REQUEST FOR INFORMATION: Modular Solutions for Medicaid IT Enterprise and Pre-certification of Solutions

AGENCY/OFFICE: Department of Health and Human Services
Centers for Medicare & Medicaid Services (CMS)
Centers for Medicaid and CHIP Services

ACTION: Request for Information (RFI)

SUMMARY: The Centers for Medicare & Medicaid Services (CMS) is seeking information on the availability of modular solutions and the ability and interest in producing and offering solutions for Medicaid enterprise systems, specifically for clinical and administrative data warehouse and identity management solutions. CMS is developing a process for vendors to voluntarily obtain pre-certification for their Medicaid Management Information Systems (MMIS) modules in order to streamline the development and eventual certification of MMIS. CMS is now seeking suggestions for structuring such a pre-certification program. The information gathered from this RFI will inform the CMS process for implementing voluntary vendor pre-certification.

DATES: To be assured consideration, responses must be received by July 14, 2016.

ADDRESSES: You may submit comments in one of four ways (Please choose only one of the ways listed.):

1. Electronically. You may submit electronic responses on this RFI to mmis_mes_certification@cms.hhs.gov.

2. By regular mail. You may mail written comments to the following address ONLY: Centers for Medicare & Medicaid Services, Department of Health and Human Services, Attention: Eugene Gabriyelov, P.O. Box 8013, Baltimore, MD 21244-8013. Please allow sufficient time for mailed comments to be received before the close of the comment period.

3. By express or overnight mail. You may send written comments to the following address ONLY: Centers for Medicare & Medicaid Services, Department of Health and Human Services, Attention: Eugene Gabriyelov Mail Stop S2-22-16, 7500 Security Boulevard, Baltimore, MD 21244-1850.

4. By hand or courier. You may deliver (by hand or courier) your written comments ONLY to the following addresses:

> a. For delivery in Washington, DC—Centers for Medicare & Medicaid Services, Department of Health and Human Services, Room 445-G, Hubert H. Humphrey Building, 200 Independence Avenue SW., Washington, DC 20201.
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> Because access to the interior of the Hubert H. Humphrey Building is not readily available to persons without Federal Government identification, respondents are encouraged to leave their comments in the CMS drop slots located in the main lobby of

the building. A stamp-in clock is available for persons wishing to retain a proof of filing by stamping in and retaining an extra copy of the comments being filed.

b. For delivery in Baltimore, MD—Centers for Medicare & Medicaid Services, Department of Health and Human Services, 7500 Security Boulevard, Baltimore, MD 21244-1850. If you intend to deliver your responses to the Baltimore address, call telephone number (410) 786-9994 in advance to schedule your arrival with one of our staff members.

Responses erroneously mailed to the addresses indicated as appropriate for hand or courier delivery may be delayed and received after the comment period.

All information received will be made available for public inspection. Please do not provide any personal or proprietary information.

FOR FURTHER INFORMATION, CONTACT: Email mmis_mes_certification@cms.hhs.gov.

BACKGROUND: Medicaid provides health coverage to millions of Americans, is administered by the states, and is funded jointly by states and the federal government. The information technology (IT) systems used to administer Medicaid include, but are not limited to, Eligibility and Enrollment (E&E) systems, MMIS, immunization registries, and electronic clinical quality measure systems, among others. CMS provides funding to states to develop, upgrade, and maintain these systems. In order to receive federal funds, states must apply for the funds using an Advanced Planning Document. In the case of MMIS, CMS certification is required before the state collects enhanced federal funding for system operations. The certification process, along with the checklists used to ensure systems meet all necessary requirements, is explained in detail in the Medicaid Enterprise Certification Toolkit, available at https://www.medicaid.gov/medicaid-chip-program-information/by-topics/data-and-systems/mect.html.

CMS envisions that modular solutions and architectures for state Medicaid enterprise systems will promote the reuse of technical solutions among states, minimize customization and configuration needs, and increase competition in the Medicaid Enterprise marketplace. Modular architectures will also improve efficiency and effectiveness of system upgrades, reduce costs, improve system interoperability, and increase adherence to Medicaid Information Technology Architecture (MITA) and the Standards and Conditions for Medicaid IT. Such open, reusable system architectures help ensure states' ability to efficiently implement, maintain, and upgrade systems and share clinical and administrative data across public health and human services systems designed to deliver person-centered services and benefits. As a result, CMS has promoted modularity through various policies and frameworks.

