Data System Improvement Toolkit

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Erin Geary, James Bell Associates
Matthew Poes, James Bell Associates
Mary Iannone-Walker, Face-to-Face Integrated Technologies
Richard Porter, Face-to-Face Integrated Technologies
Angelina Callis, Face-to-Face Integrated Technologies
Brandie Buckless, James Bell Associates
Priscilla Day, University of Minnesota Duluth

Submitted to:
Nicole Denmark, Project Officer
Office of Planning, Research and Evaluation Administration for Children and Families

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Project Director: Kate Lyon, James Bell Associates
3033 Wilson Boulevard
Suite 650
Arlington, VA, 22201

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Whom Is This Toolkit for?

This toolkit is designed for tribal program grantees/teams planning to develop or improve their data systems. As a grantee, your program may be part of the Tribal Maternal, Infant, and Early Childhood Home Visiting (Tribal MIECHV) program or another tribal human service, education, or early childhood program.

Program and evaluation staff who have experience with and oversee changes to their existing data systems will find this toolkit informative and helpful. (If you are interested in using the toolkit but do not have experience with your data system, please contact your technical assistance provider either through Tribal MIECHV or another federal grant.)

How Is This Toolkit Organized?

Data system requirements are varied and complex. To assist grantees, this toolkit is organized into five modules.

1. Choosing a System and Working with a Vendor or Developer
2. Documenting and Improving Data System Processes
3. Protecting Data Ownership and Privacy
4. Displaying and Reporting Data
5. Optimizing Your Current Data System

What Is a "Data System"?

A data system is any software used to store and organize data. Some staffs develop systems for their own, specific use. This is known as a custom-built system. Others use systems already developed with modifications made for their specific programs. This is known as a commercial-off-the-shelf (COTS) system.

What Types of Tools Are Included In the Toolkit?

Each module has a distinct set of tools. Some of the tools are designed to be used alone, and others are used with another tool. Read through the list of tools on the next page to begin using the toolkit.

There are five types of tools:

Guide. A brief document that describes key considerations related to the topic

Template. A tool designed to be completed

Example. A completed report, contract, or another document (Many of the examples are designed to be used with templates to help you better understand how to complete the template.)

Scan. A table of options for addressing a particular requirement

Checklist/Assessment. A set of questions to guide decision making

Module 1: Choosing a System and Working with a Vendor or Developer

- 1.1: Decision Guide: Is a COTS System Right for You?*
- 1.2: Scan of COTS Systems*
- 1.3: Request for Proposals – Timeline Guide
- 1.4: Request for Proposals – Timeline Template*
- 1.5: Request for Proposals – Template*
- 1.6: Example Data System Software License Agreement

Module 2: Documenting and Improving Data System Processes

- 2.1: Guide to Data Mapping
- 2.2: Data Map Template*
- 2.3: Guide to Data Cleaning
- 2.4: Example of a Case File Checklist*
- 2.5: Example of a Missing Data Report*
- 2.6: Data System Business Process Maps*
- 2.7: Best Practices When Converting to a Paperless Data System

Module 3: Protecting Data Ownership and Privacy

- 3.1: Understanding Data Ownership
- 3.2: Example of Data Ownership Contract Language*
- 3.3: Guide to Data Privacy and Confidentiality
- 3.4: Considerations for Cloud versus On-Premise Software and Storage

Module 4: Displaying and Reporting Data

- 4.1: Data Reporting Map*
- 4.2: Understanding System Integration
- 4.3: Guide to Data Dashboards
- 4.4: Example of a Data Dashboard

Module 5: Optimizing Your Current Data System

- 5.1: Guide to Data System Self-Assessment
- 5.2: Data System Assessment Checklist*
- 5.3: Data System Improvement Charter*

Visit www.tribaleval.org to download individual tools from this toolkit. Those tools marked with an * are available in modifiable forms (Word, Excel, or PowerPoint).

How Can You Begin Using the Toolkit?

The five modules in this toolkit represent steps in a cycle. This work can reshape understandings of process, raise new issues related to data ownership, and represent new requirements for displays and reports of data. Depending on your team's needs and available time and resources you will use the toolkit in different ways. Some programs will find that using one module or even one tool can address their needs. Others may find it helpful to access each module in the order they're presented (see the cycle below). For many, the right approach lies somewhere in between.

Regardless of how much of the toolkit your team plans to use, begin by determining which of the five modules focuses on your team's top priority.

To determine the first priority, it may be helpful to pose three questions to your team.

1. Does our system currently meet our requirements (even with challenges), or do we need something new?
2. Which data system challenges are having the most impact on the team's ability to serve families?
3. Given available time, resources, and policies, on what improvement do we need to focus?

How to use this toolkit

Step 1. Decide where to start.

Do your program requirements match those addressed by one of the five modules? For example, if your team is satisfied with the current system but is looking to improve reporting capabilities, Module 1 wouldn't be the best place to start, but Module 4 would be.

Step 2. Identify tools available for your program requirements.

Once you have identified the right module, take a look at the brief summary of tools listed to find the right one. Opening up a few to take a closer look may be helpful. The module introduction provides a brief summary and information on whether tools should be used together. For example, a template tool may be accompanied by a completed example.

Step 3. Determine if you need technical assistance. Once you have identified the tools that fit your program requirements, take a closer look and decide whether you will want to use technical assistance support to better understand how to use them. If you are a Tribal MIECHV grantee, you can contact your TEI Liaison.

Step 4. Evaluate. Once you have used the tools, asking some key questions can be helpful: Did the tools help address our program requirements? Is there another one that needs to be addressed? Is there another module that fits new or remaining needs?

Module 1

Choosing a System and Working with a Vendor or Developer

Welcome to Module 1 of the Data System Improvement Toolkit! If your tribal team wants to develop a new data system or is interested in working with a data system vendor or system developer, this module will be helpful.

Let's start by reviewing some of the terminology in this module. A **data system vendor** is an individual or company that owns and licenses a **commercial off-the-shelf** (COTS) data system/software product. A **data system developer** is an individual or company who is contracted to build or modify a data system. A developer may use or modify COTS software and also work with a vendor. This module contains tools to help your team work with these individuals who are outside of your agency.

In addition, the following terms are used throughout to describe organizations and groups within the modules. **Agency** is the overall organization or entity that oversees your program (e.g., the Urban Indian Health Center, tribe). **Program** refers to the social service, early childhood, or other service organization within the agency. **Team** defines a group of individuals who work together on identifying a new data system for the program.

This module addresses two actions a team interested in selecting a data system needs to do.

Determine whether to use an existing COTS system and, if so, which one.

Many teams face a key question early in their system development process: Is it better to use an existing COTS data system/software product or to develop a new, customized one? The tools will help you (1) make this decision and (2) identify examples of relevant COTS software (if using an existing product is the right choice).

Work with a data system vendor and/or a system developer.

Many teams look outside of their organizations for assistance in designing and developing a data system. Building a strong, ongoing working relationship with a software vendor or system developer begins with clearly communicating your team's expectations, requirements, and staff roles and with understanding the vendor/developer's role, which includes building a new system or supporting your program by customizing an existing COTS system.

Determine whether to use an existing COTS system and, if so, which one.		
Tool	**Type of tool**	**Description**
1.1: Decision Guide: Is a COTS System Right for You?*	Guide and Assessment	This table guides your team through a series of questions to determine whether various COTS solutions or a custom data system would better meet your program requirements.
1.2: Scan of COTS Systems*	Summary	This tool provides a summary of commonly used COTS products, including those used by tribal and state MIECHV grantees.
Work with a software vendor and/or system developer.		
Tool	**Type of tool**	**Description**
1.3: Request for Proposals – Timeline Guide	Guide *Used with Request for Proposals – Template and Request for Proposals – Timeline Template*	This timeline template identifies the major activities associated with developing a request for proposals. Complete the template by adding vendor or developer activities from the Request for Proposals – Template.
1.4: Request for Proposals – Timeline Template*	Template *Used with Request for Proposals – Timeline Guide and Template*	Once your team has identified a timeline using the Request for Proposals - Timeline Guide, fill out the selected dates on this table. This chart will automatically populate. Add columns to the table to include the staff responsible, notes, or other information.
1.5: Request for Proposals – Template*	Template *Used with Request for Proposals – Timeline Guide and Template*	This template is used by teams looking to hire a system vendor or developer to develop a new data system. Complete the template by adding dates and information from the Request for Proposals - Timeline Template.
1.6: Example of a Data System Software License Agreement	Example	If your team plans to use a COTS system, you will be required to sign a user agreement. This tool walks you through the key elements. Software user agreements with software vendors are typically nonnegotiable, but they contain important language about vendor expectations.

Visit www.tribaleval.org to download individual tools from this toolkit. Those tools marked with an * are available in modifiable forms (Word, Excel, or PowerPoint).

1.1: Decision Guide: Is a COTS System Right for You?

If your team has decided to develop a new data system, consider whether you should use a commercial off-the-shelf (COTS) system or build a new one. Generally, COTS data systems refers to systems already built and used for a similar purpose that can be modified to meet your specific needs; whereas custom data systems are built for a specific program.

Benefits of Using a COTS Data System

Using a COTS data system can offer a number of benefits over a customized one.

Reduced Risk. COTS systems are sold "as is" and typically have a large number of existing users (also known as a user base) that can find and report problems quickly. The user base is typically much larger than one of a custom data system. Thus, developers are able to identify issues earlier in the development phase that may have otherwise been missed. What does this mean for you? It means most of the "kinks" within the system have already been reported and fixed by the time you start using it.

Reduced Initial/Maintenance Cost. COTS systems avoid the large, initial expense of designing and developing a new one. With an existing user base, COTS data systems benefit from lower maintenance costs. New updates to fix "bugs" are rolled out to all customers at the same time, which effectively spreads costs across a larger user base.

Easy to Implement. COTS systems are often designed to be installed across a variety of operating programs with minimal preparation and effort. Easier installment means more time and energy saved!

Limitations of Using a COTS Data System

There are also limitations or drawbacks to using a COTS data system, which are important to keep in mind.

Not Meeting Program Requirements. COTS data systems may not meet all your program requirements, which could mean missing some "must haves." For example, highly detailed custom reporting may be hard to achieve with some COTS systems, as they have been built to produce generic reports to be used by a variety of users. Although many COTS data systems claim they can be customized, the degree of customization can vary greatly. Sometimes the desired customizations can be difficult or impossible to implement.

Ongoing Expense. Although buying a COTS data system can be less costly than designing and developing a new one, there are other costs to consider. For example, COTS systems will charge a fee for each user license, and there may be times when the system is down for needed upgrades. Both of these should be considered when comparing the cost of a COTS system with the upfront cost for a customized one.

How Do I Know If a COTS Data System Is the Best Fit?

Depending on program needs, the pros and cons of a COTS are important to consider. To summarize, using a COTS may be right for your program if—

- You would benefit from a large user base that can find and report problems quickly.
- You need to keep upfront costs low.
- You need a system that is quick and easy to implement.
- You don't need heavily customized reports or interfaces.
- You need to minimize long term ongoing costs.

COTS Data System Assessment

When considering whether a COTS system is a good match for your program, use this COTS Data System Assessment to assist your team by first examining the status of your current data system and the desired features.

Once your team has completed the assessment, each answer should be reviewed and compared to the considerations information in the third column, which includes descriptions of how/if a COTS data system will accommodate the specific functionality. For example, if the team places high priority on features typically found within COTS data systems, then a COTS system may be the best choice in terms of resources, costs, and time. Alternatively, if the features the team considers high priority are not found in COTS systems, a custom one may be a better fit as it will likely allow your team to build these needed functions.

Your Current System	Yes/No	Considerations
1. Are you currently using an electronic data system?	☐ Yes ☐ No	*If no, skip to Desired System Features Section.*
2. Does your current data system save data to a server?	☐ Yes ☐ No	COTS systems save data to a server.
3. Does your current data system save data to a local computer?	☐ Yes ☐ No	Some COTS systems save data to both the local system and the server.

Your Current System	Yes/No	Considerations
4. Does your current data system allow you to export data?	☐ Yes ☐ No	Most COTS systems can export to standard data types (e.g., comma delimited or Excel).
5. Does your current data system back up your saved data?	☐ Yes ☐ No	COTS systems typically have a backup feature to ensure data integrity.
6. Does your current data system require an internet connection to use?	☐ Yes ☐ No	Internet access is needed for full data access in most COTS systems.
7. Are you able to run reports from your data system?	☐ Yes ☐ No	COTS systems usually offer built-in reporting or connections to add reporting applications.
8. Can you customize reports in your data system?	☐ Yes ☐ No	COTS systems typically require additional resources to customize reports.
9. Can you customize forms in your data system?	☐ Yes ☐ No	Most COTS systems allow only minor changes to forms (e.g., field names).
10. Is your database managed by you?	☐ Yes ☐ No	COTS systems do not typically allow direct data management or design changes.
11. Are your data managed or accessed by an external vendor?	☐ Yes ☐ No	Some COTS systems will allow shared accounts for external data access.
12. Do you have a single data system that captures all necessary grant reporting information?	☐ Yes ☐ No	Specific data capture does not typically come built into a COTS system, but it can be customized with extra resources.
13. Does your current data system interoperate, “talk,” with any other systems?	☐ Yes ☐ No	Interoperating and data sharing with other systems is a feature in some COTS systems.

Desired System Features	Priority	Considerations
14. Data/databases need to be managed by the tribal program directly.	☐ Low ☐ Medium ☐ High	COTS systems do not typically allow direct data management.
15. Data should be stored in the cloud.	☐ Low ☐ Medium ☐ High	COTS systems commonly store data on their own servers accessed via the internet.
16. Data should be stored on local servers instead of the cloud.	☐ Low ☐ Medium ☐ High	Some COTS systems offer user-administered servers for their databases.
17. Data should be backed up to the program system.	☐ Low ☐ Medium ☐ High	A COTS system can often be designed to back up the way the program requests.
18. Data should be exportable in a common format (i.e., Excel, CSV, text).	☐ Low ☐ Medium ☐ High	Most COTS systems offer export to standard data types (e.g., comma delimited, Excel).
19. Data will be available offline (without internet access).	☐ Low ☐ Medium ☐ High	Offline system access is available in some COTS systems.
20. Data system should have the ability to import data from other data systems.	☐ Low ☐ Medium ☐ High	Most COTS systems allow importing standard data types (e.g., comma delimited, Excel).
21. Data stored should be encrypted.	☐ Low ☐ Medium ☐ High	Data encryption, both for storage and transmission, is a standard feature in most COTS systems.
22. Data system should meet other specific federal/state data collection requirements.	☐ Low ☐ Medium ☐ High	COTS systems are usually not designed to meet specific federal or state requirements but can be customized.

Desired System Usability Functions	Priority	Considerations
23. Data system should be accessible on mobile devices, such as a tablet.	☐ Low ☐ Medium ☐ High	Some COTS systems offer a mobile enabled view or are accessible via mobile Web browsers.
24. Data system should be accessible via a Web browser (the internet).	☐ Low ☐ Medium ☐ High	Browser-based interfaces are a standard feature in most COTS systems.
25. Data system should interact or share data with another system.	☐ Low ☐ Medium ☐ High	Data sharing with other systems is an available feature in some COTS systems.
26. The staff should have the ability to alter or customize the user interface.	☐ Low ☐ Medium ☐ High	Some COTS systems allow administrative users to make changes to the user interface.
Desired System Reporting Functions	**Priority**	**Considerations**
27. The staff should have the ability to change reports and report parameters frequently.	☐ Low ☐ Medium ☐ High	COTS systems generally allow the administrative users to change the frequency of reports and data reported as needed.
28. The staff should be able to automatically send scheduled reports electronically.	☐ Low ☐ Medium ☐ High	Some COTS systems offer scheduled report sharing functionality, usually via email or Web upload.
29. The staff should be able to create visual representations in reports, such as charts, graphs, etc.	☐ Low ☐ Medium ☐ High	Some COTS systems display charts and graphs within reports or dashboards.
Desired System Licensing Requirements	**Priority**	**Considerations**
30. Licenses for users in the data system should be per user.	☐ Low ☐ Medium ☐ High	The fees for licensure will depend on the specific service agreement/ contract signed by the agency and its vendor.

31. The staff should be able to make changes to the database.	☐ Low ☐ Medium ☐ High	COTS systems are typically managed by the vendors who build them.
32. The staff should be able to make changes to data collection forms.	☐ Low ☐ Medium ☐ High	Some COTS systems will allow administrative users to make changes to data collection forms, such as changing field names.
Data Privacy and System Security	**Priority**	**Considerations**
33. The data system should meet HIPAA guidelines.	☐ Low ☐ Medium ☐ High	Some COTS systems meet mandated privacy guidelines.
34. Data system should have role-based security, such as secure user-specific profiles.	☐ Low ☐ Medium ☐ High	User-specific security profiles are a common feature in COTS systems.
35. Data system should encrypt the data while transmitting.	☐ Low ☐ Medium ☐ High	Data encryption during transmission is a standard feature in most COTS systems.
36. Program administrators will be able to maintain the data system.	☐ Low ☐ Medium ☐ High	Some COTS systems allow administrative users to control the amount of data their user-specific profiles can access.
37. Staff should have the ability to log in to the system while offline (no internet access).	☐ Low ☐ Medium ☐ High	Offline system and data access is available in some COTS systems.

1.2: Scan of COTS Systems

	Usability and Basic Features						
Systems	**Interoperability/ Integration**	**Cloud/On Premise/Hybrid**	**Role-Based Security**	**Reporting**	**Offline Access**	**Customization Coding Needed (Light/Medium/ Heavy)**	**Off the Shelf Usability**
Social Solutions Efforts to Outcomes (ETO)	Yes (through data bridges or data uploads)	Cloud	Yes (custom roles)	Yes	No	Light	Basic Case Management and data system
Intuit Quickbase	Yes (custom dev/3rd party apps)*	Cloud, Hybrid	Yes (custom roles)	Yes (custom dev, 3rd party	No	Light	Development platform, not usable off the shelf
FileMaker	Yes (custom dev/3rd party apps)	Cloud, On Premise, Hybrid	Yes	Yes (custom dev, 3rd party	Yes**	Medium	Development platform, not usable off the shelf
SharePoint	Yes	Cloud, On Premise, Hybrid	Yes (active directory)	Yes (custom dev, 3rd party	No	Medium	Development platform, not usable off the shelf
Visit Tracker	Limited (Import/Export)	Cloud	Limited (4 user types)	Prebuilt reports	No	Heavy	Comprehensive Case Management and data system
Athena Penelope	Yes	Cloud, On Premise	Yes	Yes (tableau dashboard)	No	Heavy	Comprehensive Case Management and data system
Datatude (FamilyWise)	Limited (Import/ Export)	Cloud	Yes	Yes (in-built)	No	Heavy	Comprehensive Case Management and data system
ClientTrack	Yes (HL7 support)	Cloud, On Premise	Yes (workgroup support)	Yes (in-built query builder)	Yes	Heavy	Comprehensive Case Management
FAMCare	Contact Vendor	Cloud	Contact Vendor	Contact Vendor	No	Medium	Comprehensive Case Management
Sohema	Contact Vendor	Cloud, On Premise, Hybrid	Yes	Yes (custom dev)	No	Heavy	Comprehensive Case Management
Cerner Care	Contact Vendor	Cloud, On Premise, Hybrid	Yes	Yes	No	Contact Vendor	Comprehensive Case Management
EagleSun Tribal Assistance System	Contact Vendor	Contact Vendor	Contact Vendor	Yes (custom dev)	No	Contact Vendor	Comprehensive Case Management
Champ Software Nightingale Notes	Contact Vendor	Contact Vendor	Contact Vendor	Yes (user-defined report	No	Contact Vendor	Basic Case Management and data system
SymServe	Yes (SQL Export)	Cloud, On Premise, Hybrid	Contact Vendor	Yes (SQL query builder)	No	Heavy	Comprehensive Case Management
Face-to-Face Data System	Yes (SQL Export, Custom Dev)	Cloud, On Premise	Yes	Yes, Dashboard, SQL	No	Light	Comprehensive Case Management
	*dev = developed; apps = applications				**Must be hosted onsite		

1.2: Scan of COTS Systems

		Data Protection	Costs	Contact Information
Used in Home Visiting	**Used in Tribal Agencies**	**Encryption**	**Licensing/ Payment Model**	**Email/Web Site**
Yes	Yes	Yes (EFS data, SSL	Per User	www.socialsolutions.com
No	No	Yes (AES data, TSL	Per User	www.quickbase.com
No	No	Yes (AES data, TSL	Per User, Enterprise Agreement	www.filemaker.com
Yes	No	Yes (AES data, TSL	Per User, Enterprise Agreement	https://products.office.com/en-us/sharepoint/collaboration
Yes	No	Yes (my SQL data, SSL	User Group Subscriptions	https://visittrackerweb.com/
Yes	No	Yes (SSL transit)	Per User	http://www.athenasoftware.net/?gclid=CjwKEAjw5M3GBRCTvpK4osqj4X4SJAABRJNCaBEqD
Yes	No	Yes (SSL transit)	Per User	http://www.datatudeinc.com/
Yes	Yes	Yes (AES data, SSL	Contact Vendor	https://eccoviasolutions.com/
Yes	Yes	Yes (AES data, SSL	Monthly subscription (5 user groups)	http://www.famcare.net/
Yes	Yes	Yes (SSL transit)	Contact Vendor	http://sohema.com/
Yes	Yes	Contact Vendor	Contact Vendor	https://www.cerner.com/
Yes	Yes	Contact Vendor	Contact Vendor	http://www.eaglesun.com/
Yes	Yes	Yes (SSL transit)	Contact Vendor	https://www.champsoftware.com/products/
Yes	Yes	Contact Vendor	$1,700 startup license (Yr 1), $500 annual	http://www.symserve.com/
No	Yes	Yes (SSL transit)	Contact Vendor	http://www.facetofaceit.com

Glossary of Terms

Term	Definition
Interoperability	Generally refers to the capability of a given system to share data or functions with another system. This can mean as little as a system importing data from the database used in another system, or in some cases a system accessing and using scripts or customization that has been added to a system.
Cloud	In a cloud system, data is stored on a remote server and managed by the maker of the system. The data is accessed via a network connection, usually an internet connection. The user accesses the system by means of a simple client application or through a browser-based interface.
On Premise	In an on-premise system, data is stored on either a server managed by the user of the system, or the data is stored on the client's device, which can be accessed by the user.
Hybrid	In a hybrid system, the data may be stored on both cloud and on-premise servers as specified by the user. In some instances, the data may be stored and replicated on both locations.
Role Based Security	Access to data and features are customized for users based on their roles or job levels. Users can be assigned to groups that define which data and features are available to them.
Offline Access	Data can be accessed when the user's device is not connected to a network
Encryption	A security process of encoding data in such a way that only authorized parties can read it.
Redundancy	Refers to additional copies of data put on separate devices or media so, in the case of catastrophic system failure, the data can be recovered.
Data Scrubbing/Data Integrity	Refers to using tools to check individual data fields stored in a database to see if they are damaged, and to correct them if they are.
User Level Scripting	This capability allows a user with one command to perform multiple steps. This minimizes repetitive tasks.
External Interfaces	A set of tools or instructions developers can use to add additional features and functions to a system.

