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**Sent:** 16 Jan 2018 19:38:00 +0000  
**To:** (b) (6)  
**Subject:** FW: delivery of draft report  
**Attachments:** VA EHRM Interoperability Panel Jan 2018 - Summary Report DRAFT 2018-01-15 Submitted.pdf

Fyi. Will be looking for your critique.  
Thx  
John

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**From:** (b) (6) @mitre.org]  
**Sent:** Monday, January 15, 2018 11:01 PM  
**To:** Blackburn, Scott R.; Windom, John H.  
**Subject:** [EXTERNAL] delivery of draft report

Dear Scott and John,

Please find attached a **draft** document entitled VA EHRM RFP Interoperability Review Report, which I am submitting to you on behalf of MITRE, as requested, on 15 January 2018.

This draft document contains a summary of the recommendations of the expert Panel we convened on 5 January, and constitutes one of the tasks in this effort. Additional tasks will be completed and added to the final Report as agreed upon in the schedule in the revised PWS.

As always, your comments, questions, suggestions, and feedback are most welcome.

Thank you.  
Sincerely,

(b) (6)

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Vice President, Chief Technology Officer (CTO)

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# MITRE – On behalf of VA Electronic Health Record Modernization



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McLean, VA  
January 2018

Sponsor: Department of Veterans  
Affairs

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# VA EHRM RFP Interoperability Review Report

January 15, 2018

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## Executive Summary

In support of the Secretary of Veterans Affairs (VA), David J. Shulkin, M.D., the MITRE Corporation convened and hosted a VA Electronic Health Record Modernization (EHRM) Request for Proposal (RFP) Interoperability Review Panel on January 5, 2017, at MITRE's McLean headquarters. The invited external senior electronic health record interoperability subject matter experts (the Panel) reviewed the interoperability language in the existing request for proposals (RFP) and developed joint suggestions and recommendations for VA to consider for incorporation to support the successful execution of a new commercial electronic health record (EHR). The Panel affirmed that the major goal should be seamless Veteran-centric Healthcare that is achieved through true EHR interoperability. This goal rests on three overarching principles, which should be supported by interoperability language in the RFP: 1) free and open access to data, 2) an ecosystem that provides fair access for 3<sup>rd</sup> parties by a level playing field, and 3) and seamless Veteran and health provider (clinician) experience. This goal and these principles will be enabled by four categories of recommendations from the Panel (the first three to the interoperability language in the RFP, and the fourth for future VA contracts): 1) commit to full VA-DoD interoperability, 2) leverage current and future standards, 3) commit to open, standards-based application programming interfaces (APIs), and 4) use Care in the Community contracts to foster interoperability.

For the first category (commit to full VA-DoD interoperability), the most important specific recommendations included the following:

- VA should consider adding clear language that specifically defines the degree of interoperability the solution will provide, ranging from basic file sharing to fully interchangeable, integrated and functionally identical patient records; and
- The contract language should include the following elements:
  - performance measures to ensure Cerner-to-Cerner operability,
  - ability for bulk data export based on standards, with no proprietary formats (e.g., Flat FHIR), and
  - “push” capability to insert back into the VA EHR / Cerner database.

For the second category (leverage current and future standards), the following specific recommendations were among the most important:

- Require that Cerner implement all standards as defined by VA, current and future,
- Engage Cerner as an advocate of the VA and DoD position in all relevant standards-making bodies, and
- VA and Veterans must have complete access to data.

For the third category (commit to open, standards-based APIs), the Panel voiced the following recommendations:

- Establish clear publishing and access service requirements,

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- Provide a VA application platform that supports APIs from third party providers with no barrier to entry, and
- Require implementation of clinical decision support (CDS) hooks to invoke decision support from within a clinician's EHR workflow.

Multiple additional specific recommendations are contained within the body of the report.

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## **Background**

The Department of Veterans Affairs (VA) plans to establish seamless care for Veterans throughout the health care provider market. Seamless care requires interoperability between the Department of Defense, VA, VA affiliates, community partners, Electronic Healthcare Records (EHR) providers, healthcare providers, and vendors. The MITRE Corporation (MITRE) is tasked to independently review Cerner's proposed EHR solution capability to seamlessly transmit health records with EHR systems used by entities which provide health care to Veterans and qualified beneficiaries of Veterans contributing patient data to a Veteran's health record to include the Veterans Choice Program (VCP) community-care service providers and VA affiliates. This review is comprised of four parts:

1. Conduct an external Interoperability Review Panel to review the interoperability language in the existing request for proposals (RFP),
2. Engage an independent and unbiased legal expert to identify the specific changes to the RFP language necessary to implement the recommendations from the Interoperability Review Panel,
3. Visit the University of Pittsburgh Medical Center to understand the existing operational multi-vendor solution and interoperability solutions for applicability and scalability to the VA, and
4. Estimate the cost for developing point-to-point interoperability solutions between Cerner and Epic, using existing commercial healthcare provider experience.

## **I. Interoperability Review Panel**

### **Introduction**

In support of the Secretary of Veterans Affairs, David J. Shulkin, M.D., the MITRE Corporation convened and hosted a Department of Veterans Affairs (VA) Electronic Health Record Modernization (EHRM) Request for Proposal (RFP) Interoperability Review Panel on January 5, 2017, at MITRE's McLean headquarters. MITRE invited external senior electronic health record interoperability subject matter experts (hereafter referred to as Panelists) to review the interoperability language in the existing request for proposals (RFP) and to develop joint suggestions and recommendations for VA to consider for incorporation to support the successful execution of a new commercial electronic health record (EHR). Eleven Panelists were present, in person along with several senior government executives observing the process (see Appendix A for the full list of participants).

### **Goal of the Interoperability Review Panel**

The Interoperability Review Panel's goal was to provide Secretary Shulkin and his senior leadership team with key best practice insights and learnings from national experts regarding EHR interoperability and the corresponding language in the draft RFP based on their successful business transformations and implementations of a new commercial EHR system across a

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distributed hospital and provider network. The outcome of the Panel is this document—a summary of the expert recommendations—which will inform VA’s interoperability contract language. The document also provides actionable and specific best practice recommendations and rationales to enable a successful acquisition and implementation.

## **Methodology/Approach**

The session was held in two parts. The first part was conducted as a fish-bowl exercise and was guided by Chatham House Rule. The Panelists sat at a center table, with VA and other government participants sitting at surrounding tables in listening mode. The second part consisted of a summary debrief to the Secretary and senior VA leadership. The Secretary had complete liberty to ask questions and engage with the Panel throughout the second session. MITRE moderated the session to elicit inputs from all Panelists and to drive alignment towards consensus in the recommendations.

The agenda for the first five-hour session was structured to elicit inputs from all Panelists, with notes captured as redlines to the RFP interoperability language on-screen to ensure accuracy in the Panelists’ recommendations. Subsequently, in a facilitated discussion, the Panelists grouped their recommendations into specific categories in real time.

The agenda for the second two-hour session was a debrief to the Secretary and senior VA leadership on the Panels’ recommendations, and provided opportunities for the Secretary to discuss the recommendations in additional detail. This document summarizes the discussion that took place. It highlights actionable changes to the RFP language and additional recommendations and lessons learned that can enable interoperability of the VA EHRM solution. Text boxes highlighted throughout the report feature direct quotes from a number of Panelists. To ensure participant confidentiality, the transcription and event recording used to develop this report have been destroyed by MITRE.

## **Topic Area: VA Definition of Interoperability**

*“The key to modernization is creating greater interoperability with Governmental partners, including DoD, in a way that focuses efforts in support of the Veteran’s journey, beginning with their military service. We will partner with others to ensure Veterans can get their benefits, care, and services consistently, easily, and with excellent customer service, no matter where they are throughout their lives. VA will work with local communities, and with other Federal, State, Tribal, and Local Government entities to ensure Veterans get what they need. VA will also continue to leverage the private sector where appropriate and needed to deliver the very best outcomes for Veterans.”* - draft VA 2018-2024 Strategic Plan

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### **Enable data sharing, interoperability, and agility through data standardization.**

VA needs to allow data sharing among various business needs, such as business intelligence, and transportability of information between sites. Panelists advised VA to leverage and support the best-in-class innovation currently in practice within the VA culture. It is also important to enable interoperability as VA integrates the EHR to other supporting systems, both within the VA network and with external health service providers. Agility is necessary for adoption of future innovative technologies and/or if VA wants to upgrade or change the EHR approach. The Panelists cautioned that this EHR technology is already 20-years old and, as with all industries and IT solutions, there are many possible disruptive technologies on the horizon.

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“It really optimizes transportability of best practices, because if you are trying to transfer best practices from one site to another and you have the same system where the best practice is going to land, then it is much easier.”

