



Indiana Department of Child Services
Division of Information Technology

APDU Attachment A - CCWIS Data Quality Plan

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Version 1.0

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Table B: Version Control

Version #	Date	Document Change	Responsible Party
Version 1.0	August 16, 2019	Document submitted to ACF.	Tara Nelson

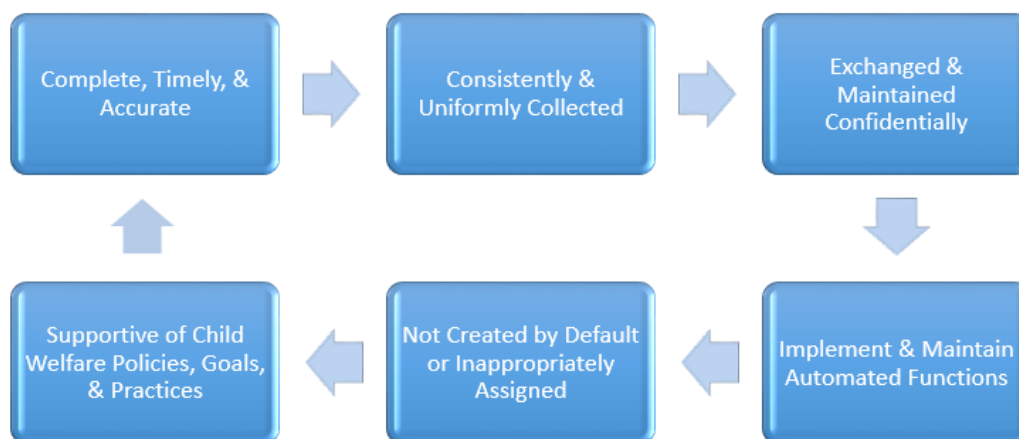
1 CCWIS Data Quality Plan Introduction

The CCWIS Data Quality Plan is a living document that outlines the DCS plan for all aspects of data governance and biennial data quality review procedures. This document will be updated annually. The data governance goals for the CCWIS program are to ensure data is entered timely, accurately, and managed appropriately to provide the best service to Indiana families. The plan will be revised annually to ensure data in the new CCWIS system is compliant with CCWIS and other required federal and state initiatives. The plan also outlines data quality for the transitional CCWIS system until system retirement.

DCS is planning to replace the MaGIK system in a two-phased approach. The first phase is planned to replace case management functionality with a new CCWIS system. At the end of Phase I, Casebook (CB) will be retired. Once case management functionality is operational, the remaining KidTraks (KT) functionality will be replaced and added to the new CCWIS system as part of the Phase II development effort. The Phase I design, development, and implementation (DDI) effort will include the creation of an application programming interface (API) layer to facilitate the efficient exchange of information between the new system functions and those of the transitional CCWIS system (KidTraks), as well as a single standard data exchange with all CWCAs and external systems, as defined by 1355.52 (e) and 1355.54. At the end of Phase II, all MaGIK-related functionality will reside in the new CCWIS system and KidTraks will be retired.

The CCWIS Data Quality Plan addresses activities for both the new CCWIS system and the transitional CCWIS system to meet 45 CFR 1355.52 (d)(5):

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



2 New CCWIS System - Data Quality Plan

This section provides details of the Data Quality Plan for the new CCWIS system.

2.1 New CCWIS System Design

Data quality starts with CCWIS planning and system design. DCS is in the process of generating a Request for Proposal (RFP) for Design, Development, and Implementation (DDI) of a new CCWIS compliant software solution to replace the existing Casebook and KidTraks systems. To achieve the objectives of efficiency, effectiveness, and cost management, RFP specifications for the new system DDI include the following solution requirements:

- (1) **To ensure improved program management and administration of all required program data:** DDI requirements call for building a Master Data Model (MDM) for the entire solution, identifying all program data required by federal and state law, as well as DCS Policy and Practice, including data for on-going federal reports, data supporting federal expenditures, and Case management data needed for federal monitoring. This design requirement will: a) help ensure centralized access to and administration of all program data by reducing or eliminating duplicate data collection points and systems and b) facilitate ease of generating real-time data analytics and ad-hoc reporting. DCS is currently meeting with business to document business processes to the extent possible prior to the Org Design vendor coming on board. DCS will place the business process maps in Jira to maintain, throughout the CCWIS lifecycle. Business owners and stakeholders are being consulted to map the processes and will confirm the workflows for current state are correct. Business will be involved with future state process mapping as well.
- (2) **To ensure appropriate application of information technology:** DDI requirements call for using information technology capabilities to resolve current system and operational deficiencies, as well as improve data quality and case outcomes. Technology capabilities include:
 - a. *Business Rules Engine*—provide an integrated business rules engine to drive operational consistency and conformance to business practice, such as business rules to trigger an event, like a task that must be performed, ex: If you remove a child from a home, you must do an in-home visit within 30 days.
 - b. *Data and Analytics Reports and Dashboards*—a key to improved operational efficiency and decision-making effectiveness is access to real-time data and analytics, along with ease of visibility to role-based tasks/action items and notifications.
 - c. *Guided Intake with Workflow integration*—integrate a step-by-step, Turbo-tax-like data entry capability to ensure all required data is collected/entered and to drive operational consistency and conformance to business practice.
 - d. *Artificial Intelligence/Machine Learning* —use an Artificial Intelligence engine to help improve the rules engine based on case factors and service outcomes/results analytics, along with Machine Learning to help better predict case outcomes and identify potential risk factors.

- e. *Matching Engine/Logic*—using both standard and custom matching rules, incorporate logic to help identify and prevent potential duplicate records, i.e., person, household, and service records, in order to improve data quality.

- (3) **To ensure no duplicative application system development or software maintenance is needed:** DDI requirements call for building upon the new DCS platform (described in section 1.2.1.1, *System Architecture*, below) to configure pre-built objects/applications, as needed, and deliver the remaining customized functionality needed to achieve the new CCWIS functional and operational requirements. This DDI approach promotes interoperability and reusability through the development of small modules and reusable components (including applicable CCWIS interchange modules) that speed development and increase standardization. This design approach enables DCS to remain agile in its response to changes in federal and state laws, as well as policies to improve outcomes and permanency.

The platform design also includes an Application Programming Interface (API) layer (described in section 1.2.1.1, *System Architecture*, below) to facilitate bi-directional data exchanges between the new system and the CCWIS required data exchanges, thus eliminating double-entry of data and promoting the sharing of critical information.

- (4) **To ensure project costs are reasonable, appropriate, and beneficial:** DDI requirements call for leveraging a CRM fabric like Vlocity that provides pre-built, case management functionality that is highly configurable—a minimum of 85% of the system platform meets or can be configured to meet DCS needs—to reduce cost and time to delivery. The current MaGIK system requires 99% of the changes to be performed by IT and software development resources instead of configuration changes that could be made directly by the business owners, this equivocates to double and in some cases more than triple the cost in maintenance and support dollars as well as time. A configuration-based platform solution versus custom development will significantly reduce DDI costs and reduce time to delivery.

2.1.1 New CCWIS Design

The new CCWIS system architecture, along with the automated functions identified, are designed to address current system deficiencies and implement a system capable of providing and/or supporting the following:

Table 1 - New CCWIS Design

• Configuration Based Platform Design	• Email, Text, and Mobile Capabilities
• System Wide Data Entry Forms Validation	• Artificial Intelligence/Machine Learning
• Guided Intake with Workflow Integration	• Fully Integrated Global Search
• Business Rules Engine	• Multi-Level Role Based Access
• Workflow Engine	• Call Center Integration (Phone System)
• Case Management	• Data-Level Security
• Benefit History	• Real-Time Mobile Platform
• Self Service Community Environment	• API Integration

• Integrated Service Plan	• Post-Adoption/Guardianship
• Matching Engine	• Comprehensive Financial
• Integrated Assessment Engine	• Travel
• Real Time Outcome Analytics Delivered to the Frontline Users	• Permanency Round Table
	• Probation
• Data and Analytics Reports and Dashboards	• Interactive Voice Response
	• Service Referrals
• Collaborative Communities	• Document Management
• User Alerts and Notifications	• Collaborative Care
• Foster Care	• Federal Reporting

2.1.2 System Architecture

The DCS system architecture defined for the new CCWIS system is a highly configurable, CRM-based platform that uses a developer layer containing pre-built, case management-specific, mobile and cloud applications. This architecture will enable DCS to build a system that promotes modularity, interoperability and reusability with approximately 80-85% of functionality that is configurable versus custom developed.