1.3: Request for Proposals – Timeline Guide

A **Request for Proposal** (RFP) is a document created when an agency determines it would like to contract with an external business, vender, consultant, or supplier for a specific product or needed service. Typically, an RFP is used to announce funding has been made available for a particular project to acquire a product or service. Then potential suppliers/vendors submit business proposals, often called bids, to provide the needed product or service. The purpose of the RFP is to find the best product or service at the best price, based on agency requirements.

Instructions for RFP Tools

Module 1 contains three tools for developing a RFP. We recommend you use these tools together and follow the step-by-step process.

1. Read through 1.3: Request for Proposals — Timeline Guide to learn the necessary steps and the approximate time needed to complete each step of an RFP. Taking notes about where your agency practice may differ could be helpful.

2. Adapt and complete 1.4: Request for Proposals — Timeline Template, which will be based on information gained by reading the Timeline Guide and your agency policies.

3. Use this timeline to complete 1.5: Request for Proposals — Template. This will be the document you send to prospective vendors.

Suggested Timeline

Release the RFP — Start Date

- RFP release date is the Start Date for the timeline.
- The agency identifies a project lead and members of an internal review team. When choosing members for the review team, consider individuals who understand the established internal processes for releasing and reviewing an RFP, are knowledgeable of the data system requirements, and may have experience requesting and receiving bids for a data system.
- Create the RFP document with details about the agency, the RFP process, and the required product or service.
- See the "RFP Requirements Template" as a resource and an example of what to include.
- Determine the method of release. An RFP can be released in a variety of ways—mailed directly to hand-selected vendors, promoted on a temporary Web site created specifically for the project, or posted as an announcement to a notice board. Depending on the required product or service, determine which method of release would be most appropriate to reach potential businesses or vendors. Your agency may have experience working with vendors; or as a starting place for identifying potential vendors, you may want to contact other programs/agencies for recommendations. In addition, you may want to consult the 1.2: Scan of COTS.

RFP Responses – 1 Month

- The deadline for responses to be returned is approximately 1 month from the Start Date.
- In the RFP, it is important to designate a time for "a period of questions" between the RFP Start Date and the deadline. A period of questions is a designated time in which vendors are allowed to ask questions of the organization releasing the RFP, also known as the solicitor. This is an opportunity for vendors to clarify their understanding of the RFP to ensure their proposals are targeted to realistically meet your needs.
- Following the period of questions, all vendors submit the completed documents to the designated project lead by midnight on the deadline date.
- Proposals are reviewed for missing information.

Response Evaluation – 1 Month

- The review process for responses takes approximately 1 month from the deadline.
- The project lead prints and gathers all proposals to create binders for each member of the review team.

- The review team makes an action plan for proposals missing information (e.g., automatic disqualification, a certain number of days to respond to a request for the missing information).
- The internal review is completed in approximately 1 month.
- Requesting a product demonstration from potential vendors is common.
- Once the top candidates (vendors) have been selected by the review team, they are given at least a 1-week notice before requesting a product demonstration.

Product Demonstrations – 1 Week

- All demonstrations are conducted shortly after the completion of the internal review and last approximately 1 week.
- Verify agenda, date, time, and necessary equipment with all vendors.
- Ensure equipment necessary for the vendor demonstrations are available and in working order.
- Use the Vendor Response section of the "RFP Requirements Template" as a guide for building the agenda. Request the vendors demonstrate the key features of their data systems described in the RFP.

Vendor Selection – 1 Week

- Once demonstrations are completed, the internal review team discusses the original RFP and notes/summaries from the production demonstration.
- The final selection is completed within 1 week.
- Once a selection is made by the review team, notify the vendor of the official selection at least 1 week prior to the start of the implementation plan development.
- Notify the individuals or companies not selected.

Implementation Plan Development – 2 Weeks

- An agency project team is created to oversee the remainder of the data system planning and implementation process. The project team may or may not have the same members as the review team.
- The development of the implementation plan will begin with a scheduled kick-off meeting which takes approximately 2 weeks.
- The project team and vendor schedule the kick-off implementation meeting as soon as possible.
- The project team and vendor develop an implementation plan with measurable product deliverables, timelines, milestones, trainings, and a plan for project closure.

Finalize Contracts – 1 Week

- Once the implementation plan is created and agreed upon by all parties, the finale contracts for work are signed within 1 week.
- All contracts are reviewed for accuracy and completeness by the project team and appropriate agency personnel.

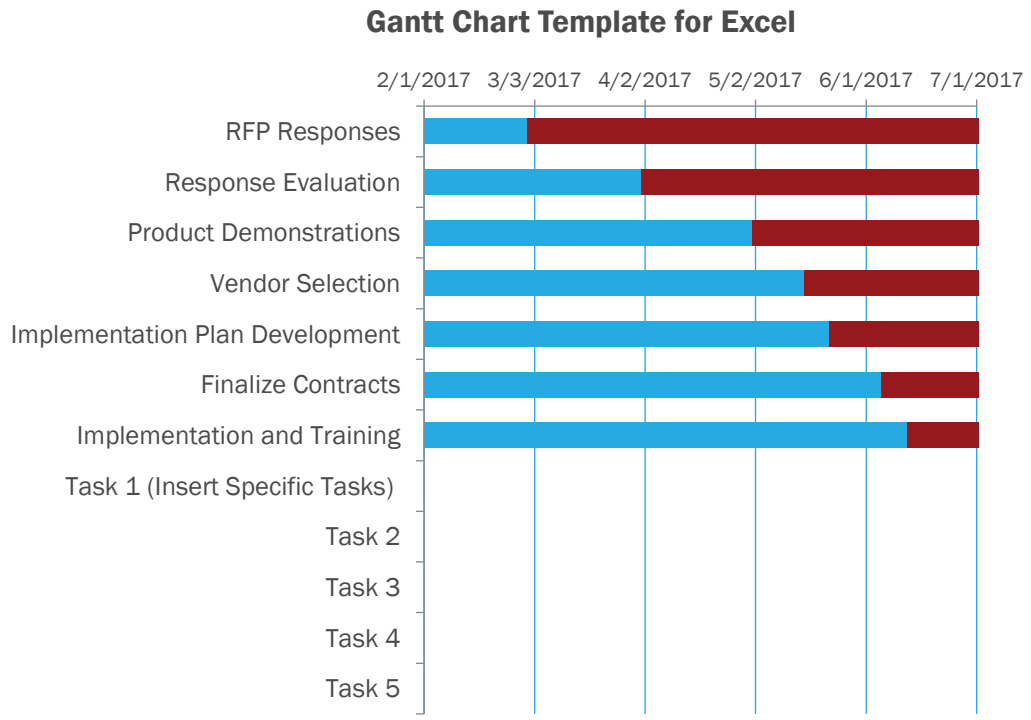
Implementation and Training – 1 Year

- A data system implementation plan and the training can be completed within 1 year of contract signing. However, this must be decided on a case-by-case basis, and the project team decides on the completion date.
- The project team schedules regular status meetings with vendor management and team throughout implementation.
- The vendor updates the implementation plan with progress and completed project milestones.
- The vendor supplies the project team with status documentation (e.g., status reports, updated implementation plan) according to a schedule set by the project team.

Additionally, the vendor is available to provide input and assistance throughout the development of the implementation plan, including meeting with project team members during on-site visits and conference calls and during the actual implementation and training phases.

1.4: Request for Proposals – Timeline Template

RFP Timeline Tasks	Start	End	Duration (days)
RFP Responses	3/1/2017	4/1/2017	31
Response Evaluation	4/1/2017	5/1/2017	30
Product Demonstrations	5/1/2017	5/15/2017	14
Vendor Selection	5/15/2017	5/22/2017	7
Implementation Plan Development	5/22/2017	6/5/2017	14
Finalize Contracts	6/5/2017	6/12/2017	7
Implementation and Training	6/12/2017	6/12/2018	365
Task 1 (Insert Specific Tasks)			0
Task 2			0
Task 3			0
Task 4			0



1.5: Request for Proposals – Template

A **Request for Proposal** (RFP) is a document created when an agency determines it would like to contract with an external business, vender, consultant, or supplier for a specific product or needed service. Typically, an RFP is used to announce funding has been made available for a project to acquire a product or service. Then potential suppliers/vendors submit business proposals, often called bids, to provide the needed product or service. The purpose of the RFP is to find the best product or service at the best price, based on agency requirements.

The team seeking products or services for its agency can use this tool as a guide to create the actual RFP document to which data system vendors will respond.

Instructions for RFP Tools

Module 1 contains three tools for developing an RFP. We recommend you use these tools together and follow the step-by-step process.

1. Read through 1.3: Request for Proposals — Timeline Guide to learn the necessary steps and the approximate time needed to complete each step of an RFP. Taking notes about where your agency practice may differ could be helpful.

2. Adapt and complete 1.4: Request for Proposals — Timeline Template, which will be based on information gained by reading the Timeline Guide and your agency policies.

3. Use this timeline to complete 1.5: Request for Proposals — Template. This will be the document you send to prospective vendors.

Tips for Developing Your RFP

- Use clear and concise language to ensure potential vendors understand your data system requirements.
- Provide a designated period of time when vendors are allowed to ask you questions. This provides an opportunity to clarify their understanding of the RFP, so their proposals can realistically meet your system requirements.
- Include, at a minimum, the basic requirements and use of the software; a realistic timeline for completion; and a reasonable budget for the package, training, and maintenance.
- Propose a reasonable timeline for implementation, ranging between 3 to 6 months for a COTS and 6 to 12 months for a fully customized system. Timeline and budget may be the most difficult to gauge at the outset of the data system development process. Establishing a budget too small or a timeline too short will likely prevent good vendors from submitting proposals.

Getting the Right Vendors

Vendor Experience

- Ask for vendors who have experience developing systems similar in scope to the one you want.
- Ask for vendors who have experience working with tribes.
- Ask vendors to provide relevant references and system examples.

Vendor Demonstrations

- Ask vendors to provide a demonstration of their products and capabilities.
- Ask vendors to demonstrate specifically how they can address your requirements.

Vendor Capabilities

- Ask vendors to explain the scope of their capabilities to meet your requirements.
- Ask vendors to state if outside subcontractors or services are required. (E.g., Do they use outside vendors for technical support?)
- Are outside vendors used for software hosting?

Clarifying Roles and Expectations

Vendors may respond to your RFP expecting you to have certain in-house technical capabilities or time available to develop the data system. Clear expectations between the vendor and your agency are important for both the development and maintenance of the data system.

Expectations of Vendor

- How frequent will the vendor and agency meet?
- What technical assistance will be provided to the agency?
- What is the expected timeline for development?
- What are the itemized costs for development and maintenance?

Expectations of Agency

- How many members from the agency team are needed to develop the data system, and how much of their time is required?
- What staff technical capabilities are required to operate the data system?
- Is the agency expected to have a data system manager?
- What, if any, ongoing expenses will be incurred by the agency? What services will be covered by these costs?

Sections of the Template

Request for Proposals – Template Section. The first three pages can be used as a template to write an RFP for a data system. Enter your agency information where there are yellow highlighted sections. The use of this template is voluntary, and your agency may already have documents that serve this purpose.

Vendor Response Section. These questions should be an attachment to the RFP where each vender will provide a response. The agency will then use the vendor responses to review proposals, plan the system demonstrations, and make a final selection. The agency should review the list of questions to ensure it includes the requirements for a data system.

Vendor Response Instructions Section. This section is for internal use only and includes a description of each item from the vendor response section to assist with understanding the types of responses the vendors should submit on their proposals.

[Agency Name] Request for Proposals

Purpose and Scope

[Agency Name] is currently accepting proposals for the selection and implementation of and training for a data system. This data system will be used for [list specific actions for which the data system will be used]. The business/functional requirements of the system will be modeled after a basic framework, and specific forms and data elements will be defined by the [Agency Name] team.

As part of the selection process, this Request for Proposals (RFP) is being provided to a small number of vendors for a data system that best meets the requirements of this agency, with the least amount of customization and at a reasonable cost.

Schedule of Activities

The following schedule outlines the approximate timeframe of the planned events (subject to change): [Insert the specific Agency timeline dates from the "Request for Proposal - Timeline" document.]

- Release the RFP — Start Date (Month, Day, Year)
- RFP Responses — 1 Month (Month, Day, Year)
- Response Evaluation — 1 Month (Month, Day, Year)
- Product Demonstrations — 2 Weeks (Month, Day, Year)
- Vendor Selection — 1 Week (Month, Day, Year)
- Implementation Plan Development — 2 Weeks (Month, Day, Year)
- Finalize Contracts — 1 Week (Month, Day, Year)
- Implementation and Training — 1 Year (Month, Year)

Evaluation and Product Demonstration

The responses to this document will be used to identify the top two vendors who will be asked to provide a product demonstration (onsite or Web based). These vendors will be notified on [1 week prior to the "Conduct Product Demonstrations" end date].

Production demonstration times will be

[Provide possible time slots on which the team has already decided, e.g., Monday, March 6 between 9 a.m. to 11 a.m. and Wednesday, March 8 between 1 p.m. to 3 p.m.]

Selection

After the Schedule of Activities are completed, a product and vendor will be selected, and a final agreement will be negotiated to cover the following items:

- Application Software and Licensing
- System Configuration (hardware and software)
- Customizations and Modifications
- Data Conversion
- Implementation Planning (including a work plan, data conversion plan, and technical training plan)
- Technical Training
- On-Going Support and Maintenance
- Hosting Fees

Response Requirements and Conditions

Response Submittal Date

Completed RFP responses must be emailed to [Agency Contact Person] by [Deadline Date and Time, e.g., month, day, year, by midnight].

Document Format and Question Responses

Documents are preferred in Microsoft Word or Excel formats. Generally, the key requirements are represented by questions (attached) intended to solicit one of the following responses:

Yes	The current production release of the software provides this feature without modification and can be demonstrated on request.
No	This feature is not provided or planned. Include workarounds or alternative approaches in the comment column.
Planned	This feature is planned for inclusion in a scheduled future release. Provide an estimated release date.
Mod	The system could be modified to provide this capability. Indicate the type of modification involved – major, moderate, or minor.

Comments Include any clarifying or explanatory comments. For questions where the response is not yes, no, planned, or mod, indicate the vendor response on the comments column.

Answers to questions should be complete. For example, if a specific feature can be met by using an add-on module, then the cost estimate should include the add-on module.

Contact

All questions or requests for additional information regarding this RFP are to be directed to—

[Agency Contact Person] Project Manager

Email: [Agency Contact Person's Email Address]

Phone: [Agency Contact Person's Phone Number]

Project Background Information

[Background of previous systems used, reason for the need of a new system, work that has already been completed, any current project plan that may be in place, etc.]

Funding for Vendor Selection

The contract will be issued and paid by the agency, [Agency Name]. The ongoing maintenance, hosting, licensing, and all other associated fees incurred post implementation are the responsibility of [Agency Name].

Current Operating Environment (Systems)

Server Hardware/Software

Agency servers typically have the following hardware and software configuration:

[Standard server hardware and software configuration]

Workstation Hardware/Software

Computer desktop configuration typically includes laptops, desktops, and tablets with the following hardware and software configuration:

Desktop

[Standard desktop hardware and system configuration]

Laptop

[Standard laptop hardware and system configuration]

Tablet

[Standard desktop hardware and system configuration]

Vendor's Response

The vendor's response to the RFP, the proposal, will remain in effect for 90 days from the final submission date, [*Date*]. For questions where the response is not yes, no, planned, or mod, please indicate the vendor response in the comments column.

The agency reserves the right to reject any or all proposals. [Agency Name] may enter into negotiations with any vendor(s) in its sole discretion, as it may choose. The review procedure will continue until a vendor is selected successfully or until [Agency Name] chooses to reject all proposals. [Agency Name] also reserves the right to address more than one contract, should specific requirements be identified.

[Agency Name] reserves the right to issue amendments to the RFP at any time.

[Agency Name] reserves the right to award no contract as a result of this RFP or to award a contract for any portion of the intended work.

As a result of the selection of a vendor to supply products and/or services to [Agency Name], the vendor agrees to make no reference about [Agency Name] in any literature, promotional material, brochures, sales presentations, or the like without express prior written consent from each entity.

Reference	Response
1. Data System Vendor	
1.1. Name, address, and telephone number of the data system vendor	
1.2. Type of business organization (e.g., public corporation, private corporation, partnership)	
1.3. Number of years of experience with case management systems	
1.4. Number of years of experience working with tribal agencies	
1.4.1. Summary of previous data system work with tribal agencies	
1.5. Name and title of the person authorized to execute a contract on behalf of the vendor	
1.6. Is there pending litigation against the vendor?	
1.6.1. If so, please summarize.	

Requirements	Response				
2. Software Requirements					
2.1. Infrastructure					
2.1.1. Which database does the system support? Please indicate version and release number where applicable.	Comments:				
2.1.2. Which server operating system, network, and hardware do you support?	Comments:				
2.1.3. Which desktop operating systems (Windows versions) are fully compatible with the software?	Comments:				
2.1.4. Describe briefly the recommended technical architecture of the system and any tools used. For example, is the database run on a separate server from the application?	Comments:				
2.2. Security	Yes	No	Planned	Mod	Comment
2.2.1. Does the system have privileged accounts?					
2.2.2. Describe your support for security patches (most often Microsoft Security).	Comments:				
2.3. Technology	Yes	No	Planned	Mod	Comment
2.3.1. Does the system use per seat licenses or concurrent licenses?					
2.3.2. Does the system provide the capability so only authorized users can access the system?					
2.4. Interfaces	Yes	No	Planned	Mod	Comment
2.4.1. Does the system support a Web interface that can be customized?					
2.4.2. Does the system support a thick or thin client interface that can be customized?					
2.4.3. Does the system provide a security administration interface?					
2.4.4. Does the system provide a reporting interface?					
2.4.5. Does the system support a report customization and development interface?					
2.5. Business Logic	Yes	No	Planned	Mod	Comment
2.5.1. Security Administration					

Requirements	Response				
2.5.1.1. Can user security be managed using groups?					
2.5.1.2. Does the system provide the ability to define access into discrete functions?					
2.5.2. Reporting Interface					
2.5.2.1. Does the system provide standard reports? Please provide a list of standard reports available with the system.					
2.5.3. Report Administration					
2.5.3.1. Can authorized users modify and customize report outputs?					
2.5.3.2. Can the reporting tool access all tables and data relationships in the database?					
2.5.3.3. Is the reporting tool a proprietary product?					
2.5.3.4. Is the system bundled with any third-party report writers or query tools? If so, which ones?					
2.6. Functional Areas	Yes	No	Planned	Mod	Comment
2.6.1. Does the system support user defined fields?					
2.6.2. Does the system track the following data elements?					
2.6.2.1. Data Element One (Required)					
2.6.2.2. Data Element Two (Valid Value List preferred)					
2.6.2.3. Data Element Four (Valid Value List preferred)					

Reference	Response
3. Implementation and Customization	
3.1. Based on the requirements outlined in this RFP, if any modifications are required, who will perform them?	
3.2. When a new version of the packaged software is released, what is required to support these modifications? Whom do you	

Reference	Response
propose to support the reintegration of modifications?	
3.3. How should the system users be trained? For example, do you have scheduled training classes? If so, where are they held? Do you offer onsite training? Web-based training? Note: Please include the cost of proposed training in the cost estimate	
3.4. Please describe the proposed approach to data conversion.	
3.5. How long does it take to implement the proposed system, including set up, training, and data conversion?	
3.6. Please state any assumptions. If you are proposing modifications to meet any of the functional requirements, please include the time required to design, develop, and test these modifications.	
4. Maintenance and Support	
4.1. What support options are available? For example, remote dial-in support (please indicate technical requirements if applicable); toll-free telephone number (please provide hours of support and callback response policies); Internet support or Web self-help; and Web incident reporting and tracking.	
4.2. Do you provide your customers with information about currently known system/software issues or a defect list for the software?	
4.3. How are defects handled? (reported, escalated, and resolved)	
4.4. When you release upgrades to your software, who installs the upgrade and what is the average effort involved in upgrading the software to the latest version?	
4.5. How is the annual maintenance fee calculated?	
4.6. What is included in the annual maintenance fee?	
4.7. What type of support is NOT included in the annual maintenance fee and	

Reference	Response
is it charged separately?	
4.8. What is your warranty policy?	
5. References	
5.1. Reference 1	
5.1.1. Name of Organization	
5.1.2. Name of Reference Contact	
5.1.3. Position	
5.1.4. Telephone number	
5.2. Reference 2	
5.2.1. Name of Organization	
5.2.2. Name of Reference Contact	
5.2.3. Position	
5.2.4. Telephone number	
5.3. Reference 3	
5.3.1. Name of Organization	
5.3.2. Name of Reference Contact	
5.3.3. Position	
5.3.4. Telephone number	

6. Costs

Attach a cost proposal for this implementation based on the information provided in this RFP. Include all components required to meet the functionality included in this RFP. The cost estimate should include software, training, implementation, data conversion, and modifications. State any assumptions made in developing the estimate. Contact [Project Lead] with any questions that need to be answered to develop a cost estimate. Attach any supporting documents as needed.

Description	One Time Fees	Annual Maintenance and Support Fees
7. Software Licenses and Maintenance		
7.1. Please provide contract samples (licensing, maintenance, and or support).		
7.2. Please describe the licensing structure (Web enabled, per seat basis, site, etc.).		

Description	One Time Fees	Annual Maintenance and Support Fees
8. Other Licenses and Maintenance		
8.1. Operating system		
8.2. Database software		
8.3. Reporting tools		
8.4. Other		
9. Implementation Services (Please note any variable costs.)		
9.1. Setup costs		
9.2. Data Conversion costs		
9.3. Training costs		
9.4. Customization costs		
10. Other Costs		
TOTALS		

Vendor Response Instructions

This Vendor Response Instructions section is for **internal agency use only** and will provide an in-depth description of items included in the RFP and example questions asked of the proposed vendors. The agency reviews the questions with its internal technical team prior to releasing the RFP to determine which questions are applicable to its request. Posing a standard set of questions to all respondents is important for consistency.

Reference	Description
1. Data System Vendor	This section covers general demographic information on the vendor and his/her company. This information may be important when looking at cost of travel, years of actual experience with data systems, with whom you would be negotiating if there are ever any contract disputes, etc.
1.1. Name, address, and telephone number of the data system vendor	
1.2. Type of business organization (e.g., public corporation, private corporation, partnership)	
1.3. Number of years of experience with case management systems	
1.4. Number of years of experience working with tribal agencies	
1.4.1. Summary of previous data system work with tribal agencies	
1.5. Name and title of the person authorized to execute a contract on behalf of the vendor	
1.6. Is there pending litigation against the vendor?	
1.6.1. If so, please summarize.	

