DEPARTMENT OF HEALTH AND HUMAN SERVICES
Centers for Medicare & Medicaid Services
7500 Security Boulevard, Mail Stop S2-26-12
Baltimore, MD 21244-1850

SMD # 18-005

RE: CMS-2392-F Mechanized Claims Processing and Information Retrieval Systems – Reuse

April 18, 2018

Dear State Medicaid Director:

The Centers for Medicare & Medicaid Services (CMS) is issuing this fourth in a series of letters to provide sub-regulatory guidance to supplement CMS-2392-F, "Mechanized Claims Processing and Information Retrieval Systems (90/10)," which became effective January 1, 2016.[1] This letter reaffirms the requirement for reuse in 42 CFR Part 433, Subpart C - Mechanized Claims Processing and Information Retrieval Systems.

In reviewing the responses to our Request for Comments in our Notice of Proposed Rulemaking (CMS-2392-P), published on April 16, 2015 (80 FR 20455), we determined there is a need to develop supporting policy and sub-regulatory guidance. In developing sub-regulatory guidance, CMS is engaging our partners and stakeholders in recognition of their valuable experience and unique perspectives on this final rule.

Each of the letters in this series addresses discrete subject areas impacted by the final rule.[2] This letter elaborates the guidance for reuse, a key aspect of the Advanced Planning Document (APD), as required under 42 CFR § 433.112(b)(13), and an essential characteristic of economical and risk-reduced development, implementation, maintenance, and operations of business processes and systems. Over the long run, reuse is expected to lower implementation and operational costs compared to custom or one-off solutions. This letter consolidates and reinforces guidance and information previously provided to the states.

Enhanced Funding Requirements

CMS provides, under 42 CFR §433.112(a), 90 percent enhanced federal financial participation (FFP) for Medicaid technology investments funded through an approved APD. One of the 22 conditions that the APD must satisfy for the state to receive enhanced funding, as specified in 42 CFR § 433.112(b), requires states to "[p]romote sharing, leverage, and reuse of Medicaid technologies and systems within and among States." From an intellectual property standpoint, reuse is supported further by the general grant conditions for FFP under 45 CFR § 95.617, which requires states to "include a clause in all procurement instruments that provides that the State or

[1] 80 FR 75817 (Dec. 4, 2015).

[2] Previous letters in this series are State Medicaid Director Letter (SMDL) #16-004, SMDL #16-009, and SMDL #16-010, which may be found at https://www.medicaid.gov/federal-policy-guidance/federal-policy-guidance.html.

local government will have all ownership rights in software or modifications thereof and associated documentation designed, developed or installed with Federal financial participation under this subpart."

CMS expects states receiving FFP to make available to other states for leverage and reuse all their project artifacts, documents, and other related materials, along with systems components and code. CMS is providing for states a reuse repository for this purpose.

Meeting the Requirement for Reuse

In evaluating options for building a state Medicaid Enterprise System (MES), the state should select solutions that maximize reuse opportunities. Reuse can be accomplished through sharing or acquiring:

- An entire set of business services or systems, including shared hosting of a system or shared acquisition and management of a turnkey service
- A complete business service or a stand-alone system module
- Subcomponents such as code segments, rule bases, configurations, customizations, and other parts of a system or module that are designed for reuse.

States have two paths for achieving reuse: (1) they can adapt existing capabilities within the state, capabilities in use by another state, or those available from the vendor community with minimal customization, or (2) they can incorporate reuse into the design of new capabilities. Examples of how a state can facilitate reuse in new development include:

- Hosting software in a cloud, and making it available for other states to use
- Developing open source, license-free MES modules that are sharable with other states
- Sharing specific customizations or configurations to a commercial off-the-shelf (COTS) software product with other states
- Further developing software or systems created for the Health Information Technology for Economic and Clinical Health (HITECH) Act per SMDL# 16-003 to support other business processes in the Medicaid Enterprise or connected to the Medicaid Enterprise.