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**Figure 1. VA Definition of EHR Interoperability**

The session began with a discussion on the definition of interoperability as currently defined by VA (Figure 1). Prior to establishing a roadmap to inform a nationwide plan to advance health data interoperability, VA must first ensure system-wide interoperability across the Department. This is described as, and was referred to during the Review Panel session as, “Level 1 Interoperability,” and includes migration of Veteran data from ~130 instances of VistA to one VA platform.

“Level 2 Interoperability,” as discussed in the Panel discussion addresses the ability to leverage the same DoD Cerner platform to ensure seamless care from active service to Veteran status. After this implementation, the clinical data transformation will allow for the true longitudinal

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view of a Veteran's record as he or she transition from DoD to VA for care and other critical services such as benefit adjudication.

"Level 3 Interoperability" is the next level on the national scale for both VA and DoD to take an important step towards transforming electronic patient data exchange on a scale not yet fully realized. With the utilization of community healthcare providers via the VA Community of Care initiative and DoD's Tricare network providers, VA has the opportunity to drive interoperability among DoD and VA as well as the extensive network of healthcare providers that serve our Nation's Veterans, active duty service members, and their beneficiaries.

True nationwide interoperability for the entire United States is the ultimate end goal, which the Panel agreed could be realized if the three levels aforementioned levels of interoperability are achieved. Here, VA has the opportunity to drive clinical transformation and a complete electronic health record for all patients at the national level.

## **Topic Area: Commit to Full VA-DoD Interoperability**

The review Panel was primarily focused on reviewing the interoperability language within the RFP for the Cerner contract. However as described in Interoperability Levels 1 and 2, the commitment to the seamless integration of VA and DoD health data is the required foundation that is required to realize interoperability with private sector healthcare providers<sup>1</sup>. It is important to note that the interoperability levels can be addressed simultaneously and should not be separated as their integration is required to efficiently achieve the larger future data sharing ecosystem.

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"You really have to get the basics done first. Let's just make absolutely sure that the interoperability between DoD and VA [is achieved]."

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### **Specify the expectations for interoperability between DoD and VA.**

During the discussion about the expectation that Cerner will provide a single EHR solution to be shared by both DoD and VA, the Panel raised concerns about the lack of specificity in the contract language. Current interoperability data standards address a subset of the Veteran's clinical record and VA has the opportunity to ensure Cerner provides interoperability of all discrete data, at a minimum, between the VA and DoD. Adopting the same platform allows for the increase of seamless sharing, but the Panel believes that the VA should take additional action to ensure that is realized. The DoD and VA systems should have full interoperability, using proprietary database to database interoperability if necessary, to maximize the power of interoperability between those two systems. These systems should be configured to meet the distinct need of each while being connected to each other in a native database-to-database method as necessary, leveraging open interoperability standards wherever possible. As a result, a clinician should experience no differences when he or she moves from a VA system to a DoD system. These data should also be computable, or be made computable according to a specific schedule. The VA should consider adding specific language that specifically defines the degree

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<sup>1</sup> Healthcare providers is used to refer to community based physicians/specialist and hospitals.

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of interoperability the solution will provide, ranging from basic file sharing to fully interchangeable, integrated and functionally identical patient records.

The Panelists also had the opinion that, for the VA and DoD collectively, the contractual language include the following requirements:

- performance measures to ensure Cerner-to-Cerner operability
- ability for bulk data export based on standards, with no proprietary formats (e.g., Flat FHIR)
- “push” capability to insert back into the VA EHR / Cerner database

**Pivot the RFP to be Veteran-centric and not system-centric.**

The Panelists discussed the impact of EHR implementations on clinician workflow, identifying the issue as one of approaching the implementation as an IT system implementation rather than the preferred Veteran- or clinician-centric implementation. The current RFP appears to be written in a system-centric way instead of leveraging use-cases to describe the Veteran or clinician experience or workflow to characterize the requirement. The Panelists recommend VA incorporate use-cases to characterize requirements and amend the language to emphasize the Veteran-centric objectives. In addition, Panelists recommend VA be mindful that EHRs do not currently maximize efficient clinical workflow, requiring VA specify that the solution present the clinician with relevant information where needed with a minimum number of “clicks to find.”

**Topic Area: Leverage Current and Future Standards**

The integrated EHR platform that DoD and VA are implementing provides the opportunity to significantly influence interoperability standards across the healthcare community, addressing gaps and competition among current standards. The Panel recognized that there is limited business value to commercial health systems and technologies in making data portable between them, which lowers the barrier to patient movement between healthcare providers.

**Engage Cerner as an advocate of the VA and DoD position in all relevant standards-making bodies.**

The Panel recommended increased VA presence and leadership in the national health IT standards-making activities, in coordination with the DoD. Additionally, Cerner should be an active advocate of the VA-DoD position and actively participate in the development and/or evaluation of new Standards, Policy Directives, Operating Procedures, Processes, etc. As an integrated voting bloc, VA, DoD, and Cerner will have the potential to be a strong driver of national standards. It is understood that VA is not currently active in the Fast Healthcare Interoperability Resources (FHIR) community nor with the Health Level Seven International (HL7) Argonaut Project. In addition, there is a need for standards to exchange patient reported outcome data for integration into the clinician’s workflow. The current language seemingly puts

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the burden on Cerner for the development of standards, and the Panel recommends that VA take a more active position. This will ensure that when standards mature, VA will participate and drive implementation. Where standards are immature, VA must participate to accelerate standardization.

**Require Cerner implement all standards as defined by VA, current and future.**

It is unclear where health IT is heading in five years, therefore the Panel strongly suggests VA include contract language to address possible future advancements in the form of standards as defined by the VA. At a minimum, VA should seek maximum interoperability with community care organizations using open interoperability standards wherever possible. This flexibility ensures external stakeholders are not relied upon to determine VA standards acceptance. The Panel recommended specific categories of standards for the VA to pay particular attention to: real time data read/write by care providers and Veterans; interoperability tools; seamless DoD and VA vision records; and principles for data normalization and structure. The Panel also recognizes Cerner's influence in ensuring the CommonWell network interoperates at the highest possible levels with other networks including CareQuality, an influence that VA should encourage.

**VA must own its data; clear ownership and access is critical to success now and in the future.**

The Panel highlighted an important recommendation regarding data rights that was discussed in the prior VA EHRM Listening Forum on September 7, 2017. The Panel recommended VA define who has what rights from a data owning, access, and sharing perspective (e.g., VA owns the data and all data products vs. community care providers owning the patient data vs. Veteran owns all of his or her own data). Determining the authoritative data source for the various elements of a Veteran's health record is an important Veteran-centric component to interoperability, the longitudinal record, and seamless access to data.

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"So, what you need is clear access and clear ownership of your information...you need to have absolutely, undisputed, clear ownership and ability to move the data to any place you want to use it and use it in any way you want to use it when you get there. And not have them [Cerner] be able to say no, that's our data or hinder you in any way or have an unreasonable charge to get it."

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VA should define an enterprise-wide policy for all VA data. A suitable policy would include but not be limited to EHRM-specific data, and this policy should be issued by VACO or VHA. VA must have clear ownership of and access to all the information in the EHR and be able to move it now and in the future (into new systems or among systems) as needed. Owning the data ensures that it is available regardless of vendor or system. It is essential to include this in the Cerner contract. Technology innovations occur at rapid speed in the 21<sup>st</sup> century, and VA must have the full ability to move its data to future systems.

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Panelists also recommended VA publish its data model, such as to the National Library of Medicine, to further promote commercial interoperability investments. Lastly, Panelists encouraged that VA leverage its investment in the Open Source Electronic Health Record Alliance (OSEHRA) by providing seed money to develop open source connectors between Cerner and EPIC, which would encourage other vendors to join in the effort.

## **Topic Area: Commit to Open, Standards-Based APIs**

A significant technology enabler of seamless interoperability among the community of Veteran care providers is the use of an Application Programming Interface (API). These software intermediaries allow disparate EHR applications to talk to each other and exchange data back and forth using standard, defined forms. The Panel emphasized the need for VA to create an environment that would minimize additional costs to the community providers in order to interoperate with VA. This can be accomplished by requiring the new EHR system to expose APIs that support bi-directional data transactions. The Panel further recommended that VA make a commitment to open, standards-based APIs, including the SMART on FHIR/Argonaut APIs, to facilitate the ready and efficient exchange of data with the care in the community partners and to support open clinical workflow.

### **Establish clear publishing and access service requirements.**

The Panel recognized that data access requirements differ based on who is providing or accessing that data. As such, the Panel recommended VA be more specific in defining each level of data publishing and access service that is specific for (1) Veteran access (e.g., use of vets.gov); (2) VA clinician access; (3) Partner access; and (4) HIE access. These requirements should include a clear description of identity and access management requirements including user population types and the association of specific application permissions tied to roles/positions.