The DCS architecture will include Infrastructure as a Service (IaaS), Platform as a Service (PaaS), and Software as a Service (SaaS). The Infrastructure will be built on the existing new Salesforce Infrastructure with a Vlocity Platform to enhance operational workflow and speed development to users. The SaaS system model will be hosted on Amazon Web Service (AWS) and licensed through Carahsoft and Vlocity. DCS will be bidding out the DDI to a third party vendor to build out the existing platform functions that need developed to meet CCWIS, Child Welfare Group (CWG), and Family First Preventative Services Act (FFPSA), and Child and Family Services Review (CFSR) needs. The system is designed to function 80%-85% out of the box with an expected 15-20% of custom development to meet the needs stated above.

The DCS architecture will also have an Integration Platform as a Service (iPaaS) for its API management layer. With its pre-built connectors, business rules, maps and transformation capabilities, this layer will facilitate the development of integration flows for bi-directional data exchanges as required under CCWIS 1355.52(e). Using this technology, DCS will be able to develop APIs capable of handling automated data exchanges, as well as APIs that use extensible markup language (XML) with a web service that organizations can connect to automatically. DCS will work with its CCWIS vendor to develop a single standard XML data exchange reference guide for CWCAs and external vendors to use. Also, for organizations that don't have that capability, they will have the ability to provide us with an external extract that is dumped and picked up at a regular cadence. This offers the greatest flexibility for sharing data with outside agencies or organizations while maintaining CCWIS compliance.

2.1.3 New CCWIS Development Project Scope

The project scope for the new CCWIS, as specified for the RFP, involves the replacement of the existing Casebook software and the Transitional CCWIS system and targets three critical aspects of the new CCWIS system design approach:

1. **Project Management Services**—Provide project management oversight of the project and its associated vendors to ensure stakeholders are effectively engaged and all project deliverables are completed within budget, scope, and schedule.
2. **Organization Design Services**—Engage DCS business units in operational process redesign in order to align agency operations with practice model goals and to achieve uniformity across the agency. Also responsible for capturing and documenting the business workflow within the new system.
3. **System DDI Services**—Design, Develop, and Implement a new CCWIS compliant software solution to replace the existing Casebook and KidTraks systems. DDI will build upon the new DCS platform to configure pre-built objects/applications, as needed, and deliver the remaining customized functionality needed to achieve the new CCWIS functional and operational requirements.

2.1.4 CCWIS Project Management Plan Overview

The new CCWIS Project 2-phased Approach:

- **Phase I** replaces the current Casebook system, including interfaces between Casebook and KidTraks and interfaces to existing external systems; creating a new data management layer; and replacing all core case management functionality currently residing within KidTraks. Part of this phase will need to implement by October 1, 2020 to ensure compliance with the Family First Preventative Services Act.
- **Phase II** replaces remaining Transitional CCWIS functionality and retire KidTraks. Phase II development will be handed off to the existing DCS development team for maintenance and operations.

2.2 CCWIS Data Requirements

The title IV-E agency's CCWIS must maintain:

(1) Title IV-B and title IV-E data that supports the efficient, effective, and economical administration of the programs including:

(i) Data required for ongoing federal child welfare reports;

(ii) Data required for title IV-E eligibility determinations, authorizations of services, and expenditures under IV-B and IV-E;

(iii) Data to support federal child welfare laws, regulations, and policies; and

(iv) Case management data to support federal audits, reviews, and other monitoring activities;

(2) Data to support state or tribal child welfare laws, regulations, policies, practices, reporting requirements, audits, program evaluations, and reviews;

(3) For states, data to support specific measures taken to comply with the requirements in section 422(b)(9) of the Act regarding the state's compliance with the Indian Child Welfare Act; and

(4) For each state, data for the National Child Abuse and Neglect Data System.

The Indiana CCWIS system will improve as well as ensure consistency of data quality by taking a socio-technical enterprise approach that addresses the human, operational, and IT system interactions that impact data quality. Utilizing this comprehensive approach, Indiana DCS was provided with insight on how each area, as well as DCS interactions within the system, impacts data quality. The elimination and minimization of the impacts to data quality were primary drivers to the solutions that the Indiana CCWIS system will leverage to improve and ensure consistency of data quality.

2.2.1 Human Impacts

The current Indiana SACWIS system operates with critical points of failure that contribute to a negative impact on data quality. There is a lack of enterprise data standards that determine the data type, data formats, and data order. There is a lack of clearly defined data entry rules that minimize data entry mistakes, and allows incomplete data entry. There is a lack of error detection, which leads to record duplication, and incorrect information being utilized in the execution of the day to day business operations. There is also a lack of comprehensive workflow management which negatively impacts the availability of current, and accurate data.

2.2.2 Solutions (Human Impacts)

The Indiana CCWIS system design includes a work flow engine that will utilize forms validation to ensure comprehensive data collection and commitment in operational workflow. The work flow engine will utilize machine learning and artificial intelligence (AI) in providing workflow automation. The benefits of workflow automation that will be relevant to the Indiana CCWIS system are:

1. Reducing Errors – The right Workflow Automation solution will eliminate all manual and human error that would otherwise cost precious time and resources to address. The system will notify late actions, non-approvals, overlooked tasks, and more.
2. Improved Communication – Employees no longer need to manually notify each other when a process is complete or when it moves from one role to another. Notifications and status updates keep all team members involved and informed.
3. Employee Success – A Workflow Automation Platform should set employees up for success. Eliminating repetitive and manual processes motivates employees and allows them to focus on more important tasks which, in turn, can boost morale and enhance productivity.
4. Reduce Costs – The cost associated with human error and time-to-market is significantly reduced if not eliminated altogether. Overall, a streamlined process will optimize use of valuable time and resources.
5. Visibility and Status – Management visibility and internal status reporting is made easy when a workflow is automated correctly. Employee approval hierarchy and accountability can now be clearly stated for all to see. This eliminates finger-pointing and promotes complete transparency.
6. Scalability – When mundane and manual tasks are automated, resources open up for an organization's ability to grow. With the right Workflow Automation solution, an agency can eliminate bottlenecks and meet new demands.

7. Organization – Notifications play an important role in keeping all tasks organized and in view. These notifications can be set through easily identifiable email, text message and platform pop-ups and can replace unorganized post-it notes, white board jotting and employee memory error.
8. Integration – Automated Workflow can integrate 3rd party SaaS applications, ERP systems, and legacy databases where applicable, and all disparate data and systems can play appropriate roles in one process.
9. Real-Time Reports – Real-Time insight and reporting available to management can improve the decision making process and help an organization learn from inefficiencies.

Indiana DCS expects to see the following benefits of workflow automation enterprise wide:

- **Lower operational costs** - By automating its workflows, DCS is able to substantially reduce costs by getting faster work through fewer resources.
- **Improved efficiency** - Automation helps in excluding unnecessary steps within a workflow, thus improving the overall efficiency of the process.
- **Superior control** - Workflow Automation enables standardization of working methodologies and provides auditing trails for better managerial control.
- **Better flexibility** - Automated processes are comparatively easy to scale up or down as per business or policy requirements.