Support for Reuse

States are expected to participate in workgroups such as the MMIS Cohort, State Technical Advisory Group (S-TAG), and any other relevant state groups to facilitate knowledge sharing, partnerships, and collaboration. Recognizing that states will need adequate infrastructure for successful reuse, CMS is providing the following targeted support and guidance to states:

- Web Resources and Repository - CMS has established a Medicaid Enterprise Reuse page on Medicaid.gov, https://www.medicaid.gov/medicaid/data-and-systems/reuse. The page includes link to the MES reuse repository which is designed to facilitate knowledge sharing and IT asset reuse among the states. This repository is a resource for states wishing to contribute to the reuse effort and for those wishing to access IT assets available for reuse. The repository is also a central location for states to share information and lessons learned about open source, COTS, and other modules or solutions that are suitable for reuse, including those that already have been certified and are operational.

The MES reuse repository includes areas for software or code, documentation, discussion forums, and specific interest groups. There is also an area for APDs and Requests for Proposals (RFPs).

- State Cohort Meetings - CMS sponsors a multistate Medicaid cohort that allows states to collaborate and share knowledge. Cohort members often discuss the topic of solution reuse. CMS participates in the cohort to help disseminate information about reuse, modularity, and interoperability. CMS works with the cohort to establish a focal point for discussion of reuse and to develop common approaches, norms, and standards for those efforts. Already, many states have participated in cohort discussion and have shared reuse case studies.

- APD Review - CMS will look for a reuse plan when reviewing state funding requests, and will expedite approval for applications that clearly give evidence of reuse. CMS will assist states with identifying reuse opportunities during APD development, project planning, and other life-cycle activities.

- Cooperative Purchasing - As one path to sharing resources and solutions, states are encouraged to participate in cooperative purchasing programs, either internally through statewide sharing of services, or through multistate collaboration. States can also leverage cooperative purchasing through federal acquisition vehicles, including those available at GSA.gov. Cooperative purchasing can reduce acquisition lead time and administrative costs, and facilitate reuse and other leverage. For example, a group of states could cooperate on a single multistate acquisition, which could encompass a range of existing capabilities and solutions e.g., COTS products, hosted applications, or shared services. State purchasing is then simplified by ordering from the combined schedule of available options under the established agreement.

- Acquisition Reviews - CMS will review reuse provisions in states' RFPs and in resulting contracts to ensure that APD plans are being fulfilled.

- Life Cycle and Certification Support - When considering potential reuse, states should choose solutions that meet the Medicaid Enterprise Certification Toolkit (MECT) or the Medicaid Eligibility and Enrollment Toolkit (MEET) criteria applicable to MMIS or E&E systems, respectively, available at https://www.medicaid.gov/medicaid/data-and-systems.

- Design - All MES designs must describe how the solution will lend itself to future reuse, including open interfaces and other architectural features to allow for integration into other solutions. CMS' Medicaid Information Technology Architecture (MITA), located at https://www.medicaid.gov/medicaid/data-and-systems/mita, the MECT, and the MEET provide a basis for architectural decisions that promote reuse. For example, when states and vendors choose to partition their systems according to CMS guidance on modules, the likelihood of reuse is increased. Designs should separate business rules from code, and core functionality from state-specific functionality. Implementation of the solution

as designed will be confirmed through MECT or MEET milestone reviews. MES components must meet all standards and conditions for Medicaid IT at the point of certification or other approval.

States should not select solutions that require extensive customization; COTS products that require heavy modification; or solutions that cannot be integrated with other systems using industry standard methods such as open application programming interfaces and data interchange standards.

- Documentation - Comprehensive documentation of solutions that a state is making available to other states is critical to the success of reuse. As a condition for 90 percent FFP, CMS now requires that states obtain and maintain adequate documentation for the solution to allow for the operation of the solution by the state, or another state or contractor. Documentation should be shared with states through the MES reuse repository.

Specific information on CMS guidance, support, documentation requirements, and the Reuse Repository is available under the Medicaid State Resource Center at https://www.medicaid.gov/medicaid/data-and-systems/index.html.