Machine-to-machine access is also critical for efficient sharing of information. The Panel recommends VA ensure that all significant data stored in the software is accessible through APIs with no requirement for creation of custom applications to specifically access VA data. From a future-looking perspective, VA should require the EHR system support the ability to access data elements using open standard-based interfaces, and include the ability to interface legacy data, patient-generated data, and third-party data that reside outside of the EHR system. In addition, Cerner should provide the required utility services to support intermediary or peer-to-peer services (e.g., support Veteran-directed or Veteran-mediated requests, exchange, and ingestion from non-VA providers).

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"The Contractor should provide all of the data that is currently being provided in the Contractor's patient portal to the consumer via an open standards based API gateway. The Contractor should also provide all of the reporting data required by federal law to the veteran via an open standards based API framework, accessible via any application or third-party data store of the veteran's choice, that's number one."

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**Provide a VA application platform that supports APIs from third party providers with no barrier to entry.**

Currently vets.gov exists as a portal to Veteran services. The Panel recommended VA consider using such a portal to connect any third-party app to the EHR solution without fees or vendor permissions. The VA should be in full authority to

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“The API Gateway document is awesome..world class and future looking.”

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connect any third-party app against one of the standard open API's that is conformant with the vendor's API without pre-registering the app with the vendor. This is a very important authority to have in terms of being able to innovate rapidly and not be constrained. The Panelists also reviewed the “API Gateway” language, provided during the API discussion to anchor the dialogue. The Panelists concurred that this requirement is fundamental to supporting interoperability. The Panelists recommend VA include a requirement that VA has full authority to connect any third-party app with the Cerner system, without Cerner approval. Furthermore, VA should ensure that third-party app developers connecting to the VA system via the open standard, and that VA-defined APIs continue to own their IP. From a usability perspective, the Panel also recommend VA be able to establish the connectivity business rules, such as the ability for apps to remain connected for a reasonable time frame (e.g., 1 year) and to receive automatic notification on patient information updates.

**Require implementation of Clinical Decision Service (CDS) hooks to invoke decision support from within a clinician's EHR workflow.**

EHRs are essential for efficient delivery of high-quality care, as they provide the clinician with essential decision data at the time required. However, current EHR systems approach workflow from an IT system perspective, vs. a clinician's. The latter workflow should, of course, be paramount in the VA EHR implementation, but also leverage a recent innovation called CDS Hooks. This technology provides the clinician with context-driven decision support and capability, by enabling the EHR to trigger third party services at key events, including medication ordering and opening a patient face sheet. For example, when the VA clinician begins to prescribe medication, a CDS Hook can call an external service that presents the clinician with the list of medications already prescribed to the patient by clinicians outside of the VA. The Panelists strongly recommend VA require Cerner to implement and use CDS Hooks within the clinician workflow.

**Topic Area: Use Community Care Contracts to Foster Interoperability**

The Panel recommended that prior to execution of the Community Care Act contract, third-party providers, (and Cerner competitors), should be required to commit to support the contract as early adopters.

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The new EHR system must be able to communicate with other EHRs (e.g., Epic, AllScripts, etc.) within the care community. It is critical that VA ensure the Cerner EHR system is robust for future interoperability with new products. Cerner must commit to support other forms of interoperability, such as a presentation layer that is common to other systems (e.g., the App store model).

**Veterans must be able to access and download a computable form of their health data.**

Panelists advised that the biggest problem today is access to data. VA must be clear that Cerner must expose data so it can be used by third-parties. In the contract and in conversations with Cerner and third parties, VA must require specifics on how Veterans and providers will access and share their data. In addition, VA must require that any agreements leave the door open for future standards and technologies.

Panelists conceived that this could be achieved by invoking the principle that the data belongs to the Veteran, rather than citing specific technologies and standards (as they are evolving so rapidly). The Veteran must be able to invoke his or her right of access to data as the intermediary to support data exchange across all providers (e.g., pull through their API on phone and push to their community care provider), now and in the future. Keeping pace with this requirement will drive continual innovation with Cerner and all providers.

**VA must own the API layer.**

Cerner ownership of the API layer (across every customer) poses real threat to achieving interoperability, speed of innovation, and cost efficiency throughout the network of community care providers. Panelists stated that it is of utmost importance that VA include specific language stipulating that VA and Veterans will be able to use third-party apps without having to register them with Cerner. VA must control the API key, not Cerner.

Additionally, VA should require that Cerner provide access to MPages, a developer toolkit, and a programming interface that will enable innovators and third-party application programming interface (API) development.

**Require community care contracts include VA EHR standards to support bi-directional data sharing.**

Panelists agreed that by requiring the support and collaboration of community care providers and participating actively in health IT standards bodies, VA has the opportunity to advance the “national” standard for data sharing – closing any gap and inconsistencies between federal and industry, and inter-industry standards. Every provider in the chain of a Veteran’s care must be required to support the same standards for data interoperability to result in the seamless, best

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“Innovations going forward are going to come from multiple directions. And having those interfaces, and going with a general interoperability approach that doesn't fork off from what's happening in the rest of the healthcare system, will allow the Veterans to benefit from technology whether that's coming from Google, from a new company, from an innovative shop within the VA -- you end up creating a market with good prices, high value.”

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possible care for Veterans. This includes the requirement that all providers and third-party applications, in exchange for using the VA-provided API gateway, provide bi-directional health information back to the VA.

### **Change the data exchange consent model from “opt-in” to “opt out.”**

To encourage seamless interoperability across all entities providing a Veteran with care, the consent model for exchanging data between healthcare providers must be modified to provide an opt-out rather than opt-in, which limits participant numbers. This allows the Veteran to invoke their individual right of access under HIPAA to move their data as needed. Many states have already adopted an opt-out consent policy as part of their health information exchange<sup>2</sup>. This can be achieved by writing new language into the Choice Care Act.

### **Topic Area: Additional Contract Changes**

In addition to the recommendations in the prior sections, the Panelists encourage VA to add additional definitions and clarity in the following areas:

- Require Cerner to provide VA with full read and partial write access to all data elements within the EHR, at VA's sole discretion.
- Require Cerner to make the VA data model, standards, and other similar interoperability changes available in all other non-VA Cerner instances of its EHR platform.
- Clearly define “enabling security framework.” Does this mean a specific security frameworks such as NIST, HITRUST, etc.?
- Amend “national Common Trust Framework” to specifically refer to the intended reference. Suggest replacing with “Trusted Exchange Framework and Common Agreement (TEFCA)” specified in the 21<sup>st</sup> Century Cures Act.
- Amend PWS 5.10.4(i) to clarify if the “provider collaboration via secure e-mail using Direct standards” is limited to the Direct protocols and just the Cerner platform.
- Incorporate the model RFP language necessary for Cerner to support the API and SMART on FHIR platform and SMART-enabled applications, provided in Appendix B. This language is expected to evolve and therefore the contract should incorporate not only the current language, but its reference at <https://smarthealthit.org/2017/08/draft-model-rfp-language-for-purchasing-extensible-health-it/>.

### **MITRE Action Items**

- MITRE will collect the Panel’s specific ideas for contract language that VA could use in the Cerner acquisition contract.

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<sup>2</sup> See [https://www.healthit.gov/sites/default/files/State%20HIE%20Opt-In%20vs%20Opt-Out%20Policy%20Research\\_09-30-16\\_Final.pdf](https://www.healthit.gov/sites/default/files/State%20HIE%20Opt-In%20vs%20Opt-Out%20Policy%20Research_09-30-16_Final.pdf)

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- MITRE will engage an external legal expert to review the full RFP and recommend redlined changes to implement the Panel's recommendations.