2.2.3 IT System Impacts

The current Indiana SACWIS system doesn't currently support standards and Standard Operational Procedures. After review of the New CCWIS requirements and in conversation with DCS users, it quickly becomes clear that DCS needs to transform the socio-technical enterprise to respond to the rising expectations of DCS users and to keep up with and adopt emerging advances in technology that could prove valuable to the DCS socio-technical enterprise. Initiatives are underway to continuously improve engagement with users through digital channels such as mobile apps, cloud, and in-office technology. These initiatives highlight a fundamental change: users today want more than a data entry experience, they expect a data driven evidence based interactive experience. The vision of omnichannel is to reinforce a data driven, evidenced-based experience at every touchpoint and experience the user has. Indiana DCS; therefore, needs to provide a seamless journey across channels to attract and retain users. This is why omnichannel has become both a ubiquitous and critical success factor for all organizations. And as technology continues to expand and new channels emerge, omnichannel strategies remain increasingly relevant.

- Users today demand and expect a tailored experience across every touchpoint with a company. Users do not consciously delineate one channel from another; they want interactions with Indiana DCS to be seamless and to be present where they are, across channels.

- Not only are users demanding more, but the ability to interact with users on multiple channels, and have access to data about the user, is becoming a standard socio-technical enterprise operating procedure rather than a competitive differentiator.
- It is a common misconception that system integration is a matter of connecting system A to system B to create this new mobile app or that new channel online.

2.2.4 Solutions (IT Systems Impacts)

The Indiana CCWIS system design includes an Omnichannel API platform that will standardize the data API integrations and manage synchronicity with all internal and external systems. The Indiana CCWIS system will also implement and leverage the use of Artificial Intelligence (AI) and Machine Learning to standardize operational procedures across 4000 users, as well as track and manage any/all deviations from the standard operational procedures. The utilization of AI and Machine Learning management will be the foundation for Enterprise Performance Management and Continuous Improvements across the entire Indiana DCS socio-technical enterprise.

Omnichannel is about becoming channel-agnostic. If there is one thing the last decade has taught us, it is that new channels and new ways of interacting with users emerge rapidly. Omnichannel then becomes more about future-proofing the socio-technical enterprise creating capacity for change in the organization so that no matter which channel users, employees, and partners want to use across the socio-technical enterprise, it can be accommodated quickly and easily.

The Omnichannel API platform's primary objective is shifting the mindset around how and with whom technology works in the socio-technical enterprise and to create what Jonathan Murray calls "a composable enterprise; an organization where the "entire portfolio of socio-technical enterprise functions, processes, organizations, relationships and technology as a set of reusable components can be configured as demanded." Indiana DCS needs to be able to both analyze the data which provides an understanding of how users move around channels and easily create the systems which can serve those users. Ultimately what being a composable enterprise does is extend the boundaries of the enterprise beyond traditional borders of service delivery. In essence, move to "everything as a service."

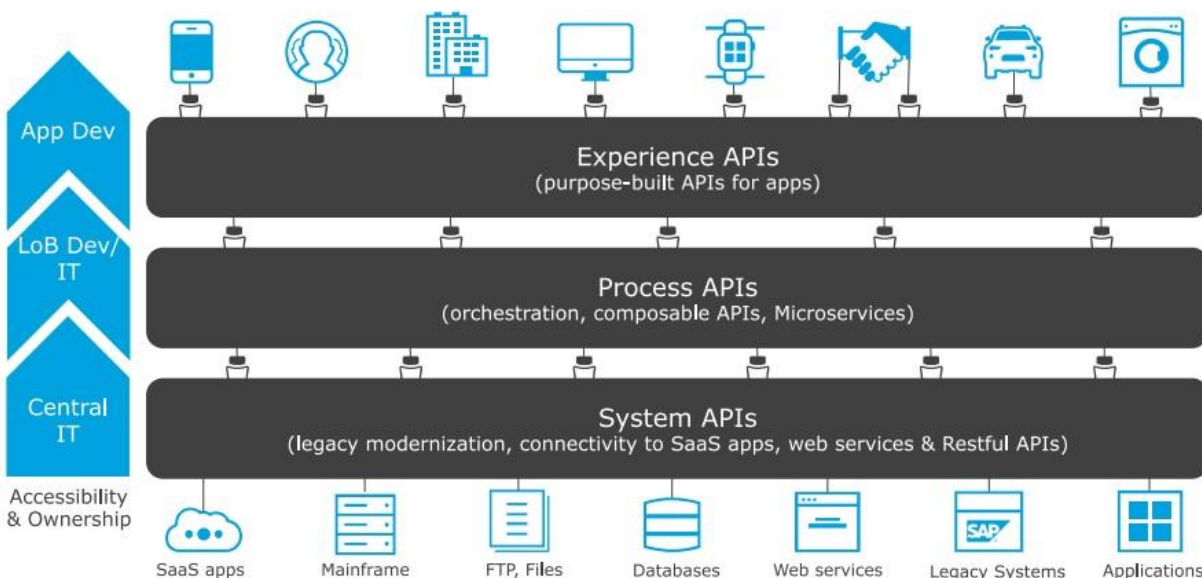


Figure 1 - API-Led Architecture Approach

This approach to connectivity classifies APIs in three types:

1. **Systems APIs:** DCS' core systems of record (e.g. ERP, user and billing systems, proprietary databases etc.) are often not easily accessible because they have proprietary connectivity interfaces and require highly specific skills, which are not readily available within the company (typically a major bottleneck). System APIs provide a means of insulating the user from the complexity or any changes to the underlying systems.
2. **Process APIs:** These APIs interact with and shape data within a single system or across systems (breaking down data silos) and are created here without a dependence on the source systems from which that data originates, as well as the target channels through which that data is to be delivered.
3. **Experience APIs:** Data is now consumed across a broad set of channels, each of which wants access to the same data but in a variety of different forms. Experience APIs are the means by which data can be reconfigured so that it is most easily consumed by its intended audience, all from a common data source, rather than setting up separate point-to-point integrations for each channel.

With this approach, Indiana DCS will be enabled to compose, recompose and adapt these building blocks (APIs) to address the changing needs of the socio-technical enterprise. It brings agility to the channels, giving Indiana DCS the ability to adjust and

launch new channels without having to deliver a lot of incremental change in the backend to facilitate.

Being able to spin up the organization's omnichannel capabilities to meet user demand where it requires a rethink of people, process, and IT infrastructure. Here are the principles behind the architecture of a composable enterprise:

- Scalability on demand: Capable of calling services and functions as needed by the socio-technical enterprise.
- Adaptable to all devices and users: Services and applications will run on any device the client is using at the time.
- The principles of service-oriented architecture: Essential applications and functions are abstracted as scalable, reusable, loosely coupled services. Microservices ensure the granularity needed to adapt to key socio-technical enterprise functions.
- Automation: Manual processes or scripting need to be taken out of all aspects of the architecture so that on-demand services called by the socio-technical enterprise are readily available.
- Self-service: Socio-technical enterprise decision-makers can access key components of applications and data without waiting for the IT departments.
- Accessible enterprise data layer: Key information is made available to decision-makers when they need it, from any source. Data sources, as they are identified, should be easily and quickly integrated into the enterprise data in a standardized and repeatable way.

Doing the work necessary to expose the systems with APIs, creating a paradigm of reusability and consumption, and establishing an application network will go a long way to create the composable enterprise that will make a truly omnichannel or "no channel" experience for the users and stakeholders a reality. API-led connectivity is the way Indiana DCS will achieve this.

