



# **Comprehensive Child Welfare Information System**

## **Technical Bulletin #6: CCWIS Data Quality Plan**

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**November 28, 2018**

This Technical Bulletin provides information to assist title IV-E agencies with developing a Comprehensive Child Welfare Information System (CCWIS) Data Quality Plan.

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## 1. Purpose, Audience & Background

### 1.1 Technical Bulletin Purpose

This Technical Bulletin (TB) provides title IV-E agencies with information about developing a Comprehensive Child Welfare Information System (CCWIS) Data Quality Plan, including: data management and data governance best practices; CCWIS federal, state, and tribal data categories; data quality requirements for new and transitioning CCWIS projects; and the content of the CCWIS Data Quality Plans.<sup>1</sup>

This TB does not replace existing data quality requirements in either 45 CFR 1357.15 (u) or other established requirements (e.g., Adoption Foster Care Analysis reporting System [AFCARS] and National Youth in Transition Database [NYTD]). It is to be used in conjunction with those requirements as an integrated systemic-approach to ensuring quality information in the electronic case record.

### 1.2 Audience

This technical bulletin assists title IV-E agency staff members who are responsible for drafting and executing CCWIS Data Quality Plans to ensure CCWIS systems provide meaningful information to support child welfare program goals and activities. The document provides helpful information to:

- CCWIS Project Managers
- Continuous quality improvement (CQI) and quality assurance (QA) teams
- Data Governance teams/committees
- Data Stewards
- Data Warehouse Managers
- CCWIS project teams
- Agency staff involved in drafting or executing the title IV-E agency's Data Quality Plan(s), Child and Family Services Plan (CFSP), or Child and Family Services Review (CFSR) Performance Improvement Plan (PIP).

### 1.3 Background

The Administration for Children and Families (ACF) replaced the regulations for Statewide/Tribal Automated Child Welfare Systems (S/TACWIS) with the regulations for CCWIS on August 1, 2016. The regulations for CCWIS at 45 CFR 1355.50 – 1355.59 include requirements for data quality plans. Title IV-E agencies must implement and maintain automated functions in CCWIS to regularly monitor data quality, develop and implement a CCWIS data quality plan and conduct biennial data quality reviews as required in 45 CFR 1355.52 (d)(5).

The Children's Bureau (CB) encourages title IV-E agencies to align technology support and automated data quality strategies with ongoing Continuous Quality Improvement (CQI) activities that are required to evaluate services for children in the Child and Family Services Plan (CFSP), as well as services for children in foster care through CFSRs and PIPs.<sup>2 3</sup>

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<sup>1</sup> Title IV-E agency is defined at 45 CFR 1355.20

<sup>2</sup> 45 CFR 1357.15 (u)

<sup>3</sup> Sections 471 (a) (7) and 471 (a) 22 of the Act

CCWIS Data Quality Plans outline the title IV-E agency's data governance and data management strategies to ensure CCWIS data quality. Data Quality Plans address all aspects of data quality including system design, training, and data use. High quality data supports improved child welfare practice, program monitoring, and policy development.

The Data Quality Plan is a "living" document that title IV-E agencies update to reflect changes in data governance, CCWIS enhancements, and biennial data quality review procedures as well as new or updated federal, state or tribal laws, regulations, policies, and procedures.

### 1.4 What is Data Quality?

The primary characteristics of data quality in the context of a CCWIS are: completeness, timeliness, and accuracy with an objective to describe each child, their circumstances, and to meet federal and state or tribal reporting requirements.

High-quality data allows the child welfare system to "tell the story" of a child and their family.

The title IV-E agency must define its data quality expectations in terms of both the data's reliability and validity. The agency will measure the quality of data collected against federal and agency standards. High-quality data is complete, accurate, and available when requested. High-quality data allows the child welfare system to "tell the story" of a child and their family. At an aggregate level, high-quality data allows agencies to assess and evaluate service needs, as well as to forecast financial and resources needs.

To measure the quality of data, the title IV-E agency should document and define data elements prior to system design. However, the title IV-E agency should not consider data quality as solely a systems issue. Data quality is also a practice issue and the degree by which practice varies across a state or tribe can affect the level of data quality.

### 1.5 What is Data Governance?

While Data Governance has many different meanings, for purposes of a CCWIS Data Quality Plan we encourage agencies to document how staff and partners manage data and how data are used to support business needs. The DAMA Dictionary of Data Management defines Data Governance as, "The exercise of authority, control and shared decision making (planning, monitoring and enforcement) over the management of data assets."<sup>4</sup> Put simply, "who can take what actions, with what information, and when, under what circumstances, using what methods."<sup>5</sup>

While the CCWIS regulations do not require a formal data governance program, title IV-E agencies are strongly encouraged to formalize data governance as an important strategic goal. Agencies differ in size, scope and technology approaches, therefore data governance programs will vary. For some organizations, increasing data governance knowledge and capacity may be a first step. Other organizations may already have advanced operational data governance programs. Agencies should not

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<sup>4</sup> DAMA Dictionary of Data Management, 2<sup>nd</sup> Edition

<sup>5</sup> Thomas, G. *Definitions of Data Governance*. Retrieved from <http://www.datagovernance.com>

be intimidated if they are currently building the foundation for data governance, as striving toward advanced data management capabilities is a continuous process.

A title IV-E agency with strong data governance has dedicated resources, an agency-wide commitment, leadership who recognizes data as a critical asset, and a practice of partnering with stakeholders at all levels to manage data quality activities. The title IV-E agency's data governance program should align with the agency's priorities and identify organizational roles/responsibilities, a data management functional framework, and a short term (12-24 months) implementation roadmap with clear program objectives.

We recommend title IV-E agencies use SMART (specific, measurable, actionable, relevant, time-bound) program objectives as a basic framework to develop data quality plans and implement review activities. Operating a title IV-E agency and/or enterprise level data governance structure is an important part of anchoring the CCWIS data quality plan and review activities within the organizational culture and existing CQI, program improvement, and technology planning operations.

A title IV-E agency with strong data governance has

- dedicated resources
- an agency-wide commitment
- leadership who recognizes data as a critical asset
- a practice of partnering with stakeholders at all levels to manage data quality activities

Federal regulations for CCWIS prioritize efficiencies, such as preventing redundant functions and excessive data entry, promoting consistent data collection, and automating data management controls such as database data quality tools. These regulations require agencies to conduct biennial data quality reviews to determine whether the title IV-E agency, Child Welfare Contributing Agencies (CWCA), and applicable data exchanges meet data quality standards.