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## **II. Recommendations for RFP Changes**

TO BE COMPLETED

## **III. Observations from University of Pennsylvania Medical Center Site Visit**

TO BE COMPLETED

## **IV. Estimated Cost to Implement Cerner to Epic Interoperability**

TO BE COMPLETED

DRAFT

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## Appendix A: Interoperability Review Forum Participants

Panelists	Title	Organization
Aneesh Chopra	President	CareJourney, former United States Chief Technology Officer
Charles E. (Chuck) Christian	Vice President, Technology and Engagement	Indiana Health Information Exchange
Ryan Howells	Principal	Leavitt Partners, LLC
Andrew Karson, MD	Director, Clinical Decision Support	Massachusetts General Hospital
Chris Klomp	Chief Executive Officer	Collective Medical Technologies, Inc.
Kenneth Mandl, MD	Professor, Biomedical Informatics Director, Computational Health Informatics	Harvard Medical School Boston Children's Hospital
Frank Opelka, MD	Medical Director, Quality and Health Policy	American College of Surgeons
Peter Pronovost, MD, PhD	Director, Armstrong Institute for Patient Safety and Quality Senior Vice President, Patient Safety and Quality	Johns Hopkins University
Christopher J. (Cris) Ross	Chief Information Officer	The Mayo Clinic
Carla Smith	Executive Vice President	The Healthcare Information and Management Systems Society
Paul R. Sutton, MD, PhD	Professor, Biomedical Informatics and Medical Education Associate Medical Director, Inpatient IT Systems, UW Medicine IT Services	University of Washington

VA Participants	Title	Organization
David J. Shulkin, M.D.	Secretary	Department of Veterans Affairs
Carolyn Clancy	Executive in Charge, Veterans Health Administration	Department of Veterans Affairs
Bill James	Acting Assistant Secretary, Office of Information & Technology	Department of Veterans Affairs
John Windom	Program Executive for EHRM and Special Advisor to the Under Secretary for Health	Department of Veterans Affairs
Dr. Ashwini Zenooz	Chief Medical Officer, EHRM; Deputy, Office of Deputy Under Secretary for Health Policy & Services, VHA	Department of Veterans Affairs
John Short	Chief Technology Officer, EHRM; Executive Director of Information Technology System Modernization	Department of Veterans Affairs
(b) (6)	Contracts	Department of Veterans Affairs
(b) (6)	Portfolio Lead: Project Transition and VA Integration, VA Center for Innovation	Department of Veterans Affairs
(b) (6)	Senior Advisor to the Secretary on Strategic Partnerships	Department of Veterans Affairs
Kyle Sheetz	White House Fellow	Department of Veterans Affairs

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Other Federal Government Participants	Title	Organization
(b) (6)	Senior Advisor, Office of Administration	The Centers for Medicare & Medicaid Services
Shannon Sartan	Director, Digital Services	The Centers for Medicare & Medicaid Services
Jon White	Deputy National Coordinator for Mental Health	The United States Department of Health and Human Services/The Office of the National Coordinator for Health Information Technology
Bruce Moskowitz, M.D.	Internist	The White House
Camilo Sandoval	Senior Advisor	The White House
Chris Liddell	Assistant to the President for Strategic Initiatives	The White House, Office of American Innovation
Dr. Lauren Thompson	Director	DoD/VA Interagency Program Office

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## Appendix B: RFP Language for Purchasing Extensible Health IT

From <https://smarthealthit.org/2017/08/draft-model-rfp-language-for-purchasing-extensible-health-it/>, as of January 15, 2018.

SMART Platform ([www.smarthealthit.org](http://www.smarthealthit.org)) is a project that lays the groundwork for a more flexible approach to sourcing health information technology tools. Like Apple and Android's app stores, SMART creates the means for developers to create and for health systems and providers to easily deploy third-party applications in tandem with their existing electronic health record, data warehouse, or health information exchange platforms.

To deploy SMART-enabled applications, health systems must ensure that their existing health information technology infrastructure supports the SMART on FHIR API. The SMART on FHIR starter set detailed below lists the minimum requirements for supporting the API and SMART-enabled applications. You may wish to augment this list of minimum requirements with suggestions from the Add-On Functionality listed depending on the types of applications your organization wishes to deploy.

This document is intended as a resource for providers and health systems as they draft Request for Proposals (RFPs) and negotiate with their HIT vendors for added functionality. It has multiple authors from across the SMART team and its advisors. Feedback is welcome.

The vendor must support the SMART on FHIR platform, a vendor agnostic API that allows third-party developers to build external apps and services that integrate with the vended product.

At a minimum, the vendor product should include the following components in order to support SMART on FHIR and SMART-enabled applications:

### Data Access

- Provide automated, standards-based, read-only access through the FHIR API and FHIR data models (resources) to:
  - a well-defined set of real-time discrete data (including support for the API parameters and resources described in the Argonaut Implementation Guide)
  - free-text clinical notes

### Data Manipulation

- Write structured data from third-party apps back to the organization's EHR and, where relevant, a data warehouse, using the FHIR REST API to communicate data including:
  - free-text clinical notes

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## **Standards-Based App Authorization**

- Protect data and identity endpoints with standards-based authorization mechanisms (including the OAuth2 profiles described in the Argonaut Implementation Guide).
- Provide access to data endpoints with an approach that does not require user intervention subsequent to the initial setup such as the method described in the draft SMART Backend Services Profile (<http://docs.smarthealthit.org/authorization/backend-services/>) Provide capability to restrict this access to a specified set of patients (roster).
- Enable Health System to connect any third-party app of their choice that is conformant with the API without pre-registering the app with HIT Vendor.
- Enable patients to connect any third-party app of their choice that is conformant with the API without pre-registering the app with HIT Vendor through the OAuth Dynamic Registration protocol.
- Provide OAuth refresh tokens with a duration of one year to patient and provider facing apps that support the SMART Client Secret profile.

## **Identity Management**

- Act as a standards-based Identity Provider using OpenID Connect. This ensures that users can authenticate to plug-in apps using single-sign-in via their existing EHR or patient portal credentials.
- Act as a standards-based relying party to a customer-selected Identity Provider using OpenID Connect. This ensures that users can sign into the EHR or patient portal using an external, hospital-supplied single-sign-on account.

## **Workflow**

- Support standards-based embedding of external application UI (HTML5). This ensures that app developers can build Web apps, and these apps can run directly inside of the EHR.
- Support the launch of external applications in the clinician's workflow (this is not limited to the EHR, and should include non-EHR integrated tools such as smart phones and tablets). For example, a clinician that has opted to use a third-party-developed native iPad app to visualize a patient's BMI over time can seamlessly use the application alongside the EHR via single-sign-on.
- Support notifications to and from running applications. For example, an embedded app can notify the EHR when the user is "done" with it.

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## Add-On Functionality

The provider organization may also want to consider the following additions to its RFP depending on the types of applications it wishes to develop and run in the future.

### Bulk Data Export

- Provide automated access to bulk export of data (complete representation of all data in the MU Common Clinical data set as well as free text notes) using a method like the SMART Flat FHIR draft proposal (<http://docs.smarthealthit.org/flat-fhir>)

### Data Manipulation

- Write structured data from third-party apps back to the organization's EHR and, where relevant, a data warehouse, using the FHIR REST API to communicate data including:
  - medication prescriptions
  - lab and diagnostic imaging orders
- Support the dependent transactions necessary to ensure that actions completed by third-party applications using the API are valid in the EHR and data warehouse.

### Context-Specific Service Hooks

- Support the ability to call an external standards-based service in specific workflow steps, through the CDS Hooks specification, including:
  - opening a patient record
  - new prescriptions
  - new lab orders
  - new imaging studies

### Intellectual Property

The IP of any app integrated through the SMART on FHIR API belongs to the author and not the vendor.

## Custom SMART on FHIR Extension to a Proprietary API

Should a vendor neglect to provide SMART on FHIR natively, the client has the right to provide a custom extension to the vendor's API. The ownership of the IP for the custom extension is negotiable between the client and the vendor, but the ownership of the app using the custom extension belongs to its author.

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## **Appendix C: RFP Interoperability Language Changes**

TO BE COMPLETED

DRAFT

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**Confidential and Proprietary**  
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DRAFT

**ACQUISITION SENSITIVE**  
**Confidential and Proprietary**  
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**From:** Blackburn, Scott R.  
**Sent:** 29 Dec 2017 11:46:22 -0800  
**To:** Windom, John H.; (b) (6); Zenooz, Ashwini; Short, John (VACO); (b) (6)  
(b) (6)  
**Cc:** (b) (6)  
**Subject:** RE: [EXTERNAL] RE: January interoperability panel forums  
**Attachments:** [EXTERNAL] Touching base - VA and interoperability

Let's discuss at 3pm.

On a positive, this is a fantastic list of panelists. I really like that we have (b) (6) and (b) (6) (I wasn't expecting those...both are pleasant surprises). Thanks so much for your work putting this together. In addition to what John mentions, a few other things I would like to discuss at 3pm. To call it out – I am most worried about bringing along our key stakeholders (Secretary, White House, HHS, key influencers).

1) Given this all-star panel and given the overall objectives of this effort, how do we take advantage of this? A few thoughts:

- I agree with John about having team reps in the room (e.g., Windom, Ash, Short). Not sure I understand the logic for excluding them. I would imagine they should be in "listening mode"
- I would also argue for having other government stakeholders in the room. Specifically Camilo Sandoval, (b) (6), Kyle Sheetz, (b) (6) from ONC, and perhaps 1-2 others from HHS/CMS (possibly (b) (6) or one of the people he mentions in the note above. (b) (6) is essentially Seema Verma's special assistant).
- Perhaps we have a "report out" at the end of the day which would include the Secretary, Dr. Clancy and Tom Bowman. Would love to discuss the pros/cons.