In addition to the Omnichannel API platform, DCS will improve data quality by using Jira, an Atlassian application, for policy and system traceability for the DCS Policy and DCS IT team. Jira will provide a better IT data quality management system by providing a single system for policy and IT to operate within. The goal of Jira in addition to providing an agile based tool is to provide better policy and system traceability end to end, from policy to business process, to IT modules, to federal reporting. The system will also be used for helpdesk, test management, code and script management, release management, project and product management, policy management, document management, capturing and storing business workflows, user story mapping, product backlogs, and IT time tracking. The specific Jira use cases to improve data quality management are listed below:

- DCS will be able to see organizational traceability and manage system changes within Jira. If business requests an IT change, DCS can run a query to see what reports may be impacted and what policy is related to the change to ensure DCS maintains compliance. If a legislator suggests an agency change (policy related), DCS has better information to understand the overall costs and level of effort by reviewing related business and IT functions, and users impacted. If a change is made to the system DCS can track who requested the change, when it is made and how agency is notified or trained.
- For policy management, Jira will allow all DCS users see current effective policy, generate alerts for the policy team when policy needs reviewed per last revision date, the policy team will have policy version and revision control, along with review, feedback, and approval management.
- For business process knowledge management DCS will have the ability to create and map business workflows that identify high level processes and users within the agency.
- For product and project management, DCS will have the ability to track several IT value streams backlogs, current sprints, user stories, user story mapping, Kanban boards, and related documents. This includes test script and automated testing management. DCS needs the ability to track PMO level initiatives/features delivery dates and metrics on project tracking and capacity planning. Jira will be used to track time on initiatives/features for federal reimbursement.
- With the use of GitHub and other Atlassian applications, DCS will have the ability to create new code/scripts, modify existing code/scripts, move code between environments, and ensure different branches are available to release to production.
- For helpdesk management DCS will use Jira to manage helpdesk tickets in the same tool. Users can submit tickets from Salesforce and the tickets are transferred to Jira and data/status is updated in the Salesforce ticket as well.

In addition to Salesforce Omnichannel API platform and Jira, to improve data quality the DCS team will utilize tablets for field staff. The tablets will have voice to text and handwriting to text capability which will allow family case managers (FCMs) to capture data real time. The tablets have capability for FCMs to handwrite on the tablet, and have the text converted to searchable text and imported as part of the case, as opposed to current PDF attachments that do not convert text directly into the case. Currently handwritten notes are scanned into the system as a PDF document. The PDF documents provide limitations on text search ability and present an issue when scanner name is not changed to something meaningful. Surface tablets have capability to transform voice to text which will save time for FCMs, allowing them to focus on helping children and families. This feature will allow the CCWIS system to capture better, searchable data without FCM spending additional time with data entry. Both voice to text and handwriting to text will allow data to be directly entered into the case every single time.

2.3 Reporting Requirements

The title IV-E agency's CCWIS must use the data described in paragraph (b) of this section to:

- (1) Generate, or contribute to, required title IV-B or IV-E federal reports according to applicable formatting and submission requirements; and*
- (2) Generate, or contribute to, reports needed by state or tribal child welfare laws, regulations, policies, practices, reporting requirements, audits, and reviews that support programs and services described in title IV-B and title IV-E.*

DCS will adhere to federal reporting requirements for AFCARS and NCANDS, and all other federal reporting requirements that support programs and services described in title IV-B and title IV-E. DCS will ensure these requirements are included in the DDI RFP.

2.4 Data Quality Requirements

- (1) The CCWIS data responses described in this section will be included in the new CCWIS system requirements.
 - (i) *Meet the most rigorous of the applicable federal, and state or tribal standards for completeness, timeliness, and accuracy* by making the fields required, validating the format of the data (such as limiting the characters and numeric vs text values), and snapshotting the data to maintain the entry date as a measure of timeliness where appropriate for federal reporting and internal audit. These items will be required to be built into the DDI plan and will be part of the iterative development process. Data planning, mapping and governance will be required for each phase of the project to understand what reports are impacted by data entered or APIs created during each phase. This will start to be mapped out during system Org Design late 2019 and during DDI in first quarter 2020. Timeliness will also be addressed by field users switching from laptops to tablets and mobile devices. This will allow for voice to text and handwriting to text to allow data to be entered timely. Having a platform that is mobile friendly will assist in field to be able to enter data into their cell phones for assessments or family visits as the visit is happening in real-time.
 - (ii) *Be consistently and uniformly collected by CCWIS and, if applicable, child welfare contributing agency systems* by ensuring validations are met for data directly entered into the CCWIS and that those validations are enforced by validation or translation of data through integration points.

Salesforce has configuration and skip logic for structured decision making to ensure required data is entered, and data restrictions such as limiting characters will ensure data is consistently and uniformly collected. Currently in Indiana with 92 counties, there are 92 different ways of completing field processes. The goal with Org Design is to account for these differences and streamline processes for consistent use. Training on the new system will be rolled out to the system users with emphasis that fields have to be used consistently for federal compliance and to ensure better data quality, which ultimately impacts the service level provided to children and families. After system training is rolled out, at least an annual training will be required to ensure DCS users agree to use the system as intended, capture data consistently, and escalate if a process or system feature can be improved to capture better data instead of creating a workaround. Training will be required for system use and data

quality prior to each CCWIS phase deployed. In addition to these efforts, DCS performs Reflective Practice Survey and Practice Model Review, through the CQI team and field supervisors perform to review random cases within the system to review completeness and accuracy. This practice will continue and be established in the new CCWIS system.

- (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* by ensuring security and encryption of PII between systems and appropriate security role profiles within the CCWIS system. This will be mapped out as part of Org Design and DDI planning to ensure APIs are consistently used, schema maps shared, and data at rest and in motion is secure in the CCWIS system. Security will be in compliance with areas listed in the data security section of the APD. MuleSoft allows controlled access to apply API policies the provide employees, partners, and customers access to data. MuleSoft has layers of defense including edge security, automatic detection of API attacks, automatic hardening to enhance security with a learning system that adapts as new threats emerge.
- (iv) *Support child welfare policies, goals, and practices* by reinforcing the DCS Practice Model, policy, and organizational objectives throughout the CCWIS system data collection and visualizations within the user interface while allowing historical tracking to manage practice, policy, and organizational changes over time. Jira will be implemented to map organizational change projects that will improve agency outcomes. Policy will also be captured within Jira and the business processes mapped will be linked in the traceability matrix to ensure if any processes change, the policy, goals and practices are considered or updated as appropriate. Using Jira for traceability will allow DCS Business and IT understand the relationships between policy, audits/goals, business processes, IT functions, and reporting. Jira will be purchased in August 2019 and DCS will start adding DCS policy first, then CQI projects, and will then create the traceability model to link policy to CQI, to IT functions, to reporting, to CCWIS Org Design. More applications will be purchased to add on to Jira to make it a full functioning IT suite in addition to a traceability tool. Additions will include help desk, enhanced test management, enhanced development operations, release management, user story mapping, enhanced project management and time tracking.
- (v) *Not be created by default or inappropriately assigned* by ensuring that all fields are null by default, contain appropriate selection options, and are associated with the correct data structure organization without duplication. Salesforce and MuleSoft master data model will assist in ensuring data is not created by default or inappropriately assigned by having system checks in place that require user validation when needed. This includes validating data coming through bi-directional data flows. This requirement will be addressed in the DDI design and when working with bidirectional data and working with data not entered by a DCS user.

(2) *The title IV-E agency must implement and maintain automated functions in CCWIS to:*

- (i) *Regularly monitor CCWIS data quality* by tracking data fields required at each workflow event and the collection and entry of that data. A biennial review will be part of the IT process which will be strategized with DDI vendor input and included in this document. Findings from the audit will be shared with appropriate levels and corrective action plans will become projects to ensure issues are fixed. Dashboards will be available to the Data Management team to track various data KPIs for example the amount of empty fields or field validations that are throwing errors. MuleSoft allows a holistic view of the health of the application network using Anypoint Visualizer. Visualizer provides a graphical view of all your APIs and integrations and how they are connected. In MuleSoft, alerts can be set up on performance issues such as when batches are stuck in process, when servers disconnect, or when API metrics fluctuate, so the team can adjust resources proactively.
 - (ii) *Alert staff to collect, update, correct, and enter CCWIS data* by providing regular alerts and notifications about missing required data elements with escalation of notifications up the organizational hierarchy, and alerting improper data formatting at the time of entry.
 - (iii) *Send electronic requests to child welfare contributing agency systems to submit current and historical CCWIS data to the CCWIS* by sending periodic notifications to the assigned person responsible for that data and an escalation process for notifications that have not been satisfied beyond an appropriate timeframe. A plan will be implemented with DDI vendor to ensure data quality with CWCAs. Data exchanged with CWCAs will also go through MuleSoft exchange and will be subject to those controls.
 - (iv) *Prevent, to the extent practicable, the need to re-enter data already captured or exchanged with the CCWIS* by ensuring fields are related across objects and not captured as individual fields within those objects, as appropriate, while also enacting versioning for fields that carry over from one instance of an object to the next with minor updates. This will be mapped carefully through the master data model to ensure duplicate data entry does not occur during the Org Design and DDI phases.
 - (v) *Generate reports of continuing or unresolved CCWIS data quality problems* by creating real time on-demand reports that inform missing fields that can be reported at individual user level and viewed at each hierarchical level of the organization from individual assignee to system as a whole. Reports will also be available from the biennial review with corrective actions listed as well as completion dates. These will be archived and available within the Jira system.
- (3) *The title IV-E agency must 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* by ensuring that data entered is complete, correct, and timely, stored in a manner appropriate to federal reporting requirements, and reviewed at regular intervals. The process for the biennial data quality review will be completed with input from the DDI