Strong data governance also depends on ongoing participation from both child welfare business and information technology staff. We recommend that title IV-E agencies encourage a sense of shared data stewardship and ownership by strengthening awareness and communication strategies such as: implementing data quality intranet-sites, knowledge base articles, public announcements/newsletters, performance metrics/dashboards, and promoting "communities of interest."

A title IV-E agency with strong data governance has a transparent structure for tracking and resolving data quality issues. The title-IV-E agency's data governance program should operationalize structured change management processes to resolve common conflicts between business rules, policies, stakeholder needs, as well as resource and data sharing challenges. It is also important for a title IV-E agency with strong data governance to highlight the return on investment of system changes and ongoing data quality efforts. Decision-makers are more likely to support continued system improvements if the title IV-E agency can demonstrate the effect of data quality efforts on outcomes.

## 1.6 What is Data Management?

Data management is the method by which agencies process, store, and manage data in order to maintain quality data, inform decision-making, and determine the root causes of safety, permanency, and well-being outcomes. Data management practices address organizational, policy, technical and sustainability factors and should include security and disaster recovery planning. These efforts often

involve data stewards who ensure that data is accessible to those who both need and have the authority to access data.

The title IV-E agency's CCWIS Data Quality Plans should address the data management practices put in place by the title IV-E agency and should include the role and responsibility of the data stewards, information about data repositories and/or warehouses, and mechanisms in place to process and validate data from both internal users and external systems.

The following chart identifies several factors that agencies may consider when assessing their data governance and data management capabilities. The list should not be considered exhaustive and is a starting point for agencies as they address or improve data quality.

*Chart – Assessing Data Governance & Management Capability*

✓	Cross-functional data governance program exists
✓	Data governance program goals are articulated and align with child welfare priorities
✓	Data governance organizational roles and responsibilities are defined
✓	Data governance program delineates a data management functional framework
✓	Data management 12-24 month roadmap with SMART program objectives is operational and includes CCWIS review activities
✓	Data quality communication strategies and policies are operational
✓	Issue management and conflict resolution outcomes are transparent and tracked
✓	Stakeholder involvement, including CWCA representation if applicable, is operational
✓	Data management training is available and contributes to increased agency capacity
✓	Data management expectations are delineated in vendor contracts, MOUs, data sharing agreements
✓	Data management metrics are defined, and effectiveness of data governance program is regularly assessed

## 1.7 Organization

This technical bulletin is organized into four sections and two appendixes:

**CCWIS Data Quality Plan Components:** This section provides high-level examples of what must be included in a CCWIS Data Quality Plan.

**CCWIS Data:** This section provides information about different categories of federal, state or tribal data including those from Child Welfare Contributing Agencies (CWCA) and external systems.

**CCWIS Data Quality Requirements:** This section describes data quality requirements found at 45 CFR 1355.52(d) and provides high-level examples for title IV-E agencies to consider when developing data quality plans.<sup>6</sup>

**CCWIS Data Quality Reviews and Data Exchanges:** This section provides information about the required biennial CCWIS data quality reviews, including data shared with CCWIS through a data exchange.

**Appendix 1:** Data Quality Plan Outline Example – This section provides a sample, high-level outline of what could be included in a title IV-E agency's CCWIS Data Quality Plan.

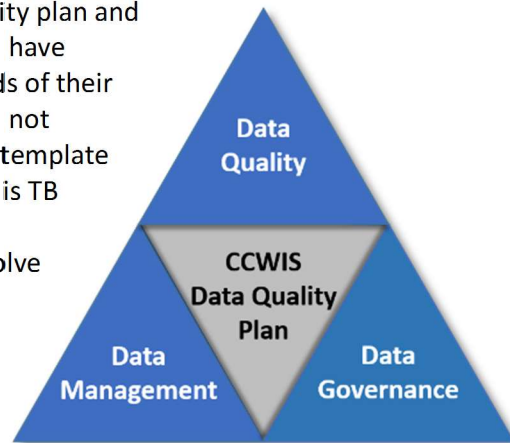
**Appendix 2:** Data Quality Review Instrument Example – This section provides an example of a data quality instrument to track the results and action items of a biennial review.

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<sup>6</sup> 45 CFR 1355.52 (d)(5)(i)

## 2. CCWIS Data Quality Plan Components

While the regulations for CCWIS specify high-level data quality plan and data quality review activity requirements, title IV-E agencies have discretion to tailor plans and activities to fit the unique needs of their community stakeholders and technology solutions. CB does not require title IV-E agencies to use a specific data quality plan template or framework for the CCWIS Data Quality Plan. However, this TB provides examples for title IV-E agencies to consider as they develop their plans. Data quality activities/methods will evolve over time as the title IV-E agency develops additional competencies and technological advances offer new alternatives. We encourage title IV-E agencies to use or modify existing resources and data quality plans rather than creating new or duplicative efforts.



Examples of high level data quality plan components are summarized below:

- **Resource Needs/Roles and Responsibilities Matrix:** The roles and responsibilities for title IV-E agency staff, stakeholders and any applicable CWCAs who are involved in data governance and management for CCWIS systems. In county-administered child welfare states, it is important to consider how to involve county representatives. The title IV-E agency should include cross-functional representation of technical, program and policy staffs in the data governance model. The title IV-E agency should also consider available and needed resources to complete data quality review activities, and scale the plan and review activities to ensure work is completed as expected. If resources are not available, agencies should consider methods to leverage existing resources and/or build additional data quality capacity.
- **Data Governance Model and Data Quality Framework:** An outline of how the title IV-E agency will address data governance and decision-making for CCWIS data categories and standards. If the title IV-E agency has established or is in the process of developing a data quality framework, the plan should include the multiple domains that impact data quality such as: data architecture, development/deployment, testing, operations, security, document/content management, data quality management, and master data management.
- **Coordination with existing agency Continuous Quality Improvement and other data quality initiatives:** A description of the title IV-E agency's pre-existing quality assurance and monitoring efforts, as well as the timelines for examining data quality. If applicable, the description should include information about how the IV-E agency will incorporate such efforts into the CCWIS Data Quality Plan. While not an exhaustive list, these efforts must include the CFSR, AFCARS or NYTD PIPs, CFSP/APSR, IV-E, CCWIS and other federal, state or tribal efforts.
- **Inclusion and references to existing title IV-E agency data quality standards:** A title IV-E agency's requirements for timely entry into the CCWIS and/or general data quality standards utilized across development teams, with specific attention to the CCWIS data quality dimensions of timeliness, accuracy and completeness.