In 42 CFR [Code of Federal Regulations], Part 433.111(h), a module is defined as "a packaged, functional business process or set of processes implemented through software, data, and interoperable interfaces that are enabled through design principles in which functions of a complex system are partitioned into discrete, scalable, reusable components." Modularity has long been recognized as an industry best practice and is foundational to many design approaches. Under the authority of Section 1903 of the Social Security Act, CMS issued the Modularity Standard as one of the Standards and Conditions for Medicaid IT with which state systems must comply in order to receive enhanced federal financial participation (FFP) funding. The final

regulation establishing these Standards and Conditions can be found at https://www.federalregister.gov/articles/2015/12/04/2015-30591/medicaid-program-mechanized-claims-processing-and-information-retrieval-systems-9010. The Modularity Standard requires the use of a modular, flexible approach to systems development, including the use of open interfaces and exposed application programming interfaces (APIs), the separation of business rules from core programming, and the availability of business rules in both human and machine-readable formats. These features are critical for the Medicaid Enterprise System (MES) in that they allow for modules to be easily updated and for one vendor's product to be exchanged with a different vendor's product with minimal effort.

Modularity is also a key principle of the MITA Framework, which was developed to foster integrated business and information technology transformation across the Medicaid enterprise. Alignment with the MITA framework is also a condition with which states must comply in order to receive enhanced FFP funding. Further information on the MITA framework can be found at http://www.medicaid.gov/medicaid-chip-program-information/by-topics/data-and-systems/mita/medicaid-information-technology-architecture-mita-30.html.

Among other things, CMS is interested in promoting the development of modularity, considered here as both business modules and shared services, aimed at improving care management and health information exchange for state Medicaid agencies and other agencies providing person-centered services and benefits. CMS is requesting stakeholder input to determine current interest in and ability to produce and offer data warehouses capable of storing clinical and administrative data (including quality reporting and other analytic capabilities) and for identity management shared services (including master person index and provider directories). Such modules and shared services would be widely applicable to many state Medicaid enterprises, would advance the integration of key Medicaid systems including MMIS, E&E, and the Health Information Technology for Economic and Clinical Health Act (HITECH), and would greatly aid in the goal of improving healthcare and health information exchange across Medicaid systems and state programs. CMS understands, however, that states may face significant challenges to fully implementing modules and shared services due to procurement and human resource constraints, and CMS would like to understand those challenges and how it might help states to overcome them.

CMS is developing a process for vendors to voluntarily obtain pre-certification for their MMIS modules as a means of streamlining the path to MMIS certification. To this end, CMS invites public comment regarding voluntary module pre-certification process and its potential benefits, drawbacks, and challenges.

This RFI is divided into sections to solicit feedback on the ability to produce and offer solutions related to clinical data warehouse and identity management, and to solicit feedback on the overall process of voluntary module pre-certification. The sections of this RFI are as follows:

I. Voluntary pre-certification of vendor modules

II. Clinical and administrative data warehouse, including quality reporting and data analytics

III. Identity management shared services, including provider directory and master person index.

SOLICITATION OF COMMENTS

RESPONDENT CONTACT INFORMATION: Please provide the name and address of respondent.

QUESTIONS: CMS seeks voluntary comments from the public. Respondents are requested to provide comments on the following questions that are most relevant to their interest and experience. The term "organization" refers to a respondent's employer, association, or any other entity from which the respondent is providing a perspective. Whenever possible, respondents are asked to draw their comments from objective, empirical, and actionable evidence and to cite this evidence within their comments. *Not every question may apply to every type of respondent. A response to every question is not required, but all perspectives are welcome for any question.*

Respondents are encouraged to provide additional suggestions and comments for each of the subject areas beyond the specific topics outlined in the questions. The information gathered on modules, shared services and approaches to pre-certification may have an impact on the future Medicaid enterprise.

CMS welcomes diagrams, tables, and other visuals that support responses.

