshub.org/resources/matching-data-across-benefits-programs-can-increase-wic-enrollment

[6] https://www.digitalbenefitshub.org/resources/data-sharing-to-build-effective-and-efficient-benefits-systems-a-playbook-for-state-and-local-agencies