- **Data profiling methods:** If the title IV-E agency has standards or methods for profiling sensitive data, or utilizes data profiling methods to assess or reinforce data quality in general, the title IV-E agency should describe and incorporate these into the agency's data quality plan and review activities.
- **Data exchange standard:** A description of the data exchange standards the title IV-E agency uses to exchange data between the CCWIS and CWCAs and/or external title IV-E agency systems.
- **Methods to monitor and ensure data quality for data exchanges:** A description of the process the title IV-E agency will use to monitor and correct data quality issues resulting from mandatory data exchanges.
- **Continuous CCWIS data quality improvement strategies:** The title IV-E agency's process to address any identified data quality issues found through routine monitoring or the CCWIS biennial data quality review. In addition, the title IV-E agency should incorporate in its data quality governance and review activities the methods and activities it uses to assess the overall effectiveness of the data quality plan and strategies. Agencies should address how they track key metrics impacted by data quality efforts.
- **Data conversion and extraction considerations:** A description, if applicable, of how the title IV-E agency will address data quality during any data conversion and/or ongoing data extraction activities.
- **Data quality automation methods and tools:** A list and description of the data quality automation methods and/or business intelligence tools the title IV-E agency uses or will use to support data quality monitoring activities.
- **Data quality contractual deliverables:** A description of contract language or deliverables related to data quality artifacts, deliverables, or activities in the system development and/or operations support contracts. Agencies should also consider Memorandum of Understanding (MOU), data sharing and other service contracts where issues of data quality should be clearly articulated to support data quality standards and review activities.
- **Data quality training and policy:** A description of how training and policy will address data quality and a timeline of implementation if new policy and training will be created or updated.

**Appendix 1** includes a high-level example of what could be included in a title IV-E agency's CCWIS Data Quality Plan. We do not intend for IV-E agencies to use the example document as a specific template, but rather as a starting point to help agencies generate ideas and tailor plans to specific needs.

### 3. CCWIS Data

#### 3.1 Federal Data

Federal regulations at 45 CFR 1355.52(b) describes data categories, (rather than particular elements) that title IV-E agencies must maintain in CCWIS. As child welfare laws and policies may change, ACF uses the federal laws, regulations, and policies effective at the time of a CCWIS review to determine compliance with paragraph 1355.52(b). Examples of required federal data are in Section 6.3A of the CB Child Welfare Policy Manual.<sup>7</sup>

It is important for title IV-E agencies and CCWIS project teams to know the federal data requirements for specific data reports. Some examples of federal data include:

- Adoption and Foster Care Analysis and Reporting System (AFCARS) – *45 CFR 1355.40 et seq.*
- National Youth in Transition Database (NYTD) – Case management data – *45 CFR 1356.81 (a), (b), and (c); and 45 CFR 1356.83 (g)*
- National Child Abuse Neglect Data System (NCANDS) – *42 USC 5106a (d) of CAPTA*
- Financial information for the CB-496 – *SSA 474 [42 U.S.C. 674] and ACYF-CB-PI-11-07*
- Data necessary for title IV-E eligibility determinations – *45 CFR 1355.52 (b)(1)(ii)*
- Data required for authorization of services – *45 CFR 75.302 and SSA 475 [42 U.S.C. 675 (1) and (4)]*
- Foster care licensing information for title IV-E reimbursement – *45 CFR 1355.52 (b)*
- Data needed for a CFSR or CFSR Performance Improvement Plan – *45 CFR 1355.33 (b)(2)*
- Data needed for the Annual Progress and Services Report (APSR) and the five year comprehensive Child and Family Services Plan (CFSP) – *45 CFR 1357.15-16*
- Data needed for the Family First Prevention Services Act – *Pub. L. 115-123*
- Data needed to comply with the Multi-Ethnic Placement Act (MEPA) of 1994 – *Pub. L. 103-82*
- Data needed to comply with the Preventing Sex Trafficking and Strengthening Families Act – *Pub. L. 113-183*

#### 3.2 State and Tribal Data

ACF will determine compliance with data requirements described in 1355.52 (b)(2) by reviewing state and tribal laws, regulations, policies, practices, reporting requirements, audits and program evaluations in consultation with title IV-E agency representatives. An example of state and tribal data may be specific trauma assessment information that isn't required by federal law, but is required by the title IV-E agency as a preferred practice model or program intervention. The state or tribe may have data needs related to grants, program evaluations, new policy initiatives or other local needs aside from those identified as federal data. The title IV-E agency should review initiatives and grants to determine CCWIS data needs as opposed to information that may be needed temporarily or for a short-term purpose. We encourage title IV-E agencies to regularly review and profile the agency's data needs to ensure the

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<sup>7</sup> <https://www.acf.hhs.gov/cwpm>

CCWIS system remains relevant and the data quality review activities assist the agency with improving child welfare program management and administration.<sup>8</sup>

### 3.3 Child Welfare Contributing Agency (CWCA) Data

The regulations define a CWCA as, “a public or private entity that, by contract or agreement with the title IV–E agency, provides child abuse and neglect investigations, placements, or child welfare case management (or any combination of these) to children and families.”<sup>9</sup> Examples of CWCAs can be found in CCWIS Technical Bulletin #2.<sup>10</sup> The title IV-E agency may support data-sharing with CWCAs by allowing them to exclusively utilize the CCWIS or by supporting a bi-directional data exchange with the CWCA system and the CCWIS.

To determine if CCWIS maintains data necessary to support state or tribal practices, ACF will consider the information needs of child welfare contributing agencies (CWCAs). A pattern of CWCAs re-entering information clients provided to other CWCAs may suggest the data should be in CCWIS and shared with CWCAs to prevent duplicate data entry. We encourage title IV-E agencies to review existing partnerships with CWCAs and explore shared data needs and efficiencies. The CCWIS data quality plan should incorporate review activities and automation to ensure CCWIS data collected by CWCAs meets program needs and achieves data quality standards for accuracy, timeliness and completeness.

### 3.4 External Systems

Each system external to CCWIS used by the title IV-E agency staff to collect CCWIS data must also support an efficient, economical and effective bi-directional exchange of relevant data with the CCWIS system.<sup>11</sup> An example of an external system may be a risk assessment tool or a commercial off-the-shelf (COTS) product that supports foster care licensing activities.