Requirements	Description
2. Software Requirements	This section gives technically specific software requirements about the new data system. When evaluating vendor responses, the recommendation is to have an internal-agency technical person review the responses.
2.1. Infrastructure	
2.1.1. Which database does the system support? Please indicate version and release number where applicable.	The vendor indicates what type of database platform on which the data system is based. (E.g., Is it built with SQL, Oracle, etc.?
2.1.2. Which server operating system, network, and hardware do you support?	The vendor indicates the type of operating system, network, and hardware the data system supports. For example, is it hosted on the cloud or on a physical server? Will the data system work on a private computer, a Mac, a tablet?

Requirements	Description
2.1.3. Which desktop operating systems (Windows versions) are fully compatible with the software?	The vendor indicates whether the data system will work on Windows, Mac, etc.
2.1.4. Describe briefly the recommended technical architecture of the system and any tools used. For example, is the database run on a separate server from the application?	The vendor indicates what type of technical environment is used for the data system (e.g., example, ASP.NET (C#), UNIX, LINUX, Windows with a SQL server)
2.2. Security	
2.2.1. Does the system have privileged accounts?	The vendor indicates whether there will be special access into the "back-end" of the system. This type of access would allow an internal-agency person access to the raw database and the ability to make programming updates.
2.2.2. Describe your support for security patches (most often Microsoft Security).	The vendor indicates how he/she will ensure the agency receives the most recent security updates. Will these "patches" be automatically installed or "pushed" to the data system quarterly or yearly? How will the patches work? Will the vendor's team need to come onsite, or is the service provided remotely? Is there an extra cost associated with updates, or is it incorporated in the monthly/yearly fees?
2.3. Technology	
2.3.1. Does the system use per seat licenses or concurrent licenses?	Per seat license means each person using the system requires his/her own license. Concurrent license means there is a limited number of people who can be working on the data system at one time. The vendor should indicate which types of licenses are issued.
2.3.2. Does the system provide the capability for only authorized users to access the system?	The vendor describes how to manage user security. For example, can the supervisor see all his/her assigned worker's cases? Can an agency technical person get access to cases? How would the agency create a new user and decide what sort of security to give?
2.4. Interfaces	

Requirements	Description
2.4.1. Does the system support a Web interface that can be customized?	The vendor indicates whether the system uses a Web-based interface for the workers. He/she should also indicate whether the agency can decide what the Web-based user login will look like.
2.4.2. Does the system support a thick or thin client interface that can be customized?	A thin client interface means there is little to no software that needs to be installed on a worker's computer. Thin interfaces tend to lack customizable interfaces. A thick client interface is more often maintained by the agency, so it can be customized. The vendor should indicate which interface is used, and how it can be customized.
2.4.3. Does the system provide a security administration interface?	The vendor indicates whether he/she provides a security administration interface used by the internal agency technical team to make security changes to the data system. For example, the supervisors require the ability to access ALL cases in the system, not just the cases assigned to their workers. Can the agency make this change internally?
2.4.4. Does the system provide a reporting interface?	A reporting interface allows the agency to generate reports based on agency requirements. The vendor should indicate whether this interface has been created, it is in planned development, or it does not exist.
2.4.5. Does the system support a report customization and development interface?	A report customization and development interface allows the agency to create specialized reports that are agency and program specific. The vendor should indicate whether this interface has been created, it is in planned development, or it does not exist.
2.5. Business Logic	
2.5.1. Security Administration	

Requirements	Description
2.5.1.1. Can user security be managed using groups?	The vendor indicates whether security groups can be created; for example, the home visitor staff is one group, supervisors a second group, and agency executives a third group. Each group should have different security settings (e.g., example, the executive group should only have access to general demographic information on a client, not full access to a case or the ability to add contacts or information).
2.5.1.2. Does the system provide the ability to define access into discrete functions?	The vendor indicates whether specific security settings can be applied to different programs. For example, the data system will be shared with a counseling center. Can the workers in the counseling center have access to only their notes on a specific case and be restricted from access to the home visitor's notes?
2.5.2. Reporting Interface	
2.5.2.1. Does the system provide standard reports? Please provide a list of standard reports available with the system.	The vendor indicates whether the data system comes standard with a specific report set; for example, a case count with a breakdown of services being provided to each family.
2.5.3. Report Administration	
2.5.3.1. Can authorized users modify and customize report outputs in this system?	The vendor indicates whether there is a way for agency staff to make updates and changes to existing reports. For example, the vendor provides a standard report of a simple case count. The agency technical staff would like to add more specific information, like a list of services to which each case has been referred. Is this possible?
2.5.3.2. Can the reporting tool access all tables and data relationships in the database?	The vendor indicates if there are any limitations to the reporting tool and describes, in specifics, any data that could not be reported and why.
2.5.3.3. Is the reporting tool a proprietary product?	The vendor indicates whether the reporting tool is proprietary to his/her company. This may affect how easy it is for the agency to change reports internally.

Requirements	Description
2.5.3.4. Is the system bundled with any third-party report writers or query tools? If so, which ones?	The vendor indicates whether he/she designs reports using a third-party tool like Crystal Reports. This may allow the agency to train staff internally to create or update reports after implementation.
2.6. Functional Areas	
2.6.1. Does the system support user-defined fields?	The vendor should indicate whether the data system can be configured for agency specific data elements.
2.6.2. Does the system track the following data elements?	The vendor should indicate whether the data elements listed below are currently captured.
2.6.2.1. Data Element One (Required)	The following should be decided and completed by the agency. The data elements should be general data elements captured for every case; for example, Mother's Date of Birth and Full Name.
2.6.2.2. Data Element Two (Valid Value List preferred)	The agency can also select data elements that consist of valid values; for example, telephone type would be home, cell, or work.
2.6.2.3. Data Element Three (linked to…)	
2.6.2.4. Data Element Four (Valid Value List preferred)	

Reference	Response
3. Implementation and Customization	
3.1. Based on the requirements outlined in this RFP, if modifications are required, who will perform them?	The agency indicates whether its requests put forth in the RFP document will require any modifications to the vendor's current product.
3.2. When a new version of the packaged software is released, what is required to support these modifications? Whom do you propose will support the reintegration of modifications?	The vendor should indicate how and what the plan is for making any required modification(s) and how it will be done. He/she should also state who will make those changes and how they will be implemented.
3.3. How should the system users be trained? For example, do you have scheduled training classes? If so, where are they held? Do you offer on-site training? Web-based training?	The vendor should indicate whether he/she uses a standard training plan.

Reference	Response
Note: Please include the cost of proposed training in the cost estimate	
3.4. Please describe the proposed approach to data conversion.	If the agency has selected to do data conversion, then the vendor should indicate what the plan is for completing the conversion from existing data into the new system.
3.5. How long does it take to implement the proposed system, including set up, training, and data conversion?	The vendor should indicate what the standard timeline is for implementation, training, and data conversion (if applicable).
3.6. Please state any assumptions. If you are proposing modifications to meet any of the functional requirements, please include the time required to design, develop, and test these modifications.	The vendor should indicate if any assumptions are being made in response to the proposal.
4. Maintenance and Support	
4.1. What support options are available? For example, remote dial-in support (please indicate technical requirements if applicable); toll-free telephone number (please provide hours of support and callback response policies); Internet support or Web self-help; and Web incident reporting and tracking.	The vendor should indicate how support is provided after implementation.
4.2. Do you provide your customers with information about currently known system/software issues or a defect list for the software?	The vendor should indicate any known issues that are currently being addressed on the data system.
4.3. How are defects handled? (reported, escalated, and resolved)	The vendor indicates the plan for handling issues the agency may find in the system.
4.4. When you release upgrades to your software, who installs them and what is the average effort involved in upgrading the software to the latest version?	The vendor indicates how upgrades function in the data system. The agency should consider costs associated with vendor upgrades, and what role the internal technical staff of the agency will have during this process.
4.5. How is the annual maintenance fee calculated?	The vendor indicates the breakdown of the annual maintenance fee, and what are the total associated costs.
4.6. What is included in the annual maintenance fee?	The vendor indicates what services are provided for the annual maintenance fee.

Reference	Response
4.7. What type of support is NOT included in the annual maintenance fee? Is there a separate charge for this support?	The vendor indicates common fees associated with the data system that are NOT covered by the annual maintenance fee.
4.8. What is your warranty policy?	The vendor should indicate whether a warranty policy exists. If it does, the details of the policy should be described.
5. References	The vendor lists the contact information for the appropriate number of references as requested by the agency.
5.1. Reference 1	
5.1.1. Name of Organization	
5.1.2. Name of Reference Contact	
5.1.3. Position	
5.1.4. Telephone number	
5.2. Reference 2	
5.2.1. Name of Organization	
5.2.2. Name of Reference Contact	
5.2.3. Position	
5.2.4. Telephone number	
5.3. Reference 3	
5.3.1. Name of Organization	
5.3.2. Name of Reference Contact	
5.3.3. Position	
5.3.4. Telephone number	
6. Costs	

Please attach a cost proposal for this implementation based on the information provided in this RFP. In the cost proposal, include all components required to meet the functionality included in this RFP. The costs should include all software costs, training, implementation, data conversion, and modifications. State any assumptions made in developing the cost estimate. Contact [Project Lead] with any questions that need to be answered to develop an estimate. Attach any supporting documents as needed.

Description	Description
7. Software Licenses and Maintenance	
7.1. Please provide contract samples (licensing, maintenance, and or support).	The vendor should provide the agency with examples of the contracts used.
7.2. Please describe the licensing structure (Web enabled, per seat basis, site, etc.).	The vendor should describe the types of licenses used for the data system and the costs.
8. Other Licenses and Maintenance	
8.1. Operating system	The vendor should indicate the cost of the operating system.
8.2. Database software	The vendor should indicate the cost of the database software for the data system.
8.3. Reporting tools	The vendor should indicate the cost of any reporting tools to be used.
8.4. Other	The vendor should indicate any other costs associated with the data system.
9. Implementation Services (Please note any variable costs.)	
9.1. Setup costs	The vendor should indicate any costs associated with initial data system setup.
9.2. Data Conversion costs	The vendor should indicate any costs associated with data conversion.
9.3. Training costs	The vendor should indicate any costs associated with training on the data system.
9.4. Customization costs	The vendor should indicate any costs associated with customization of the system.
10. Other Costs	The vendor should indicate any other costs that may be associated with the data system.
TOTALS	Total cost for Implementation Services.

1.6: Example of a Data System Software License Agreement

A data system software license agreement can be difficult to comprehend. This document intends to help demystify the language. Definitions and explanations are provided throughout this sample license agreement to help you understand how it works.

A software license agreement, or end-user license agreement (EULA), is a contract between the owner or publisher of the software and the customer. Software agreements are typically made when a customer is using a COTS system. Once the customer decides to buy and use the software, the agreement (developed by the software publisher) is given to the customer to sign. The agreement generally describes how the software can be used, the software publisher's terms and conditions, and the rights of both parties. Often, an agreement details the customer's rights to modify the software or may contain warranty information. Some software publishers will even create specialized license agreements for large companies or government agencies.

The sample license agreement below contains many of the most common features of user agreements. Notes have been provided throughout the document to help define the terms and explain the different parts.

END-USER SOFTWARE LICENSE AGREEMENT

THIS AGREEMENT is made as of this [*date*] ("Effective Date") by and between [*Name of First Party*], a [*type of organization*], with offices at [*First Party's address*] ("LICENSOR"), and [*Name of Second Party*], a [*type of organization*], with offices at [*Second Party's address*] ("LICENSEE") (collectively, the "PARTIES").

The header section describes who is making the agreement. Determine who has authority to accept the agreement, such as tribal leaders or administrators.

Agreements use different terms to describe the customer and software publisher. For example, in this agreement the customer is referred to as the "*licensee*" and the publisher is the "*licensor.*" Other agreements use terms such as "*end-user*" and "*vendor*" or "*customer*" and "*publisher.*"

WITNESSETH

WHEREAS, LICENSOR is the owner of, or has acquired rights to, certain Software and Documentation as defined in Exhibit A attached hereto (the "Licensed Software");

WHEREAS, LICENSEE desires to use such Licensed Software; and

Both parties agree to abide by the terms of this agreement. In some agreements, this section is called "*Terms.*"

WHEREAS, LICENSOR desires to grant to LICENSEE and LICENSEE desires to obtain from LICENSOR a nonexclusive license to use the Software and related Documentation solely in accordance with the terms and on the conditions set forth in this Agreement.

NOW, THEREFORE, in consideration of the promises and agreements set forth herein, the parties, each intending to be legally bound hereby, do promise and agree as follows.

1. DEFINITIONS

Most agreements contain a "*definitions*" section to define any specialized words or phrases that may be used.

A. "Designated Equipment" shall mean the hardware products identified on Exhibit "A" with which the Software is licensed for use.

B. "Documentation" shall mean all manuals, user documentation, and other related materials pertaining to the Software which are furnished to LICENSEE by LICENSOR in connection with the Software.

C. "License Fee" shall mean the amount of [*payment*].

D. "Software" shall mean the computer programs in machine readable object code form listed in Exhibit "A" attached hereto and any subsequent error corrections or updates supplied to LICENSEE by LICENSOR pursuant to this Agreement. Exhibit "A" may be amended from time to time by the parties in writing.

2. LICENSE GRANT

LICENSOR hereby grants to LICENSEE a nonexclusive right and license to use the Software on the number of primary systems of Designated Equipment identified on Schedule A hereto for a period of [*number*] years from the Effective Date of this Agreement (the "License Term"). The Software shall be used only on such primary systems if they are operating properly. If any primary system is down, the Software may be used on a backup system for that primary system.

This section sometimes is called "*Scope*" and defines the time period for which the license is valid, on which systems it can be used, etc.

3. DELIVERY

A "*Delivery*" or "*distribution*" section explain how the software is delivered or given to the customer (e.g., download, CD).

A. LICENSOR shall deliver to LICENSEE a master copy of the Software licensed hereunder in object code form, suitable for reproduction, in electronic files only.

B. LICENSOR shall also deliver to LICENSEE [*number*] of copies of the applicable Documentation for the Software. The Documentation can, if so desired, be delivered electronically to the LICENSEE.

4. MODIFICATIONS

Modifications or customizations may be allowed to the software to fix any glitches or improve the system to work better for the customer. Some software vendors allow changes to their applications that range from a minor interface change to complete redesigns of the data structures and functions.

A modifications section details if such modifications are allowed and whether they will be performed by the publisher or the customer.

It also describes who owns or has subsequent rights to any changes or customizations to the system. For example, the "Title to Modifications" subsection below states that the publisher (licensor) retains any modification rights, which means he/she owns and is able to modify, reproduce, and/or sell any changes that were made to the system.

A. *Error Corrections and Updates.* LICENSOR will provide LICENSEE with error corrections, bug fixes, patches, or other updates to the Software licensed hereunder in object code form to the extent available in accordance with LICENSOR's release schedule for a period of [*number*] year(s) from the date of shipment.

B. *Other Modifications.* LICENSEE may, from time to time, request that LICENSOR incorporate certain features, enhancements, or modifications into the Software. LICENSOR may, in its sole discretion, undertake to incorporate such changes and distribute the Software so modified to all or any of LICENSOR's licensees.

C. *Title to Modifications*. All such error corrections, bug fixes, patches, updates or other modifications shall be the sole property of LICENSOR.

5. COPIES

A. *Printed Matter.* Except as specifically set forth herein, no Software or Documentation which is provided by LICENSOR pursuant to this Agreement in human readable form, such as written or printed documents, shall be copied in whole or in part by LICENSEE without LICENSOR's prior written agreement. Additional copies of printed

This section states that neither printed nor electronic material can be copied (except as a backup) without the publisher's written permission. Most software agreements have a copyright policy.

materials may be obtained from LICENSOR at the charges then in effect.

B. *Machine Readable Matter.* Except as specifically set forth herein, any Software provided in machine readable form may not be copied by LICENSEE in whole or in part, except for LICENSEE's backup or archive purposes. LICENSEE agrees to maintain appropriate records of the number and location of all copies of the Software and make such records available upon LICENSOR's request. LICENSEE further agrees to reproduce all copyright and other proprietary notices on all copies of the Software in the same form and manner that such copyright and other proprietary notices are originally included on the Software.

6. LICENSE FEES AND PAYMENT

A. *License Fee*. In consideration of the licenses granted herein, LICENSEE shall pay the License Fee or other consideration for the Software and Documentation as set forth herein. All amounts payable hereunder by LICENSEE shall be payable in United States funds without deductions for taxes, assessments, fees, or charges of any kind. Checks shall be made payable to LICENSOR and shall be forwarded to the LICENSOR at the above address.

This describes the customer's responsibility to pay for any license fees and taxes and specifies how they are to be paid.

B. *Taxes and Other Charges*. LICENSEE shall be responsible for paying all (i) sales, use, excise, value-added, or other tax or governmental charges imposed on the licensing or use of the Software or Documentation hereunder; (ii) freight, insurance, and installation charges; and (iii) import or export duties or like charges.

7. PROTECTION OF SOFTWARE

A "Protection of Software" section is often seen in license agreements; sometimes it is called "Copyright" or "Ownership." The example below explains that the publisher (licensor) owns all copyrights/trademarks, and the user will not do anything to remove or hide them from view.

A. *Proprietary Notices*. LICENSEE agrees to respect and not to remove, obliterate, or cancel from view any copyright; trademark; confidentiality; or other proprietary notice, mark, or legend appearing on any of the Software or output generated by the Software, and to reproduce and include same on each copy of the Software.

B. *No Reverse Engineering*. LICENSEE agrees not to modify, reverse engineer, disassemble, or decompile the Software, or any portion thereof.

C. *Ownership.* LICENSEE further acknowledges that all copies of the Software in any form provided by LICENSOR or made by LICENSEE are the sole property of LICENSOR and/or its suppliers. LICENSEE shall not have any right, title, or interest to any such Software or copies thereof except as provided in this Agreement, and further shall secure and protect all Software and Documentation consistent with maintenance of LICENSOR's proprietary rights therein.

Publishers of data systems that are already built typically keep ownership of the software in the license agreements. Tribes may be able to claim ownership of the data system when it is customized for their specific uses.

8. CONFIDENTIALITY

Confidentiality sections have language to prevent disclosure of information for both the customer (licensee) and/or the publisher (licensor). It is important to make sure there is language in the agreement that describes how the publisher (licensor) ensures any data stored in the system is kept secure and confidential. This language is in the "Confidentiality" section or in a separate "Privacy" section.

If the data being housed are medical or educational records, agreements have separate sections to cover specialized privacy areas such as HIPAA or FERPA regulations.

A. *Acknowledgement*. LICENSEE hereby acknowledges and agrees the Software and Documentation constitute and contain valuable proprietary products and trade secrets of LICENSOR and/or its suppliers, embodying substantial creative efforts and confidential information, ideas, and expressions. Accordingly, LICENSEE agrees to treat (and take precautions to ensure that its employees treat) the Software and Documentation as confidential in accordance with the confidentiality requirements and conditions set forth below.

B. *Maintenance of Confidential Information*. Each party agrees to keep confidential all confidential information disclosed by the other party in accordance herewith, and to protect the confidentiality thereof in the same manner it protects the confidentiality of similar information and data of its own (at all times exercising at least a reasonable degree of care in the protection of confidential information); provided, however, that neither party shall have any such obligation with respect to use of disclosure to others not parties to this Agreement of such confidential information as can be established to (1) have been known publicly; (2) have been known generally in the industry before communication by the disclosing party to the recipient; (3) have become known publicly, without fault on the part of the recipient, subsequent to disclosure by the disclosing party; (4) have been known otherwise by the recipient before communication by the disclosing party; or (5) have been received by the recipient without any obligation of confidentiality from a source (other than the disclosing party) lawfully having possession of such information.

The confidentiality language of this sample agreement is intended to prevent the disclosure of private information about the software. It states both parties agree not to share this information and to be held liable for any damages caused by doing so.

C. *Injunctive Relief.* LICENSEE acknowledges that the unauthorized use, transfer, or disclosure of the Software and Documentation or copies thereof will (1) substantially diminish the value to LICENSOR

of the trade secrets and other proprietary interests that are the subject of this Agreement; (2) render LICENSOR's remedy at law for such unauthorized use, disclosure, or transfer inadequate; and (3) cause irreparable injury in a short period of time. If LICENSEE breaches any of its obligations with respect to the use or confidentiality of the Software or Documentation, LICENSOR shall be entitled to equitable relief to protect its interests therein, including, but not limited to, preliminary and permanent injunctive relief.

D. *Survival.* LICENSEE's obligations under this Section will survive the termination of this Agreement or of any license granted under this Agreement for whatever reason.

Survival clauses appear in many software license agreements. A survival clause states the customer (or licensee) agrees to abide by a specific portion of the agreement even if the remainder of the agreement is no longer active. For example, a customer agrees to maintain confidentiality even if he/she is no longer using the software.

9. WARRANTIES, SUPERIOR RIGHTS

Warranty statements are very common in software license agreements, but they can vary widely in their specific terms. Some common items listed in a warranty statement include—

- General terms, such as the length of time for which the software warranty is in place
- Exclusions from warranty – listing issues or items that may not be covered
- Warranty procedures – steps to follow to receive support assistance

A. *Ownership.* Except for any rights as set forth herein, LICENSOR represents its belief that it is the owner of the entire right, title, and interest in and to Software, and that it has the sole right to grant licenses there under, and that it has not knowingly granted licenses there under to any other entity that would restrict rights granted hereunder except as stated herein.

B. *Government Rights.* LICENSEE understands that the Software may have been developed under a funding agreement with the Government of the United States of America and, if so, that the Government may have certain rights relative thereto. This Agreement is explicitly made subject to the Government rights under any such agreement and any applicable law or regulation, if any. To the extent that there is a conflict between any such agreement, applicable law or regulation and this Agreement, the terms of such Government agreement, applicable law or regulation shall prevail. Distribution of the Software to any government agency by LICENSEE shall not be subject to the payments set forth above.

C. *Limited Warranty.* LICENSOR represents and warrants to LICENSEE that the Software, when properly installed by LICENSEE and used with the Designated Equipment, will perform substantially as described in LICENSOR's then current Documentation for such Software for a period of ninety (90) days from the date of shipment.

D. *Limitations*. Notwithstanding warranty provisions set forth herein, all of LICENSOR's obligations with respect to such warranties shall be contingent on LICENSEE's use of the Software in accordance with this Agreement and in accordance with LICENSOR's instructions as provided by LICENSOR in the Documentation, as such instructions may be amended, supplemented, or modified by LICENSOR from time to time. LICENSOR shall have no warranty obligations with respect to any failures of the Software which are the result of accident, abuse, misapplication, extreme power surge, or extreme electromagnetic field.

E. *LICENSEE's Sole Remedy.* LICENSOR's entire liability and LICENSEE's exclusive remedy shall be, at LICENSOR's option, either (1) return of the price paid; or (2) repair or replacement of the Software upon its return to LICENSOR; provided LICENSOR receives written notice from LICENSEE during the warranty period of a breach of warranty. Any replacement Software will be warranted for the remainder of the original warranty period or thirty (30) days, whichever is longer.

