



# **Comprehensive Child Welfare Information System**

## **Technical Bulletin #4:**

### **Advance Planning Document Guidance for Agile Projects**

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**August 9, 2018**

This technical bulletin (TB) provides Advance Planning Document (APD) guidance to state and tribal title IV-E agencies planning to develop a child welfare information system utilizing an agile project management approach.

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## 1. Purpose of the Technical Bulletin

This technical bulletin provides APD information to assist Title IV-E agencies who choose to utilize agile methods to develop a child welfare information system.

## 2. Background

The Advance Planning Document (APD) process is designed to mitigate financial risks in federally supported system development projects, to confirm that the system supports program goals and objectives, and to confirm that the system operates as intended by law and regulation. This TB provides broad APD guidance for IV-E agencies that choose to use an agile management methodology to implement a child welfare information system and aims to address common concerns about APD submissions for agile projects. The project management plan (PMP), project scope and methodology, activity schedule, and budget sections of the Implementation APD (IAPD) are addressed in this document.

Title IV-E agencies may select their preferred PMP approach to develop a child welfare information system. The approach selected should meet the agency's needs and provide for the efficient, economical, and effective implementation of the project<sup>1</sup>. The APD process and submission requirements, which can be found at 45 CFR 95 Subpart F, are not affected by the selection of a project management approach.

The artifacts, terminology and methodology for an agile project differ from those for a traditional waterfall project. The intent of the APD, however, is still the same: it is the means by which an agency submits their planning work for approval of the defined activities and the request for federal financial participation from the Administration for Children and Families (ACF). As such, the documentation provided in the APD, regardless of form, must provide federal analysts with sufficient information to understand the project management approach and make an informed decision<sup>2</sup>.

Agile comes in many varieties. For example, Scrum, Lean, Kanban, Crystal, and eXtreme Programming (XP) are all different agile approaches, but for the purposes of this document, agile is referred to generally. All varieties of agile are based upon a set of core values and principles that have been codified in the Agile Manifesto. The Agile Manifesto can be found at <http://agilemanifesto.org/>.

## 3. Information

### Project Management Plan

The Project Management Institute's (PMI) Project Management Book of Knowledge (PMBOK) defines a project management plan as a formal approved document that defines the overall plan for how the

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<sup>1</sup> 45 CFR 75.400(c) requires the state to "employ whatever form of sound organization and management techniques may be necessary in order to assure proper and efficient administration" of federal funds.

<sup>2</sup> The APD regulations are at 45 CFR 95 Subpart F.

agency will plan, execute, monitor and control, and close their project. For the purposes of the APD process, the PMP section provides federal reviewers with a detailed description of the nature and scope of project activities, and the methods and processes the IV-E Agency will use to accomplish those project activities. The PMP is a requirement of the Planning APD (PAPD), but if no PAPD is submitted, then it is a requirement of the Implementation APD (IAPD)<sup>3</sup>.

Agencies may have their own project management methodologies that they use for information technology (IT) projects, as well as established techniques. Whether the agency uses a traditional waterfall or agile approach, they are not required to make any modifications to their existing approach, if it meets their needs and allows for the efficient, economical and effective implementation of the project. Nothing in this document is intended to imply that agencies must change their practices or adopt an established agile approach if they do not have the desire to do so.

For agencies that choose to use an agile approach, whether this is the routine project management approach for the agency or a new or emerging practice for the project, the PMP must provide clarity on the agency's approach to the project. Some sections of the PMP may differ in an agile project compared to a traditional project, given the differences in task array and timing. Those areas that may differ include: schedule, resource allocation, planning, and implementation.

The agency may choose to discuss the project management plan submission with their assigned federal analyst to determine whether additional information or adjustments need to be made prior to formal submission. This informal review can streamline the formal approval process.

### Work Plan

When an agency uses an agile approach, the planning process differs from a traditional waterfall project. While a waterfall project attempts to anticipate all needs, requirements and risk scenarios up front, the agile process is adaptive and provides a framework to anticipate and manage change as the project progresses. Such an approach to planning often means that work tasks that the agency has scheduled to begin later in the project may be addressed by the agency in detail only when that task is closer to the top of the work queue. This type of planning is typically called Just-In-Time (JIT).