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<sup>8</sup> 45 CFR 1355.52 (a)(1)

<sup>9</sup> 45 CFR 1355.51

<sup>10</sup> <https://www.acf.hhs.gov/cb/resource/ccwis-tb2>

<sup>11</sup> 45 CFR 1355.52 (e)(1)(iv)

## 4 CCWIS Data Quality Plan Requirements

A CCWIS Data Quality Plan refers to the comprehensive and purposeful efforts taken by agencies to ensure the reliability and fitness of data for use as intended in the support of child welfare policies, goals and practices. CCWIS data must meet standards for three quality dimensions: completeness, timeliness and accuracy.<sup>12</sup> Data must also be “consistently and uniformly collected in CCWIS and, if applicable, child welfare CWCA systems.”<sup>13</sup>

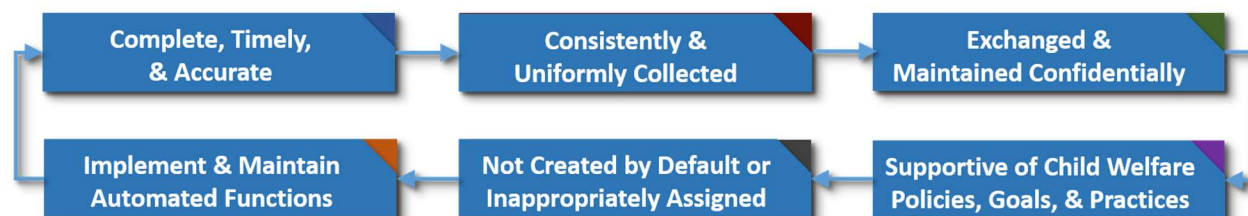
After the title IV-E agency notifies ACF that it will implement CCWIS, the agency must include the initial CCWIS Data Quality Plan in the first Annual or Operational Advance Planning Document (APD) submitted to ACF. Thereafter, an updated plan is due as an attachment to every Annual and Operational APD submitted to ACF.<sup>14</sup>

### 4.1 CCWIS Data Quality Plan Regulatory Requirements

As found in the federal regulations at 45 CFR 1355.52 (d)(5), the CCWIS Data Quality Plan must:

- (i) *Describe the comprehensive strategy to promote data quality including the steps to meet the requirements at (d)(1) through (3) of this section; and*
- (ii) *Report the status of compliance with paragraph (d)(1) of this section.*

In this section, we discuss these requirements. Each requirement is an essential dimension of data quality and must be employed in concert with each other to ensure the information collected in a CCWIS is high quality.



<sup>12</sup> 45 CFR 1355.52 (d)(1)(i)

<sup>13</sup> 45 CFR 1355.52 (d)(1)(ii)

<sup>14</sup> 45 CFR 1355.52 (d)(5)

## 4.2 Completeness, Timeliness, and Accuracy

As noted in 45 CFR 1355.52(d)(1), the CCWIS data must:

- (i) *Meet the most rigorous of the applicable federal, and state or tribal standards for completeness, timeliness and accuracy;*

### Completeness

For data to be useful it must be considered complete. Completeness means that CCWIS maintains all required information. Complete information ensures that the title IV-E agency has all the data needed for program activities such as monitoring and assessing families, providing services, measuring outcomes, and administering the program. Completeness does not mean that users must enter all data on every screen. The concept of completeness is relative and what is considered complete varies by the circumstances of the task. For instance, when removing a child from his/her home to be placed into foster care, certain information must be entered to reflect the activities of the removal but other information may not be known until later. There are both circumstantial types of completeness and then there is the entering of all information relative to the child's case that constitutes a complete record on that child. The title IV-E agency must establish decision points for various levels to determine completeness. See the [Dimensions of Data Quality](#) chart below for an example.

### Timeliness

Timeliness refers to the time expectation for accessibility and availability of information. As an example, the agency may measure one aspect of timeliness as the time between when information is expected and when it is readily available for use. While data elements may have different timeliness requirements based on state/tribal law or policy, every title IV-E agency must have a documented expectation of timely data entry for users of the CCWIS. See the [Dimensions of Data Quality](#) chart below for an example.

### Accuracy

Data accuracy refers to the degree that data correctly and consistently represent the "real-life" entities they model. The data must be clear and unambiguous. Accuracy is an essential factor in supporting efforts to provide appropriate interventions for children and families. In some cases, a direct comparison to source data can be used to determine accuracy. See the [Dimensions of Data Quality](#) chart below for an example.

*Chart – Dimensions of Data Quality*

	Complete	Timely	Accurate
Rationale	Data fields that are missing information or incomplete can lead to the reduced effectiveness of service delivery and, in the most extreme examples, lead to denial or lack of services for children and families in need.	Timeliness when entering information ensures data is available when needed for internal purposes (case monitoring/management, service delivery, funding, etc.) and external purposes (federal reviews, FOIA, legislative data requests, etc.)	Inaccurate information can lead to inappropriate decisions, create confusion and in extreme cases, lead to misrepresentation of information to courts, service providers and auditing bodies.
Example	<p>There is missing placement information that could lead to one or more negative consequences or decisions made by the case management team based on the incomplete information. Consequences of incomplete data include:</p> <ul style="list-style-type: none"> <li>• missed opportunity to identify and place a child with relatives</li> <li>• barriers or delays in obtaining medical and/or education services</li> <li>• missing contact information which prevents proper notification to the caregivers</li> <li>• an underpayment to a foster parent</li> <li>• an AFCARS reporting error</li> </ul>	The Social Security Act at § 422(b)(17) requires at least monthly caseworker visits for children who are placed in foster care. Waiting too long to document a face-to-face visit may lead to missing information, lack of context or missed opportunities to share information with service providers.	A NCANDS file in which the youth's county of residence entry for Field Number 22 is incorrect. <sup>15</sup> Entering an address that does not comport to United States Post Service rules leads to an inaccurate address documented in CCWIS and possible assignment to the wrong jurisdiction.
Mitigation	An automated function that prevents users from going to the next screen until all required fields are populated or if not available, 'flagged' for follow-up through a dashboard or report of missing data elements when saving the record.	Track data-entry times against the most rigorous federal, state or tribal standard and generate applicable management reports for appropriate action. Provide protected documentation-time for case managers to ensure they have an opportunity to document their efforts.	Use a web service or API as a user is entering information by dynamically comparing values against a database of record such as U.S. Postal Service address rules. <sup>16</sup>

<sup>15</sup> 42 U.S.C. 5106a<sup>16</sup> USPS Publication 28 – Postal Addressing Standards

### 4.3 Consistently and Uniformly Collected

As noted in 45 CFR 1355.52(d)(1), the CCWIS data must:

- (ii) *Be consistently and uniformly collected by CCWIS and, if applicable, child welfare contributing systems;*

The title IV-E agency must have consistent and uniform data among all modules and users to promote comprehensive and coordinated services as well as interoperability among CWCAs and systems external to the title IV-E agency. Consistently and uniformly collected CCWIS data supports a common, shared understanding of cases and clients and promotes continuity of care as different jurisdictions may serve the same children and families. Consistent practices help identify and eliminate duplicate or unnecessary services between jurisdictions and with CWCAs or other programs.