F. *Disclaimer of Warranties*. LICENSOR DOES NOT REPRESENT OR WARRANT THAT ALL ERRORS IN THE SOFTWARE AND DOCUMENTATION WILL BE CORRECTED. THE WARRANTIES STATED IN THIS SECTION ARE THE SOLE AND THE EXCLUSIVE WARRANTIES OFFERED BY LICENSOR. THERE ARE NO OTHER WARRANTIES RESPECTING THE SOFTWARE AND DOCUMENTATION OR SERVICES PROVIDED HEREUNDER, EITHER EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY WARRANTY OF DESIGN, MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE, EVEN IF LICENSOR HAS BEEN INFORMED OF SUCH PURPOSE. NO AGENT OF LICENSOR IS AUTHORIZED TO ALTER OR EXCEED THE WARRANTY OBLIGATIONS OF LICENSOR AS SET FORTH HEREIN.

G. *Limitation of Liability*. LICENSEE ACKNOWLEDGES AND AGREES THAT THE CONSIDERATION WHICH LICENSOR IS CHARGING HEREUNDER DOES NOT INCLUDE ANY CONSIDERATION FOR ASSUMPTION BY LICENSOR OF THE RISK OF LICENSEE'S CONSEQUENTIAL OR INCIDENTAL DAMAGES WHICH MAY ARISE IN CONNECTION WITH LICENSEE'S USE OF THE SOFTWARE AND DOCUMENTATION. ACCORDINGLY, LICENSEE AGREES THAT LICENSOR SHALL NOT BE RESPONSIBLE TO LICENSEE FOR ANY LOSS-OF-PROFIT, INDIRECT, INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE LICENSING OR USE OF THE SOFTWARE OR DOCUMENTATION. Any provision herein to the contrary notwithstanding, the maximum liability of LICENSOR to any person, firm, or corporation whatsoever arising out of or in the connection with any license, use or other employment of any Software delivered to LICENSEE hereunder, whether such liability arises from any claim based on breach or repudiation of contract, warranty, tort or otherwise, shall in no case exceed the actual price paid to LICENSOR by LICENSEE for the Software whose license, use, or other employment gives rise to the liability. The essential purpose of this provision is to limit the potential liability of LICENSOR arising out of this Agreement. The parties acknowledge that the limitations set forth in this Section are integral to the amount of consideration levied in connection with the license of the Software and Documentation and any services rendered hereunder and that, were LICENSOR to assume any further liability other than as set forth herein, such consideration would of necessity be set substantially higher.

10. INDEMNIFICATION

A. LICENSOR shall indemnify, hold harmless and defend LICENSEE against any action brought against LICENSEE to the extent that such action is based on a claim that the unmodified Software, when used

in accordance with this Agreement, infringes a United States copyright and LICENSOR shall pay all costs, settlements and damages finally awarded; provided, that LICENSEE promptly notifies institution in writing of any claim, gives LICENSOR sole control of the defense and settlement thereof and provides all reasonable assistance in connection therewith. If any Software is finally adjudged to so infringe, or in LICENSOR's opinion is likely to become the subject of such a claim, LICENSOR shall, at its option, either (1) procure for LICENSEE the right to continue using the Software; (2) modify or replace the Software to make it noninfringing; or (3) refund the fee paid, less reasonable depreciation, upon return of the Software. LICENSOR shall have no liability regarding any claim arising out of (a) use of other than a current, unaltered release of the Software unless the infringing portion is also in the then current, unaltered release; (b) use of the Software in combination with non-LICENSOR software, data or equipment if the infringement was caused by such use or combination; (c) any modification or derivation of the Software not specifically authorized in writing by LICENSOR; or (d) use of third party software. THE FOREGOING STATES THE ENTIRE LIABILITY OF LICENSOR AND THE EXCLUSIVE REMEDY FOR LICENSEE RELATING TO INFRINGEMENT OR CLAIMS OF INFRINGEMENT OF ANY COPYRIGHT OR OTHER PROPRIETARY RIGHT BY THE SOFTWARE.

Indemnification sections describe the legal responsibility of the publisher and customer once the agreement is signed by both parties. In this example, it states that as long as the software was used in accordance with this agreement, the publisher (licensor) will assist the customer (licensee) in any copyright claims brought against him/her because of the software and pay all costs, settlements, and damages.

B. Except for the foregoing infringement claims, LICENSEE shall indemnify and hold harmless LICENSOR, its officers, agents, and employees from and against any claims, demands, or causes of action whatsoever, including without limitation those arising on account of LICENSEE's modification or enhancement of the Software or otherwise caused by, or arising out of, or resulting from, the exercise or practice of the license granted hereunder by LICENSEE, its sub-licensees, if any, its subsidiaries or their officers, employees, agents or representatives.

This subsection states the publisher isn't legally responsible for any changes made to the software by the customer.

11. GOVERNMENT CONTRACTS

If the Software or Documentation to be furnished hereunder are to be used in the performance of a government contract or subcontract, the software shall be provided on a "restricted rights" basis only; and LICENSEE shall place a legend, in addition to applicable copyright notices, in the form provided under the governmental regulations. LICENSOR shall not be subject to any flow down provisions required by the governmental customer unless agreed to by LICENSOR in writing.

Government contract statements are often separate agreements specific to the contract being created. This varies widely between publishers. Tribal governments may want to enquire as to any additional restrictions or clauses that would apply to them.

12. TERMINATION

Either party may terminate this Agreement on thirty (30) days written notice to the other party in the event of a breach of any provision of this Agreement by the other party, provided that, during the thirty (30) days period, the breaching party fails to cure such breach.

This states the agreement can be stopped with 30 days written notice.

13. POST TERMINATION RIGHTS

A. Not less than thirty (30) days prior to the expiration of this Agreement or immediately upon termination thereof, LICENSEE shall provide LICENSOR with a complete schedule of all inventory of Licensed Product then on-hand (the "Inventory").

B. Upon expiration or termination of this Agreement, except for reason of a breach of LICENSEE's duty to comply with the quality control or legal notice marking requirements, LICENSEE shall be entitled, for three (3) months (the "Sell-Off Period") and on a nonexclusive basis, to continue to sell such Inventory. Such sales shall be made subject to all the provisions of this Agreement including the payment of a Royalty which shall be due within thirty (30) days after the close of the Sell-Off period. At the conclusion of the Sell-Off Period, LICENSOR may require that the LICENSEE either destroy any product still on hand or, alternatively, purchase it from LICENSEE at a price equal to 50% of LICENSEE's Net Selling Price.

Some software agreements contain additional clauses allowing for a period of continued use or resale of the software following the termination of the agreement (such as the 3-month allowance here). These clauses vary widely, so read closely to determine what will happen when the agreement ends.

C. Upon the expiration or termination of this Agreement, all rights granted to LICENSEE under this Agreement shall forthwith terminate and immediately revert to LICENSOR, and LICENSEE shall discontinue all use of the Property and the like.

D. Upon expiration or termination of this Agreement, LICENSOR may require that the LICENSEE transmit to LICENSOR, at no cost, all material relating to the Property including all artwork, color separations, prototypes, molds, tooling and the like, and any market studies or other tests conducted by LICENSEE with respect to the Property.

13. INFRINGEMENTS

A. LICENSOR shall have the right, in its sole discretion, to prosecute lawsuits against third persons for infringement of LICENSOR's rights in the property. If LICENSOR does not institute an infringement suit within ninety (90) days after LICENSEE's written request that it do so, LICENSEE may institute and prosecute such lawsuit.

B. Any lawsuit shall be prosecuted solely at the expense of the party bringing suit and all sums recovered shall be retained by the party commencing such action.

This states that the software publisher retains the right to file lawsuits for infringements of its copyrights or intellectual property. Customers may also do so if the publisher chooses not to.

C. The parties agree to fully cooperate with the other party in the prosecution of any such suit. The party bringing suit shall reimburse the other party for the expenses incurred as a result of such cooperation.

14. INDEMNITY

This section establishes what the legal rights the publisher and customer have to each other if claims are brought against either one by a third party. If either the publisher or customer is sued because of the software, each agrees to provide assistance to defend the other.

A. LICENSEE agrees to defend, indemnify, and hold LICENSOR, its officers, directors, agents and employees, harmless against all costs, expenses and losses (including reasonable attorneys' fees and costs) incurred through claims of third parties against LICENSOR based on the manufacture or sale of the Licensed Product including, but not limited to, actions founded on product liability.

B. LICENSOR agrees to defend, indemnify and hold LICENSEE, its officers, directors, agents and employees, harmless against all costs, expenses and losses (including reasonable attorneys' fees and costs) incurred through claims of third parties against LICENSEE based on a breach by LICENSOR of any representation and warranty made in this Agreement.

15. INSURANCE

This explains customers must have liability insurance to cover any potential issue that could cause harm to the software publisher.

LICENSEE shall, throughout the Term of the Agreement, obtain and maintain at its own cost and expense from a qualified insurance company licensed to do business in New York with a Best Rating of B+ or better, standard Product Liability Insurance naming LICENSOR, its officers, directors, employees, agents, and shareholders as an additional insured. Such policy shall provide protection against all claims, demands and causes of action arising out of any defects or failure to perform, alleged or otherwise, of the Licensed Product or any material used in connection therewith or any use thereof. The amount of coverage shall be as reasonably required by LICENSOR. The policy shall provide for ten (10) day notice to LICENSOR from the insurer by Registered or Certified Mail, return receipt requested, in the event of any modification, cancellation or termination thereof. LICENSEE agrees to furnish LICENSOR a certificate of insurance evidencing same within thirty (30) days after execution of this Agreement and, in no event, shall LICENSEE manufacture, distribute or sell the Licensed Product prior to receipt by LICENSOR of such evidence of insurance.

16. FORCE MAJEURE

Neither party shall be liable for any loss or delay resulting from any force majeure event, including acts of God, fire, natural disaster, terrorism, labor stoppage, war or military hostilities, nor inability of carriers to make scheduled deliveries, and any payment or delivery date shall be extended to the extent of any delay resulting from any force majeure event.

Force majeure refers to unforeseen and unpreventable events. Neither the customer nor publisher can be held responsible for these.

17. NOTICES

A. Any notice required to be given pursuant to this Agreement shall be in writing and mailed by certified or registered mail with return receipt requested or delivered by a national overnight express service.

Most license agreements provide a method for contacting the publisher to request changes or cancel agreements.

B. Either party may change the address to which notice or payment is to be sent by written notice to the other party pursuant to the provisions of this paragraph.

18. JURISDICTION AND DISPUTES

This clause defines the jurisdiction governing the agreement. Any applicable federal, state, or tribal government is specified here.

A. This Agreement shall be governed by the laws of [*State*].

B. All disputes hereunder shall be resolved in the applicable state or federal courts of [*State*]. The parties consent to the jurisdiction of such courts, agree to accept service of process by mail, and waive any jurisdictional or venue defenses otherwise available.

19. AGREEMENT BINDING ON SUCCESSORS

This Agreement shall be binding upon and shall inure to the benefit of the parties hereto, their heirs, administrators, successors, and assigns.

This states the agreement remains in effect even in the event of changes in ownership, death, etc.

20. WAIVER

No waiver by either party of any default shall be deemed as a waiver of any prior or subsequent default of the same or other provisions of this Agreement.

21. SEVERABILITY

If any provision hereof is held invalid or unenforceable by a court of competent jurisdiction, such invalidity shall not affect the validity or operation of any other provision and such invalid provision shall be deemed to be severed from the Agreement.

This example explains if a section of the agreement becomes invalid or irrelevant, it is taken out of the agreement and the remaining sections are still in effect.

22. ASSIGNABILITY

The license granted hereunder is personal to LICENSEE and may not be assigned by any act of LICENSEE or by operation of law unless in connection with a transfer of substantially all the assets of LICENSEE or with the consent of LICENSOR.

Assignability is also called "third-party transfer" in some agreements. This section details when/if the customer can transfer the software to another user.

23. INTEGRATION

This last section states changes to the agreement are done in writing and signed by both parties.

This Agreement constitutes the entire understanding of the parties, and revokes and supersedes all prior agreements between the parties and is intended as a final expression of their Agreement. It shall not be modified or amended except in writing signed by the parties hereto and specifically referring to this Agreement. This Agreement shall take precedence over any other documents that may be in conflict therewith.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the date first written above.

LICENSOR **LICENSEE**

Other Common Software License Agreement Items

Privacy. Most current software agreements, particularly when involving cloud storage, will have a privacy statement to explain how customer data will be secured and kept confidential. Systems handling data for records such as medical or educational typically have an additional statement covering regulations such as HIPAA and FERPA.

Geographic Restrictions. Some software may only be licensed for use in specific regions.

Export Restrictions. Some technologies such as high-level encryption may not be exported, and license agreements may reflect the limitation.

Module 2

Documenting and Improving Data System Processes

Welcome to Module 2 of the Data System Improvement Toolkit! If your tribal team wants to improve the current data system processes or document existing processes to ensure they are followed consistently, this module will be helpful. It helps you to develop program policies and a procedures manual.

This module addresses three actions a team interested in improving its system processes and documentation needs to do.

Understand and document where data are located in a system.

Many program staff use a data system with automated reports. These reports can be valuable tools but often the data generated aren't accurate. Data mapping is the process of visually diagramming where data "live'' in a data system. Data mapping can be a critical step to ensure reports are correct; it describes how data are connected across the system and helps you to understand which data the system uses to calculate report values.

Improve and document data quality processes.

A data system is only as good as the quality and completeness of the data within it. Staff struggle with identifying missing data during data reporting. These issues can result in reporting inconsistencies across the staff.

Document and streamline data entry processes.

Staff spend a great deal of time repeatedly entering the same collected data. Collecting data is often done inconsistently across staff. Documenting program data collection and entry processes for staff training can be helpful. The processes can be included in a policies and procedures manual. In addition, converting to a paperless data system may ease the data entry burden.

Understand and document where data are located in a system.		
Tool	**Type of tool**	**Description**
2.1: Guide to Data Mapping	Guide *Used with the Data Map Template*	This short guide provides an overview of data mapping and a step-by-step walkthrough of the process. After reading through the guide, your team can work with your data system vendor to better understand the system design before undertaking the task of mapping the system.
2.2: Data Map Template*	Template *Used with the Guide to Data Mapping*	Once your team has reviewed the guide to data mapping and is ready to begin the process, this template can serve as a visual guide for the system. You will likely need to change the form names to align with your program.

Improve and document data quality processes.		
Tool	**Type of tool**	**Description**
2.3: Guide to Data Cleaning	Guide	Data cleaning is a set of processes used to improve the quality and completeness of collected data. This document is a brief overview of the data cleaning process. It describes tasks for home visitors, supervisors, and data managers before and during data reporting.
2.4: Example of a Case File Checklist*	Example and Template *Used with the Example of a Missing Data Report*	Checking individual case files to determine whether assessments and other data were collected completely and on time are critical steps in making sure data is high quality. This checklist is an example a supervisor can use to review an individual home visitor file. All examples can be edited to fit the needs of the program.
2.5: Example of a Missing Data Report*	Example and Template *Used with Example of a Case File Checklist*	Once case files have been checked for quality and completeness, this information can be summarized in aggregate across the program with a missing data report. This document is an example of a report that would be developed by a data manager or supervisor to determine which data are missing prior to reporting.

Document and streamline data entry processes		
Tool	**Type of tool**	**Description**
2.6: Data System Business Process Maps*	Example *Used with Technical Assistance Facilitation*	These maps provide a general example of Tribal MIECHV intake, on-going services, and reporting processes. They are meant to serve as an example and starting point for teams to build their own, agency-specific maps to be used for better documenting data collection and entry. The maps work best with a guided facilitation process.
2.7: Best Practices When Converting to a Paperless Data System	Guide	This brief guide presents potential problems and best practices for converting from a paper-based data collection and entry system to a paperless system that uses laptops or tablets.

Visit www.tribaleval.org to download individual tools from this toolkit. Those tools marked with an * are available in modifiable forms (Word, Excel, or PowerPoint).

2.1: Guide to Data Mapping

Instructions for Data Mapping Tools

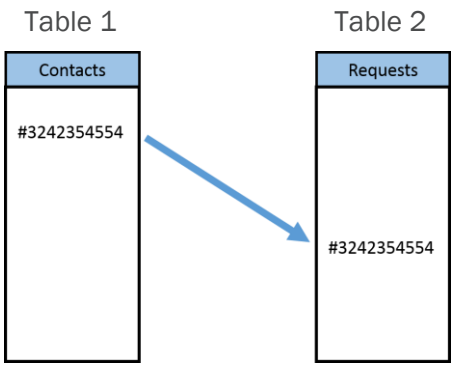
Module 2 contains two tools to help you understand data mapping and to develop a map. We recommend you use these tools together and follow the step-by-step process.

1. Read through **2.1: Guide to Data Mapping** to understand the purpose and benefit of data mapping and the steps necessary for developing a data map.
2. Work with your system vendor to use **2.2: Data Map Template** to develop a map of your system.
3. Use this map as you train staff for data entry, integrate other systems, or prepare for reporting.

Guide to Data Mapping

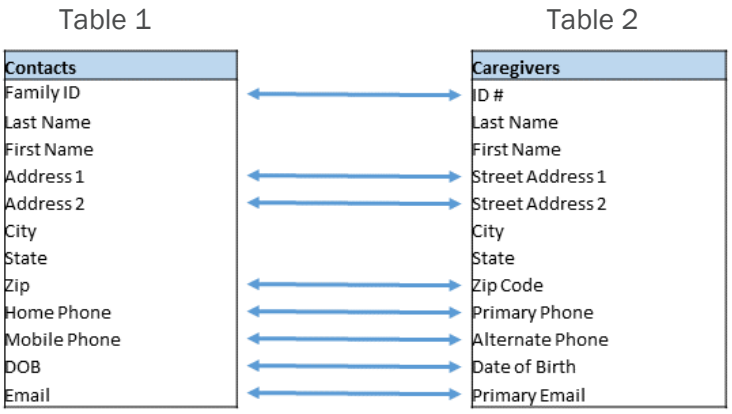
Data mapping is a process that documents the links between data points in different tables or databases. The purpose of data mapping is to see where and understand how data are stored and connected. By completing a data map, your team will better understand data system relationships. This understanding assists in training the staff to enter data correctly and prepare for data reporting and migration to new systems.

The same data in most modern systems and databases are stored in multiple **tables** or collections of data values held together in the system. This is called a **relational database** because there are fields of the shared/related data in multiple tables. Names or identification (ID) numbers are examples of shared/related data.



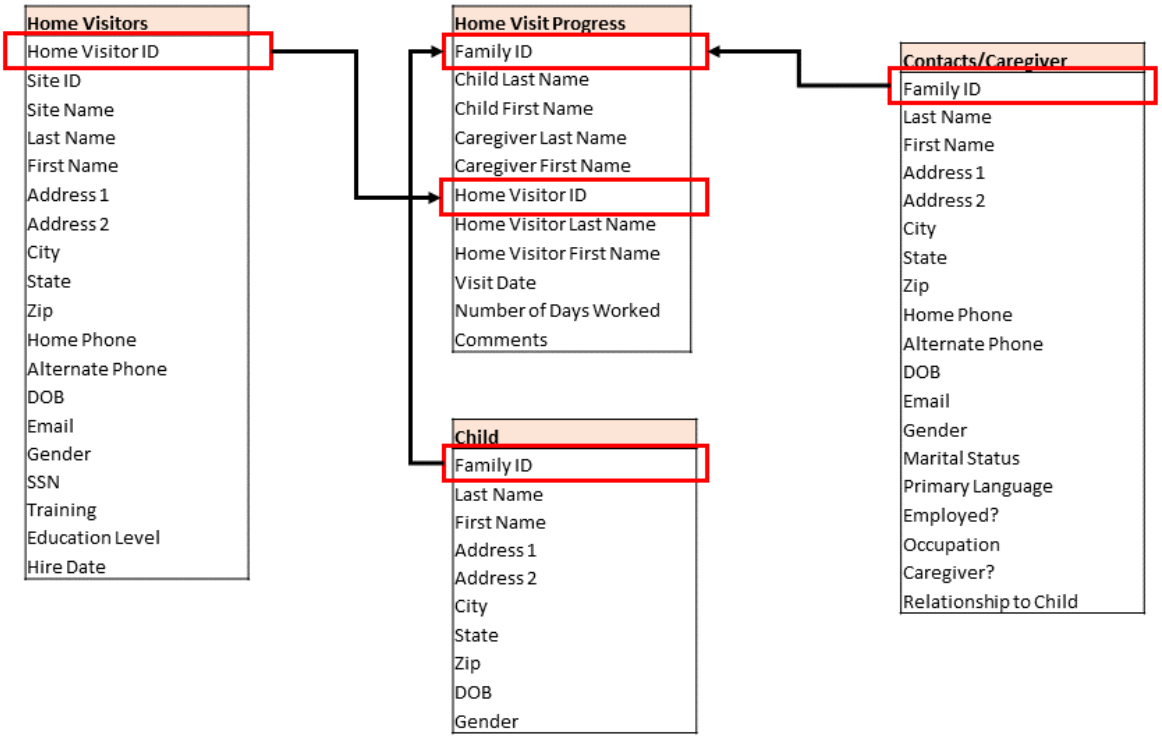
In Table 1 (Contacts), an ID number is assigned to each person listed. The ID number is also used in In Table 2 (Requests) with data entered from a form. The ID number

appears in both and establishes a relationship between the two different **table names**.



Just as tables can list the same data under different **table names**, the same data can also be under different **field names** (for example, Family ID under Table 1 is the same as ID# under Table 2). These differences necessitate mapping the relationships between the fields. Mapping these tables would mean finding the fields in each table that contain the same data (information).

There are several methods for mapping databases; two methods are most commonly used to map data manually. One method is **graphical mapping** – which involves drawing connections between the tables (as seen below). This method is easy to follow and allows users to quickly see how fields may be shared across multiple tables. However, graphic mapping can become difficult to follow when dealing with very large tables.



Another method is the **use of codes**. Codes can be manually applied to fields common across multiple tables. An advantage of using codes is they can later be combined with automation files called transforms. The transforms allow much of the data mapping process to be done automatically.

In this example, you can see multiple fields with codes to show the matching fields in other tables. Colors have been applied to see matches easier.