- vendor for new system data quality checks. At high level a report can be executed to identify duplicate records, incomplete fields, and outliers. Items from the CFSR or APSR can be included in the biennial report to ensure data quality items flagged from CQI reviews are incorporated.
- (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 by ensuring that integrations are maintained to allow for updates to fields, required data collection, and data validation as those updates occur and reviewed at regular intervals.*
- (4) *The title IV-E agency must 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 by enacting changes to remedy deficiencies uncovered by regular reviews of data exchanged across integration points. The plans will be tracked and managed in Jira through completion. The biennial review will have a separate IT process to review qualitative and quantitative accuracy that can be repeated twice per year. Items ongoing from CFSR PIP and CQI efforts will be mentioned, but the biennial review will have repeatable steps that will be executed by the IT Data Management Team. Data will be reviewed for completeness and accuracy. Validation rules will be heavily identified during design and development, while the data management team will have dashboards with KPIs to review status indicators of system data real time. The dashboard will show outputs from automated system checks such as duplicate records, blank fields, and other items to be determined.*

2.5 Bi-Directional Data Exchanges

- (1) *The CCWIS must support efficient, economical, and effective bi-directional data exchanges to exchange relevant data with:*
- (i) Systems generating the financial payments and claims for titles IV-B and IV-E per paragraph (b)(1)(ii) of this section, if applicable;*
 - (ii) Systems operated by child welfare contributing agencies that are collecting or using data described in paragraph (b) of this section, if applicable;*
 - (iii) Each system used to calculate one or more components of title IV-E eligibility determinations per paragraph (b)(1)(ii) of this section, if applicable; and*
 - (iv) Each system external to CCWIS used by title IV-E agency staff to collect CCWIS data, if applicable.*
- (2) *To the extent practicable, the title IV-E agency's CCWIS must support one bi-directional data exchange to exchange relevant data, including data that may benefit IV-E agencies and data exchange partners in serving clients and improving outcomes, with each of the following state or tribal systems:*
- (i) Child abuse and neglect system(s);*
 - (ii) System(s) operated under title IV-A of the Act;*
 - (iii) Systems operated under title XIX of the Act including:*
 - (A) Systems to determine Medicaid eligibility described in 42 CFR 433.111(b)(2)(ii)(A); and*
 - (B) Medicaid Management Information Systems as defined at 42 CFR 433.111(b)(2)(ii)(B);*
 - (iv) Systems operated under title IV-D of the Act;*
 - (v) Systems operated by the court(s) of competent jurisdiction over title IV-E foster care, adoption, and guardianship programs;*
 - (vi) Systems operated by the state or tribal education agency, or school districts, or both.*

In compliance with CCWIS 1355.52(e), the new system will facilitate the bi-directional sharing of data for all Required Data Exchanges. In Phase I of the project, CCWIS compliant APIs will be created for data exchanges between all external systems that interface with Case Management-related functions as identified in Attachment B - CCWIS Bi-Directional Data Exchange Matrix. Data moving between the two systems will be validated for accuracy through the MuleSoft built-in tools described below. Some data will be uploaded automatically for reference (example data from Department of Education, Department of Health, or court systems data); some data will be manually reviewed and accepted into the system and validated by DCS users (such as case notes updated from foster parents/kinship/caregivers).

2.6 Data Exchange Standard Requirements

The title IV-E agency must use a single data exchange standard that describes data, definitions, formats, and other specifications upon implementing a CCWIS:

- (1) For bi-directional data exchanges between CCWIS and each child welfare contributing agency; and*
- (2) For data exchanges with systems described under paragraph (e)(1)(iv) of this section.*

DCS will be utilizing MuleSoft as a single point of data exchange to the CCWIS system. DCS is already using MuleSoft for data exchange between Casebook, KidTraks, Salesforce (for Assessment Initiation Tracking Tool and Foster Parent Portal), and National Electronic Interstate Compact Enterprise (NEICE). DCS is currently working on using MuleSoft integrations with National Center for Missing and Exploited Children (NCMEC) and Quest, probation systems.

As CCWIS is being developed, the establishment of an Experience API layer will allow single API's to be established and exposed for self-service reuse for CWCA's and other agencies to exchange data. Using micro services at the Process API level will allow DCS to standardize common data elements and their formats that will allow us to be scalable, adaptable, and allow the self service that will give DCS the composable enterprise necessary to deal with an ever-changing technical landscape. The data exchange requirements will be written in plain English for easy conformance.

Advantages of using MuleSoft are described below:

2.6.1 Map APIs and Dependencies

Gain a holistic view of the health of your application network using Anypoint Visualizer. Visualizer provides a graphical view of all your APIs and integrations and how they are connected.

2.6.2 Organize APIs and Filter the Views

Classify APIs and applications into system, process and experience layers, to ensure your architecture is following best practices. Filter the view of your application network based on the environment, failures, average response time, and more.

2.6.3 Monitor Performance Proactively

Set up status alerts on the performance of your applications and APIs. Know when batches are stuck in process, when servers disconnect, or when API metrics fluctuate, and adjust resources proactively.

2.6.4 Personalize Monitoring

Create reports to track key performance metrics for your APIs and integrations, API programs, and more. Connect to third-party systems such as Splunk and SumoLogic for a single view of the health of your applications, APIs, and systems.

2.6.5 Troubleshoot Rapidly

Reduce the mean time to resolution and drill into dashboards or logs to quickly identify issues and troubleshoot.

2.6.6 Control Access

Apply API policies automatically to provide employees, partners, and customers with controlled access to data.

2.6.7 Edge Security

Construct layers of defense with rapidly configured, enterprise-grade Edge gateways. Prevent denial of service (DoS), content, and OWASP Top 10 attacks using policy-driven chokepoints that can be deployed in minutes.

2.6.8 Automatic Hardening

Get seamless integration between Edge and API gateways, which automatically detect API attacks, escalates them to the perimeter, and updates protections to eliminate vulnerabilities. Enhance security with a learning system that adapts as new threats emerge.

2.6.9 Sensitive Information Detection

Get alerts when sensitive information — such as PII, PHI and credit card data — is in API payloads. Streamline auditing and governance with prebuilt monitoring dashboards.

2.6.10 Automatic Tokenization

Meet compliance requirements faster with a simple, format-preserving tokenization service that protects sensitive data while supporting downstream dependencies

2.6.11 Automated Policies

Enforce standardized policies across environments, audit deployed policies for compliance, and bridge the gap between security and DevOps teams by empowering API owners to detect out-of-process changes and correct violations.

2.6.12 Standardize Access

Establish standard API patterns for authentication and authorization and make patterns available as fragments to promote reuse instead of writing new, potentially insecure code.

2.7 Automated Eligibility Determination Requirements

- (1) A state title IV-E agency must use the same automated function or the same group of automated functions for all title IV-E eligibility determinations.*
- (2) A tribal title IV-E agency must, to the extent practicable, use the same automated function or the same group of automated functions for all title IV-E eligibility determinations.*

DCS is committed to using the same automated functions or the same group of automated functions for all title IV-E eligibility determinations when building out the new system. This function will be developed within the Salesforce platform and will be a requirement in the DDI RFP.