SECTION I. Voluntary Pre-certification of Vendor Modules

During its recent rulemaking, CMS received several comments regarding plans for pre-certification of MMIS modules. CMS is now seeking suggestions for how to structure the pre-certification process. Pre-certification would streamline certification of those modules once they are integrated into an MMIS. Per regulations, certification for MMIS occurs per state and applies to a specific operational instance of an MMIS. The end-to-end MMIS certification process would still include the evaluation of pre-certified modules with respect to how they perform once integrated into the MMIS in production. However, the use of pre-certification may expedite overall MMIS certification because pre-certified modules would have already been evaluated against a relevant subset of certification criteria. The voluntary pre-certification of modules may also accelerate the adoption of vendor products by state Medicaid agencies.

The questions below relate to the voluntary pre-certification of vendor modules, the implications of it, and how pre-certification might be structured.

1. **Would voluntary pre-certification of modules:**
    - **Spur innovation in Medicaid Enterprise information technology? Why or why not?**
    - **Accelerate development of interoperability between modules? Why or why not?**
    - **Accelerate adoption of modular MMIS? Why or why not?**
    - **Be advantageous to your organization? Why or why not?**
2. **Please share your thoughts on how CMS could evaluate, pre-certify, and govern pre-certification of vendor modules. Please include recommendations regarding criteria, helpful tools, and procedures, including possible use of third party certification bodies.**
3. **What benefits should CMS offer to encourage the use of pre-certified modules? (For example, pre-certified modules could have partially completed certification checklists to make certification reviews of implemented modules faster.)**
4. **Please comment on how a repository of pre-certified modules may or may not be beneficial to a state and how such a repository might be maintained, including legal and ownership considerations.**

5. **What state-level challenges exist for the use of modular solutions (e.g., interoperability governance, data governance, etc.) and what can CMS do to help overcome these challenges?**
6. **What might be the governance challenges of open-source or shared pre-certified modules at the national level, and how could CMS help overcome those challenges?**
7. **Which open-source licensing option would be appropriate for open-source, pre-certified modules (e.g., GNU [Gnu's Not Unix] General Public License (GPL), Lesser General Public License (LGPL), New Berkeley Software Distribution (BSD) License/Modified BSD License, Simplified BSD License/Free BSD License, Massachusetts Institute of Technology License, Apache License, Version 2.0, etc.)?**
8. **Please feel free to provide any additional suggestions, comments, or concerns about the module pre-certification process that are not addressed above.**

SECTION II. Clinical and Administrative Data Warehouse

A clinical and administrative data warehouse ("data warehouse") is a central repository that integrates and reports on data coming from multiple sources, and stores current and historical data critical for quality reporting, decision support, and tracking health-related metrics over time. Data warehouses are critical to achieving healthcare delivery reforms, patient-oriented care management, cost reductions and improved population health.

9. **What challenges and risks might a state face when integrating a data warehouse with MMIS or other Medicaid enterprise systems?**
10. **Are there existing data models or standards (for example, MITA, National Human Services Interoperability Architecture (NHSIA), National Information Exchange Model (NIEM) that should serve as a foundation for a state data warehouse?**
11. **What are the barriers to producing a common data model, and how might a common data model be created and adopted?**
12. **Is industry ready to provide reusable clinical and administrative data warehouses to the Medicaid enterprise? Please explain.**
13. **In the current landscape, are analytic tools offered as stand-alone solutions or are they usually coupled with a data warehouse solution tied to a vendor-specific data model?**
14. **Do current industry offerings enable a state to easily assemble its data warehouse solution using products from different vendors?**
    - If so, please elaborate on how replacement can be achieved.
15. **If a common data model is established, would industry be able to offer an interoperable set of analytic tools decoupled from a proprietary data warehouse?**
16. **From a business standpoint, what aspects of a data warehouse are viable for vendors to create and offer as part of a reusable, enterprise-wide, modular, data warehousing solution for states? What aspects of a data warehouse are not viable as modular, reusable, solutions? Please explain.**
    - What are the key challenges for creating and marketing a solution, and how could those be addressed (e.g., unlimited liability requirement)?
17. **If your organization produces or uses a state-level analytic tool, does it provide an API?**
    - What types of information can be shared and how?