2) What is the broader plan for January to get us to the "Jan 31 deadline"? I think it would be hugely beneficial if we can put together a very short document for the Secretary to sign off on:

- Page 1 – The end product of this effort. By January 31, we will deliver XXX. Is it revised language? Is it a report? What does MITRE do versus what VA/government needs to do. Important that we are all on the same page. I believe this is the crux of the issues that John highlights below.
- Page 2 – Experts that we are seeking input from and stakeholders that we are going to include. This list of 8 is fantastic. However there will be others that will need/want opportunities to chip in. I don't want to miss anyone. We can discuss more at 3pm.
- Page 3 – The process between now and Jan 31. Are there other panels? Other activities that we believe are needed? Again, I want full transparency and the Secretary to sign off. Just locking these 8 amazing folks in a room for a day with MITRE, which then produces a report on Jan 31...I don't think that is going to fully get us there. Our worst nightmare will be on Feb 1 to be delaying for another 30 days.

3) (b) (6)

---

**From:** Windom, John H.  
**Sent:** Friday, December 29, 2017 2:23 PM  
**To:** (b) (6); Blackburn, Scott R.; Zenooz, Ashwini; Short, John (VACO); (b) (6); (b) (6)  
(b) (6)

**Cc:** (b) (6)

**Subject:** RE: [EXTERNAL] RE: January interoperability panel forums

(b) (6)

Thanks for sharing. There are many elements I do not agree with and will be prepared to discuss at the 3pm. An immediate nonstarter is a 31 January date of closure. 10 working days from the event is more than sufficient time. In addition, the characterization of Mitre and industry writing our RFP Interoperability requirement is grossly improper.

Thx

John

Sent with Good ([www.good.com](http://www.good.com))

---

**From:** (b) (6)

**Sent:** Friday, December 29, 2017 10:55:55 AM

**To:** Blackburn, Scott R.; Windom, John H.; Zenooz, Ashwini; Short, John (VACO); (b) (6)

(b) (6)

**Cc:** (b) (6)

**Subject:** [EXTERNAL] RE: January interoperability panel forums

Hi Scott,

Please see attached draft agenda.

We are tracking well towards convening an all-day in-person panel at MITRE McLean on Friday, January 5.

We can discuss further on our 3 pm call today.

Thanks,

Best,

(b) (6)

-----Original Message-----

From: Blackburn, Scott R. [mailto:(b) (6)@va.gov]

Sent: Friday, December 29, 2017 9:44 AM

To: (b) (6)@mitre.org>; Windom, John H. <(b) (6)@va.gov>; Zenooz, Ashwini

<(b) (6)@va.gov>; Short, John (VACO) <(b) (6)@va.gov>

Subject: January interoperability panel forums

Team - I know Jay was originally planning to get experts together on Jan 4 or 5. What do we have planned? Who will be there?

3 things:

1) I have not heard back anything from our WH 5 CIOs contact. I would like to send him a note over the weekend saying "the train is leaving the station" and giving one more opportunity to have them insert folks if they want to. This is politically sensitive and more of a stakeholder management thing than anything so will have to run this by the Secretary (I also have no idea what conversations could be happening in Mar-a-lago over the holidays). I just

want to avoid having another hang up a few weeks from now.

2) I also want to make sure we involve some internal folks. Camilo Sandoval. (b) (6) Kyle Sheetz the WH fellow are 3 that come to mind.

3) whatever we do, I want to give the Secretary a heads up. More communications and transparency the better.  
Thanks and Happy New Year!  
Scott

Sent with Good ([www.good.com](http://www.good.com))

**From:** (b) (6)  
**Sent:** 22 Dec 2017 20:31:16 +0000  
**To:** Blackburn, Scott R.  
**Cc:** (b) (6); (b) (6)  
**Subject:** [EXTERNAL] Touching base - VA and interoperability

Hi Scott, hope all is well. Seema mentioned to me the VA's efforts to move towards interoperability as part of the implementation of the Cerner system.

We'd love to find time for a call early in the new year on this, to ensure that we're incorporating learnings from the VA's experience in our initiative. I've cc'd (b) (6), CMS's Chief Medical Officer, and (b) (6) from the US Digital Service who are helping lead CMS's efforts on interoperability. Please let us know when may be convenient - and hope you have a Happy Holiday!

--  
(b) (6)  
Senior Advisor | Office of the Administrator  
Centers for Medicare & Medicaid Services  
(b) (6) (b) (6) @cms.hhs.gov

**From:** (b) (6)  
**Sent:** 29 Dec 2017 22:11:46 +0000  
**To:** Windom, John H.  
**Subject:** RE: [EXTERNAL] RE: January interoperability panel forums

Thank you, John. It is an honor to work with you.  
Happy new year!  
Best,

(b) (6)

(b) (6)

MITRE

**From:** Windom, John H. (b) (6) @va.gov>  
**Date:** Friday, Dec 29, 2017, 5:08 PM  
**To:** (b) (6) @mitre.org>  
**Subject:** RE: [EXTERNAL] RE: January interoperability panel forums

Keep pressing (b) (6) I am glad you are on our team. Happy New Year!  
Thx  
Jw

Sent with Good ([www.good.com](http://www.good.com))

---

**From:** (b) (6)  
**Sent:** Friday, December 29, 2017 12:29:35 PM  
**To:** Windom, John H.  
**Subject:** RE: [EXTERNAL] RE: January interoperability panel forums

Understood; no worries.  
Thanks,  
Best,

(b) (6)

-----Original Message-----

**From:** Windom, John H. [mailto:(b) (6) @va.gov]  
**Sent:** Friday, December 29, 2017 3:02 PM  
**To:** (b) (6) @mitre.org>; Blackburn, Scott R. (b) (6) @va.gov>;  
Zenooz, Ashwini <(b) (6) @va.gov>; Short, John (VACO) (b) (6) @va.gov>;  
(b) (6) @mitre.org>; (b) (6) @mitre.org>  
**Cc:** (b) (6) @mitre.org>; (b) (6) @mitre.org>  
**Subject:** RE: [EXTERNAL] RE: January interoperability panel forums

(b) (6)

What I worry about is that all of our correspondence is discoverable so I must respond in writing to ensure that the courts understand that the Government responded in kind to any potential

violations of procurement law/procedures. Hence my written response to your draft document.  
Thx  
John

Sent with Good ([www.good.com](http://www.good.com)<<http://www.good.com>>)

---

From: (b) (6)  
Sent: Friday, December 29, 2017 11:50:37 AM  
To: Blackburn, Scott R.; Windom, John H.; Zenooz, Ashwini; Short, John (VACO); (b) (6)  
(b) (6)  
Cc: (b) (6)  
Subject: RE: [EXTERNAL] RE: January interoperability panel forums

Hi Scott and John,

The document I sent you was a DRAFT, and I am very open to any and all suggestions, edits, and modifications.

I understand the concerns, and want this to be successful for VA and the Veterans.

I look forward to the conversation at 3 pm today.

Thanks,  
Best,

(b) (6)

---

From: Blackburn, Scott R. [mailto:(b) (6)]  
Sent: Friday, December 29, 2017 2:46 PM  
To: Windom, John H. <(b) (6)@va.gov>; (b) (6)@mitre.org>;  
Zenooz, Ashwini <(b) (6)@va.gov>; Short, John (VACO) <(b) (6)@va.gov>;  
(b) (6) <(b) (6)@mitre.org>; (b) (6)@mitre.org>  
Cc: (b) (6)@mitre.org>; (b) (6)@mitre.org>  
Subject: RE: [EXTERNAL] RE: January interoperability panel forums

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advantage of this? A few thoughts:

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- \* I would also argue for having other government stakeholders in the room. Specifically Camilo Sandoval, (b) (6), Kyle Sheetz, (b) (6) from ONC, and perhaps 1-2 others from HHS/CMS (possibly (u) (o) or one of the people he mentions in the note above. (b) (6) is essentially Seema Verma's special assistant).

- \* Perhaps we have a "report out" at the end of the day which would include the Secretary, Dr. Clancy and Tom Bowman. Would love to discuss the pros/cons.

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- \* Page 3 - The process between now and Jan 31. Are there other panels? Other activities that we believe are needed? Again, I want full transparency and the Secretary to sign off. Just locking these 8 amazing folks in a room for a day with MITRE, which then produces a report on Jan 31...I don't think that is going to fully get us there. Our worst nightmare will be on Feb 1 to be delaying for another 30 days.

3) (b) (6)

From: Windom, John H.

Sent: Friday, December 29, 2017 2:23 PM

To: (b) (6), Blackburn, Scott R.; Zenooz, Ashwini; Short, John (VACO); (b) (6)

(b) (6)

C (b) (6)

Subject: RE: [EXTERNAL] RE: January interoperability panel forums

(b) (6)

Thanks for sharing. There are many elements I do not agree with and will be prepared to discuss at the 3pm. An immediate nonstarter is a 31 January date of closure. 10 working days from the event is more than sufficient time. In addition, the characterization of Mitre and industry writing our RFP Interoperability requirement is grossly improper.