2.8 Data Governance

Key stakeholders for Data Quality Management include:

Data Governance: DCS Chief Information Officer (CIO). The DCS CIO is responsible for the overall CCWIS Data Governance.

Data Quality Management Team: DCS System Engineering Director, DCS System Engineering Team, CCWIS System Architects and DCS Data Analyst. The system engineering, CCWIS system architects, and the Data Analysts are responsible for ensuring configuration and architecture that facilitates good data quality. This team will be responsible for data reporting and data output traceability.

CQI Team: Responsible for performing Quality Service Review and sharing results with the Data Quality Management Team. The results will be documented in Jira and projects will be tracked as appropriate. Projects will be managed by the DCS IT PMO and the DCS Strategic Solutions team. These teams will coordinate and own the change depending on if an IT solution is needed, DCS IT will own the project, or if the change is business process related, DCS

Strategic Solutions will own the project. These PMOs will meet regularly to ensure communication of projects and potential duplication of efforts is limited.

The DCS Policy Team: The DCS Policy team will update policy as appropriate to ensure good data quality practices. They may collaborate on projects for DCS IT PMO and DCS Strategic Solutions.

All CCWIS users are responsible for maintaining data quality and integrity; and will be asked to take training on data quality ideally before getting access to the new system.

2.9 Data Management Training

Training will be developed as part of the CCWIS project before modules will be rolled out to users. The training will emphasize the need to use the system as intended to capture data appropriately to provide the best service to children and families; and to ensure compliance with federal and state mandates which are also in place to help provide better service for children and families.

2.10 Data Management Metrics

Data management metrics will be defined during project planning as the CCWIS project vendors are on board. At a minimum, the metrics will ensure compliance to CCWIS standards and will include a biennial review.

2.11 Data Quality Biennial Review

CCWIS Data Quality Plan will be reviewed twice a year. In the next Data Quality Plan update, a checklist will be developed with procedural steps with input from the CCWIS vendors.

The DCS IT Data Management Team will be responsible for the CCWIS biennial review.

There are other activities performed by the CQI team on a monthly basis that will feed into the biennial review, but the effort from the CCWIS data quality review is IT focused. To the extent possible the review will include data needed to review the key performance items from the ACF CFSR, CCWIS, CWG, DCS Practice Model and Family First Prevention Services Act.

The review will include data validation checks such as the amount of incomplete fields, data that doesn't make sense (example Date of Birth that is not realistic), review of duplicate records, etc. The Data Management Team will have automated dashboards to assist with the review. Data KPIs will be established and presented on a dashboard for the Data Management Team and the DCS CIO. The review will incorporate summaries of the reviews performed by the CQI team. If trends are strong for incomplete data, a corrective action project will be recommended and tracked through completion. The results will be shared with the DCS Executive Team.

Results from the Biennial Review will be tracked in a formal document and saved in Jira. Any corrective items needed will be addressed through projects with the DCS IT PMO or the DCS Strategic Solutions team.

2.12 Biennial Review Results

The results of the biennial data quality reviews will be listed in this section for future updates. This system has not been built yet, therefore there is nothing to review as of yet. DCS will include a review of compliance with data quality standards and evidence of compliance in annual and supplemental documents submitted to ACF. As the new CCWIS system is being developed, data quality checks will occur as part of the project plan and prior to Go-Live.

3 Transitional CCWIS System - Data Quality Plan

This section provides details for the Data Quality Plan for the transitional CCWIS system. The following section explains how DCS will maintain CCWIS project compliance 1355.52 (a) – (h) as it relates to data quality for the DCS transitional CCWIS system.

3.1 Transitional CCWIS System Data Requirements

The title IV-E agency's CCWIS must maintain:

- (1) Title IV-B and title IV-E data that supports the efficient, effective, and economical administration of the programs including:*
 - (i) Data required for ongoing federal child welfare reports;*
 - (ii) Data required for title IV-E eligibility determinations, authorizations of services, and expenditures under IV-B and IV-E;*
 - (iii) Data to support federal child welfare laws, regulations, and policies; and*
 - (iv) Case management data to support federal audits, reviews, and other monitoring activities;*
- (2) Data to support state or tribal child welfare laws, regulations, policies, practices, reporting requirements, audits, program evaluations, and reviews;*
- (3) For states, data to support specific measures taken to comply with the requirements in section 422(b)(9) of the Act regarding the state's compliance with the Indian Child Welfare Act; and*
- (4) For each state, data for the National Child Abuse and Neglect Data System.*

Please refer to section 2.2 *CCWIS Data Requirements* for the new CCWIS system. As the new system is developed, the transitional system will be updated to the extent practicable without duplicating efforts. The transitional system will be retired at the end of the new project and is grandfathered into the CCWIS ruling. Efforts are being made to improve data quality in the transitional CCWIS system. Those efforts are discussed in section 3.11 Biennial Review Results.

A goal of DCS from the beginning of the MaGIK Project has been to meet mandated Federal reporting on case management activities as well as requirements related to probation cases and the Indiana Probation Officer Service Consultant Interface (IPOSCL), including eligibility, the Adoption and Foster Care Analysis and Reporting System (AFCARS), National Child Abuse and Neglect Data System (NCANDS), placement and services, case plans, and court requirements.

Indiana has a data dictionary for the current system, which provides a technical description of the database, including all tables, columns, and relationships between these items.

Additionally, Casebook PBC provides an export of real-time or near-real-time information to a data store that enables DCS to design, generate, and distribute standard reports that meet statistical, administrative and compliance requirements delineated below:

- Ad-hoc query (ability to ask the database any question)
- Standard reports
- Tabular and graphical report elements
- Report formatting
- Report security

DCS continues to maintain the reporting environment as part of the transitional CCWIS architecture until the new CCWIS is available.

3.2 Reporting Requirements

The title IV-E agency's CCWIS must use the data described in paragraph (b) of this section to:

- (1) Generate, or contribute to, required title IV-B or IV-E federal reports according to applicable formatting and submission requirements; and*
- (2) Generate, or contribute to, reports needed by state or tribal child welfare laws, regulations, policies, practices, reporting requirements, audits, and reviews that support programs and services described in title IV-B and title IV-E.*

DCS will adhere to reporting requirements and will make improvements to any reporting deficiencies as discovered to the extent practicable without duplicating CCWIS development efforts, with approval and discussion with ACF if DCS believes the work would cause major delays to the CCWIS development timeline or add unreasonable costs. Refer to section 3.1 *Transitional CCWIS System Data Requirements* for current reporting activities. For transitional CCWIS reporting improvement activities, refer to section 3.11 *Biennial Review Results*.

3.3 Data Quality Requirements

(1) The CCWIS data described in paragraph (b) of this section must:

- (i) Meet the most rigorous of the applicable federal, and state or tribal standards for completeness, timeliness, and accuracy;*
- (ii) Be consistently and uniformly collected by CCWIS and, if applicable, child welfare contributing agency systems;*
- (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;*
- (iv) Support child welfare policies, goals, and practices; and*
- (v) Not be created by default or inappropriately assigned.*
- (2) The title IV-E agency must implement and maintain automated functions in CCWIS to:*
 - (i) Regularly monitor CCWIS data quality;*
 - (ii) Alert staff to collect, update, correct, and enter CCWIS data;*
 - (iii) Send electronic requests to child welfare contributing agency systems to submit current and historical CCWIS data to the CCWIS;*
 - (iv) Prevent, to the extent practicable, the need to re-enter data already captured or exchanged with the CCWIS; and*
 - (v) Generate reports of continuing or unresolved CCWIS data quality problems.*
- (3) The title IV-E agency must 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.*
- (4) The title IV-E agency must 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.*

(5) The title IV-E agency must develop, implement, and maintain a CCWIS data quality plan in a manner prescribed by ACF and include it as part of Annual or Operational APDs submitted to ACF as required in 45 CFR 95.610. The CCWIS data quality plan must:

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

Please refer to section 2.4 CCWIS Data Requirements for the new CCWIS system. As the new system is developed, the transitional system will be updated to the extent practicable without duplicating efforts. The transitional system will be retired at the end of the new project and is grandfathered into the CCWIS ruling. MuleSoft is being utilized for transitional CCWIS system data quality improvements in addition to current CQI initiatives such as those identified in Attachment E, DCS CFSR PIP 2019 – 2020, and the items listed in section 3.11 Biennial Review Results.