Due to the difference in planning strategy, an agile project may produce different content for the IAPD. The work plan may account for parallel development and planning activities for the duration of the project. For example, the agile requirements gathering process may involve a discovery phase where system users are observed and business needs are elicited to inform an incremental development approach. Project artifacts such as "prototypes" or "wire frames" may be developed as part of the ongoing process of understanding user needs and refining business requirements. The discovery phase allows the project team to better understand how the system will be used and what features are valued most to meet critical business needs.

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<sup>3</sup> The project management plan requirement is at 45 CFR 95.610(a)(2)(ii).

An agile project requirements-analysis phase might also take the form of a gap analysis or a Just-In-Time Requirements Analysis (JITRA), or both. The gap analysis may identify system functionality the agency requires, but isn't currently available. The agency's JITRA would demonstrate methods the agency will use to discover more detailed requirements through the project lifecycle. Descriptions of these efforts could be utilized to meet aspects of the requirements analysis section of the IAPD. The APD should describe the project's requirements analysis model in terms of both the requirements for the new system and the method used to discover detailed requirements usable by the project<sup>4</sup>.

The requirements analysis process may result in a description of major project milestones, sometimes such a document is referred to as a "product roadmap". The agency should include in their APD a brief description of the method used to determine the milestones or estimated delivery dates in the project. For instance, an agency's agile project using Scrum may choose to use user story points (a measure of workload) and scrum team velocity (a measure of work rate) to estimate time to completion. With this method, the agency should also provide a clear description of how they will determine and report progress compared to its proposed schedule<sup>5</sup>. For instance, an agile project using Scrum may choose to report progress using burn down charts, which gauge remaining work based on what has already been accomplished during a set time period. Whichever method is used, the resulting work plan should include observable, achievable project milestones, in order for the agency to perform and monitor the work, as well as report on project progress.

### Scheduling

When developing a schedule for an agile project, agencies may use increments of time to replace standard calendar milestone dates. For instance, agile projects often use 'sprints' as a unit of work. Typically, a 'sprint' represents a defined number of weeks, but usually in the two to four range. This unit is then standardized across the project and may be used to make up larger units, such as milestones. When developing the schedule for the APD, agencies should use the schedule that they create for the project, whichever units may make up the milestone dates. The IAPD does not need to go to a more detailed level than a sprint schedule or equivalent schedule. For instance, agencies do not need to submit the exact number of user stories or other units of work to make up each sprint, such as requirements, with their APD schedule.

The agency should include in their schedule each high level activity that will make up at least the first year of the project, which may be addressed either in milestones, sprints or other units. Whichever unit is used to express the work in the schedule, the schedule should show work units across the year that the APD covers. The work products for future years beyond the first must be more clearly defined in future APDs, but a high level definition is sufficient for the IAPD<sup>6</sup>. If the agency is not able to define an annual APD cycle, it may elect to adopt a shorter APD cycle, where APDs are submitted every 6 to 10

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<sup>4</sup> The agency is required to describe the methods to be used to accomplish their project under 45 CFR 95.610(b)(6).

<sup>5</sup> Reporting on activities and progress is required under the APD Update regulations at 45 CFR 95.610(c) and an important part of an activity schedule under 45 CFR 95.610(b)(7).

<sup>6</sup> The APD Update regulations at 45 CFR 95.610(c) require updates on project activities, major tasks, milestones, and deliverables.

months<sup>7</sup>. It is important to note, that while an agile project may not have the same detailed long term line item schedule typical of a waterfall project, the agency should still have a high level plan or product road map and a disciplined process to manage ongoing workload and the completion of deliverables. In addition, the agile process itself should result in the delivery of usable, tested software that is valued by the applicable user community.

### Staffing

Agile project teams are generally constituted of members representing the program, IT department, and project staff, which are called cross-functional teams. These teams may be constituted of agency staff, vendor staff, or a mix of both. Each team generally has a designated individual who represents the team members and communicates their status, progress, and needs to the project manager or, sometimes on larger projects, a separate group of such individuals. This designated individual is typically called a Product Owner (PO), and there is generally only one PO per agile team. It is important that the CCWIS PO has a good understanding of child welfare business / program needs.