Contacts

Users	
Username	
Last Name	
First Name	
Email	
Phone	
Role	
Site ID	A1

Home Visitors	
Home Visitor ID	A3
Site ID	A1
Site Name	A2
Last Name	A4
First Name	A5
Address 1	
Address 2	
City	
State	
Zip	
Home Phone	
Alternate Phone	
DOB	
Email	
Gender	
SSN	
Training	
Education Level	
Hire Date	

Contacts/Caregiver	
Family ID	B3
Last Name	B1
First Name	B2
Address 1	
Address 2	
City	
State	
Zip	
Home Phone	
Alternate Phone	
DOB	
Email	
Gender	
Marital Status	
Primary Language	
Employed?	
Occupation	
Caregiver?	
Relationship to Child	

Child	
Family ID	B3
Last Name	B4
First Name	B5
DOB	
Gender	
Caregiver First Name	B2
Caregiver Last Name	B1

Forms

Referral	
Participant Last Name	B1
Participant First Name	B2
Family ID	B3
Reason for Referral	
Referral Entity	C1
Referral Date	
Referral Status	
Date of Next Contact	
Referral Notes	

Home Visit Progress	
Family ID	B3
Child Last Name	B4
Child First Name	B5
Caregiver Last Name	B1
Caregiver First Name	B2
Home Visitor ID	A3
Home Visitor Last Name	A4
Home Visitor First Name	A5
Visit Date	
Number of Days Worked	
Comments	

Parent Questionaire	
Family ID	B3
Child Last Name	B4
Child First Name	B5
Parent Last Name	B1
Parent First Name	B2
What are favorite ways to spen	
Which activities do you spend r	
How much time do you spend w	
Is there a special homework pla	
Do you have resources to work	
Describe them	
Have you visited childs school t	
Reason for visit?	
How many time this year did yo	
How many times this year did y	
How many times this year did y	

Assessment Baseline	
Family ID	B3
Child Last Name	B4
Child First Name	B5
Caregiver Last Name	B1
Caregiver First Name	B2
Home Visitor ID	A3
Home Visitor Last Name	A4
Home Visitor First Name	A5
Visit Date	
Assessment Comments	

Step-by-Step Process
Step 1. From your vendor, request a **system diagram** which includes every table in the system. If this does not exist, request a comprehensive list of every table in the system.
Step 2. Create lists of the field names within each table.
Step 3. Identify fields where the same information is requested by using different field name(s).
Step 4. Create a code and highlight color for each field asking for the same information across multiple tables. You may need to ask your system vendor or run test data (enter information for a fictional family) to determine if fields contain the same information.
Step 5. Develop a single document (such as 2.2 Data Map Template) that contains all tables and highlighted field names.
Step 6. Determine which table contains the data entered by staff. In other words, which are the manually entered data and which are the data being automatically completed by the system relationships.
Step 7. Draw arrows between these highlighted fields so all are connected. The data entry point identified in Step 6 is the point where the connected fields begin.

2.2: Data Map Template

A good starting point for mapping a database is to create small lists of the field names within each table. Create a code for any field that occurs across multiple tables. The sample lists below show how to list the fields from each table. Use the template on the next tab labeled "Data Tables - Blank" to begin listing your fields. Rename the table and sections to match your database.

Contacts

Users
User Name
Last Name
First Name
Email
Phone (area code)
Role
Site ID

Home Visitors
Home Visitor ID
Site ID
Site Name
Last Name
First Name
Address 1
Address 2
City
State
Zip Code
Home Phone (area code)
Alternate Phone (area code)
DOB
Email
Gender
SSN
Training
Education Level
Hire Date

Coordinators
Site ID
Site Name
Last Name
First Name
Address 1
Address 2
City
State
Zip Code
Home Phone (area code)
Alternate Phone (area code)
DOB
Email
Gender
SSN
Training
Education Level
Position
Hire Date

Child
Family ID
Last Name
First Name
Address 1
Address 2
City
State
Zip Code
Home Phone (area code)
Alternate Phone (area code)
DOB
Gender
Caregiver First Name
Caregiver Last Name

Agencies
Agency Name
Agency Type
Phone Number (area code)
Primary Contact
Address 1
Address 2
City
State
Zip Code

Contacts/Caregiver
Family ID
Last Name
First Name
Address 1
Address 2
City
State
Zip Code
Home Phone (area code)
Alternate Phone (area code)
DOB
Email
Gender
Marital Status
Primary Language
Employed (yes/no)
Occupation
Caregiver (yes/no)
Relationship to Child

Forms

Referral
Participant Last Name
Participant First Name
Family ID
Reason for Referral
Referral Entity
Referral Date
Referral Status
Date of Next Contact
Referral Notes

Home Visit Progress
Family ID
Child's Last Name
Child's First Name
Caregiver's Last Name
Caregiver's First Name
Home Visitor ID
Home Visitor's Last Name
Home Visitor's First Name
Visit Date
Number of Days Worked
Comments

Parent Questionnaire
Family ID
Child's Last Name
Child's First Name
Parent's Last Name
Parent's First Name
What are favorite ways to spend time with your child?
Which activities do you spend the most time with your child?
How much time do you spend with your child per week?
Is there a special homework place for your child?
Do you have resources to work with your child?
Describe them.
Have you visited your child's school this year?
Give reason(s) for visit.
How many time this year did you attend parent-teacher conferences?
How many times this year did you help in the classroom?
How many times this year did you attend a special event?

Assessment Baseline
Family ID
Child's Last Name
Child's First Name
Caregiver's Last Name
Caregiver's First Name
Home Visitor ID
Home Visitor's Last Name
Home Visitor's First Name
Visit Date
Number of Previous Visits
Assessment Comments

Family Exit Form
Family ID
Child's Last Name
Child's First Name
Caregiver's Last Name
Caregiver's First Name
Address 1
Address 2
City
State
Zip Code
Week of Dismissal
Was family behind when dismissed?
Reason for Dismissal
Retention Strategies
Coordinator's Last Name
Coordinator's First Name

2.2: Data Map Template

A good starting point for mapping a database is to create small lists of the field names within each table. Create a code for any field that occurs across multiple tables. The sample lists below show how to list the fields from each table. Use the template on the next tab labeled "Data Tables - Blank" to begin listing your fields. Rename the table and sections to match your database.

Contacts

Users

Coordinators

Agencies

Home Visitors

Contacts/Caregiver

Child

Forms

Referral

Parent Questionnaire

Family Exit Form

Home Visit Progress

Assessment Baseline

2.3: Guide to Data Cleaning

Data cleaning monitors and processes data to ensure reports are accurate. It typically takes places in two primary stages.

1st Stage: Pre-Report Data Cleaning

- Pre-report data cleaning refers to data cleaning and maintenance steps taken before any critical reports are due. This involves the ongoing monitoring of critical data elements by staff and supervisors to take steps to ensure data is accurate.

2nd Stage: Peri-Report Data Cleaning

- Peri-report data cleaning is done right after a report is generated and before it is distributed, when it's no longer feasible to go back and clean data. The goal is to minimize the damage of the inaccurate and missing data. Cleaning is focused on removing any records from a report that inaccurately reflect services due to errors or absence in the data.

Steps for Pre-Report Data Cleaning

Home Visitor Tasks

Home visitors are the first line of defense against missing or inaccurate data. Home visitors can review their family case files on a routine basis (e.g., weekly) to ensure each case file is accurate and current. These checks can include a scan of home visit forms, screenings, and referrals for missing and incomplete data. Exhibit 1 is one example depicting how home visitors can review their case files and summarize the information in a table.

Exhibit 1. Family Missing Data Summary (Completed by Home Visitors)

ID	Name	Parent DOB	Child DOB	Income	Race	Ethnicity
1	Jane Smith	X	X	X	X	0
2	Ashley Waller				X	X
3	Sara Prince					
4	Barbara King	X	X	X	X	X
5	Linda Goose		N/A	0	0	0
6	Seana Smith		N/A	X	X	X

X – Missing 0 – Refused N/A – Not Applicable

Supervisor Tasks

Supervisors can assist home visitors in ensuring case files are being accurately and completely maintained in the data system, and can add an additional review of entries.

Supervisors will typically check case file data less frequently (e.g., monthly) and look across all the home visitors. Exhibit 2 provides an example of a supervisor level summary.

Exhibit 2. Home Visitor's Missing Data Summary (Completed by Supervisor)

Home Visitor	Number of cases late/ missing depression screening	Number of cases missing referral	Number of cases missing DV screening
Anna S.	5	3	0
Barba G.	0	0	1
Wanda S.	6	6	8

Steps for Peri-Report Data Cleaning

Data Manager Tasks

Data managers or evaluators typically run descriptive reports on data elements from the final report to identify outliers, unusual values, or unintended data trends (e.g., large number of families with no income). Once this process is complete, the data manager develops a list of potential issues for the supervisor. Exhibit 3 illustrates an example of a monthly service report a data manager could run. In this example, the number of pregnant caregivers served was larger than the number of total visits. This may require a followup with a supervisor to determine if this is a data error or a situation in which two caregivers were enrolled but missed a monthly visit.

Exhibit 3. Descriptive Data Report (Completed by Data Manager)

Monthly Service Numbers

	Number Served	Total Visits
Pregnant Caregivers	5	3
Female Caregivers	3	3
Children	3	3

Supervisor Tasks

A supervisor works with both the data manager and the home visiting staff to better understand and address emerging data issues. To ensure this process is consistent year to year, a supervisor should decide and document the elements the report needs to reflect, what is considered accurate, and how best to reflect data quality issues in the notes.

Helpful Tools for Data Cleaning

Missing Data Reports

Missing data reports are summaries of key data elements, also known as the numbers that make up a report. They indicate the number of cases with the element, without the element, and sometimes those with an element that is out of the range of what is expected. Missing data reports can be generated at the case file level, the home visitor level (across all his/her case files), the supervisor level, or even the overall program level. They can be used for pre-reporting data cleaning by a supervisor or peri-reporting by a data manager. Exhibit 4 provides an example of a missing data summary. The table is organized by each of the data entry tables.

Exhibit 4. Missing Data Summary

Missing Data	Number of Cases Missing
Table 1	5
Table 2	0
Table 3	6
Table 4	7

Descriptive Data Reports

These reports contain the descriptive data information for each data element in a report. This is typically the mean, median, range, and number of missing values. These are helpful for spotting values that may inaccurately be reflected in the report, such as large numbers of "outliers" or unexpected values. Descriptive data reports are typically run by data managers or evaluators as part of the peri-reporting data cleaning process. Exhibit 5 is an example of a descriptive report that can be used to monitor data quality. In the example table, unusual or inaccurate values such as a 95-year-old pregnant caregiver or a 5-year-old female caregiver are highlighted for a followup.

Exhibit 5. Table 4 Descriptive Data Summary

Table 4	Mean Age	Min/Max
Pregnant Women	21.5	13/95
Female Caregiver	22.4	5/45
Male Caregiver	27.8	21/47

2.4: Example of a Case File Checklist

The case file checklist is an example of a case-level form that could be used by a supervisor to ensure each home visitor's paper file includes the necessary assessments. This checklist is used in conjunction with the missing data report. Once a supervisor or data manager completes the case file checklist, the information would be aggregated in a missing data report for the program.

Case File Checklist		
Client ID:	Checklist Date: MM/DD/YYYY	
Is the case status for this client currently shown as active?	Yes	
	No	
When was the last contact made with the client/family?	MM/DD/YYYY	
When was the last contact attempted with the client/family?	MM/DD/YYYY	
Dates of the last three attempts to make a home visit contact:	MM/DD/YYYY	
	MM/DD/YYYY	
	MM/DD/YYYY	
Contact notes:		
Is the case ready for closure?	Yes	
	No	
Has the intake form been completed for client/family?	Yes	
	No	

Case File Checklist		
When was the intake form completed?		MM/DD/YYYY
Note missing data or issues on intake form:		
Has a family profile been completed for client/family?	Yes	
	No	
When was the family profile completed?		MM/DD/YYYY
Note any missing data or issues on family profile:		
Have any referrals been made?	Yes	
	No	
What are the types and dates of the referrals?		
Depression Referral		MM/DD/YYYY
Substance Abuse		MM/DD/YYYY
Domestic Abuse		MM/DD/YYYY
Other (Note)		MM/DD/YYYY
Case Forms/Screenings Checklist		
Client ID:	Checklist Date: MM/DD/YYYY	
Have the following screenings been completed and when?		
Tobacco screening, Enrollment		MM/DD/YYYY
Were all data completed for this questionnaire?	Yes	
	No	
Tobacco screening, 12 months		MM/DD/YYYY

Case File Checklist		
Were all data completed for this questionnaire?	Yes	
	No	
Postnatal Depression Screening, within 3 months of postenrollment	MM/DD/YYYY	
Were all data completed for this screening?	Yes	
	No	
Substance Abuse Screening, Enrollment	MM/DD/YYYY	
Were all data completed for this screening?	Yes	
	No	
Ages & Stages Questionnaires, Third Edition (ASQ-3), Enrollment	MM/DD/YYYY	
Were all data completed for this questionnaire?	Yes	
	No	
Ages & Stages Questionnaires, Third Edition (ASQ-3), 9 months	MM/DD/YYYY	
Were all data completed for this questionnaire?	Yes	
	No	
Ages & Stages Questionnaires, Third Edition (ASQ-3), 18 months	MM/DD/YYYY	
Were all data completed for this questionnaire?	Yes	
	No	
Ages & Stages Questionnaires, Third Edition (ASQ-3), 24 months	MM/DD/YYYY	
Were all data completed for this questionnaire?	Yes	
	No	
Ages & Stages Questionnaires, Third Edition (ASQ-3), 30 months	MM/DD/YYYY	
Were all data completed for this questionnaire?	Yes	
	No	
Ages & Stages Questionnaires, Social-Emotional (ASQ:SE), 12 months	MM/DD/YYYY	

Case File Checklist		
Were all data completed for this questionnaire?	Yes	
	No	
Relationship Assessment Tool	MM/DD/YYYY	
Were all data completed for this evaluation?	Yes	
	No	
Note missing data or issues:		

2.5: Example of a Missing Data Report

This report is compiled manually by counting each element or built automatically into your data system. This tool is an example of a data report that can be modified and based on the particular assessments and data collection schedule for your program.

Example of a Tribal MIECHV Missing Data Report				
Period Beginning: MM/DD/YYYY	**Ending:** MM/DD/YYYY			
Intake Form	Total	Number	Percentage	
Administered at enrollment, typically during pregnancy	Completed			
	Partial			
	Missing			
Family Profile Form	Total	Number	Percentage	
Administered at enrollment, typically during pregnancy	Completed			
	Partial			
	Missing			
Tobacco Screening				
Administered at enrollment and 12 months	*N/A*	*Complete*	*Partial*	*Missing*
Enrollment				
12 Months				

Example of a Tribal MIECHV Missing Data Report				
Postnatal Depression Screening		Total		
Administered within first 3 months postpartum Note: Screenings completed after the initial 3-month period are considered "out-of-range."		Completed		
		Partial		
		Missing		
		Out-of-Range		
		N/A		
		Positive Screenings within date range		
		Referrals generated based on positive screens		
Substance Abuse Screening		Total		
Administered at enrollment		Completed		
		Partial		
		Missing		
		Number of Positive Screens		
		Number of Referrals generated based on positive screens		
Ages & Stages Questionnaires, Third Edition (ASQ-3)			Total	
Administered at ages 9, 18, 24, and 30 months	*N/A*	*Complete*	*Partial*	*Missing*
Enrollment				
9 Months				
18 Months				
24 Months				
30 Months				

Example of a Tribal MIECHV Missing Data Report			
Ages & Stages Questionnaires, Social-Emotional (ASQ:SE)		Total	
Administered at age 12 months		Completed	
		Partial	
		Missing	
HOME Inventory		Total	
Administered at ages 6 and 18 months	6 Months	Completed	
		Partial	
		Missing	
	18 Months	Completed	
		Partial	
		Missing	
HITS Screening Tool		Total	
Administered at intake (enrollment) and 6 months		Completed	
		Partial	
		Missing	
		Out-of-Range	
		Number of Positive Screens	
		Number of Referrals generated based on positive screens	
		Number of Referrals missed	
Relationship Assessment Tool		Total	

Example of a Tribal MIECHV Missing Data Report		
Administered within first 6 months postpartum Note: Screenings completed after the initial 6-month period are considered "out-of-range."	Completed	
	Partial	
	Missing	
	Out-of-Range	
Number of Positive Screens		
Number of Referrals generated based on positive screens		
Number of Referrals missed		

2.6: Data System Business Process Maps

What Are Business Process Maps?

Business process maps (process maps) are tools used to describe, in detail, the steps taken to complete a task or activity. Process maps are a helpful way to ensure everyone on your team understands how services are provided.

Process mapping can improve systems. The process of mapping service delivery and data collection and entry can help ensure data system developers and program staff understand how and when data are collected and entered into a system while providing services. This will ensure the system contains all necessary forms and the design of the system supports service delivery.

How Can You Use Data System Process Maps?

The process maps in this toolkit are different from typical maps in that they contain specific references to data forms and systems. These maps can be modified by your team to fit your specific system. The processes are "a place to start" to understand intake, service delivery, and reporting in your program. Because each home visiting program conducts data collection and service delivery in a different way, your team will need to adapt these maps to fit your services and practices. Once you have completed the process maps for your program, they can be shared with data system vendors and as a training tool for incoming staff.

Following the step-by-step process with your team can help you adapt these process maps for your program:

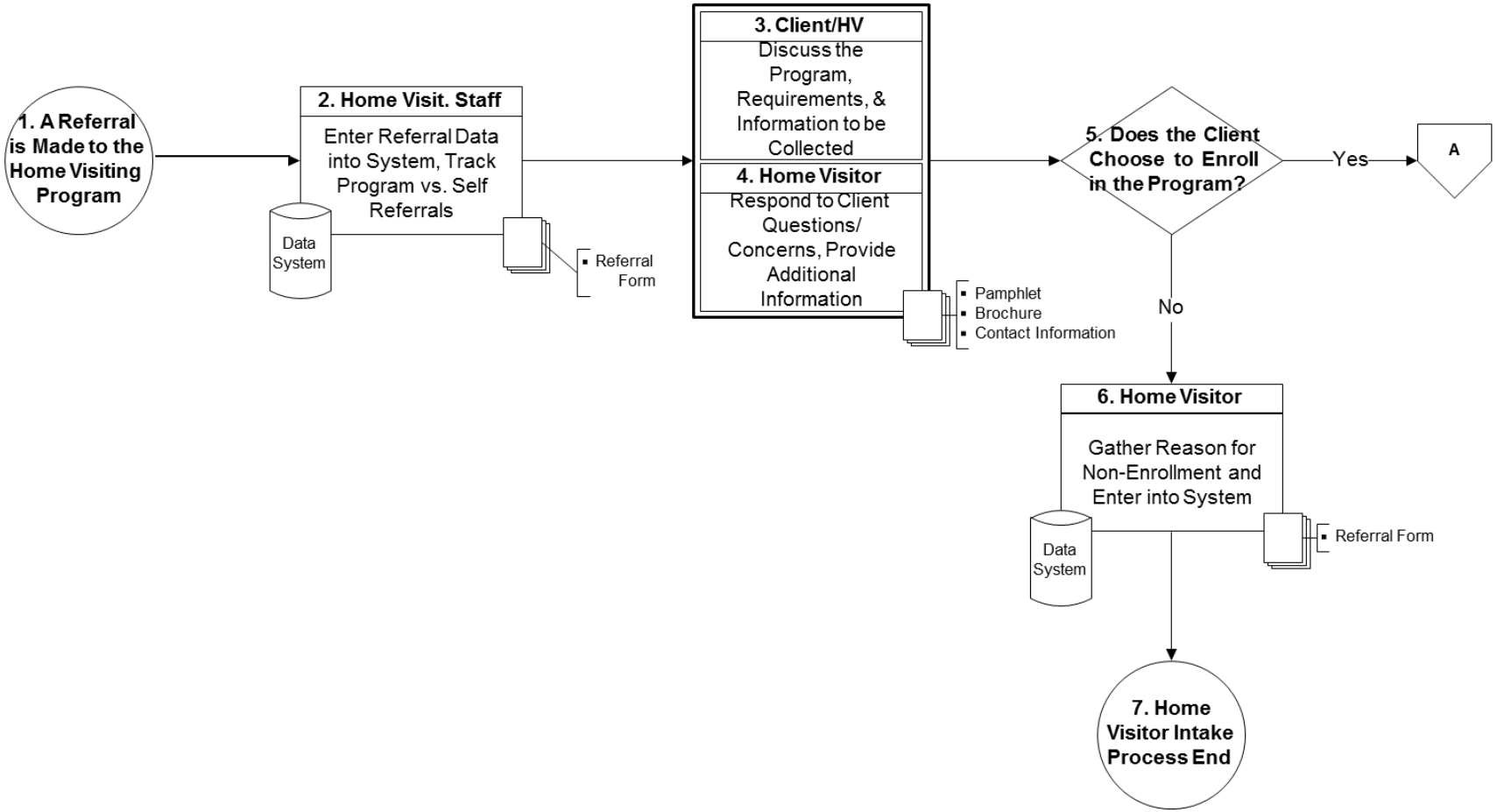
1. Beginning with the intake maps, "walk" through the examples. Note and document when (a) your team's service delivery and terminology are different from the example or (b) you notice differences in understanding by team members of the processes.

2. Make changes to the process maps based on your documentation.

3. Review the updated process maps with your team for accuracy. Once your process maps are finalized, revisit them annually to ensure they still accurately represent existing practices.

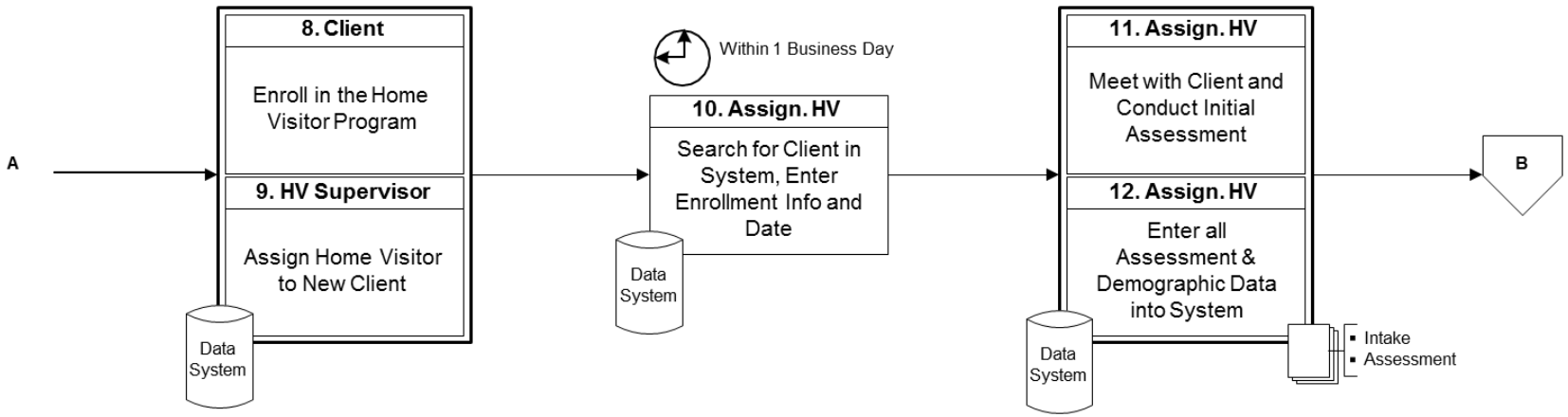
Home Visitor Intake <<Agency Name>>

Points of Reference:
1. Clients can be referred to the Home Visiting Program through partnership agencies, or they can be self-referred.