- What is the architecture of the module API (Simple Object Access Protocol [SOAP], Representational State Transfer [REST], etc.)?
- What standards is your state currently using or planning to use from the Office of the National Coordinator for Health Information Technology (ONC) Interoperability Standards Advisory with respect to the data warehouse?
- What data formats may be necessary to ensure interoperability (e.g., Fast Healthcare Interoperability Resources (FHIR), Health Level 7 (HL7v2), Consolidated Clinical Document Architecture (C-CDA)?
- How is interoperability designed into the module?
- With what other systems does the module successfully interoperate?

18. **For the purposes of MES, should clinical and administrative data warehouses be treated as MES modules, as shared services, or as technical resources that modules would be deployed upon? And why?**
19. **What outcome-based critical success factors should be added to the existing certification criteria as part of pre-certification for data warehouse? (Please see the MECT for more information about certification criteria: https://www.medicaid.gov/medicaid-chip-program-information/by-topics/data-and-systems/mect.html).**

Please feel free to submit additional suggestions or comments regarding clinical and administrative data warehouses that are not addressed above.

SECTION III. Identity Management Shared Services

Identity management is critical to ensuring the effective and secure exchange of patient health and other sensitive information across the Medicaid enterprise and other human services organizations. A reusable identity management solution would contain a set of interoperable vendor modules and business processes including, but not limited to, identity access control services, a provider directory, and a master person index. Enterprise identity management solutions are shared services, and therefore are not certified as part of the MMIS.

20. **What are the key challenges for creating, marketing, and implementing an identity management shared services for state Medicaid agencies, and how can those challenges be addressed by CMS?**
21. **From a business standpoint, what aspects of identity management is viable for vendors to create and offer as part of a reusable, enterprise-wide, modular, interoperable, identity management solution for states? What aspects of identity management are not viable as modular, reusable solutions? Please explain.**
22. **Are current industry offerings for identity management shared services interoperable? For example, could a state integrate its existing master person index from one vendor into an access management solution from another? Could various industry offerings share patient matching algorithms? Please explain.**
23. **Are there identity management solutions (master person index, provider directory, security, access management, etc.) currently available in the marketplace that are interoperable with Medicaid IT systems? If so, what are they?**
24. **What applicable security patterns does your state use or plan to use from the ONC Interoperability Standards Advisory? (Applicable security patterns are detailed for each of**

the standard areas in sections II and III of the ONC Interoperability Standards Advisory document.)

25. **What standards do states use for authentication (Security Assertion Markup Language [SAML], Kerberos, OAuth 2.0, OpenID Connect, etc.)?**
26. **How many different identity management solutions are typically used across a state health agency? Please indicate a number.**
    - If more than one, do they interoperate, and if so, how?
    - If more than one and they do not interoperate, what barriers have prevented interoperability?

Please feel free to submit additional suggestions or comments regarding identify management shared services that are not addressed above.

THIS IS A REQUEST FOR INFORMATION ONLY. This RFI is issued solely for information and planning purposes; it does not constitute a Request for Proposals, applications, proposal abstracts, or quotations. This RFI does not commit the government to contract for any supplies or services or make a grant award. Further, CMS is not seeking proposals through this RFI and will not accept unsolicited proposals. Responders are advised that the U.S. government will not pay for any information or administrative costs incurred in response to this RFI; all costs associated with responding to this RFI will be solely at the interested party's expense. Not responding to this RFI does not preclude participation in any future procurement, if conducted. It is the responsibility of the potential responders to monitor this RFI announcement for additional information pertaining to this request.

Please note that CMS will not respond to questions about the policy issues raised in this RFI. CMS may or may not choose to contact individual responders. Such communications would serve to further clarify written responses. Contractor support personnel may be used to review RFI responses.

Responses to this notice are not offers and cannot be accepted by the government to form a binding contract or issue a grant. Information obtained as a result of this RFI may be used by the government for program planning on a non-attribution basis. Respondents should not include any information that might be considered proprietary or confidential. This RFI should not be construed as a commitment or authorization to incur cost for which reimbursement would be required or sought. All submissions become government property and will not be returned.