At a minimum, agencies should include in their APD the number of individuals that make up each team, the team members' employer, and the POs who represent each team<sup>8</sup>. If the POs constitute key staff, they may be named in the APD. Agencies are not required to maintain the team composition described in the IAPD throughout the life of the project. Team composition should only be updated in the APD when significant changes occur, such as a PO leaving the project or the hiring of a new project team. Changes to the agile project team composition do not require an As-Needed APD Update.

It is essential that the agency define a clear resource allocation when working in agile teams so that work is done according to the contract, statement of work, or other contract vehicle that governs the vendor's work. An additional level of complexity to agile teams can be added when multiple vendors work on the same project. When addressing the expectations for the work of the vendors in the APD, an agency should clearly define the roles and responsibilities for the vendor staff especially in regards to the expectation the agency has for interaction between vendor and agency staffs and between vendor and vendor staffs<sup>9</sup>.

Without a clear definition of the expectations, as project teams organize and prioritize work, agencies may confuse work priorities between the agile teams and the project. It is critical that the agency have a clear organization within the project that allows for swift communication of the issues, thereby creating a feedback loop: Issues should be freely communicated with project management through established channels and decisions should be communicated back to project teams in the same way, so that work progress may be continuously and accurately monitored.

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<sup>7</sup> The agency may submit As-Needed APDU documents described at 45 CFR 95.610(c)(2) any time during the project to provide updates; however, they do not replace the necessity to submit the required Annual APD Update.

<sup>8</sup> The Personnel Resource Statement requirements of the IAPD are at 45 CFR 95.610(b)(5).

<sup>9</sup> Agencies are required to maintain oversight of their project and contractors as required by 45 CFR 75.327(b) and 45 CFR 75.342(a).

## Project Organization

It is critical that the agency APD describe the decision-making approach that the project will use. The description of the decision-making approach must provide enough detail so that the federal partner understands how the project will function, and what individual or group (such as a steering committee) is empowered to make critical decisions to move the project forward.

In addition to the decision-making approach, the agency should provide a personnel-resource statement outlining key staff, project positions, and an organization chart in the IAPD. Included in this personnel-resource statement, the agency should describe in the APD where project staff will be located, as well as the expectations for staff roles and performance, depending on their location. For instance, should multiple locations be used for the project's offices, the agency should define which key staff will be based out of which office. Additionally, should project staff be located in multiple time-zones, an expectation should be set as to when the work day will begin and end to promote scheduling efficiencies.

The project management industry considers agile projects to have a greater potential for success when project staff work together, on site, and in a collocated office. Such arrangements for project staff are not always feasible for agencies or vendors to achieve, given their unique circumstances. The agency's APD should describe any arrangements made to retain staff in a location of their choosing, and should address in detail the efforts to arrange consistent, scheduled communication between teams. In a multiple location scenario, the agency should describe how they will facilitate key agile practices that they may choose to implement, such as regular stand-up meetings or retrospectives, including any resources or tools that will be used, such as online meeting software.

## Change Management and Risk Management

Agencies should document their change management and risk management approaches in the APD<sup>10</sup>. Communication plans between the project and end users can support a more smooth transition from using legacy software to using new software. When describing the change management approach, the agency should describe the maturity level of the agency in terms of whether it has completed an agile project in the past or whether agile approaches are new to the agency. If the project is new to agile concepts, or training is planned for some staff prior to the implementation phase of the project, then the APD should include this information in the risk management approach, as well as a description of the remedies the project will use to address this constraint.

After assessing the agency's familiarity with agile methodologies, ACF may suggest or require that an agency procure the services of experienced agile professionals, such as agile trainers or coaches, agile project managers, or agile software implementation vendors for the project in an effort to reduce risk. In cases where ACF perceives high risk that the project may not complete the activities described in the scope on time and under budget, ACF may also choose to require that the agency procure the services of an Independent Verification and Validation (IV&V) vendor<sup>11</sup>. In such cases, ACF will likely suggest that

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<sup>10</sup> The requirement for a risk management plan is at 45 CFR 95.610(c)(1)(ii).