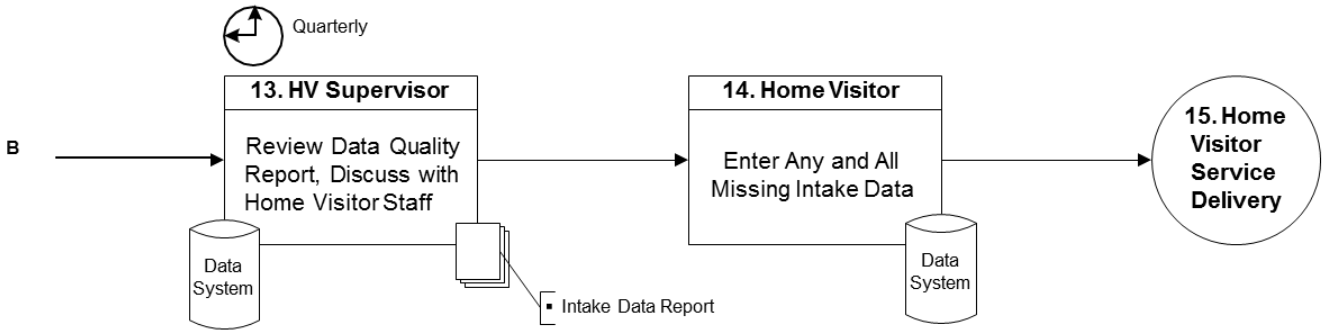
Home Visitor Intake

<<Agency Name>>



Home Visitor Intake

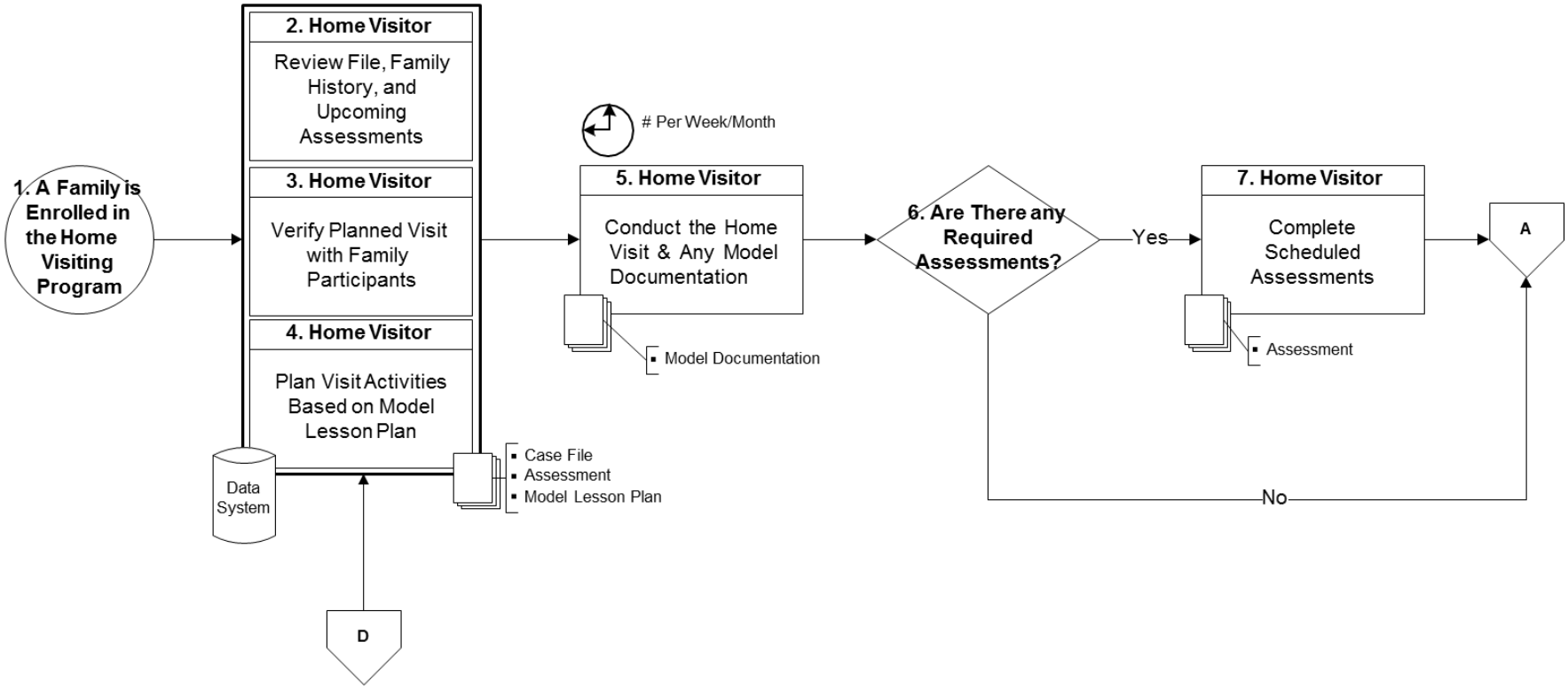
<<Agency Name>>



Home Visitor Service Delivery

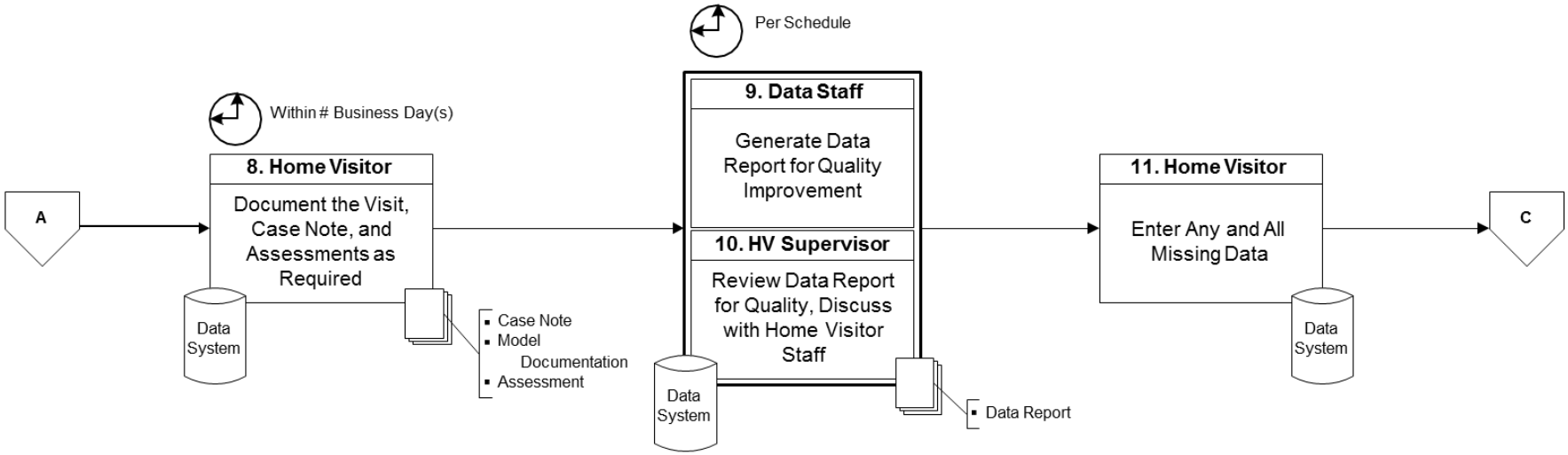
<<Agency Name>>

Points of Reference:
1. The 'Data Staff' role may include the evaluator, program coordinator, data analyst, or home visitor.
2. The Data Reporting process will run according to the ACF required schedule, and runs concurrently with service delivery.
3. Continuous Quality Improvement is an on-going process with the timing and duration of PDSA cycles determined by grantees.

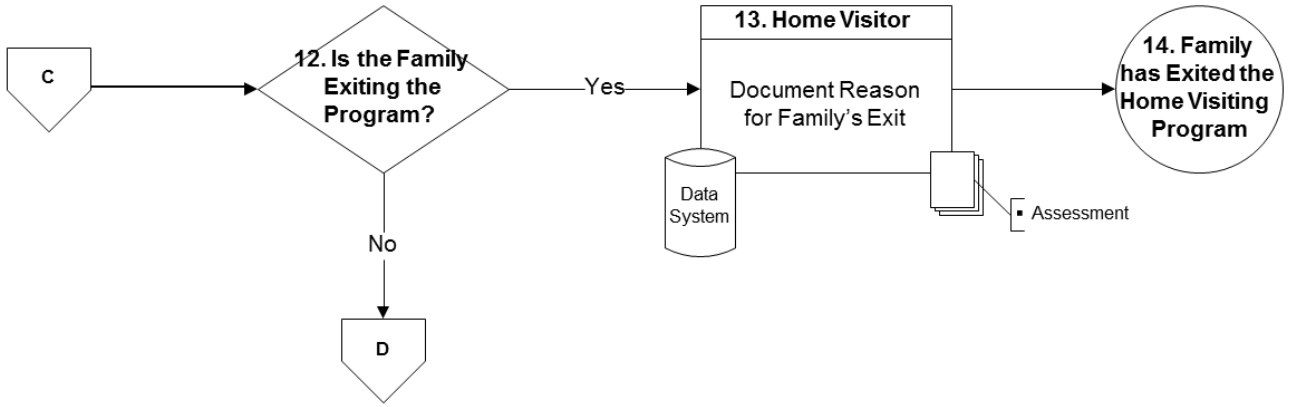


Home Visitor Service Delivery

<<Agency Name>>

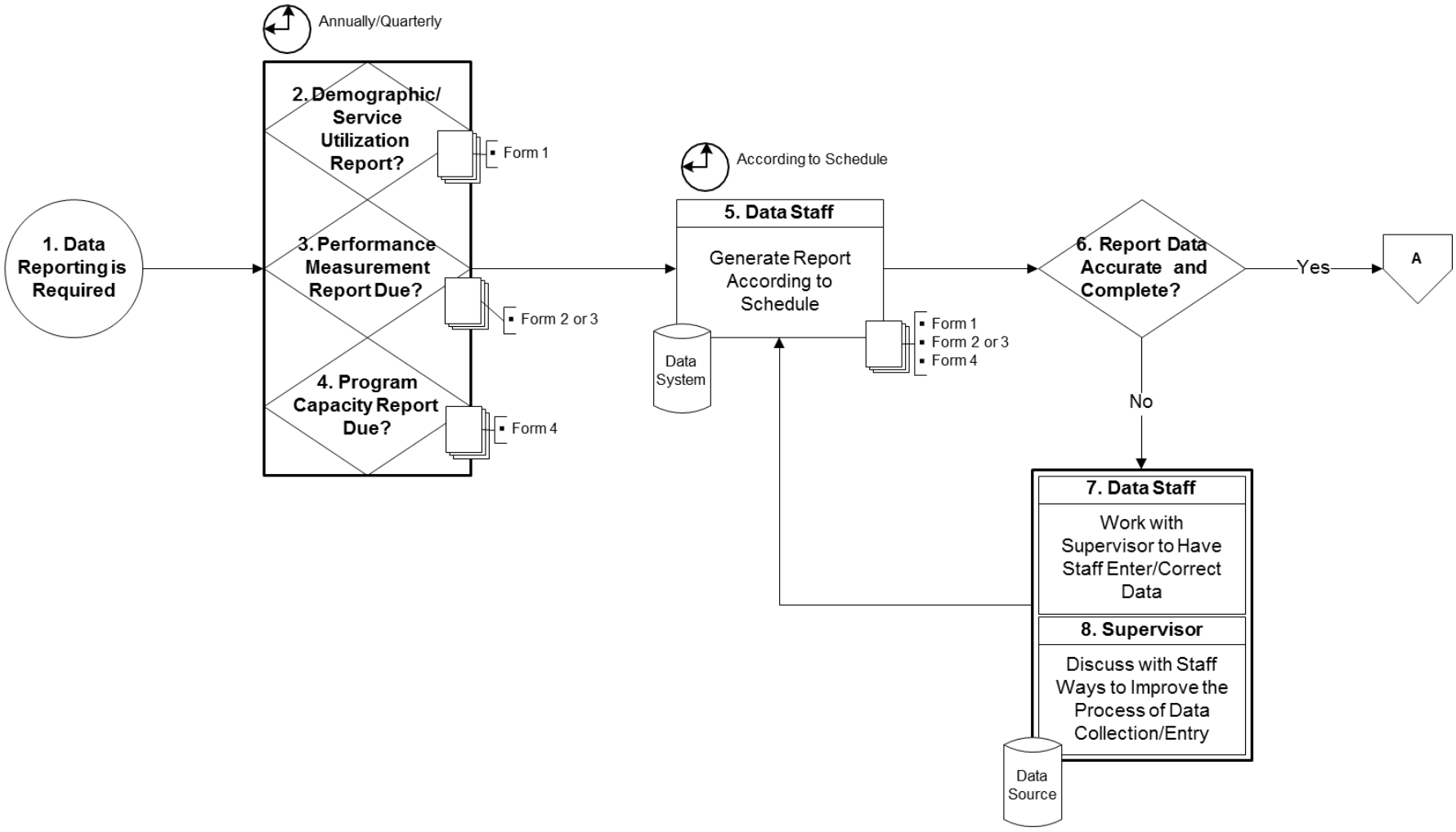


Home Visitor Service Delivery <<Agency Name>>

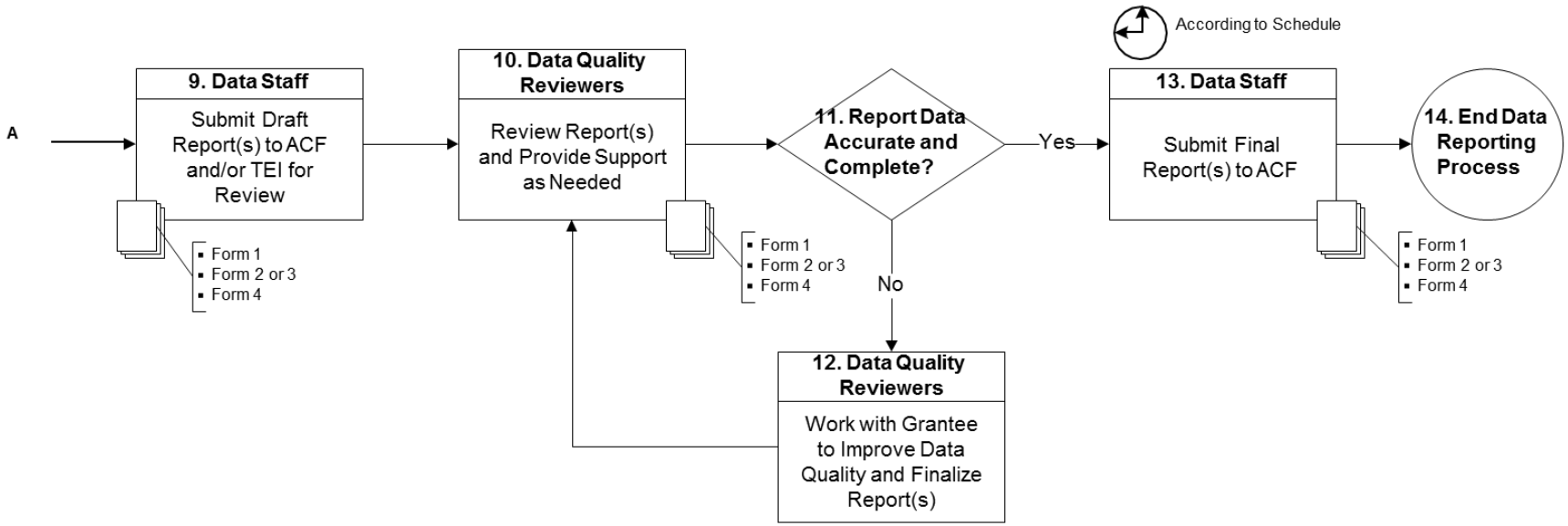


Data Reporting <<Agency Name>>

Points of Reference:
1. Data quality calls with ACF, TEI Staff, and Grantees are conducted during reviews.



Data Reporting <<Agency Name>>



2.7: Best Practices When Converting to a Paperless Data System

Converting to a paperless data system can increase efficiency and productivity. However, converting to paperless data collection can also be complex. Here is a list of various approaches and steps to take to help ensure a successful conversion to a paperless operation.

Get Buy-In

Staff and team members who are long-time users of the previous system often have a large knowledge investment in the old one and may not be receptive to change. It is crucial to ensure everyone who is involved in the conversion fully understands the benefits and necessary steps. Developing a one-page summary of the benefits (include projected program cost, time savings, and talking points for leadership) is helpful. Helping the staff understand why a change is being made increases their willingness to embrace a new system.

Provide Training/Education

Workers not properly trained on using a new paperless data collection system also experience frustration resulting in falling back to previous data collection methods—such as pen and paper—or not correctly entering all the data into the new system. Making sure everyone is trained and educated can help mitigate these issues.

Take your Time

Converting forms and scanning old documents can be time-consuming. Moving too quickly causes some documents to be missed or errors to be made while creating forms, resulting in repeating parts of the process. Employees may also have difficulty adapting to a new interface. Allowing adequate time for hands-on experience with the new system, coaching, and repetition until the staff are comfortable contributes to success.

Backups

Many organizations, long dependent on paper systems, don't fully understand the need for electronic backups, and therefore don't take adequate precautions to protect newly converted data. Likewise, organizations are often quick to discard printed archives for additional space once they have been

scanned or stored electronically. Either problem can result in data loss. MAKE SURE there is reliable backup for all data stored in the new paperless system.

Data Security

Stored paper data might contain private or confidential material that must be secured. This is often overlooked in THE paperless conversion processes. Data must be secured in the printed format and during the conversion process. Likewise, electronic fields and storage must take into account necessary security for private or confidential data.

Planning

A smooth conversion process requires planning to avoid bottlenecks. If multiple types of archived print materials are to be converted, the planning determines which documents are converted, in what order, and what resources are necessary for each step. The availability of employees, hardware, and space should be included in conversion planning. Don't be afraid to overestimate the time required!

Downtime/Work Stoppages

Unless you have done careful preparation, paperless conversions can result in work stoppages. Initial planning considers any current system and staff who will remain active in day-to-day operations during the conversion. This list should be compared to the resources needed for the conversion.

Avoid Over Conversion

Some archived print data does not require conversion to the electronic format. Organizations have spent considerable time and money converting documents that will rarely be accessed and free up little space. Also, documents scheduled for destruction in the near future don't require electronic storage. Deciding which data elements have to be converted early in the process is important.

Define the Goals

Creating a detailed definition of the end goals helps to focus the project. What do you want from a paperless office or a paperless data collection system? Ask yourself, what are you trying to achieve?

Create a Detailed Timeline

A timeline for the conversion process and for identifying most frequently used forms should be created. Begin by converting and testing the least used forms to make the initial impact small. This is often less burdensome for users.

Identify the Correct Tools and Resources Before Starting

A conversion to a paperless data system will usually involve several different tools. For example, scanning and optical character recognition software may be used for both archiving old paper documents and creating forms. Security certificates and e-signature tools might be used for forms requiring signatures. Likewise, you should identify team members with expertise on specific areas of data collection.

Module 3

Protecting Data Ownership and Privacy

Welcome to Module 3 of the Data System Improvement Toolkit! Maintaining ownership and protecting private information are often cited as priorities by tribal agencies. This module focuses on enhancing the understanding of data ownership and privacy and offers tools for navigating these critical issues with system vendors or developers to safeguard information about the children and families you serve.

Ensure data ownership through strong governance.

Many agencies, and particularly many tribal nations, value the right to retain ownership of the information entered into a data system. This concept of ownership can become complex when data are stored off-site or in a cloud environment and/or when an agency/tribe contracts with an outside vendor or developer. Frequently agencies don't have protocols in place to ensure data are owned by the agency/tribe while providing access to contractors.

Secure private client information.

Tribal programs and their families need to trust that the information being collected is secure and held in confidence. With more frequent security breaches, tribal agencies must understand the implications of where and how data are stored, the type of information that needs to be protected, and the measures to take to ensure the security of client data.

Ensure data ownership through strong governance.		
Tool	**Type of tool**	**Description**
3.1: Understanding Data Ownership	Guide *Used with Example of Data Ownership Contract Language*	This guide defines data ownership and describes the use of ownership agreements and governance planning. The guide describes the core elements of data ownership and includes key considerations for each element.
3.2: Example of Data Ownership Contract Language*	Example *Used with Understanding Data Ownership*	This tool provides sample contract language for each of the core elements of data ownership. The contract language supports the development of data ownership agreements.

Secure private client information.		
Tool	**Type of tool**	**Description**
3.3: Guide to Data Privacy and Confidentiality	Guide	This guide presents an introduction to data privacy and confidentiality and will help your team understand what data to protect, with what regulations to understand and comply, and how to work with system vendors to ensure privacy.
3.4: Considerations for Cloud Versus On-Premise Software and Storage	Guide	Careful exploration of where and how data are stored is critical to ensure security and privacy. This tool describes the differences between cloud and on-the-premises storage and software options across numerous categories related to cost, ownership and security, and system function.

Visit www.tribaleval.org to download individual tools from this toolkit. Those tools marked with an * are available in modifiable forms (Word, Excel, or PowerPoint).

3.1: Understanding Data Ownership

Data ownership is a relatively new concept in the world of data systems. Ownership typically means having legal title to a piece of property like a house or car. When using this definition, ownership can sometimes be unclear when dealing with digital property like data.

Commonly, a data owner is a person or organization with **the legal right and ability to create, alter, share, or restrict any piece or set of data**. Data owners can assign these functions and responsibilities to other parties (e.g., a system provider) to act on their behalf. These providers host data systems to store and process the data and often have the same capabilities as the owner to edit, share, or restrict data.

Data ownership considerations are critical for all agencies and, in particular, tribal nations who are committed to maintain the sovereign ownership of information on their citizens. Some tribal nations or agencies have clearly defined protocols and requirements for maintaining data ownership, while for others it is left to the agencies to understand and negotiate these issues on a case-by-case basis.

Data Ownership Agreements and Governance

When working with a third-party provider such as a developer or system vendor, your agency has user agreements to define the details of data ownership. Sometimes, separate data ownership agreements are used in addition to any other contracts in place. This agreement lists the agency rights as the owner of the data and defines what access and responsibilities the provider has. The user agreement specifies the policies and responsibilities of the provider. Many agencies find it helpful to define a comprehensive process detailing how they manage, monitor, and maintain their data. This is called **data governance**. A fully documented data governance process establishes control and accountability over agency data, which can be helpful in clarifying data ownership. Your team should check with your tribal or agency attorneys and leadership to determine if any existing agreements, policies, or data governance plans are in place and ensure they are followed.

Clear data ownership policies can be established in the beginning of your work with a vendor so don't forget to check out Module 1 for information on developing Requests for Proposal and choosing a system vendor.