Thx

John

Sent with Good

**From:** Short, John (VACO)  
**Sent:** 29 Dec 2017 19:57:34 +0000  
**To:** (b) (6)  
**Subject:** RE: [EXTERNAL] RE: January interoperability panel forums

Never mind. I found it.

Warmest regards!  
Respectfully,

John A. Short (SES), Doctoral Candidate, MBA-ISM, MSIS, CNSS 4011/4012, FEMA  
PDS

Acting Deputy Director, DOD/VA Interagency Program Office (IPO)  
Executive Director, Information Technology Systems Modernization  
CTO, EHRM PEO

VA Office: (b) (6)

DOD/VA IPO Office: (b) (6)

Cell: (b) (6)

(b) (6)@va.gov

(b) (6)@mail.mil

---

**From:** Short, John (VACO)  
**Sent:** Friday, December 29, 2017 2:56:37 PM  
**To:** (b) (6)  
**Subject:** RE: [EXTERNAL] RE: January interoperability panel forums

Where is the invite?

Warmest regards!  
Respectfully,

John A. Short (SES), Doctoral Candidate, MBA-ISM, MSIS, CNSS 4011/4012, FEMA  
PDS

Acting Deputy Director, DOD/VA Interagency Program Office (IPO)  
Executive Director, Information Technology Systems Modernization  
CTO, EHRM PEO

VA Office: (b) (6)

DOD/VA IPO Office: (b) (6)

Cell: (b) (6)

(b) (6)@va.gov

(b) (6)@mail.mil



---

**From:** (b) (6)  
**Sent:** Friday, December 29, 2017 12:16:24 PM  
**To:** Windom, John H.; Blackburn, Scott R.; (b) (6) Zenooz, Ashwini; Short, John (VACO) (b) (6)  
**Subject:** [EXTERNAL] RE: January interoperability panel forums

All

Joint Meeting is planned today at 3PM to update on the questions below:

Here is brief summary prior to call:

- We have green light on the 5th of January with 8 panelists confirmed to be at MITRE all day at our McLean office. We can review specific names on the call as these are experts who have actual experience working with Cerner and have also negotiated contracts with them.
- There is a strong feeling that government should not be in the room as this should be an idea and input forum, not a decision forum. Important difference. Happy to discuss further on call
- Please reach out to the three names you have identified that the train has left the station so they are happy to join on the 5th.
- This date was set with panel so we can have a quality product to you within defined timeframe.

Talk to everyone at 3pm.

Sent with BlackBerry Work  
(www.blackberry.com)

**From:** Windom, John H. <(b) (6)@va.gov>  
**Date:** Friday, Dec 29, 2017, 10:39 AM  
**To:** Blackburn, Scott R. <(b) (6)@va.gov>; (b) (6)@mitre.org>; Zenooz, Ashwini <(b) (6)@va.gov>; Short, John (VACO) <(b) (6)@va.gov>; (b) (6)@mitre.org>  
**Subject:** RE: January interoperability panel forums

Sir

Including (b) (6) on this note. She is Tracking down answers to these questions and more. I also just heard that Secretary Shulkin is planning to attend this 5 January session with industry. Do you think this is a good idea? I do not.

Vr

Jw

Sent with Good (www.good.com)

---

From: Blackburn, Scott R.

Sent: Friday, December 29, 2017 6:43:42 AM

To: (b) (6) @mitre.org; Windom, John H.; Zenooz, Ashwini; Short, John (VACO)

Subject: January interoperability panel forums

Team - I know (b) (6) was originally planning to get experts together on Jan 4 or 5. What do we have planned? Who will be there?

3 things:

1) I have not heard back anything from our WH 5 CIOs contact. I would like to send him a note over the weekend saying "the train is leaving the station" and giving one more opportunity to have them insert folks if they want to. This is politically sensitive and more of a stakeholder management thing than anything so will have to run this by the Secretary (I also have no idea what conversations could be happening in Mar-a-lago over the holidays). I just want to avoid having another hang up a few weeks from now.

2) I also want to make sure we involve some internal folks. Camilo Sandoval (b) (6) Kyle Sheetz the WH fellow are 3 that come to mind.

3) whatever we do, I want to give the Secretary a heads up. More communications and transparency the better.

Thanks and Happy New Year!  
Scott

Sent with Good ([www.good.com](http://www.good.com))

**From:** Blackburn, Scott R.  
**Sent:** 15 Dec 2017 13:22:49 -0800  
**To:** Short, John (VACO);Mulligan, Ricci;Chandler, Richard C.  
**Subject:** RE: [EXTERNAL] Fwd: FW: Please review and respond by 1pm tomorrow - External Meeting with Dr. Moskowitz - VA

Got it. I will see what Dr. Clancy wants to do. Seems like we would be happy to talk to this person if we thought there was a fit (but you guys tell me).

---

**From:** Short, John (VACO)  
**Sent:** Thursday, December 14, 2017 7:21 AM  
**To:** Mulligan, Ricci; Blackburn, Scott R.; Chandler, Richard C.  
**Subject:** RE: [EXTERNAL] Fwd: FW: Please review and respond by 1pm tomorrow - External Meeting with Dr. Moskowitz - VA

That's the way I read it also.

Also, some of the people mentioned below, like (b) (6) are currently under an IPA to VHA.

Warmest regards!  
Respectfully,

John A. Short (SES), Doctoral Candidate, MBA-ISM, MSIS, CNSS 4011/4012, FEMA PDS  
Acting Deputy Director, DOD/VA Interagency Program Office (IPO)  
Executive Director, Information Technology Systems Modernization  
CTO, EHRM PEO  
VA Office: (b) (6)  
DOD/VA IPO Office: (b) (6)  
Cell: (b) (6)  
(b) (6) @va.gov  
(b) (6) @mail.mil

---

**From:** Mulligan, Ricci  
**Sent:** Thursday, December 14, 2017 6:52:13 AM  
**To:** Blackburn, Scott R.; Short, John (VACO); Chandler, Richard C.  
**Subject:** RE: [EXTERNAL] Fwd: FW: Please review and respond by 1pm tomorrow - External Meeting with Dr. Moskowitz - VA

Sounds like this is a VHA issue to get her in? Ricci

Ricci L. Mulligan  
Acting Principal Deputy Assistant Secretary  
VA OI&T  
(b) (6) (o)  
(b) (6) Cell

---

**From:** Blackburn, Scott R.  
**Sent:** Thursday, December 14, 2017 12:16 AM  
**To:** Mulligan, Ricci; Short, John (VACO); Chandler, Richard C.  
**Subject:** FW: [EXTERNAL] Fwd: FW: Please review and respond by 1pm tomorrow - External Meeting with Dr. Moskowitz - VA

---

**From:** Clancy, Carolyn  
**Sent:** Wednesday, December 13, 2017 4:41 PM  
**To:** Blackburn, Scott R.  
**Subject:** FW: [EXTERNAL] Fwd: FW: Please review and respond by 1pm tomorrow - External Meeting with Dr. Moskowitz - VA

Executive in Charge  
Veterans Health Administration  
810 Vermont Ave, NW  
Washington, DC 20420  
(b) (6)

---

**From:** (b) (6)  
**Sent:** Wednesday, December 13, 2017 4:04:20 PM  
**To:** (b) (6)  
**Cc:** Clancy, Carolyn  
**Subject:** Re: [EXTERNAL] Fwd: FW: Please review and respond by 1pm tomorrow - External Meeting with Dr. Moskowitz - VA

(b) (6)

I am very optimistic based on your e-mail and am around if you want to talk by phone or need anything further. My VA contacts for the IPA are as follows: (b) (6) (b) (6) who was the immediate contact, (b) (6) @utah.edu, who works for (b) (6) who I have also met with and was very interested. I also met with (b) (6) (b) (6) who was the initial contact from VA. They had me also talk with (b) (6) (b) (6) Director, Veterans Health Information Exchange (VLER Health) and others, such as (b) (6) (b) (6)

Let me know if you need more information from me.

On Wed, Dec 13, 2017 at 3:45 PM, (b) (6) <(b) (6)@va.gov> wrote:





Fax: (b) (6)

(b) (6) @gwu.edu

"Kind words do not cost much. Yet they accomplish much," Blaise Pascal.

**From:** Zenooz, Ashwini  
**Sent:** 4 Dec 2017 03:50:40 +0000  
**To:** (b) (6)  
**Subject:** RE: [EXTERNAL] FW: follow-up

Thank you. helpful

Sent with Good (www.good.com)

---

**From:** (b) (6)  
**Sent:** Sunday, December 03, 2017 7:22:30 PM  
**To:** Zenooz, Ashwini  
**Subject:** RE: [EXTERNAL] FW: follow-up

By stipulating the Choice provider has a CEHRT then it sets a baseline by which we know they have an EHR that can exchange data (good pdf that takes through the requirements <https://www.healthit.gov/sites/default/files/understanding-certified-health-it-2.pdf>) . A couple provisions therein help.