<sup>11</sup> The authority to require an IV&V vendor is at 45 CFR 95.626.

the IV&V vendor have previous agile project experience in an effort to maximize the benefits to both ACF and the agency.

## Project Scope and Methodology

The project scope and methodology section of the APD describes the project management methodologies, industry standards or best practices that will be implemented and followed throughout the project, and that can be used to monitor that work is performed on time and under budget.

### Project Scope

An IAPD must include a broad description of a project scope that defines the end product, the activities required in order to implement the end product, the time required to achieve the activities, and the constraints faced by the project. The agency should make their goals for the project clearly evident in a statement on the project's needs and objectives. The project's needs and objectives and scope together should provide the federal analyst with a clear understating of just what the project hopes to accomplish in the time allotted.

In an agile project, the description of the scope of the work may be at a high level, such as the work required to design, develop and implement modules to make up a new Comprehensive Child Welfare Information System (CCWIS); to add data exchanges to a legacy system, or to enhance to an existing system to add a new front-end user interface to existing legacy functionality. The high-level description must include enough detail to allow for the cross-reference between it and any associated activities described in the project activity schedule. Typically, on an agile project, not all project requirements are documented prior to the submission of the IAPD. In lieu of such documentation, an agile project may describe the process by which the project will collect and manage such requirements and a time by which the requirements will be collected. As stated in the Project Management Plan section of this document, all planned activities for the first year must be detailed and clearly defined in the IAPD.

Agencies may choose to define their scope in terms of completing project milestones, such as the implementation of a specific number of child welfare information system modules or the award of a contract to a technical integration vendor. Such milestones should be described in terms of the activities that make up the milestone and the project teams responsible for the milestone. For instance, completion of the tasks that will be undertaken to design, build, and implement a new Intake module may constitute the Intake module project milestone.

The project's needs, objectives and scope must be sufficient to allow the federal analyst to understand the project's goals<sup>12</sup>. For instance, any APD that does not clearly define the work for the first year of the project (or if approved, a lesser time), the means by which future years will be estimated, and a description of each major milestone for the project does not provide sufficient scope detail for an IAPD submission. Agencies should work with their federal analyst to validate if they will provide enough detail that the analyst may make an informed decision on the contents of the APD submission.

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<sup>12</sup> A statement of problems/needs and outcomes/objectives is required by 45 CFR 95.610(b)(2).



## Project Methodology

In the IAPD, the agency should describe in the methodology section how the activities defined in the scope of work will be accomplished in an efficient, economical and effective way. Agencies should note the approach they will take to implement project goals in their APD along with an explanation of the selected methodology. The explanation should make clear the way that the project will operate under that methodology.

When describing the agile approach that the agency will use to develop and implement work products, the agency should note whether the approach is an industry standard agile approach, a custom model created by the agency, or a hybrid approach.

- Examples of industry standard approaches are Scrum, which organizes staff into what are called Scrum Teams to manage workload; or Kanban, which organizes prioritized work on a Kanban board to which all project staff have access to update.
- An example of a custom model created by the agency is when an agency alters a standard model, such as using a Kanban board in conjunction with a Scrum approach. Note: some of these custom models may have names in the industry, such as Scrumban.
- Examples of hybrid approaches are when an agency uses an agile approach and combines it with a non-agile approach, such as waterfall. The resulting method should not be described as a custom model in an APD, as the model is not entirely agile.

When describing the agency's agile approach, implementation methods as well as strategies to coordinate participation of agency and vendor staffs, must be clearly articulated. The agency may choose to require that all vendor staff adhere to the approaches defined by the agency or may concede to adhering to the culture and approach that the vendor will bring to the project. It is critical that this issue be addressed in the methodology section.

The agency may also choose to wait to fully define an approach until they have selected vendors during the procurement process. If so, the initial IAPD submission may indicate the more clearly defined working agreement relationship with the vendor will be provided in an APD update after the vendor is hired.