3.4 Bi-Directional Data Exchanges

(1) The CCWIS must support efficient, economical, and effective bi-directional data exchanges to exchange relevant data with:

- (i) Systems generating the financial payments and claims for titles IV-B and IV-E per paragraph (b)(1)(ii) of this section, if applicable;*
- (ii) Systems operated by child welfare contributing agencies that are collecting or using data described in paragraph (b) of this section, if applicable;*
- (iii) Each system used to calculate one or more components of title IV-E eligibility determinations per paragraph (b)(1)(ii) of this section, if applicable; and*
- (iv) Each system external to CCWIS used by title IV-E agency staff to collect CCWIS data, if applicable.*

(2) To the extent practicable, the title IV-E agency's CCWIS must support one bi-directional data exchange to exchange relevant data, including data that may benefit IV-E agencies and data exchange partners in serving clients and improving outcomes, with each of the following state or tribal systems:

- (i) Child abuse and neglect system(s);*
- (ii) System(s) operated under title IV-A of the Act;*
- (iii) Systems operated under title XIX of the Act including:*
 - (A) Systems to determine Medicaid eligibility described in 42 CFR 433.111(b)(2)(ii)(A); and*
 - (B) Medicaid Management Information Systems as defined at 42 CFR 433.111(b)(2)(ii)(B);*
- (iv) Systems operated under title IV-D of the Act;*
- (v) Systems operated by the court(s) of competent jurisdiction over title IV-E foster care, adoption, and guardianship programs;*
- (vi) Systems operated by the state or tribal education agency, or school districts, or both.*

In compliance with CCWIS 1355.52(e), the transitional CCWIS system will be enhanced in Phase I of the project to facilitate the bi-directional sharing of data with DCS Child Welfare Contributing Agencies, via CCWIS-compliant APIs, as identified in Attachment B - CCWIS Bi-Directional Data Exchange Matrix.

In Phase II of the project, as part of the transition of the Finance module to the new CCWIS system, a bi-directional CCWIS-compliant API will be created for service providers to facilitate

the exchange of service referrals, service outcomes, and billing-related information as identified in Attachment B - CCWIS Bi-Directional Data Exchange Matrix.

Indiana relies on an exchange of data with numerous information systems outside of MaGIK. Some are maintained by DCS, but most are the responsibility of other agencies (e.g., the public assistance system, Indiana Client Eligibility System (ICES), managed by the Family Social Services Administration [FSSA]). The data exchanged concerns family finances, benefits, court involvement, vital records, and a host of other concerns, and is used by DCS for calculation of eligibility, locating family members, reviewing court orders and a range of other activities. There is considerable complexity in the nature of the data itself, the business processes around exchanging it, and the technology used to bridge systems.

Casebook PBC is responsible for providing a set of APIs (or other communication methods as needed and processing data as mutually agreed upon) for the purpose of sending data to and receiving data from existing DCS systems. DCS developed software interfaces to connect DCS and the State of Indiana systems with Casebook via these APIs.

MaGIK had been integrated with the following systems:

- Data Assessment Registry Mental Health and Addiction System (DARHMA) (third-party-hosted mental health screening instrument)
- Indiana Support Enforcement Tracking System (ISETS) (State child support enforcement system)
- ICES (State public aid administration system, Temporary Assistance for Needy Families/Supplemental Nutrition Assistance Program (TANF/SNAP))
- MaGIK/KidTraks (DCS provider and financial management system; used to perform service referrals; Structured Decision Making (SDM) integration)
- DCS-developed enterprise forms server (integrated with Adobe LiveCycle)
- DCS-developed Probation Officer support system (hosted inside KidTraks)
- Indiana Judicial Center (to provide monthly data regarding court hearings for Child in Need of Services (CHINS) children from MaGIK)
- Medicaid (to provide monthly data on address and demographic information on CHINS children for matching with Medicaid billing. Medicaid returns Recipient Identification Numbers (RIDs) and Social Security Numbers (SSNs) stored in the reporting warehouse)
- Criminal Justice Institute (to provide monthly data for substantiated assessment data for methamphetamine allegations)
- Family and Social Services Administration (FSSA) (to provide monthly list identifying Bureau of Developmental Disabilities Services (BDDS) children)
- Department of Education (DOE) (to provide ward information one-way from MaGIK to DOE for DOE's use)
- PeopleSoft (MaGIK/KidTraks – integrated with PeopleSoft)
- National Electronic Interstate Compact Enterprise (NEICE)

In addition to the systems listed above MaGIK has integrated with the Quest system, used by many of Indiana's county courts, to allow DCS attorneys to track activity and exchange legal information with the courts regarding mutual clients. In addition, the QUEST case management system is being utilized by DCS attorneys to support e-filing with the Indiana Trial Courts in accordance with Indiana Supreme Court rules.

Most of the integrations leverage the Casebook integration API and flow through the IOT data broker, which uses Microsoft BizTalk Server. BizTalk manages delivery of messages between publishing and subscribing systems and performs some modest data mappings and translations for selected integrations. For example, it maps Casebook requests for a person matching to a web service exposed by ICES and then maps the results of the web service call back to an XML record format specified by the Casebook API.

Most of the integrations are real-time; only the person-matching integration with the ISETS child support system is batch-based. One of the integrations (ICES) is real-time during business hours and deferred in off hours, because the ICES web service is taken offline at night to free processor cycles for large overnight batch jobs for the ICES system. Casebook requests received outside the ICES availability window are queued by BizTalk and released when ICES becomes available. ICES is making changes that will allow for 24-hour real-time access, this real-time integration is being developed, and it is anticipated that it will be achieved within the year.

3.5 Data Exchange Standard Requirements

The title IV-E agency must use a single data exchange standard that describes data, definitions, formats, and other specifications upon implementing a CCWIS:

- (1) For bi-directional data exchanges between CCWIS and each child welfare contributing agency; and*
- (2) For data exchanges with systems described under paragraph (e)(1)(iv) of this section.*

DCS will be utilizing MuleSoft as a single point of data exchange to the CCWIS system. The establishment of an Experience API layer will allow single API's to be established and exposed for self-service reuse for CWCA's and other agencies to exchange data. Using Microservices at the Process API level will allow DCS to standardize common data elements and their formats that will allow us to be scalable, adaptable, and allow the self-service that will give DCS the composable enterprise necessary to deal with an ever changing technical landscape. Please see section 2.6 for additional information on the benefits of MuleSoft.

3.6 Automated Eligibility Determination Requirements

- (1) A state title IV-E agency must use the same automated function or the same group of automated functions for all title IV-E eligibility determinations.*
- (2) A tribal title IV-E agency must, to the extent practicable, use the same automated function or the same group of automated functions for all title IV-E eligibility determinations.*

As Described in Attachment B - CCWIS Bi-Directional Data Exchange Matrix, a new API data exchange will be created to exchange Title IV-E/IV-B eligibility information between the new CCWIS system and the Transitional KidTraks system.

3.7 Governance

Key stakeholders for Data Quality Management include:

Data Governance: DCS Chief Information Officer (CIO). The DCS CIO is responsible for the overall CCWIS Data Governance.

Data Quality Management Team: DCS System Engineering Director, DCS System Engineering Team, CCWIS System Architects and DCS Data Analyst. The system engineering, CCWIS system architects, and the Data Analysts are responsible for ensuring configuration and architecture that facilitates good data quality. This team will be responsible for data reporting and data output traceability.

CQI Team: Responsible for performing Quality Service Review and sharing results with the Data Quality Management Team and the DCS IT PMO. Projects will be tracked in an appropriate system until Jira is implemented. Projects will be managed by the DCS IT PMO and the DCS Strategic Solutions team. These teams will coordinate and own the change depending on if an IT solution is needed, DCS IT will own the project, or if the change is business process related, DCS Strategic Solutions will own the project. These PMOs will meet regularly to ensure communication of projects and potential duplication of efforts is limited.