Design Alternatives

Design alternatives available to states for modules and systems include:

- Software as a Service (SaaS) - CMS is encouraging SaaS as an alternative for use in the MES. When applied with appropriate technical features and licensing and when in use by more than one state, SaaS can exhibit a high degree of reuse as a shared business service or module. Data rights are an important consideration for using SaaS. The agreement between the state and the vendor should ensure that the state retains full data rights as required by the State Medicaid Manual 2083.5, and that the vendor offers the capability to provide the state with a full download of all data, in a readily accessible format, should the state opt to discontinue use of the service, as required by 42 CFR 434.10. Since the state actually owns the program data, the contract between the SaaS vendor and the state should require that the data be made readily accessible for inclusion into the state's other systems or modules, such as a data warehouse, through extract, application program interface (API), or other means for interoperability.

- Open Source - The open source community has been effective in developing high-quality systems in many business domains. CMS supports states in using open source software that meets federal requirements, CMS' conditions and standards, and MITA. Open source software should also adhere to industry best practices, including practices for documentation. CMS will support licensing of open source products in accordance with industry best practices, so long as such agreements do not restrict reuse among the states of any software funded with FFP. Furthermore, to facilitate a multistate implementation through open source software, it is important that the state-specific objects or code can be separated from other software components so that the core software is portable from state

to state. This portability should facilitate platform independence, which enables states to run the software in many environments and connect to many different systems.

States that develop new custom open source software should require that development happen in a fully open source manner from the beginning. They should also take proactive steps to demonstrate that the software is truly useable and deployable by third parties, i.e., that it is not, in practice, locked in to the original vendor despite being nominally open source. Formal independent verification and validation is one way to accomplish this.

- Proprietary Software - Proprietary products may be a component of a Medicaid solution under certain conditions. For proprietary software products to adhere to MITA 3.0 principles of architecture and design, it is required that contract agreements for that software do not create obstacles to reuse for other Medicaid programs due to the proprietary nature of the software and/or their related interfaces, i.e., the software should be available to other states through similar licensing and pricing agreements. If states choose proprietary software as part of their MES solution, they should use modules that are loosely coupled[3] to avoid vendor lock-in.

  No FFP is available for the development or enhancement of proprietary software products that are protected by copyright or patent.

Summary

The CMS goals for reuse are to reduce costs, accelerate development and implementation, and improve the overall quality and maturity of Medicaid enterprise systems. CMS understands the challenges that states face for reuse that may stem from state-specific regulations and operational conditions, currently active vendor agreements and implementations, incomplete or unspecified interface standards, or limited resources. Reuse is a key step to promote modularity with standardized interfaces, and to help remove the limitations from using proprietary software. Reuse also facilitates collaboration among the states by sharing artifacts and software. States also can share experiences to avoid pitfalls and to find best practices and shortcuts, especially from states and vendors that have well-defined and well-executed processes that have led to successful implementation.

CMS welcomes state participation in identifying and implementing innovations for achieving the goals for reuse. CMS is committed to ongoing collaboration with states and stakeholders around standards, governance, and information sharing to support reuse.

Where conflicts exist, this SMDL supersedes previous guidance in the State Medicaid Manual Chapter 11 (https://www.cms.gov/Regulations-and-Guidance/guidance/Manuals/Paper-Based-Manuals-Items/CMS021927.html). Supplemental information is available in the MECT, the

[3] "Coupling" refers to the degree that components are directly dependent upon one another. Loosely coupled components typically interact through well-defined, published messaging methods or application programming interfaces that limit the necessity of direct control and knowledge of the internal operations of one component by the other.

MEET, and in a series of responses to frequently asked questions (FAQs) maintained at https://questions.medicaid.gov.

If you have questions not answered in the FAQs, please contact Martin Rice at 410-786-2417 or at martin.rice1@cms.hhs.gov. We look forward to working with states to facilitate state system builds, to ensure compliance with 42 CFR 433.112(b), and to provide assistance implementing these requirements.

Sincerely,

/s/

Timothy Hill
Acting Director

cc:

National Association of Medicaid Directors
National Academy for State Health Policy
National Governors Association
American Public Human Services Association
Association of State Territorial Health Officials
Council of State Governments