Various methods are popular in agile projects for tracking progress and performance. For example, a burn down chart or a burn up chart, showing the progress of completed work versus estimated work, may be used to illustrate progress. The method can additionally show the variance between estimation and completed work, which is an indicator of performance. The agency's approach to progress and performance tracking should be described in the agency's methodology section, as well as any tool used to aid this effort, such as agile project management software. The agency will update project performance and provide an explanation of any variance between previous estimates and actual results through the iterative APD submissions. It is also important that key stakeholders understand the project metrics and status reports. If agile measures are not clearly understood by executive leadership or external stakeholders, the project progress could be misunderstood and/or derailed. Agencies are

encouraged to take needed time to engage key stakeholders to ensure project metrics and status reports are understood and helpful to the agency in managing work and monitoring project progress.

In addition to the measure of current progress and performance, agencies should note any Continuous Quality Improvement (CQI) techniques, Quality Assurance (QA) approaches, or Independent Verification and Validation (IV&V) activities used by the project. Such techniques or outside assistance may reduce risk or the need for rework, thereby saving time and money. If the agency plans to employ any such measures in their project, they should describe this in the methodology section of the APD.

The agency should describe the tracking of project progress versus the expenditure of budgeted resources in the methodology section of the APD. The IAPD should outline how the agency will keep the project on track to meet its schedule and budget projections, as well as describe any tools used to aid this effort. Agencies may rely on other resources, such as financial offices or project management offices, to perform such tracking. Should the agency rely on any other stakeholders to perform financial tracking, this should be noted in the methodology section.

### **Activity Schedule**

The IAPD requires a schedule by which the child welfare information system will be implemented. All project activities, such as delivery of information system modules, procuring hardware, releasing Requests for Proposals (RFP), or other activities defined in the scope, should be included in the schedule. This section of the APD represents the agency's best estimate of when certain activities will be completed and how long they will take to complete.

While the IAPD regulations require complete project schedules, agile projects may begin the implementation phase prior to having all activities' delivery dates projected. The first year of the project should have clearly defined activities with estimated delivery dates before the project begins, and a clearly defined process by which the next year's activities will be determined. The process should indicate how the agency will manage ongoing workload/conflicting priorities and protect itself against scope creep (the addition of requirements not included in the original project scope) or budget overruns during the continued planning process.

As new project details emerge through the ongoing planning efforts of the project team, agencies should share them with ACF. Agencies should consider whether the newly defined work is a significant change to the work that has already been approved in a previous APD. If so, the agency should report that change in an As-Needed APD Update. If the newly defined work will be largely performed in the next year, then the change should be reported in an Annual APD Update<sup>13</sup>.

Regardless of which APD type the agency uses to describe an activity, the agency should prepare a narrative description that indicates the work that must be done under that activity, the date by which the activity will be completed, and the estimated cost to complete it. When documenting new or

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<sup>13</sup> The federal regulations that define As-Needed APD Updates and Annual APD Updates are at 45 CFR 95.610(c).

updated activities in an APD, agencies should work with their federal analyst to make sure that the level of detail in the APD allows the analyst to make appropriate and informed decisions.

## Budget

An IAPD must include a proposed budget pursuant to the federal regulations at 45 CFR 95.610 including an accounting of all possible IAPD activity costs, such as system conversion, vendor and agency personnel, computer capacity planning, supplies, training, hardware, software and miscellaneous automated data processing (ADP) expenses. The proposed budget should be related to the activities described in the APD and include enough funding to feasibly implement those activities.

Traditional waterfall projects typically utilize a lengthy “bottom up” estimation method involving detailed requirements, task lists and resource estimates<sup>14</sup>. This method produces a highly detailed budget estimate, and attempts to take guess work out of estimation by assigning known costs to known work, given assumed levels of productivity. The bottom up estimation method can be slow for large, risky projects, such as software development. Given the speed of change for technology innovations, delays in software delivery can result in release of products that are obsolete at the point of delivery.