The DCS Policy Team: The DCS Policy team will update policy as appropriate to ensure good data quality practices. They may collaborate on projects for DCS IT PMO and DCS Strategic Solutions.

All CCWIS users are responsible for maintaining data quality and integrity; and will be asked to take training on data quality ideally before getting access to the new system.

3.8 Data Management Training

Training is currently being developed and processes reviewed across DCS to ensure compliance with CFSR action items. Please refer to Attachment E, DCS CFSR PIP 2019-2020, for a list of these items.

3.9 Data Management Metrics

Data management metrics are currently being captured by the CQI team through Quality Service Review process. Indiana is working towards improvements to service data that is captured in KidTraks. Improvements in data collection has allowed Indiana to report prevention data by child. Indiana does not provide prevention data on a family level in an effort to avoid duplication of data. Other data metric improvements include:

- Providing final edits in MaGIK, ensuring that educational and adoption data fields are completed prior to approval of case closure.
- Tracking eligibility for Referrals under the Individuals with Disabilities Education Act (IDEA) in KidTraks.
- Improving TANF, IV-D, and Title XIX (Medicaid) funding reporting information through interface (e.g., FSSA/SSA).
- Improving tracking of SSI or Other Social Security Benefits of child and family members through interface.
- Improve tracking of child's monthly foster care and adoption assistance payments in KidTraks.

3.10 Data Quality Biennial Review

Transitional CCWIS Data Quality Plan will be reviewed every other year. In the next iteration a checklist will be developed with procedural steps.

The DCS IT Data Management Team will be responsible for the CCWIS biennial review.

There are other activities performed by the CQI team on a monthly basis that will feed into the biennial review, but the effort from the CCWIS data quality review is IT focused. To the extent possible the review will include data needed to review the key performance items from the ACF CFSR, CCWIS, CWG, DCS Practice Model and Family First Prevention Services Act

The review will include data validation checks such as the amount of incomplete fields, data that doesn't make sense (example Date of Birth that is not realistic), review of duplicate records, etc. The Data Management Team will have automated dashboards to assist with the review. Data KPIs will be established and presented on a dashboard for the Data Management Team and the DCS CIO. The review will incorporate summaries of the reviews performed by the CQI team. If trends are strong for incomplete data, a corrective action project will be recommended and tracked through completion. The results will be shared with the DCS Executive Team.

Results from the Biennial Review will be tracked in a formal document and saved in Jira. Any corrective items needed will be addressed through projects with the DCS IT PMO or the DCS Strategic Solutions team.

Specifically for the transitional CCWIS system, a review occurred in 2016 with ACF and corrective items are listed in Attachment E, DCS CFSR PIP 2019-2020.

3.11 Biennial Review Results

A formal CFSR review from ACF occurred in 2016. DCS is currently implementing changes identified in the CFSR PIP to address data and process inefficiencies. The full results and corrective items can be found in Attachment E, DCS CFSR PIP 2019-2020. A summary of the IT related changes completed and in progress are listed below.

1. Salesforce Surveys: Employee exit surveys and new cohort surveys have been developed to gather data to understand why DCS turnover for employees is high.

Reducing and preventing turnover will allow DCS to provide better service to children and families.

2. **Assessment Initiation Tracking Tool:** The Assessment Initiation Tracking Tool was developed to replace tracking assessment initiation timeliness on spreadsheets by Field Operations staff. The tool allows users to indicate the method of initiation for reports of abuse and neglect linked to existing assessments, which was not previously possible. The application was our first in Salesforce that has statewide impact for field users. It brings in data from the existing case management system, Management Gateway for Indiana's Kids (MaGIK), using MuleSoft for integration. The application calculates the initiation by date/time. Users are required to enter information about linked report method of initiation, timely initiation, and extenuating circumstances that prevented timely initiation of the assessment. Those answers are sent back to the MaGIK system to be available for DCS Reports created by the DCS Office of Data Analysis Research and Reporting. Dashboards have been created within the Salesforce application that display compliance with the questions for the user's assessments as well as compliance and timely initiation information statewide. Statewide dashboards can be filtered by Region and by timeframes. Reports can be generated from these dashboards using the filters, or can be generated by county or by compliance or timeliness within each county.
3. **Region Realignment** was a project to improve data quality for Marion County, by separating regions to allow for better metrics within Indiana's largest metro area.
4. **Probation Case Plan Quality of Visits:** This project is currently being executed to pull data from Juvenile Justice county based system to import data related to the quality of the visitation into the transitional CCWIS system. This project is using MuleSoft technology to allow data to migrate through controlled APIs. This will provide a more complete view of the DCS cases by including probation officer data in the transitional CCWIS system. This API will be used to move data into the CCWIS system also once it is developed.
5. **Probation Case Plan Quarterly Report:** DCS developed a report for probation service consultants to view the frequency of visitations. There is also a notification being built to remind the probation officers to complete the visits timely.
6. **Probation Court Hearing Tracking** was completed to improve data quality on the court hearing results in the DCS system. It is required for probation officers to complete a hearing every six months for a child in a removal episode, so the transitional CCWIS system will now alert the probation officer before the six month timeline.
7. **Salesforce Foster Care Portal:** Data is being shared with foster parents through a new portal developed on the transitional CCWIS system. The portal was built in Salesforce using MuleSoft to pull data from the transitional CCWIS to the portal. Previously foster parents had to call the Family Case Manager to retrieve data on their foster children, now they can access the data through a secure portal.
8. **The Practice Model Review and Quality Service Review** are being improved to limit the amount of cases that can be pulled into the monthly review. Previously out of state cases were allowed to be pulled in to review and DCS employees would travel to the

state for the review when another case within the state would have been more appropriate for the sake of time. Other adjustments will be made based on feedback from the CQI team.

9. ICPC Integration with NEICE: DCS successfully integrated to the NEICE clearinghouse in 2019 which eliminated the need for duplicate data entry into the NEICE and DCS systems for children placed out of state. This was implemented using MuleSoft technology.
10. NCMEC Integration: DCS is currently working on direct integration with NCMEC to eliminate the need for duplicate data entry into the NCMEC and DCS system of record. This should be completed by the end of 2019.
11. Plan of Safe Care Form: DCS created a form to capture data necessary to be compliant with the Comprehensive Addiction and Recovery Act (CARA) to provide information needed around the Plan of Safe Care.
12. Medicaid Reimbursement Tracking is a project to help DCS track reasons why Medicaid was denied. This information will improve system data and services to families.
13. Unit of Measure is a project to improve financial tracking at the referral unit level to better ensure providers are not over billing for services.
14. Tablets: DCS is currently purchasing tablet devices to help FCMs capture data real time. Tablets will have voice to text and handwriting to text capability to allow data to more easily be captured. The devices are smaller and lighter weight than laptops which contribute to field friendly use. Training will be rolled out with the device upgrades to ensure a smooth transition so FCMs understand how to use the device. So far results from the pilot effort have been very positive. This is expected to roll out in early 2020.
15. Virtual Reality: DCS will be piloting virtual reality by the end of 2019 to help capture data on candidates during the recruitment process, to help reduce turn over by allowing candidates to experience a typical day on the job. Depending on how candidates answer questions DCS can review the data over time to see if there is trend on how scenario questions are answered with employee tenure. DCS can then use that data to help hire candidates in the future that will likely stay long term. The technology will also be used to assist training for different scenarios in the field to help with employee retention.
16. Several business process changes are being addressed as part of the CFSR PIP and other state audits. Another example of this is the Streamline Audit Process project which was identified as a need from a recent State Board of Account Audit. The result of this audit was a business solution to request providers to attach monthly service reports to the case level in the transitional CCWIS system. The DCS IT team is looking for a way for larger providers to import reports through an API solution for high volume reports. The IT is also looking for a way to attach documents at the referral level and vendor level to assist with finding documentation in the system faster. The finance team is also looking at improving the invoice process which may need IT consultation to improve data quality.