The title IV-E agency must train users on information entered into the CCWIS and data quality policies and expectations because this is a significant factor in addressing the consistency and uniformity of data entry. Ensuring that users understand the system fields, options, and the reasons for documenting the information are critical elements in a title IV-E agency's efforts to control consistency. If a user does not understand a field or does not understand why the information is being collected, they are less likely to be consistent, timely, and accurate when entering the information. Equally important is clear labeling of data elements on the screen as well as in system documentation like help files and data dictionaries.

<b>Example 1</b>	Are court findings collected from 1) court orders; or 2) case worker notes? If there is variability in the location of documented information, the possibility of incomplete or inaccurate data exists. Title IV-E agencies can establish workflows and business rules to support guidance provided in training and policy.
<b>Example 2</b>	Are reports of home visits from all CWCAs consistent? Are there expectations that CWCAs will complete all fields if they use the CCWIS? The title IV-E agency can use 3 <sup>rd</sup> party or database-level data validation tools to ensure that the data received is flagged or rejected if it is incomplete.

### 4.4 Exchanged and Maintained Confidentially

As noted in 45 CFR 1355.52(d)(1), the CCWIS data must:

- (iii) *Be exchanged and maintained in accordance with confidentiality requirements in section 471(a)(8) of the Act, and 45 CFR 205.50, and 42 U.S.C. 5106a(b)(2)(B)(viii) through (x) of the Child Abuse Prevention and Treatment Act, if applicable, and other applicable federal and state or tribal laws;*

The Children's Bureau supports intra and inter-agency efforts to share data whenever appropriate and allowed by law and regulation. While this section addresses mitigation strategies to maintain confidentiality in a CCWIS, title IV-E agencies are required to exchange information, to the extent practicable, that supports efforts to address safety, permanency and well-being by using automation and well-documented controls to identify concerns and prevent unauthorized data exposure.

### Modularity, Data Exchanges and Confidentiality

There are many benefits to using a modular approach to system development. However, one risk in a modular system is the possibility of multiple vendors or data exchanges. This adds a layer of complexity and creates new possibilities for data exposure. Since the data collected and maintained within a CCWIS is highly sensitive, and frequently includes personally identifying information (PII) and personal health information (PHI), the title IV-E agency must give extra attention to keep data confidential and secure.

<b>Mitigation Strategy 1</b>	Who is able to access data in the CCWIS? Title IV-E agencies should establish technology and practice controls to prevent unauthorized access to the CCWIS system.
<b>Mitigation Strategy 2</b>	To prevent misuse by legitimate users, develop a CCWIS system audit/tracking capability to monitor specific user access and changes to data history.

### System Users and Confidentiality

Many title IV-E agencies are broadening their definitions of “users” of child welfare information systems and each type of user may have a role that requires a different permission to view child welfare data. With each new category of user, the potential exists for the exposure of confidential data. If title IV-E agencies are considering broadening their definitions of CCWIS users they must identify separate controls to ensure confidentiality.

<b>Mitigation Strategy 3</b>	Institute Memorandum of Understandings (MOUs), data sharing agreements or contracts that include data-sharing expectations between the title IV-E agency and all CWCAs.
<b>Mitigation Strategy 4</b>	Control data access by ensuring that CCWIS user profiles control access according to the requirements of position descriptions and/or policies governing system access.

### Policy and Technology Controls

Title IV-E agencies must consider both policy and technology controls when addressing confidentiality in CCWIS Data Quality Plans. ACF recognizes that many agencies have existing Information Security Risk Plans or Disaster Plans that address the confidentiality of data “in transit,” “in use,” and “at rest.” It is permissible for title IV-E agencies to reference applicable policies and provide them as attachments or links in the CCWIS Data Quality Plan submission.

<b>Mitigation Strategy 5</b>	Many systems use some version of a client information screen to display the most relevant demographic and case data for easy access. The data presented on this screen should differ for user types (e.g., SSN should not be displayed for everyone; and age may be used instead of DOB for mobile screens).
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## 4.5 Supportive of Child Welfare Policies, Goals and Practices

As noted in 45 CFR 1355.52(d)(1), the CCWIS data must:

- (iv) *Support child welfare policies, goals, and practices;*



During the CCWIS design and development phases, title IV-E agencies must confirm the data they are collecting supports federal and state or tribal child welfare policies, goals, and practices. This support can be concrete through inclusion of data fields for information to support reporting for programs. Once a CCWIS is in use, title IV-E agencies should regularly review data fields to ensure they are removing or editing fields that no longer support current policy and practice.

<b>Example 1</b>	Reports to state legislatures or tribal councils, AFCARS, NYTD, NCANDS, Monthly Caseworker Visits, title IV-E Eligibility, and new reports required by legislation, etc.
<b>Example 2</b>	Information necessary to support the establishment of preventative services that geographically target high-risk communities.

The support can also be intangible such as considering how to incorporate a child welfare practice-model, address family engagement, support team decision-making, and support CFSR PIP efforts. When submitting the CCWIS Data Quality Plan, title IV-E agencies must identify existing efforts that crossover or align with CCWIS to prevent duplication and improve the effectiveness of efforts to improve the overall data quality that is collected and used by the CCWIS and/or exchanged with other systems.

<b>Example 3</b>	While ensuring that the system meets all security and access requirements, the IV-E agency may provide a public portal to CCWIS for foster youth, families and foster parents to support family engagement practices. With appropriate access, these stakeholders could access upcoming court dates and service plans, find contact information for case managers, and upload photos and documents.
<b>Example 4</b>	Conduct the NYTD survey with youth on a mobile app or web-enabled survey tool that has a secure data exchange with the CCWIS.

#### 4.6 Not Created by Default or Inappropriately Assigned

As noted in 45 CFR 1355.52(d)(1), the CCWIS data must:

- (v) *Not be created by default or inappropriately assigned.*

To increase efficiency, it is tempting to add default values for fields, especially when some data elements have very little variability across the majority of cases. However, we discovered during previous S/TACWIS, AFCARS, NYTD, and CFSR reviews that this can lead to inaccurate data. With few exceptions, title IV-E agencies must ensure that none of the fields are set by default. It is acceptable to pull data previously entered in the CCWIS or to calculate new data based on other available information. Data such as client ID, time-stamps, name and DOB can and should be pre-populated to prevent errors in accuracy.