Agile utilizes a “top down” approach where the agency utilizes key issues and known information to develop gross-level estimates. This method attempts to quickly assign relative values to work as it is currently known. Gross-level estimates target large bodies of work, such as features or epics; at this stage of the process; a feature or epic represents a collection of related functionality, such as a search function, or an Intake module. As work-output evolves and detailed information becomes known, the project team revisits its estimates and refines them. This process happens repeatedly and iteratively throughout the life of the project so that the agency does not start new work without completing detailed estimates. As the project proceeds the Agency will provide more refined budget estimates in future APDs.

Agile projects also tailor the level of estimation detail needed based upon the type of decisions that the project team is required to make. Agile projects utilize several estimation techniques such as point values assigned to feature sets, relative size, and affinity grouping to assist with scheduling and budget needs. An example technique is planning poker, where team members are given cards with numbers on them and are asked to assign a value that correlates to the level of effort to deliver the work. Affinity grouping is a similar technique where tasks are grouped based on their relative size before point values are assigned. Often, the project team establishes production velocity over time (the speed at which they deliver work) which assists the project in forecasting how much can be accomplished within given budget parameters.

As agencies prepare to release a Request for Proposals, or other similar procurement vehicle, they should use a technique like the ones described in this section to estimate the potential budget and to assist the agency with proposal evaluation efforts. Whichever technique the agency uses to determine

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<sup>14</sup> The estimation techniques included here can be found in the article *Agile Estimation Techniques* from the Project Management Institute: <https://www.pmi.org/learning/library/agile-project-estimation-techniques-6110>

its estimates, the agency should describe the technique used in the budget narrative of the APD. Additionally, as agile projects incorporate information as it becomes known, the agency should update the initial IAPD budget estimates when they discover new information. It is important that the agency describe in the APD budget narrative how the agile team plans to estimate, manage and budget project costs. While agile does allow flexibility to adjust priorities and work plans, it does not absolve the project team from implementing a disciplined approach to managing resources and project costs.

APD budgets (whether part of a waterfall or agile project) typically require modifications and updates. It is important to note, that in the event of any change that exceeds \$1,000,000, any contract change that exceeds 20% of the original contract (cumulative with other contract changes), or any change described in 45 CFR 95.610(c)(2), requires the agency to submit an As-Needed APD Update to justify the change; otherwise, changes may be reflected in the Annual APD Update.

Project activities should be individually listed as line items in the budget table with their estimated costs. These costs should be broken down by quarter for the first four quarters of the project (regardless of where they fall in a fiscal year) and summed in an annual total. Subsequent years may be broken down quarterly. The agency must report all costs according to a Cost Allocation Methodology (CAM) when seeking development funding or a Public Assistance Cost Allocation Plan (PACAP) when seeking operational funding. Development and operational costs should be clearly differentiated, as well as particular vendor costs within each budget (development and operations).

## Reporting Automated Functions for an agile CCWIS Project

Agencies that choose to build a CCWIS using an agile methodology must submit required CCWIS documentation according to the submission requirements regulations at 45 CFR 1355.52(i). The submission requirements describe the submission of a list of automated functions included in the CCWIS and a description of how those automated functions meet all the criteria for being a CCWIS automated function. For a project to be declared a CCWIS project, the agency must include this list of functions with descriptions in the declaration. Agencies do not need to submit a list of automated functions if they plan to build a non-CCWIS child welfare information system.

*CCWIS Technical Bulletin #1 - Identifying and Reporting CCWIS Automated Functions*<sup>15</sup> addresses how to determine what constitutes a CCWIS automated function and how to report the automated function in an agency's submission. Information Memoranda (IM) IM-16-07<sup>16</sup> published the CCWIS Automated Function Checklist Template. Agencies may use the Automated Function Checklist template to submit the required information from 45 CFR 1355.52(i) for the CCWIS automated functions that make up the agency's CCWIS, although use of the templates is optional.