1. Care Coordination Categories (Page 19-27)
2. Page 41: Integrity of Data
3. Page 42: Trusted Connection
4. Patient Engagement (Page 46-48)
5. Electronic Exchange (Page 68-69)

It basically sets a minimum standard we know and the Choice provider is enabled to connect by a number of means, at a low point of entry (their EHR has the capability to exchange data by numerous means and we can get the information back to the VA). At a minimum they can use the Direct Protocol to send documents to the VA.

It also makes sense for the VA to be in line with the broader edicts set by ONC.

Without these kinds of minimum standards the cost may skyrocket if we are responsible to connect every provider that has any EHR or no EHR. Thanks

(b) (6)

---

**From:** Zenooz, Ashwini [mailto:(b) (6)@va.gov]  
**Sent:** Sunday, December 3, 2017 20:30  
**To:** (b) (6)@Cerner.com>  
**Subject:** FW: [EXTERNAL] FW: follow-up



(b) (6) can you help me with this response? Are you saying that of the CHOICE providers are requires to use CEHRT, then they can connect into an HIE? Or that we would evaluate the possibility of a direct connection? Not sure what is outside of price point that we have defined that you are referring to...thanks

Cerner Contract has to have the responsibility of 100% connectivity to all EMR platforms for Choice to work

(b) (6) Should be stipulation that Choice provider have MU CEHRT to allow for communication. I am pretty sure this is way outside the price point we have defined. We would need to have the office of interoperability and team on the ground to help make the connections. There is still no, to my knowledge, requirement for Choice providers to provide anything back to the VA.

**From:** Windom, John H.  
**Sent:** Friday, December 01, 2017 8:36:23 AM  
**To:** Zenooz, Ashwini  
**Subject:** FW: [EXTERNAL] FW: follow-up

Ash

Here is Cerner's response to those questions. Please respond to Blackburn's request utilizing these responses as appropriate. Thx.

Jw

Sent with Good ([www.good.com](http://www.good.com))

---

**From:** (b) (6)  
**Sent:** Friday, December 01, 2017 8:10:07 AM  
**To:** Windom, John H.  
**Cc:** (b) (6)  
**Subject:** [EXTERNAL] FW: follow-up

(b) (6) response to Moskowitz questions

Also attaching document with some additional details

(b) (6)

---

**From:** (b) (6)  
**Sent:** Monday, November 27, 2017 12:22 PM  
**To:** (b) (6) @CERNER.COM>; (b) (6) @cerner.com>  
**Cc:** (b) (6) @Cerner.com>  
**Subject:** RE: follow-up

See below.

This guy is way out of his depth in understanding EMR and how things get done.

Much of the same stuff we put in the Prep document 2 weeks ago (attached).

The first 2 are so overly broad we would never have enough money to meet the demand.

(b) (6)

---

**From:** (b) (6)  
**Sent:** Monday, November 27, 2017 12:05  
**To:** (b) (6) @cerner.com>; (b) (6) @Cerner.com>;  
(b) (6) @CERNER.COM>  
**Cc:** (b) (6) @Cerner.com>; (b) (6) @CERNER.COM>  
**Subject:** FW: follow-up

Close Hold.....can you please just do a quick couple sentence answer for below?

This is the Dr from W Palm that is connected to Trump and he reached out with some follow-up items. I believe he is outdated in his understanding of system but we need to be responsive here.

(b) (6)

---

**From:** Windom, John H. [mailto:(b) (6) @va.gov]  
**Sent:** Monday, November 27, 2017 11:38 AM  
**To:** (b) (6) @CERNER.COM>  
**Subject:** follow-up

Begin forwarded message:

**Subject: Re: [EXTERNAL] Follow up meeting**

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Cerner has to have telemedicine built into the system

(b) (6) Millennium has numerous built in functions that facilitate Telemedicine. The term is too broad to say we will do it all. Video visits, yes, Asynchronous consultations yes, e visits yes, Image based consults, yes. ICU Telemedicine no, Digital path slide review, no. Remote Rad reading yes.

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These are the basics we need to know prior to writing an agenda and meeting.

Thank you

John H. Windom, Senior Executive Service (SES)  
Program Executive for Electronic Health Record Modernization (PEO EHRM)  
Special Advisor to the Under Secretary for Health  
811 Vermont Avenue NW (b) (6)  
Washington, DC 20420  
(b) (6) @va.gov  
Office: (b) (6)  
Mobile: (b) (6)  
Executive Assistant: (b) (6) – Appointments and Scheduling  
(b) (6) @va.gov Office: (b) (6)

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this message and notify the sender of the delivery error by e-mail or you may call Cerner's corporate offices in Kansas City, Missouri, U.S.A at (b) (6)

**From:** Zenooz, Ashwini  
**Sent:** 1 Dec 2017 11:05:38 -0600  
**To:** Windom, John H.  
**Subject:** RE: [EXTERNAL] FW: follow-up

Ok

Sent with Good (www.good.com)

---

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**Sent:** Friday, December 01, 2017 8:10:07 AM  
**To:** Windom, John H.  
**Cc:** (b) (6)  
**Subject:** [EXTERNAL] FW: follow-up

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**To:** (b) (6) <(b) (6)@cerner.com>; (b) (6) <(b) (6)@Cerner.com>; (b) (6) <(b) (6)@CERNER.COM>  
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**Tracking duplicate prescriptions and medication errors:**

1. Access to the clinical record directly or through interoperability tools (CommonWell or other services) would allow for current med lists to be shared between the VA and Community Providers decreasing duplicate ordering. Native Med checking occurs in millennium as it would in Community EMRs.
2. E Prescribing downloads in the community or within the VA allow for additional methods to discover and find the most current scripts.
3. Reporting tools can be used to monitor duplication and rules designed to prevent med errors.

**Tracking tests that were ordered, completed and results go to all physicians involved in the Veterans care:**

1. Millennium is built with standard ability to set up routing or resulted orders to affiliated providers (e.g. primary care, specialists, etc) so the care team is better informed. We believe we have more functionality in this area than VISTA currently provides the VA. Orders that are brought into the VA environment from outside can be routed to Message Centers of relevant providers with established relationships.
2. Community providers are required to upload any relevant documents to the Managed Care contractors or VA portal. VISTA stores them as scanned documents. If this process is followed scanned documents can be routed for review by relevant clinical teams.

**Patient notification of critically abnormal results with follow-up resolution:**

Functionality is available within Millennium for CAP Compliance and have a specific workflow for critical lab results to providers how are responsible for contacting patients. Any outside lab performing labs are responsible for notifying ordering clinician of the result. Stored documents from the community providers will still require a manual review as is done in VISTA today.

**Arranging appointment follow-up between the VA and Private sector:**

Current Millennium Referral process facilitates coordination and tracking of FU appointments to the community.

**Emergency room visits in the private sector ability to access records immediately and VA physicians notified of emergency care and follow-up:**

Their current functionality allows them to view the visit information in the existing HIEs or the community providers sending it via direct messaging. Same as what Cerner will do.

**Cerner has no registry to tract what Cardiac and orthopedic devices are implanted in case there is a recall of the device:**

Community providers are responsible for recalls. Cerner has native functionality to capture all relevant implant data. Implant logs and reports are used to manage the life cycle of implants should there be a recall.

**Automatic record transfer from the Choice Provider to the VA patient record with flagging new information to every VA health care worker:**

Cerner interoperability tools facilitate the transfer of documents via HIE or Direct message. Community EMR should allow for push to HIE or send to referring provider via Direct. Outside Records are prominently displayed within the Cerner EMR for all providers to see and can be included as permanent part of record by clinician or automatically incorporated.

**A radiology platform to see films in high definition to compare X-rays and ability for radiologists to efficiently find previous films. For instance, a radiologist needs to know if a lung nodule is new or was there previously and the same size:**

1. Community Radiologists could be provided Cerner EMR viewing capability to review old radiology exams performed at the VA. The image is provided via a web viewer. The current state of the industry is limited outside radiologists generally do not import images into their PACS nor view outside images in their PACS.
2. Our Current plan will include a 10 year historic image load to a vendor neutral archive, in full fidelity, for VA radiologists to view historical images in their PACS viewer.

**Cardiologists need to access catheterization films in high definition:**

See previous answer.

**Cerner has no system to alert VA health care workers when a patient is at a particular office or hospital to participate in care management in real time:**

Functionality not available today within VISTA. Limited pilots exist in the industry that have provided this alerting to a central facility. Examples are generally not real time and have limited use cases.