<b>Example 1</b>	The CCWIS system does not automatically default any AFCARS field, such as Determination of Special Needs, to “No.” The field remains “blank” until completed by a worker.
<b>Example 2</b>	The CCWIS system does not automatically default the US Citizenship field to “Yes.” The field remains “blank” until completed.

<b>Example 3</b>	The CCWIS may calculate “age” based on date of birth.
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## 4.7 Implement and Maintain Automated Functions

### 4.7.1 Regularly Monitor CCWIS Data Quality

As noted in 45 CFR 1355.52 (d)(2), title IV-E agencies must:

- (i) *Regularly monitor CCWIS data quality;*

A CCWIS must have automated functions at the point data is received or entered and at other regular intervals to maintain data quality. The CCWIS must collect information about completeness, timeliness, and accuracy of data and compile it into reports to provide high-level insight into data quality strengths and areas of improvement. CCWIS Data Quality Plans must address how the title IV-E agency will use automated functions to support the monitoring of data quality.

<b>Example 1</b>	Automated function to compare entered data on new clients with existing databases to ensure consistency and reduce incidents of duplication.
<b>Example 2</b>	Capture information such as the time between service-delivery and progress-note submission and include this length of time in a report on timeliness.
<b>Example 3</b>	Display a visual cue to notify a user when they have entered an invalid date (e.g. if a placement date occurs before a removal date).
<b>Example 4</b>	Use a web service or API as a user is entering information by dynamically comparing values against a database of record such as U.S. Postal Service address rules. <sup>17</sup>
<b>Example 5</b>	Implement informative/intelligent error-messages.
<b>Example 6</b>	Consistently label / display required data fields and provide hover links to describe the data value or assist the user in correctly entering data.
<b>Example 7</b>	Provide and keep online-help current and evaluate usefulness regularly.

### 4.7.2 Alert Staff

As noted in 45 CFR 1355.52 (d)(2), the CCWIS must:

- (ii) *Alert staff to collect, update, correct, and enter CCWIS data;*

Data quality plans must address the automated alerts that will be included in the CCWIS and are necessary for staff to maintain and improve data quality. What gets measured, gets managed<sup>18</sup>, and experience with the CFSR and SACWIS reviews demonstrate that alerts are a critical tool to improve data

<sup>17</sup> USPS Publication 28 – Postal Addressing Standards

<sup>18</sup> Drucker, P. (1954). *The Practice of Management*. New York, NY: Harper & Rowe.

quality. In order to ensure accuracy, completeness, and timeliness of data, the CCWIS system should have functionality to:

<b>Example 8</b>	Use a dashboard or automated function that notifies users in real-time that they are missing key indicators or are at-risk of missing timeliness expectations.
<b>Example 9</b>	Use a tickler system, perhaps in a dashboard, to alert staff of information that needs to be collected, updated, or corrected.

#### 4.7.3 Send Electronic Requests

As noted in 45 CFR 1355.52 (d)(2), the CCWIS must:

- (iii) *Send electronic requests to child welfare contributing agency systems to submit current and historical CCWIS data to the CCWIS;*

In order to ensure that the system meets child welfare policy, goals, and practices, and that the information system "tells the story" of the child, CWCA systems and the CCWIS must communicate regularly through a bi-directional data exchange to collect and store data. The data quality plan must explain the frequency of exchanges with CWCA systems to ensure both current and historical data is accurate. Title IV-E agencies determine the frequency of bi-directional data exchanges according to agency and business needs but all data exchanges should have automated functions to monitor the data exchanged and notify users when the data has not been received timely or completely.

<b>Example 10</b>	A title IV-E agency and a CWCA may exchange safety alerts daily and progress on goals on a weekly basis.
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#### 4.7.4 Prevent Data Re-entry

As noted in 45 CFR 1355.52 (d)(2), the CCWIS and title IV-E agency must:

- (iv) *Prevent, to the extent practicable, the need to re-enter data already captured or exchanged with the CCWIS;*

Data is either entered directly into the CCWIS or maintained in the CCWIS through an exchange with a CWCA. Re-entry of information in the CCWIS increases the risk of errors. Minimizing the re-entry of data reduces the documentation burden on staff and increases the time spent providing services. In the data quality plan, the title IV-E agency must address the prevention of re-entry through bi-directional data exchanges and internal measures.

<b>Example 11</b>	Demographic information entered into intake and investigations can be reused with case management and provider management by displaying the existing database tables.
<b>Example 12</b>	Using a data exchange with the courts to populate previous and upcoming court dates and dispositions.

<b>Example 13</b>	Ensuring CCWIS system utilizes standard documentation of data field values and development process incorporates ongoing data model review.
<b>Example 14</b>	Ensuring known CCWIS data is shared with appropriate CWCA and external IV-E agency systems.

#### 4.7.5 Generate Reports

As noted in 45 CFR 1355.52 (d)(2), the CCWIS must:

- (v) *Generate reports of continuing or unresolved CCWIS data quality problems.*

In addition to alerting individual users of unresolved data quality issues, the title IV-E agency must ensure that the CCWIS identifies continuing and unresolved data quality issues on the reports that measure the extent to which data is high-quality. This requirement can be met through automated reports delivered with regular frequency to identify missing, incomplete or untimely data entry by user, unit, and agency or CWCA. The data quality plan must address the nature, frequency, and recipients of these reports along with the mechanism by which CCWIS data quality problems will be addressed by the title IV-E agency when discovered.

<b>Example 15</b>	A real-time online automated report that identifies children with missing or incomplete information, such as data used for AFCARS.
<b>Example 16</b>	Identifying children in foster care who have not received visits in expected timeframes.
<b>Example 17</b>	An automated report of youth in foster care with missing court dates necessary to verify continued title IV-E eligibility.