Data Ownership – Core Elements

When developing data ownership agreements or an agency data governance plan, understanding the core elements of data ownership and the considerations related to the five elements listed below are critical.

- **Data Management**. A data management plan describes how data is handled and who has access. This includes specifying whether systems are in place to recover data in the event of loss. The plan also details what access controls are in place, so agency data is only viewed by authorized users.

  Considerations: What happens to data when deleted? Can it be recovered? How is the agency data maintained and by whom?

- **Data Location.** Service agreements from providers who work with government agencies usually specify the location of their data servers. Many government agencies require their data to be physically processed and stored only within the United States.

  Considerations: What is the physical location of the data, and how is it stored? Some agencies may have policy or legal limitations on where certain data may be physically stored.

- **Data Access.** Access defines which personnel/positions may access the agency data and under what circumstances. A service agreement states the provider will have access as necessary to provide services such as developing, maintaining, or changing the system. Most services also offer either an audit tool or report for the agency to track what users have accessed the data.

  Considerations: Who has access to agency data? Can it be accessed outside of the agency; if so, under what circumstances? Is there an audit feature to track who has accessed data and when?

- **Data Privacy/Confidentiality.** A privacy/confidentiality clause describes how the provider will maintain the integrity and security of data. Providers commonly use encryption to secure the data itself along with secure methods to authenticate users so only authorized people can access the system.

  Considerations: What steps are taken to ensure agency data is secure?

- **Data Rights and Retention.** Rights and retention clauses will explain what happens to data when the agreement with the provider comes to an end. Most service providers offer a specified grace period for the agency to retrieve data after the service ends.

  Considerations: What happens to agency data if the relationship with the provider ends? Does the agency retain ownership of any data? Are they destroyed by the vender once the agency has moved to another data system?

3.2: Example of Data Ownership Contract Language

This guide includes sample contract language related to each element of data ownership described in Tool 3.1: Understanding Data Ownership.

To most effectively use this tool, we recommend first reading 3.1: Understanding Data Ownership to better understand the core elements of data ownership and related considerations.

The sample language for each element is only an example. Any contract will need to be developed in accordance with agency policies with input from your legal team. The service provider or contractor is represented by the word PROVIDER, and the agency is called the Customer.

Data Management

On an ongoing basis PROVIDER preserves multiple copies of Customer data from which data can be recovered in the event of accidental deletion or data loss. PROVIDER stores copies of Customer data and data recovery procedures in different physical locations from the primary equipment processing the Customer data.

PROVIDER maintains records of personnel authorized to access the systems that contain Customer Data. PROVIDER identifies those personnel who may grant, alter, or cancel authorized access to data and resources. PROVIDER ensures that individuals have separate identifiers where more than one individual may access the same system containing Customer data.

Data Location

Customer data that PROVIDER processes on Customer's behalf will be transferred to and stored and processed in the United States. Any subcontractors that may interact with customer data will also maintain facilities in the United States and will ensure all Customer data is provisioned within the United States.

Data Access

Customer data will be used only to provide Customer with the defined services and for purposes compatible with providing those services. PROVIDER will not use Customer data or derived information for any commercial purposes. Customer retains all rights, titles, and interests in and to their data, and PROVIDER acquires no rights to Customer data other than the rights granted to provide the service. PROVIDER will not disclose Customer data except as directed by the Customer or as required by law. PROVIDER will provide Customer on request with an audit report detailing all access to Customer data.

Data Privacy/Confidentiality

Access controls to be applied to the services offered by PROVIDER include authentication via passwords and/or two-factor authentication, encryption of data in transit and at rest, and logging of access on several levels. Data is accessible and manageable only by properly authorized staff, direct database query access is restricted, and application access rights are established and enforced by PROVIDER. The content of communications (including sender and recipient addresses) sent through some email or messaging services between the Customer and PROVIDER may not be encrypted. Customer is solely responsible for the results of its decision to use such unencrypted communications or transmissions.

Data Rights Retention

Customer will have the ability to access and extract data stored in service at all times during the term of service. PROVIDER will retain Customer data stored in the service in a limited function account for 180 days after expiration or termination of service agreement so that Customer may extract the data. At the end of the 180-day retention period, PROVIDER will disable Customer's account and delete Customer data. Customer is solely responsible for the retention or extraction of software provided by Customer. PROVIDER has no liability for the deletion of data as described in this section.

3.3: Guide to Data Privacy and Confidentiality

Protecting sensitive information about children and families is a crucial part of any data system. Two questions to address when considering data privacy are—

- What data must be protected?
- What needs to be done to ensure data is kept private and secure?

This guide provides a brief introduction to data privacy and confidentiality and will help your team understand what data must to be protected, what are the required regulations, and how to work with system vendors to ensure data privacy.

What data must be protected?

Personally Identifiable Information

The information that must be private/protected is called Personally Identifiable Information (PII). This information can be used to identify, contact, or locate a person. PII includes anything that identifies, such as name, address, phone number, or email address. Federal Government issued identification data such as Social Security numbers are particularly sensitive. PII also includes records such as medical, educational, financial, or employment.

The Federal Government describes three "impact levels" of PII: *low, medium,* and *high*. These levels are related to the amount of harm that could come from an individual's private information being accessed. For example, an individual's credit card information could likely cause more harm than an email address.

How can data be compromised?

Human Error

The single, main reason for compromised data is human error. A simple mistakes, such as writing login information on paper, leaves valuable data unsecured. Users also make blunders such as publishing private data to unsecured public sites or sending such data through less secure technologies like email. Leaving a system unattended while logged into a secure system also exposes data.

Security Breach

Security breaches happen for a variety of reasons. Hackers sometimes break through firewalls to access systems or use malicious software to access secure systems. Human error also often contributes to security breaches. Users can be tricked into giving login information to people pretending to be authorized. This is called "social engineering" and is a common cause of many high profile "hacks." Likewise, users unknowingly click on email links to malicious software that enable access to their systems. This is called "phishing."

How can data be protected?

Regulations

Laws exist to ensure privacy at federal, state, and local levels. Many tribes have data privacy regulations. Some international treaties even cover privacy. Data systems have to comply with all regulations.

HIPAA (Health Insurance Portability and Accountability Act) is a federal law enacted to protect the privacy of a patient's health information.

FERPA (Family Educational Rights and Privacy Act) is a federal law protecting the privacy of student education records.

FISMA (Federal Information Security Management Act) is a federal law requiring federal agencies to develop a plan to ensure private information is secure. If your agency/program reports data to a federal agency, this law guides the security of the data.

IRBs (Institutional Review Boards) often have a role in regulating data privacy protections in cases where your agency/program is engaged in research. For more information on IRBs and their role in the protection of data privacy as well as strategies for adhering to data privacy requirements in research, see the Tribal Evaluation Institute's Data Collection Toolkit Module 3.[1]

Privacy Agreements and Security

Data system providers should define their detailed privacy policies, either as part of a standard user agreement or in a separate privacy agreement. The agreement should specify who can access the data and how the provider protects and stores it.

Access. Most data providers allow limited access to agency data by their administrative users and technicians for support and maintenance purposes. Ideally the privacy agreement details exactly who can access the data, when, and under what circumstances. These systems have an audit trail feature allowing the provider to document all access made to data.

Security. Data security in modern systems uses encryption. Encryption is a method of encoding data, so it can be read only by authorized users who possess a key to unlock it. Transport encryption protects data when sent between computers or across the internet. File/storage encryption protects the data stored on the server.

[1] http://www.tribaleval.org/performance-measurement/data-collection-toolkit/

3.4: Considerations for Cloud Versus On-Premise Software and Storage

When data or software are being "hosted on the cloud," the information (data) is stored on a network of servers and is available through the internet. Cloud software is also known as **software as a service (SaaS).** On-premise software, **on-prem,** is a data system software running on computers owned and managed by the organization and stored on its premises.

If your team is considering the purchase or development of a new system, the goal of this guide is to describe some of the differences between cloud and on-prem data systems to assist you in making a thoughtful decision. If your team is already working with a data system, this guide will provide more information on the strengths and limitations based on where it is hosted.

The 1.2: Scan of COTS Systems includes information on whether a COTS system utilizes either cloud or on-prem (on premise) storage.

When determining where to host a data system, agencies consider cost and data security. Typical information on cost and security and on differences in system features and functions are included below, but there can be exceptions.

Consideration	Cloud	On-Prem
Implementation Cost	Cloud implementation costs are usually much less. Data systems are preconfigured and require less installation.	Implementation costs are often more than Cloud options. All hardware and software are maintained in-house.
Support Cost	Support is included as part of the data system license.	Support requires both in-house informational technology (IT) and additional consulting, as needed.
Data Ownership	Ownership varies based on the software. Some cloud software companies acquire ownership rights over data stored in their	In most cases, on-prem software ensures data are

Consideration	Cloud	On-Prem
	system while others are willing to negotiate ownership terms with customers.	owned by the agency that hosts the software.
Data Security	Security depends on the protocols and protections put in place by the software company. Cloud software often serves a larger client base, which allows for more security infrastructure but also may mean a greater risk for cyber-attacks.	Security depends on the protocols and protections in place by the developer or IT team. Typically, on-prem software is less vulnerable to outside breaches but is more vulnerable to security concerns related to human error.
Upgrade or Enhancement Cost	Upgrades and enhancements are included as part of the data system license.	Upgrades require purchasing a new license. Features are limited to options available at time of purchase.
Hardware and Software Requirements	Minimum hardware and software will support an internet connection with adequate bandwidth.	On-prem solutions require providing server hardware and software, storage solutions, network connectivity, and backup options.
Staffing Needs	Limited or no additional internal staffing is needed.	Use existing internal IT staff with backup and recovery options or contracted support services are needed.
Customization	This is limited; some configuration changes may be available.	Many on-prem solutions are designed and built as custom data systems. Even off-the-shelf solutions may offer customization options.
Mobile Access	Cloud options are available on any device with internet access and a Web browser.	On-prem options occasionally offer mobile interfaces and access. This will vary by vendor.
Offline Access	Most cloud options offer little or no access to data while off-line.	On-prem options rarely require internet access for data availability.

Module 4

Displaying and Reporting Data

Module 4 focuses on the ways a data system supports timely access to accurate and useful data. Data systems can be invaluable for generating data used in reporting to funders. They also assist staff in obtaining a quick snapshot of relevant data through a dashboard. A **data dashboard** is typically a single page or screen visual of data that supports the ongoing monitoring of services.

This module addresses three actions related to displaying and reporting data.

Improve the accuracy of system-generated reports.

System-generated reports serve an important role in reducing the burden of reporting and ensuring agencies/teams have access to relevant data as needed. Unfortunately, these reports can become less accurate because of errors in system calculations or data entry.

Integrate and share data across systems.

Reporting often requires using data from multiple systems. The work of integrating systems, interoperation, is often desired by agencies/teams but can be complicated by technical and agency contexts. This toolkit provides a brief guide on system integration which addresses these issues.

Access timely program data for ongoing monitoring.

Data reporting is one way to use program information for monitoring and improvement. Staff and leadership often desire up-to-the minute information to determine caseloads, inform supervision, and other important ongoing work. Data dashboards, which can be built into your data system, are a helpful tool to provide timely data. The toolkit provides a guide to data dashboarding and an example you may want to use.

Improve the accuracy of system generated reports.		
Tool	**Type of tool**	**Description**
4.1: Data Reporting Map*	Template	The Data Reporting Map template will help your team "reverse-engineer" your reporting to determine which data are pulled from which screens or forms and how calculations are made. This can help your team to work with your data system vendor to make changes to improve accuracy of reporting. This tool may be best used with support from a technical assistance provider or another consultant.

Integrate and share data across systems.		
Tool	**Type of tool**	**Description**
4.2: Understanding System Integration	Guide	This guide provides an introduction to data system integration strategies. It defines system integration, describes types of system integration, and provides an overview of the planning process.

Access timely program data for ongoing monitoring.		
Tool	**Type of tool**	**Description**
4.3: Guide to Data Dashboards	Guide *Used with Example of a Data Dashboard*	This guide provides an introduction to data dashboarding. Dashboards are described; considerations are provided for understanding your audience and the type of data needed; and the elements of a dashboard are presented.
4.4: Example of a Data Dashboard	Example *Used with Guide to Data Dashboards*	This one page accompanies the Guide to Data Dashboards and serves as an example of the format and the type of data that could be appropriate for your dashboard. The example is not modifiable, but your team with technical assistance could design one to fit your specific requirements.

Visit www.tribaleval.org to download individual tools from this toolkit. Those tools marked with an * are available in modifiable forms (Word, Excel, or PowerPoint).

4.1: Data Reporting Map

An important task of a data system is to support grant reporting. To ensure the data generated from your system is accurate, understanding (1) how the system calculates the data for each of the report fields and (2) from where the data are pulled for each calculation is critical. A data reporting matrix provides a way to document this information.

This tool provides a process for "mapping" the data from your system to fields on your reports to ensure the data are documented for your program staff and evaluators. This tool can be used by internal program staff or evaluators who have knowledge of the data system or can be completed by a data system vendor.

The first step to understand how the data "map" reports is understanding the relationship between the data sources. Use 2.1: Guide to Data Mapping and 2.2: Data Map Template to visually describe how data are related in your system.

The purpose of creating a data reporting map is to provide a reference tool to ensure the accuracy and comprehensiveness of your reports. The data map shows how each report is compiled and what data points are used. This information can be used to check the accuracy of existing reports and to work with a system vendor to build new, more accurate ones.

Information Needed

- **Data Source(s)** locate where the data is stored in the database. The data source indicates the table containing the referenced data and the column or field. A data map as described in **Module 2** is helpful to identify data sources and their relationships to one another.
- **Data Fields** are the locations where the data is entered into the system. This information details on which screen and in which area each data point is entered or edited.
- **Business Rules / Logic of all Calculations / Constructs of Report Elements** are the rules that specify which data points are used to determine what is displayed in a report. (E.g., a report only counts records with married enrollees for a specific date range.)

- **Description of Report Filters** describe which data are included/excluded from a report. (E.g., only new enrollees are presented in one report.)

Having access to these fundamental building blocks allows you to develop and run prerequisite reports to identify missing data or invalid data on individual data elements. Some of this information may be requested from your data system vendor.

Steps for Completing the Data Reporting Map

There are four steps to complete on the data reporting map. They may require working with a technical assistance provider or with your data system vendor.

1. Determine how your data system is organized. (E.g., are data held in tables, are there multiple tables?) This information is gathered from your data sources and map.

2. Identify needed information for your report. This information is gathered from your list of data fields. The information gets entered in the first column, **Report Element**.

3. Identify how each report element is created. (E.g., what is the business logic, are multiple data elements used?) To obtain this information, you may need to contact your data system vendor. It is entered in the second column, **Business Logic**.

4. Identify the location of the data elements used in the business logic. These elements will be entered into **Data Element** columns 3 to 5.

Once the Data Reporting Map Is Complete

5. Check for discrepancies between the data reporting map and the existing reports. Your vendor can help you understand how report fields were calculated.

6. Use the data reporting map to fix or create new reports. If discrepancies are found between the map and existing reports, the map can be used to build queries, or logic steps, to ensure the right variables are being pulled into the report. The business logic column is used to create the logic statements used in the queries to ensure the right data elements (in columns 3 to 5) are being pulled into the report.

7. Check the new report. Test all reports by hand by counting the data used in the report and comparing them to the numbers created in the newly developed report.

8. Check for accuracy often. (Best practice is to check report accuracy at least once prior to the submission of an annual performance report or other important reports.)

An item that is detailed in the report.

The set of rules or steps used to create a report element.

Data elements are specific individual items of information.

Example 1

Report Element	Business Logic for Constructing Report Element	Result Construct Data Element 1	Result Construct Data Element 2	Result Construct Data Element 3
Report Element 1, Form 1, Table A, Question 1	Using the Date Range provided, find all Enrolled Clients during the reporting period. **Then** Identify Marital Status Identify Service Referral Using Marital Status and Referral for Service create an aggregate, count for each column (Service Referral) and row (Marital Status). **Then** Add all counts for each row **Then** Add all counts for each column **Then** Total all counts for rows and columns	Person is an Enrollee **Data Source Location:** {Table A, Enrollee Flag indicated} **Data Field Location:** {Screen Name and Field Location}	Marital Status - *Single, Never Married* - *Married* - *Separated* - *Divorced* - *Widowed* - *Unknown/Did Not Report* **Data Source Location:** {Table A, Marital Status} **Data Field Location:** {Screen Name and Field Location}	Service Referral - *Housing* - *TANF* - *Early Intervention* - *Mental health treatment* - *Substance abuse treatment* **Data Source Location:** {Table A, Service Referral} **Data Field Location:** {Screen Name and Field Location}

Example: In this example, the business logic reports on clients who are enrollees (Data Element 1), and then produces counts of the clients based on marital status (Data Element 2) and referrals for services by type (Data Element 3).

Example 2

Report Element	Business Logic	Data Element 1	Data Element 2	Data Element 3
Report Element 1, Form 1, Table B, Question 5	Using the Date Range Provided, find all Enrolled Clients during the reporting period. **Then** - *Identify Marital Status* - *Identify Race* Using Marital Status and Race, create an aggregate count for each column (Race) and row (Marital Status). **Then** Add all counts for each row **Then** Add all counts for each column **Then** Total all counts for rows and columns	Person is an Enrollee **Data Source Location:** {Database Table, Enrollee Flag indicated} **Data Field Location:** {Screen Name and Field Location}	Marital Status - *Single, Never Married* - *Married* - *Separated* - *Divorced* - *Widowed* - *Unknown/Did Not Report* **Data Source Location:** {Database Table, Marital Status} **Data Field Location:** {Screen Name and Field Location}	*Race* - *American Indian or Alaska Native* - *Asian* - *Black or African American* - *Native Hawaiian or Other Pacific Islander* - *White* - *More than one category selected* - *Unanswered/Did Not Report* **Data Source Location:** (Database Table, Race) **Data Field Location:** {Screen Name and Field Location}

Example: In this example, the business logic reports on clients who are enrollees (Data Element 1), and then produces counts of the clients based on marital status (Data Element 2), and race (Data Element 3).

Data Reporting Map Template

Report Title: _____

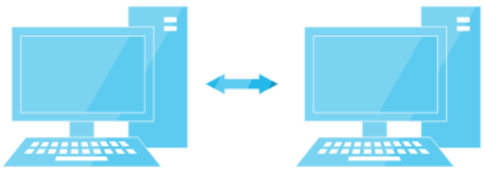
Report Element	Business Logic	Data Element 1	Data Element 2	Data Element 3
Report Element 1		Data Source Location: Data Field Location:	Data Source Location: Data Field Location:	Data Source Location: Data Field Location:
Report Element 2		Data Source Location: Data Field Location:	Data Source Location: Data Field Location:	Data Source Location: Data Field Location:
Report Element 3		Data Source Location: Data Field Location:	Data Source Location: Data Field Location:	Data Source Location: Data Field Location:

Report Element	Business Logic	Data Element 1	Data Element 2	Data Element 3
Report Element 4		Data Source Location: Data Field Location:	Data Source Location: Data Field Location:	Data Source Location: Data Field Location:
Report Element 5		Data Source Location: Data Field Location:	Data Source Location: Data Field Location:	Data Source Location: Data Field Location:
Report Element 6		Data Source Location: Data Field Location:	Data Source Location: Data Field Location:	Data Source Location: Data Field Location:

4.2: Understanding System Integration

System integration is the process of linking multiple systems together, so they function as one coordinated system. Integration can be as simple as physically connecting two computers or as complex as creating entirely new software systems.

By integrating, many processes become more efficient. Data collection becomes streamlined: information only needs to be collected once and then shared between systems; wait time is lowered because data is accessible; and communication between different departments or users can be improved.



How Integration Works

System integration is a very simple connection between two data sources. For example, let's say you have a home visiting program that enters patient data in forms built on Word documents. Excel sheets are also used to track appointment information. A macro (programing an instruction to be automatic) can be created to take information from the Word document and entered into cells on the Excel sheet. This is an example of a very simple integration.

Integration also uses more complex data sources. Picture a health clinic that provides prenatal care to expectant mothers and refers some mothers to a home visiting program. The home visiting program also refers families to the clinic for medical services. Each has its own data system for handling records. By connecting the two systems, the patient record is only created once; then the data is shared between the two programs.

Systems can also often "scale up" to include more organizations and processes. For example, the clinic and home visiting program could integrate their systems with a local hospital and a county public health service. They could even integrate with state or national health services, sharing data on a massive scale.

Listed are topical questions to consider when preparing for integration between organizations.

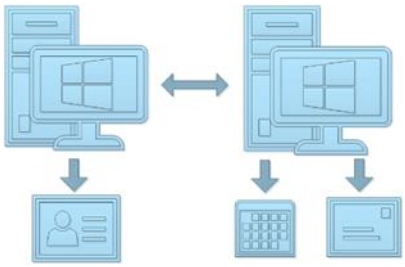
Data Agreement. What data is to be shared and what is kept confidential? If the organization is outside of the tribal nation, how will the program retain ownership of data?

Policies. What policies govern the use of data by each organization? Are they compatible?

Technology. What are the technological challenges involved? Are both organizations using the same database formats? Can they be adapted to support integration?

Consult Module 3 for more information on Data Agreements

Types of Integration



The technology side of systems integration links many types of functions. However, most integration falls into one of three broad areas.

Data Integration refers to linking or combining the data used by different systems. For instance, importing an Excel spreadsheet containing client contact information from a home visiting program into the database of a system used by a health clinic is an example of data integration. Connecting databases between two systems to share the same data would be another example.

Application Integration is connecting two or more applications (i.e., software that performs a function) so they work together to perform a task. An example might be connecting a system used by a home visiting program to Microsoft Outlook so scheduled visits would appear on the home visitor's calendar.

Process Integration refers to linking or combining processes used by more than one group or organization, which doesn't necessarily require the use of technology. If the health clinic and home visiting program decide to use a common set of forms, then they would be performing a type of process integration.

Planning for Integration

Two specific steps, "best practices," that can be used to properly complete a system integration process are listed below. These will help ensure the integration goes smoothly.

1. **Define and Document the State of Your Current System.** The first step in any integration is to document every part of your data system involved in the integration effort. Proper preparation requires you to plan for every possible data system element. Even a simple list of components can make the difference between failure and success. For example, a home visiting team is looking to integrate its system with a health care facility to track well-child visits; the integration may not work if the two teams haven't documented the systems to

know which data elements will provide the information they need, how the elements are linked to client identification numbers, in what format will the data fields be, and the relationships between these data and others in each system.

2. **Select the Systems or Methods to Accomplish Your Integration.** If the data systems or applications have not been selected, a next step might be to compare the features and interfaces available in various systems with integration in mind.

Consider What Comes After the Integration. Finally, you should reflect on the requirements of your agency/program once the integration has been completed. Three areas for further consideration are—

- Scalability is the ability to expand the system. What are your future prospects for growth? Will you need to make system changes to meet them?
- Usability tells you whether your post-integration system is easier to use. Will it require extensive training?
- Support is necessary. How will support be provided for the overall system? Will support options vary for different parts of the system?