**From:** (b) (6)  
**Sent:** 1 Dec 2017 16:10:11 +0000  
**To:** Windom, John H.  
**Subject:** RE: [EXTERNAL] Answer to Dr Moskowitz questions

Sent...should be coming over

---

**From:** (b) (6)  
**Sent:** Friday, December 1, 2017 10:07 AM  
**To:** (b) (6)@va.gov; (b) (6)@CERNER.COM>  
**Subject:** Re: [EXTERNAL] Answer to Dr Moskowitz questions

In air in 20...will send over

Sent from my Sprint Samsung Galaxy S7.

----- Original message -----

**From:** "Windom, John H." (b) (6)@va.gov>  
**Date:** 12/1/17 10:05 AM (GMT-06:00)  
**To:** (b) (6)@CERNER.COM>  
**Subject:** RE: [EXTERNAL] Answer to Dr Moskowitz questions

Did you send the answers?  
Jw

Sent with Good

(b) (6)

---

**From:** (b) (6)  
**Sent:** Monday, November 27, 2017 4:20:15 PM  
**To:** Windom, John H.  
**Subject:** [EXTERNAL] Answer to Dr Moskowitz questions

John

I have some answers to the questions posed by Dr Moskowitz...happy to provide as necessary

(b) (6)  
Federal Government and Investor Owned  
(b) (6)@cerner.com<mailto:(b) (6)@cerner.com> (b) (6)

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**From:** Windom, John H.  
**Sent:** 1 Dec 2017 16:04:48 +0000  
**To:** (b) (6)  
**Subject:** RE: [EXTERNAL] Answer to Dr Moskowitz questions

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**From:** Blackburn, Scott R.  
**Sent:** 27 Nov 2017 07:33:33 -0800  
**To:** Windom, John H.  
**Subject:** FW: [EXTERNAL] Follow up meeting

---

**From:** Bruce Moskowitz [mailto:(b) (6)@mac.com]  
**Sent:** Monday, November 27, 2017 10:18 AM  
**To:** Blackburn, Scott R.  
**Cc:** (b) (6)@gmail.com  
**Subject:** Fwd: [EXTERNAL] Follow up meeting

I should point out this would be ideal functionality requirements of any EMR contract if not part of what has been reviewed by the VA we need to discuss these points further since they are derived from the previous meeting points made by the CIO's and we can again cover them in the agenda

Sent from my iPad  
Bruce Moskowitz M.D.

Begin forwarded message:

**From:** Bruce Moskowitz <(b) (6)@mac.com>  
**Date:** November 27, 2017 at 8:41:19 AM EST  
**To:** "Blackburn, Scott R." <(b) (6)@va.gov>  
**Cc:** "(b) (6)@gmail.com" <(b) (6)@gmail.com>  
**Subject:** Re: [EXTERNAL] Follow up meeting

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Sent from my iPad  
Bruce Moskowitz M.D.

On Nov 26, 2017, at 9:23 AM, Blackburn, Scott R. (b) (6) <[REDACTED]@va.gov> wrote:

Bruce - thanks for the note. I hope you and Marc both had a great Thanksgiving.

Sounds good on all below. Let's shoot for the week of December 11th or December 18th in Washington. If the CIOs can get us the list of issues by December 5th, we will turn around the gap analysis quickly. Happy to work with (b) (6) <[REDACTED]> and Marc on the agenda development - that would be very helpful.

Scott

-----Original Message-----

From: Bruce Moskowitz [mailto:(b) (6) <[REDACTED]@mac.com>]

Sent: Friday, November 24, 2017 7:08 PM

To: Blackburn, Scott R.

Cc: (b) (6) <[REDACTED]@gmail.com>

Subject: [EXTERNAL] Follow up meeting

I am speaking for myself and it would seem to me that holding it at Cerner would restrain an open honest discussion of what is needed to insure that we have all the key pieces to have the the EMR that we all see as a necessity to provide the end users with all tools necessary to provide quality care. The five CIO's are very knowledgeable regarding all capabilities of Cerner. I have been an end user of Cerner and know as do the CEO's the process to quickly move the agenda forward. We are committed to your adoption of Cerner as the EMR however being rushed into a contract without due diligence on our part would be problematic. We can be available for a meeting in Washington ASAP fully realizing some will need to be on a conference call. I would recommend an agenda that reflects the way forward by both groups and

would recommend you allow (b) (6) (b) (6) and Marc Sherman to assist in the agenda development.

Sent from my iPad

Bruce Moskowitz M.D.



**From:** Blackburn, Scott R.  
**Sent:** 27 Nov 2017 06:39:15 -0800  
**To:** Windom, John H.  
**Subject:** FW: [EXTERNAL] Follow up meeting

FYI. Just got this.

-----Original Message-----

From: Bruce Moskowitz [mailto:(b) (6)@mac.com]  
Sent: Monday, November 27, 2017 8:41 AM  
To: Blackburn, Scott R.  
Cc: (b) (6)@gmail.com  
Subject: Re: [EXTERNAL] Follow up meeting

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**From:** Blackburn, Scott R.  
**Sent:** 20 Nov 2017 10:43:25 -0800  
**To:** Windom, John H.;Clancy, Carolyn;Lapuz, Miguel H.  
**Subject:** FW: [EXTERNAL] VA-CIO CALL

FYI

Sent with Good ([www.good.com](http://www.good.com))

---

**From:** Bruce Moskowitz  
**Sent:** Monday, November 20, 2017 6:01:58 AM  
**To:** Blackburn, Scott R.  
**Subject:** [EXTERNAL] VA-CIO CALL

Dear Scott:

I thought the VA-CIO call November 15 to help you with practical industry expertise relating to your proposed Cerner implementation generated some valuable conversation. The participants were some of the most highly experienced CIOs with deep EMR backgrounds, together with physicians who focus on medical error prevention and improving the EMR experience. I hope and expect that you found it of great value. Since we have not spoken before, you may not be aware that I am the person who personally recruited the Academic Medical Centers to provide the VA with advice, intended to help the VA create and implement a path to fix its care delivery issues, as well as advise on other areas where they can be of value to better veterans' care. I have been a central point for the group and was the collection point for the participants' post-call debrief. Also, for reference purposes, each of the people on yesterday's call has performed flawless implementations of state of the art EMR systems on behalf of their respective healthcare delivery systems, some more than once.

Since the call was structured to focus the discussion on the few direct questions set forth in your agenda, and the moderator controlled the timing of each question very tightly, the breadth of the discussion was somewhat limited. As a result, you only had the benefit of the experts' advice in the areas that the moderator put on the table... and the participant's want to make sure you have the benefit of their complete thoughts and feedback. Everyone felt good about the discussion on the agenda questions and felt that the scope and implementation issues relating to DOD / VA interoperability were well in hand. However, some of the participants' questions raised about other areas left them uneasy about the readiness of the system for implementation or the readiness of the Cerner RFP contract for execution. Based on some of the offshoot discussions, the participants felt that many non-DOD interoperability solutions have not yet been fully addressed or solved, leading to incomplete system planning and contracting protections,

greatly risking an unsuccessful implementation and large additional cost and time overruns. The interoperability with community provider partners did not seem to be defined completely. Some additional areas that were identified by the VA and its contractor's participants and moderator as incomplete in the call are: seamless sharing of Choice partner records, duplicate procedure and medical error prevention, flagging mechanisms and implantable device identification, among others. Until the design of the system and all functional requirements are identified and completed, the participants fear that these as yet undeveloped processes and solutions will result in a significant increase in the cost of the implementation and operation of the Choice program and impact quality care delivery to our veterans who choose to take advantage of the Choice program.

Lastly, at the beginning of yesterday's call your moderator identified the comfort that Congress expressed at recent hearings from the participation of the CIOs in the process. However, yesterday's relatively short discussion on a massive topic was limited and not set up to have a platform for full discussion in a two hour phone call with a few questions. Also, as mentioned in the call at various times, the participants' did not have access to the RFP contract document, its scope and the contractual provisions and protections, a critical part they feel of evaluating the completeness of a successful design and implementation. As such, the participants want to make sure that yesterday's discussion is understood by everyone - the VA and Congress alike - to be a limited dialogue to provide their valuable experiences on the topics put on the table by the moderator, but not as a confirmation of the project's completeness or readiness for contract execution or implementation, which they believe likely has shortfalls. In general, we liked what we heard, we are honored that you felt our advice would be of value, but have had discussion about a very limited part of the project and have questions about the system design, whether it is ready for implementation and whether the contract (from the limited discussion) has adequate safeguards to proceed without risk to the cost and success of the effort.

While this was the first time you have spoken to any of these participants on the topic of EMR, and maybe on any topic, the participants would be pleased to provide further feedback and advice should you desire on the remaining issues that are still incomplete and to help you work toward a successful RFP contract, design and implementation.

Sent from my iPad  
Bruce Moskowitz M.D.