## 5. Biennial Reviews & Data Exchanges

### 5.1 Data Quality Biennial Reviews

Federal regulations in 45 CFR 1355.52(d)(3) require the title IV-E agency to conduct biennial data quality reviews to:

- (i) *Determine if the title IV-E agency and, if applicable, child welfare contributing agencies, meet the requirements of paragraphs (b), (d)(1), and (d)(2) of this section; and*
- (ii) *Confirm that the bi-directional data exchanges meet the requirements of paragraphs (e) and (f) of this section, and other applicable ACF regulations and policies.*

Title IV-E agency biennial data quality reviews ensure that the CCWIS maintains the high quality data necessary for the efficient, economical, and effective administration of the title IV-B and IV-E programs. The reviews are critical to ensure that title IV-E agencies monitor and improve data, uncover the factors that negatively affect data quality, and implement corrective measures as needed. The title IV-E agency must include CCWIS data from CWCA systems in its biennial data quality reviews because complete high-quality data collected and exchanged by all partners is critical to supporting the communication and collaboration necessary for coordinating services to children and families, assisting with the title IV-E agency's monitoring activities, and producing accurate federal reports.

In the title IV-E agency's initial CCWIS Data Quality Plan, the agency must document plans to conduct its biennial reviews and note how findings will be addressed. Some agencies have existing practices that can meet this requirement while others will need to develop a plan. It is not necessary to report any findings in the initial CCWIS Data Quality Plan, however, the title IV-E agency must document the steps taken to address biennial review findings in subsequent data quality plans. The agency should indicate crossover with any active and relevant PIPs and the agency's APSR as well as steps taken by applicable CWCAs to address findings.

**Appendix 2** provides a sample data quality instrument to document Data Quality Biennial Review findings. While the instrument references the Data Management Body of Knowledge (DMBOK) domain(s), as noted in Section 4.1, CCWIS does not endorse a specific data governance methodology.<sup>19</sup> Examples are provided to illustrate the connection between data governance and CCWIS data quality. Title IV-E agencies are free to develop their own data quality plans and review guides, this document simply provides an example to generate ideas as agencies tailor plans to meet specific needs.

### 5.2 Bi-directional Data Exchanges

Federal regulations at 45 CFR 1355.52 (d)(4) require the title IV-E agency to:

*Enhance CCWIS or the electronic bi-directional data exchanges or both to correct any findings from reviews described at paragraph (d)(3) of this section.*

In Annual and Operational APDs submitted after a biennial Data Quality Review has occurred, the title IV-E agency must note any identified factors related to the bidirectional data exchanges that contributed to the findings from the bi-annual reviews along with a plan of action to fix CCWIS or the exchange, as

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<sup>19</sup> DAMA Data Management Body of Knowledge, <https://dama.org/content/body-knowledge>

appropriate. Each APD should address the outcome of past actions and note the success or continued need to make corrections.

**Example**

If it is discovered during a biennial review that the CCWIS is not sending the most recent version of a court document through the bi-directional exchange with the court system, the CCWIS must be enhanced to correct this finding and addressed in the subsequent data quality plan.

## Appendix 1 – Sample CCWIS Data Plan Outline

1. Introduction
2. Involved Parties and Responsibilities
  - a. Roles and Responsibility assignment matrix
  - b. Data Stewards
  - c. Key stakeholders
3. Data Governance Structure and Data Quality Framework
4. Existing Data Quality and/or Continuous Quality Improvement Efforts
5. Existing State or Tribal Data Quality Standards
6. Strategies for Building and Maintaining Data Quality
  - a. Connection to the CFSR, CFSP and IV-E reviews
  - b. Software tools used to support data quality (if applicable)
  - c. Feedback mechanisms to inform stakeholders and assess effectiveness of data quality strategies
  - d. Data Modeling/Data Dictionary Documentation
  - e. Data Profiling Methods
7. New Data Quality Standards and CCWIS Automation Support
8. How title IV-E Agency will Address Biennial Reviews and Results
  - a. Type and frequency along with sampling methodologies
  - b. Automated Functions and tools
  - c. Methods to address review findings
9. How Title IV-E Agency will Address Data Quality in Data Exchanges (both mandatory and non-mandatory)
10. Efforts to Ensure Child Welfare Contributing Agencies (CWCA) and External Systems Data Meet Data Quality Standards
11. How Title IV-E Agency will Handle Data Conversion (if applicable)
  - a. Data preparation and cleanup efforts
  - b. Software tools (if applicable)
12. Technical Considerations
13. Contractual Considerations
14. Training Considerations

*(In subsequent plans)* - What has changed since the last report? How has the IV-E agency responded to its biennial review findings?

Appendix 2 - CCWIS Data Quality Review Instrument										CY 2019
Complete, Timely, & Accurate - 45 CFR 1355.52 (d)(1)(i)										
Specific		Measurable				Actionable		Relevant	Time Bound	
Activity	DMBOK Knowledge Area(s)	Time Period	Goal	Last CY Results		Action Items to Achieve Goal	Owner	State/Tribal or Federal Standard(s)	Date Due	Date Completed
Monthly Worker Visits	Data Quality Management  Data Development	Quarterly	By January 201X, the state will meet the following standards on the quarterly reports:	Q1	98% Seen Timely 76% Seen In-Home 45% Documented Timely	A.1. Add dashboard item showing users the time (in days) since the last face-to-face visit with each child on their caseload. The dashboard will include information about the location of the last visit.	CCWIS Manager	<b>Documented within 72 Hours</b> State Child Welfare Policy  <b>95% Visited Monthly</b> Sec 424. [42 U.S.C. 624] (f)(1)(A)  <b>50% Visited in their Home</b> Sec 424. [42 U.S.C. 624] (f)(2)(A) Sec 471. [42 U.S.C. 671]  <b>Other Relevant Standards</b> CFSR Safety Outcome 2, Item 3 CFSR Well-Being Outcome 1, Item 14 CFSR Data Quality, Item 25	December 201X	
						A.2. On the fifth business day of every month, the data warehouse will run an automated report to show the percentage and number of worker visits documented within 72 business hours of the event as required by state policy. This data will be shared quarterly with supervisors and managers in both local and state offices.	Training Manager			
						A.3. As reflected in the CFSR PIP, the agency will review, update and distribute training materials for both new worker and ongoing trainings.				
						A.4. As reflected in the CFSR PIP, the agency will review, update and publish updated policy to address visit standards. The agency will engage front-line workers for feedback on the new language.	Foster Care and CPS Managers			