In the IAPD, to begin a CCWIS project, the agency must submit, to the best of their knowledge, all CCWIS automated functions that make up the CCWIS, including bi-directional data exchanges. Each year, in the

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<sup>15</sup> *CCWIS Technical Bulletin #1 - Identifying and Reporting CCWIS Automated Functions* is available on the Children's Bureau website at <https://www.acf.hhs.gov/cb/resource/ccwis-tb1>

<sup>16</sup> Information Memoranda IM-16-07 is available on the Children's Bureau website at <https://www.acf.hhs.gov/cb/resource/im1607>

agency's Annual APD Update, or in As-Needed APD Updates, the agency must submit an updated listing of CCWIS Automated Functions. For agencies using the Automated Function Checklist template, they may simply update the template and any corresponding APD descriptions.

The agency may, at any time, update the CCWIS automated function list. While agencies are expected to submit a complete and accurate list of CCWIS automated functions with the IAPD and each subsequent Annual APD Update, they may update the automated functions list, as needed. Examples of changes may include the following scenarios:

- An agency determines a function originally reported as one automated function, more appropriately should be considered two separate automated functions. When the agency makes this determination, they would simply update the automated function list and describe the applicable changes in an APD update.
- An agency determines that a function originally transitioned as operational is no longer in use and/or is now replaced by a new CCWIS automated function. When the agency makes this determination they would update the APD and the applicable functions on the automated function checklist. Such a change may need to highlight changes to both the transitioned functionality, as well as the new automated functionality.

## **Conclusion**

Agencies may choose to use any project management approach that meets their needs. The use of an agile project management is optional. Regardless of the approach, agencies must still comply with APD regulations.

ACF understands that agencies may choose an agile approach and have questions about how to comply with APD requirements. ACF will work with each agency to understand the preferred approach and how to ensure APD regulations are met. During this process, ACF will assist the agency in setting deadlines for certain artifacts for the child welfare information system project, or acceptable levels of detail within the submission documents to meet APD requirements. Regardless of approach, the final submission must include sufficient detail for a federal analyst to make an approval determination.

Agencies that choose to utilize an agile approach to build a CCWIS must also meet CCWIS requirements, as well as APD regulations. The use of the Automated Function Checklist Template is optional, but is meant to assist agencies in reporting CCWIS automated functions. Regardless of the agency's choice in submitting CCWIS automated functions, ACF will work with the agency to determine whether the submission includes required CCWIS documents and complies with APD regulations.

## 4. Resources

- <http://agilemanifesto.org/>
- Bakal, Martin R. et al. "Continuous Integration in Agile Development: How Agile Methods, Continuous Integration, and Test-Driven Enhance Design and Development of Complex Systems." <https://www.ibm.com/developerworks/rational/library/continuous-integration-agile-development/index.html>
- Moniruzzaman, A B M & Hossain, Syed. (2013). Comparative Study on Agile software development methodologies. [https://www.researchgate.net/publication/249011841\\_Comparative\\_Study\\_on\\_Agile\\_software\\_development\\_methodologies](https://www.researchgate.net/publication/249011841_Comparative_Study_on_Agile_software_development_methodologies)
- Health Information Technology Implementation Advanced Planning Document (HIT IAPD) Template: [https://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/Downloads/Medicaid\\_HIT\\_IAPD\\_Template.pdf](https://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/Downloads/Medicaid_HIT_IAPD_Template.pdf)
- Bishop, Chris. "Modular Software Development - The Federal Government Challenge: Applying Agile Methods to Improve Federal IT Project Performance."
- United States Government Accountability Office, 2012. *Report to the Subcommittee on Federal Financial Management, Government Information, Federal Services, and International Security Committee on Homeland Security and Governmental Affairs United States Senate. "Software Development: Effective Practices and Federal Challenges in Applying Agile Methods"* (GAO-12-681). <https://www.gao.gov/products/GAO-12-681>
- General Services Administration, 2012. "Contracting Guidance to Support Modular Development." <https://obamawhitehouse.archives.gov/sites/default/files/omb/procurement/guidance/modular-approaches-for-information-technology.pdf>
- ICF White Paper "Modular Software Development – The Federal Government Challenge"
- Sliger, M. (2012). Agile estimation techniques. Paper presented at PMI® Global Congress 2012—North America, Vancouver, British Columbia, Canada. Newtown Square, PA: Project Management Institute. <https://www.pmi.org/learning/library/agile-project-estimation-techniques-6110>

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