4.3: Guide to Data Dashboards

Data dashboards provide a convenient way to get an overview of program data. The term "dashboard" comes from automotive dashboards. The dashboard in your car uses gauges and lights to provide a summary of the many actions happening under the hood to keep the car running. Likewise, a data dashboard provides a summary of the many processes happening in your agency program.

So, what does a dashboard offer you? Some of the benefits you can obtain with a well-designed dashboard include—

- **Putting Your Data to Work.** A dashboard displays the data to help you quickly focus your attention on the needed areas.
- **Consolidating Data.** A dashboard consolidates many different data points into a single interface, so you don't have to spend time analyzing separate points or compiling reports.
- **Sharing Data.** A dashboard provides a quick snapshot of your program that can be easily shared throughout the organization.

Building a Data Dashboard

Most modern data systems offer tools for creating and customizing data dashboards. Your first step in building a dashboard is to understand your needs.

- What objectives are you trying to achieve?
- What processes do you need to monitor?
- What organizational practices do you want to influence or change?

Identifying your needs will help you to plan and build your dashboard.

Defining Your Users

In planning, your first step is to identify who needs access to the different levels of data. Are separate dashboards needed for people in different positions? What information is required for each position?

For example, a director typically requires seeing a broad overview of data. He/she might want to see data that shows the overall number of home visits or the total number of referrals over a specific period. This is often called the "30,000-foot view" — like seeing a landscape from an airplane. It provides a broad view without the details. This broad view might be important to share with tribal leadership.

A supervisor would likely want to see more specific details, such as what specific home visits are scheduled for the next 7 or 14 days or how many visits have been performed by each visitor in the last 30 days.

An individual home visitor will likely only want to see a very narrow set of data detailing his/her own recent or upcoming home visits.

Identifying data dashboard users and what information they need to be able to access is the first step in creating your dashboard.

Defining Your Measurements

Your next step is to identify what areas to track and what data points will help the dashboard users follow those areas. Data points, called *key performance indicators* (KPIs), measure how well a process is working. Following the right KPIs allows the user to monitor and improve the processes that most reflect program functioning.

Once again, answering some questions is useful. What processes are you trying to improve? What issues are you trying to resolve? Consider KPIs that would help answer the questions. Some examples of KPIs to track may include—

- **Home Visit Referrals by Day.** This KPI is useful for monitoring spikes or drops in requests.
- **Referrals by Source.** This is a valuable KPI for understanding the origin of your requests.
- **Home Visits by Home Visitor.** This KPI is beneficial for a supervisor to use to manage workloads across his/her team.

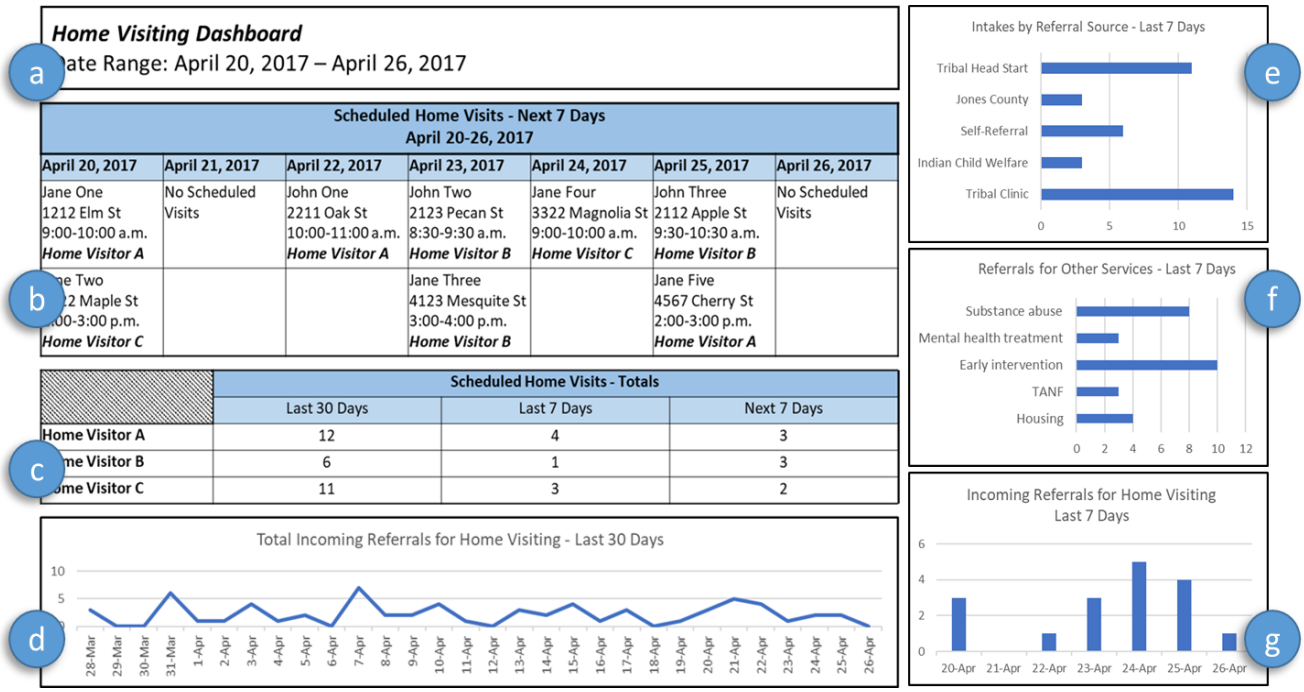
Non-KPI data also provide a great deal of value on a dashboard. For instance, listing upcoming scheduled home visits allows a supervisor to quickly determine which home visitors should be assigned new participants.

Choosing Your Design

Finally, consider how you want to display the data in your dashboard. For example, data tracked over time, such as the number of home visits or referrals, is best displayed with a line or column graph that clearly shows spikes and drops. On the other hand, a simple list or table is appropriate for other data, such as upcoming scheduled visits.

Understanding the Sample Dashboard

The sample gives several examples of the kinds of data that could be included in a data dashboard.



Home Visiting Dashboard
ate Range: April 20, 2017 – April 26, 2017

Scheduled Home Visits - Next 7 Days
April 20-26, 2017

April 20, 2017	April 21, 2017	April 22, 2017	April 23, 2017	April 24, 2017	April 25, 2017	April 26, 2017
Jane One 1212 Elm St 9:00-10:00 a.m. ***Home Visitor A***	No Scheduled Visits	John One 2211 Oak St 10:00-11:00 a.m. ***Home Visitor A***	John Two 2123 Pecan St 8:30-9:30 a.m. ***Home Visitor B***	Jane Four 3322 Magnolia St 9:00-10:00 a.m. ***Home Visitor C***	John Three 2112 Apple St 9:30-10:30 a.m. ***Home Visitor B***	No Scheduled Visits
e Two 2 Maple St 00-3:00 p.m. ***Home Visitor C***			Jane Three 4123 Mesquite St 3:00-4:00 p.m. ***Home Visitor B***		Jane Five 4567 Cherry St 2:00-3:00 p.m. ***Home Visitor A***	

	Scheduled Home Visits - Totals		
	Last 30 Days	Last 7 Days	Next 7 Days
Home Visitor A	12	4	3
me Visitor B	6	1	3
me Visitor C	11	3	2

a

Title. A dashboard includes a descriptive title that states the purpose and the primary time period covered by the data. If multiple dashboards are created for different users, the title should also specify the user for whom it is intended.

b

Scheduled Home Visits. A simple table showing upcoming scheduled home visits enables a quick review of what the home visitors and supervisors need for planning.

c

Scheduled Home Visits - Totals. A table that displays recent and upcoming visits shows the caseload for each home visitor.

d

Total Incoming Referrals for Home Visiting. A line graph shows the total number of referrals over the last 30 days. A line graph is useful for showing change in volume over time.

e

Intakes by Referral Source. A bar graph is a graphic display of referral sources.

f

Referrals for Other Services. A different bar graph shows referrals for services.

g

Incoming Referrals. A column graph represents referrals from the prior week. A column graph works like a line graph, showing spikes and drops in volume over time.

Other Uses for a Dashboard

A dashboard offers several distinct functions depending on the goals for which it was designed and the intent of the user. Two of the most common ways to use a dashboard are listed below.

- **Notifications.** The dashboard provides a quick and easy method to check for unexpected problems. For example, a referral source stops sending potential clients. The drop is visible on the dashboard. The change "triggers" the need for a followup to see why this is occurring.

- **Data Quality Monitoring.** Data quality monitoring involves tracking data to accomplish two main goals: ensuring data is accurate and intact and using the data to make program improvements. Some data systems provide built-in tools for data quality monitoring. These tools check for missing or incorrect data and provide alerts when they occur. Additionally, many systems allow for setting visible baselines in your charts so improvements to meet program goals can be targeted.

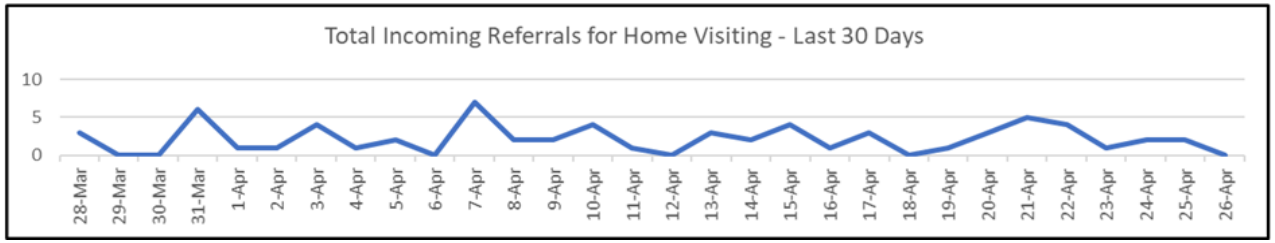
4.4: Example of a Data Dashboard

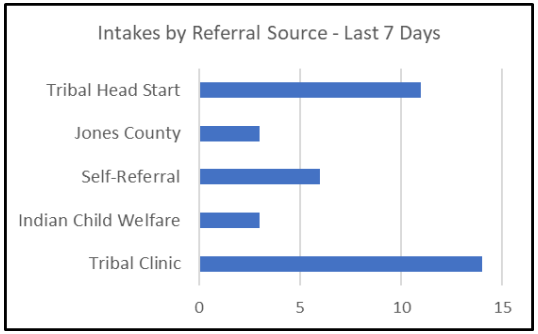
Home Visiting Dashboard

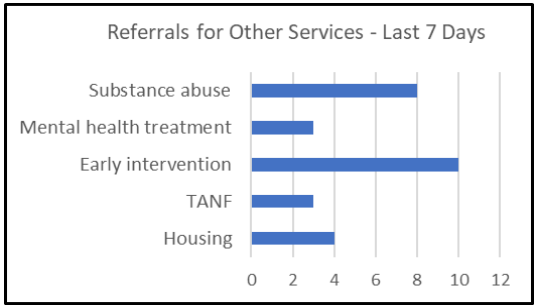
Date Range: April 20, 2017 – April 26, 2017

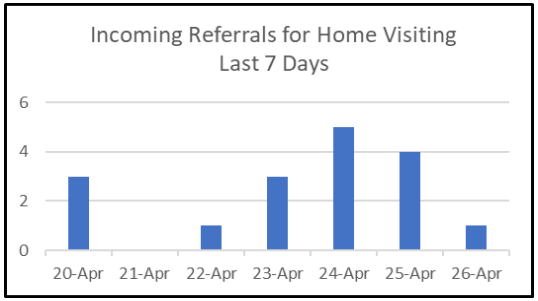
Scheduled Home Visits - Next 7 Days April 20-26, 2017						
April 20, 2017	**April 21, 2017**	**April 22, 2017**	**April 23, 2017**	**April 24, 2017**	**April 25, 2017**	**April 26, 2017**
Jane One 1212 Elm St 9:00-10:00 a.m. ***Home Visitor A***	No Scheduled Visits	John One 2211 Oak St 10:00-11:00 a.m. ***Home Visitor A***	John Two 2123 Pecan St 8:30-9:30 a.m. ***Home Visitor B***	Jane Four 3322 Magnolia St 9:00-10:00 a.m. ***Home Visitor C***	John Three 2112 Apple St 9:30-10:30 a.m. ***Home Visitor B***	No Scheduled Visits
Jane Two 1122 Maple St 2:00-3:00 p.m. ***Home Visitor C***			Jane Three 4123 Mesquite St 3:00-4:00 p.m. ***Home Visitor B***		Jane Five 4567 Cherry St 2:00-3:00 p.m. ***Home Visitor A***	

	Scheduled Home Visits - Totals		
	Last 30 Days	Last 7 Days	Next 7 Days
Home Visitor A	12	4	3
Home Visitor B	6	1	3
Home Visitor C	11	3	2









Module 5

Optimizing Your Current Data System

Module 5 is designed for agencies/programs who want to customize an existing data system to better meet program requirements. Once your team has chosen a system (Module 1), planned and documented the implementation of the system (Module 2), navigated the complex landscape of data ownership and privacy (Module 3), and made decisions about displaying and reporting data (Module 4), some additional "tweaks" will help to ensure you get the system you want.

This module addresses two actions related to customizing an existing system.

Assess system requirements and identify potential changes.

Many agencies have frustrations with their data systems but identifying the particular issues that require changing is difficult. Module 5 offers two tools for assessing systems: a guide for understanding best practices for system assessment and a checklist for identifying potential changes.

Plan for system improvements.

Once your team has identified areas for improvement, finding time and identifying staff to make these changes can be difficult. System changes are time consuming and expensive. Also, staff are not necessarily comfortable doing this type of work. Planning tools will help your team to carry out this work. The toolkit offers a charter template for planning an improvement effort.

Assess system requirements and identify potential changes		
Tool	**Type of tool**	**Description**
5.1: Guide to Data System Self-Assessment	Guide *Used with Data System Assessment Checklist*	This guide provides a brief introduction to data system assessment. The guide describes assessment, when it should take place, and the core components to examine. It is designed to be used with the *Data System Assessment Checklist*.
5.2: Data System Assessment Checklist*	Checklist/Assessment *Used with Guide to Data System Self-Assessment*	This checklist facilitates a team conversation about the current strengths and requirements of your data system. If there are gaps in the assessment, the checklist also includes suggested enhancements or changes.

Plan for system improvement		
Tool	**Type of tool**	**Description**
5.3: Data System Improvement Charter*	Template	This template is designed to be modified by teams who are interested in undertaking a data system improvement project. The charter describes objectives, goals, timelines, and benefits of an improvement project.

Visit www.tribaleval.org to download individual tools from this toolkit. Those tools marked with an * are available in modifiable forms (Word, Excel, or PowerPoint).

5.1: Guide to Data System Self-Assessment

This guide is an introduction to data system assessment. Your team uses it with tool 5.2: Data System Assessment Checklist to develop a better understand of the categories and considerations for assessing your system. The checklist facilitates a conversation among your team members about the current requirements and strengths of the system. Don't forget, no system is perfect. Often the challenges of a system are more related to the way it is *being used*, rather than the limitations of the actual technology.

Data System Assessment

Data system assessment is a systematic method used to identify program requirements and determine whether they are being met. Not every program requires an expensive, comprehensive case management data system. Depending on the number of families served, the experience and comfort of the staff, and the reporting requirements of the program, your team may decide it does not need all of the "bells and whistles" available. At the very least, an assessment is recommended annually to examine a few major data processes: input, storage and case management, and output.

Key Data System Processes

Data Input

Input refers to the way data is entered on to the system. Client service data is typically entered using electronic or paper forms that match the case files, notes, and assessments. This information can be first recorded on paper forms and then transferred to the data system or directly on to electronic forms.

Data Storage and Electronic Case Management

Data storage and management typically are held in two distinct forms. First the historical documentation of client services is in reports to funders, model developers, tribal leadership, other key individuals, and/or agencies. Storing this documentation in a safe, secure, and reliable manner is essential. Second, storage and management come into play in the client case management process. Data storage has to be secure and reliable, but also stored in a manner conducive to case management functions. In other words, a system not only holds/stores but also provides support to services. For example, some systems store and use key dates to identify or "trigger" when clients may need certain assessments.

But, not all data systems have case management capabilities nor do all programs use electronic case management. The need to assess the adequacy of case management on a system depends on whether it is a required feature.

Data Output

Data output refers to how data is made available for use by staff, funders, etc. Data output is presented in many forms; but the process is typically referred to as reporting. Many systems have built in reports with fixed fields – known as "canned" reports. These reports are generic and are most useful for general program monitoring but may not meet the reporting requirements of program models and funders. They are usually customized. All data systems have customized reports. Custom reports are generated with a reporting module such as SAP Business Objects or IBM Cognos by the agency using the system instead of the system vendor. These modules, known as Business Intelligence (BI) tools, allow users to control the database for fully customize reports. BI tools require training or high data capacity by the end users. Please refer to Module 4 of the toolkit where data reporting, an important part of assessment, is discussed in more detail.

Self-Assessing the Data System Sustainability of the Program

As a companion to this guide, the Current System Self-Assessment Checklist contains a set of questions categorized under **Data Input**, **Data Storage and Management**, and **Data Output** which helps teams assess whether their data systems meet all of their current requirements. If aspects of the software do not meet current requirements, different solutions may be possible to optimize the system to do so. Optimizing data systems can incur additional costs, time, and potential increased complexity. Optimizing the system may require hiring a data system developer or contracting for additional work with your current data system vendor. If your current data system developer is not available, you may have to consider either changing data systems to one that meets your requirements or check if the existing data system can be modified by a 3rd party developer.

5.2: Data System Assessment Checklist

Instructions

This Data System Assessment Checklist will help your team understand whether your system is fully meeting your needs. The checklist also includes suggested enhancements or changes if needs are identified.

1. Read the item under the first column. If this exists for your agency, check the "True" box in the center column, and then proceed to the next item.

2. If you do not check "True," read the information in the right column (Potential System Enhancements or Changes) to see what modifications or improvements can be made to your existing system.

3. Once you have completed the entire assessment, examine which items were not checked to determine if there is overlap in potential system enhancements (e.g., a change to forms may address numbers 2 and 3 below) and identify priorities for resources.

Data Input

Data Input	True?	Potential System Enhancements or Changes
1. The input forms provide the necessary data collection fields for all information required by the agency, model, and funder to produce reports.	☐	Modify data collection fields (input forms) to match reports.
2. The input forms are easy to use; home visitors do not complain about the time or	☐	Modify existing forms or create new ones to collect all necessary data. The new forms will improve the staff

	complexity in entering their case file data.		workflow. The team works with staff to develop and test the new forms.
3.	There are input forms for all information that is required for client documentation.	☐	New forms or tables can be created to assure all client documentation is captured.

Data Storage and Case Management

Data Storage	True?	Potential System Enhancements or Changes
4. The data is stored in a secure system; only authorized individuals have access to sensitive program data.	☐	Consider creating at least three levels of user access control (e.g., direct service staff, supervisor).
5. There is a procedure for backing up data; so, in case of hardware failure or natural disasters, client or program data would not be lost.	☐	Data locally hosted (within the building or community where services are being provided) is at risk of being lost. Consider backing up on a daily basis and/or in real time to a more secure platform such as a cloud server. A potential alternative is to routinely have backups stored in a disaster proof vault.
6. The data system is accessible to program staff in a convenient way.	☐	If access is a concern, consider re-evaluating the system and its use. If internet connections are poor, consider using a locally-hosted data system.

Data Case Management	True?	Potential System Enhancements or Changes
7. The data system supports the staff in managing their caseloads.	☐	If the data system does not support caseload monitoring, consider building an ongoing report to monitor caseloads based on multiple factors including travel time and needs of current clients.
8. The data system provides reminders of upcoming screenings and/or allows home visitors to track client screenings.	☐	Create reminders that are often called “ticklers” in data systems. Many data systems support calendar-based reminders.

Data Output

Basic Reporting	True?	Potential System Enhancements or Changes
9. The data system contains reports that	☐	Work with contractor or database manager to develop new reports. Databases should not require hand-counting data. If this is the case for your program, it may be ultimately

meet model, funder, and agency requirements.		easier and cheaper for your program to design a custom report with a vendor.
10. The reports are readily accessible to the users.	☐	If reports exist but the end users cannot access them, consider training staff and giving appropriate access to reports.
11. The reports can be easily changed to meet evolving reporting requirements.	☐	If reports are "hard coded" meaning they were developed using a query code (i.e., someone with experience in programming language has to recode the report) and are not user changeable, they may lack agility to meet changing needs. Consider a reporting module like Crystal Reports, Business Objects, or Cognos. Reports that are generated with these tools can be user modified.
Custom Reporting and Data Extraction	**True?**	**Potential System Enhancements or Changes**
12. The data system contains customized reporting capabilities that are easy to use.	☐	Consider training a staff member on a business intelligence tool and adding it to your data system.
13. Data can be readily exported by staff in a usable manner for use by other analytic software such as Excel, SAS, or SPSS.	☐	If your current data system does not allow you to export raw data for reanalysis, consider hiring a contractor to add data export capabilities. Note that Excel, SAS, and SPSS primarily work with "flat" files, or files where all of the data is in one table; whereas databases typically work with "relational" files where data is found in multiple tables that are connected to one another, which can complicate data export.
14. Custom reports can be created without incurring additional development costs.	☐	If the creation of new custom reports requires hiring a contractor to develop the reports, adding a business intelligence tool and training a staff member to use it might be a sensible option. There can be a cost savings and efficiency advantage in the long run if many custom reports are required yearly. Options can be explored with an appropriate data system consultant or contractor.

5.3: Data System Improvement Charter

1. Program Name_____
2. Version_____
3. Changes since last version_____

Improvement Plan

4. Problem Statement_____
   _____
   _____

5. Improvement Goal — *By (DATE) our program will make measurable progress addressing (PROBLEM) by (DATE).* _____
   _____

   a. Interim objectives — *To know we are on track to complete our improvement goal, we will need to accomplish*_____
      _____

6. Timeline

Objectives/Goal (Identified in Number 5)	Date	Person(s) Responsible	Risks/Considerations/Costs
Objective 1:			
Objective 2:			
Objective 3:			

Objective 4:			
Goal:			

Program Supports and Resources Needed

7. Program resources — *For example, dedicated staff FTE, hardware or software purchases, etc.*
   _____
   _____
   _____

8. Vendor resources
   a. Vendor Name_____
   b. Program Contact (with which individual do you most closely work)_____
   c. Has the team contacted the vendor to describe the improvement project? If not, this could be an objective in the timeline table above.

      Yes____ No____ Notes_____
      _____

9. Technical Assistance resources
   a. TA Liaison_____
   b. Technical Team Members_____
   c. Planned TA needs/supports_____

Program Benefits

10. Benefits to service provision — *If we accomplish our goal, then families will see the following benefits:* _____
    _____

11. Benefits to data practice and/or reporting — *If we accomplish our goal, then data collection or reporting will improve in the following ways:* _____
    _____