Appendix 2 - CCWIS Data Quality Review Instrument										CY 2019
Consistently & Uniformly Collected - 45 CFR 1355.52 (d)(1)(ii)										
Specific		Measurable				Actionable		Relevant	Time Bound	
Activity	DMBOK Knowledge Area(s)	Time Period	Goal	Last CY Results		Action Items to Achieve Goal	Owner	State/Tribal or Federal Standard(s)	Date Due	Date Completed
Crossover Youth Tracking	Master Data Management  Data Quality Management  Data Development	Ongoing	Currently, child welfare youth inconsistently document when a youth is dually-involved with Juvenile Justice. To prevent duplication and/or miscounts of these crossover youth, the agency will establish a bidirectional exchange with Juvenile Justice information system.	201X	During a data cleanup audit, 20% of crossover youth were not appropriately documented as such in CCWIS.  10% of crossover youth had different demographic information in the child welfare and juvenile justice systems.	B.1. Create business rules and a shared data model to prevent duplication and ensure that crossover youth have a common identifier in both system.  B.2. Create an automated function to cross-reference the Juvenile Justice information system when adding a youth to CCWIS.  B.3. Create a report in the data warehouse for crossover youth.	CCWIS Manager	State Policy	December 201X	

Appendix 2 - CCWIS Data Quality Review Instrument										CY 2019
Exchanged & Maintained Confidentially - 45 CFR 1355.52 (d)(1)(iii)										
Specific		Measurable				Actionable		Relevant	Time Bound	
Activity	DMBOK Knowledge Area(s)	Time Period	Goal		Last CY Results	Action Items to Achieve Goal	Owner	State/Tribal or Federal Standard(s)	Date Due	Date Completed
Data Sharing Agreements	Data Security Management	Annually	100% of all Child Welfare Contributing Agencies (CWCAs) will have a signed Data Sharing Agreement with the title IV-E agency.	201X	90% of CWCAs have signed agreement	C.1. 100% of all Child Welfare Contributing Agencies (CWCAs) will have a signed Data Sharing Agreement with the title IV-E agency.  C.2. 100% of all CWCA employees will complete Online Security training prior to accessing CCWIS. "Complete" is defined as scoring 90% on the post-course test and submission of the resultant certificate.  C.3. 100% of all CWCA employees will sign a confidentiality agreement prior to being granted access to CCWIS. The signed agreement must accompany the request for account access.	Procurement Manager  Contract Manager  Contract Manager	State Security Policy  CCWIS 45 CFR 1355.52 (d)(1)(iii)	December 201X	

Appendix 2 - CCWIS Data Quality Review Instrument										CY 2019
Supportive of Child Welfare Policies, Goals & Practices - 45 CFR 1355.52 (d)(1)(iv)										
Specific		Measurable				Actionable		Relevant	Time Bound	
Activity	DMBOK Knowledge Area(s)	Time Period	Goal	Last CY Results		Action Items to Achieve Goal	Owner	State/Tribal or Federal Standard(s)	Date Due	Date Completed
NYTD Youth Surveys	Data Quality Management	Ongoing	By January 201X, we will increase the % of 17-year-old foster youth who complete the NYTD survey timely to 90%.	Q1	70%	D.1. In the next CCWIS-build, scheduled for December 201X, an automated alert will notify the assigned case manager 30 days prior to the youth's birthday. If no data is entered by the 15th day following the birthday, the assigned caseworker will receive an alert. If no data is entered by the 30th day, the assigned supervisor will receive an alert.  D.2. Over the next year, we will meet with foster youth and foster alumni to collect requirements for a web portal for the youth to complete the survey directly into the CCWIS database.	CCWIS Manager	Collect Data Within 45 Days of Youth's 17th Birthday 45 CFR 1356.81 (a)  Other Relevant Standards CFSR Well-Being Outcomes 1, 2 & 3	December 201X	
	Document and Content Management			Q2	81%		Foster Care Manager			
	Data Governance			Q3	78%					
				Q4	72%					

Appendix 2 - CCWIS Data Quality Review Instrument										CY 2019
Not Created by Default or Inappropriately Assigned - 45 CFR 1355.52 (d)(1)(v)										
Specific		Measurable				Actionable		Relevant	Time Bound	
Activity	DMBOK Knowledge Area(s)	Time Period	Goal	Last CY Results		Action Items to Achieve Goal	Owner	State/Tribal or Federal Standard(s)	Date Due	Date Completed
Tribal Affiliation (ICWA)	Data Architecture Management  Master Data Management  Data Quality Management  Data Governance		In the next deployment of CCWIS, the field for "tribal affiliation" will no longer default to "no". This change will prevent false negatives.	201X	During internal Quality Assurance case readings, 10% of children with "no" selected in "tribal affiliation" were found to be incorrectly documented.	E.1. In the next CCWIS build, scheduled for December 201X, we will remove the default of "no". Instead, the field will remain blank. Users will be prompted to complete as they enter the child and caregiver information.  E.2. Training materials will be updated to address the requirements for determining a child's tribal affiliation status.	CCWIS Manager   Adoption Manager	ICWA 25 U.S.C. §§ 1901-63  <b>Other Relevant Standards</b> CFSR Permanency Outcome 2, Item 9	December 201X	

Appendix 2 - CCWIS Data Quality Review Instrument										CY 2019
Implement & Maintain Automated Functions - 45 CFR 1355.52 (d)(2)(i) through (d)(2)(v)										
Specific		Measurable				Actionable		Relevant	Time Bound	
Activity	DMBOK Knowledge Area(s)	Time Period	Goal	Last CY Results		Action Items to Achieve Goal	Owner	State/Tribal or Federal Standard(s)	Date Due	Date Completed
Duplicate Entities in CCWIS	Data Governance	Real-Time	By January 201X, the instances of duplicate child welfare clients in open child welfare referrals, investigations and cases will be reduced by 50% or more.	Q1	1198	F.1. Add requirement to CCWIS to require users to use a dynamic search function prior to the entry of new person. Include at least two opportunities for the user to confirm matching and/or creating a new person.  F.2. Establish data exchange with external system(s) such as SSA, Medicaid, Eligibility, etc. to include during the search noted in F.1.  F.3. Establish matching rules and conditions for partial matches. Conditions should include secondary (foreign) as well as primary keys. Incorporate into the data model.  F.4. Create a report in the data warehouse that runs monthly to identify both exact and probable matches using the conditions identified in F.3.  F.5. Research option to purchase a data quality software program and/or use existing tools in the database software.	CCWIS Manager	# of Children Reported as Victims of Child Abuse or Neglect CAPTA Chapter 67 § 5106a (d)(1)  # of Families that Received Preventative Services FFPSA Sec. 50711 Sec. 471 [42 U.S.C. 671]  CAPTA Chapter 67 § 5106a (d)(4)	December 201X	
	Data Development			Q2	1147					
	Master Data Management			Q3	1077					
	Data Quality Management			Q4	1033					