**Cover Letter**

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# Introduction and Executive Summary

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# Summary of the JASON Report

* The JASON report concludes that MU Stages 1 and 2 have not achieved meaningful interoperability “in any practical sense” for clinical care, research, or patient access due to the lack of a comprehensive nationwide architecture for health information exchange. They point to the lack of an architecture supporting standardized APIs, as well as EHR vendor technology and business practices, as structural impediments to achieving interoperability.
* JASON recommends an urgent focus on creating a “unifying software architecture” to “migrate” data from these legacy systems to a new centrally orchestrated architecture to better serve clinical care, research, and patient uses.
* This architecture would be based on the use of “public” APIs for access to clinical documents and discrete data from EHRs, coupled with enablement of increased consumer control of how data is used.

# Assessment and Recommendations

The JASON Task Force (JTF) reviewed the JASON Report through XX task force calls and 2 public hearings. We have divided our conclusions into an assessment of the report, and specific recommendations to the Office of the National Coordinator (ONC) based on our assessment.

## Assessment

Our assessment of the JASON Report is based on workgroup deliberations and fact-finding through two public hearings conducted on July 29 and August 5. A list of the participants in the hearings as well as a detailed list of our findings from the hearings are contained in Appendix A.

The JTF has 5 principal findings regarding the Jason Report:

1. **The JASON Report’s conclusions regarding the state of interoperability do not adequately characterize the progress that has been made in interoperability in recent years, though we agree that there is considerable room for improvement, as will be outlined in our recommendations.**

* The JASON Report found that “meaningful interoperability” is virtually non-existent in the US, and concludes that there is “no rational access” between organizations for clinical care or research.
* One limitation of the report is that considerable time has elapsed since the report was undertaken. JASON first received its charge from AHRQ approximately 24 months ago (fall 2012), conducted its investigation in early 2013, and published its report in November 2013. Of particular significance is that JASON’s evaluation was conducted 6-9 months prior to the launching of Meaningful Use Stage 2 in the market (October 2013 for hospitals, and January 2014 for ambulatory physicians). Thus, JASON based all of its conclusions on the results to date of Meaningful Use Stage 1 requirements, which, by design of the program, focused primarily on EHR adoption rather than interoperability.
* Since the initiation of the JASON report, there has been a significant change in the interoperability climate in the US. Demand for interoperability has grown dramatically in the last 18 months, driven by MU Stage 2 interoperability requirements as well as simultaneous growth in value-based contracting and accountable care organizations (ACOs). These new business models have spurred focused demand for interoperability to drive population health management, care management, and analytics to support clinical decision support, quality measurement, and predictive risk.
* The supply-side has begun to respond to meet this demand with the incorporation of Direct protocols in EHR systems to enable secure sending and receiving clinical information between clinical settings, as well as nascent but growing adoption of capabilities to query and retrieve information from other settings through a wide variety of networks such as single vendor networks, vendor consortia, “private” provider-driven HIE networks, and “public” provider- and payer-collaborative networks at the national, regional, state, and local levels.
* In the years since the JASON report was first given its charge, there has been measurable positive change in the interoperability capabilities available in the market, and an even larger positive change in the trajectory of interoperability progress. That said, while directional progress has indeed accelerated, we agree with JASON that the goals of interoperability are still not close to being achieved.

1. **While the JTF agrees with the JASON call to catalyze faster change in the progress of interoperability, we disagree with the JASON assertion that such progress can be achieved by replacing existing core clinical and financial systems**.

* A fundamental tenet of the JASON report is that current EHR and financial systems need to be replaced in order to meet the goals of their proposed software architecture.
* JTF believes that this view of current systems is too narrow – EHRs perform an ever expanding set of functions beyond basic capture and storage of clinical notes and data, such as CPOE, CDS, and workflow orchestration.
* JASON also characterizes the current market as not conducive to innovation and entrepreneurship due to the domination of “stovepipe legacy systems”. Concludes that current market is not open to entrepreneurs and new entrants AND that current EHR and financial system vendors are not innovating themselves
* JTF view is that current EHR systems are more functionally sophisticated and technologically dynamic than JASON gives them credit for
* Many of the functions highlighted in the JASON software architecture are performed by EHR systems today (e.g., UI applications, Semantics and Language Translation, Search and Index Functionality, open APIs)
* Many vendors already support APIs, and have numerous third-party “apps” integrated into workflows
  + However, JTF acknowledges JASON concern that current APIs are vendor-proprietary and thus reduce the market opportunity for entrepreneurial developers, and could lead to “vendor lock in” without external market coordination
* Innovation and entrepreneurialism are best promoted by focusing on functional interoperability goals and open architecture through standardized APIs, rather than on the internal software design of core clinical and financial systems
* Market is highly heterogeneous and fragmented, and technology and business models are rapidly evolving
* Accelerating evolutionary progress – rather than trying to engineer revolutionary bottom-up change in software design – is the only feasible path forward in such a fragmented market and dynamic technological and business environment
* The JTF agrees with the JASON assessment that widespread adoption of “public APIs” is a key next step in enabling widespread interoperability in health care.
* JASON expresses great concern that the industry will not move beyond the current interoperability standards of Direct transport and CCDA structured clinical documents. JASON correctly identifies that the current state of interoperability does not yet enable standardized application programming interface (API) mechanisms for accessing clinical documents and data across settings, and further, there is currently no industry- or government-led plan or effort focused on ubiquitous adoption of standardized “public APIs”.
* The term API is a very broad term that generally describes software that allows different application programs to interact with each other for specific purposes.
  + In the JASON context, “public APIs” are critical interfaces that are standards-based with published specifications to enable extraction of data and data representations from “legacy” EHR systems for use by other applications in the JASON architecture.
  + While the JTF does not agree with the stark distinction that JASON draws between “legacy” and future systems, we do strongly agree with JASON on the need for universal availability of public APIs to automate access to clinical documents and atomic clinical data within well-defined trust frameworks.
  + We have provided recommendations on how to advance the use of public APIs across the market later in this report.

1. **JASON proposes an aggressive timeline for enacting fundamental change in the current interoperability paradigm, however, their timelines assume that this is solely a software engineering problem and do not take into account highly complex interdependencies with non-technical factors, such as business, legal, policy, and cultural factors, which are more challenging barriers to rapid change.**

* Technical barriers, though challenging, are eclipsed by the policy, legal, business, and socio-technical barriers to greater interoperability
* JASON acknowledges the importance of these non-technical factors, but they explicitly note that they are out of the scope of their report
  + Yet, JTF believes that highly aggressive timelines such as those proposed by JASON cannot be developed without consideration of these important, rate-limiting, non-technical factors
* More formalized structures and processes for market coordination of technical, policy, legal, business, and socio-technical need to evolve to support more rapid progress
  + This is especially true for use cases related to consumer and research access, which are still nascent

1. **JASON proposes using Meaningful Use Stage 3 (and associated EHR certification) as the prime lever for motivating change across the industry, however, recent market developments and the inherent complexity of the market suggest that a broader array of public and private levers will need to be coordinated in order to foment such rapid change**.

* Market demand for interoperability is growing rapidly and the supply-side is beginning to respond through rapid innovation by existing vendors and the influx of new entrants.
  + Growth of value-based purchasing (ACOs, hospital readmission penalties, rising consumer expectations, rising standards of care)
* JASON began its work in late 2012
  + Did not have benefit of lessons learned from implementation of the CCDA for MU Stage 2
  + Assumed there would be much more time to define, gain consensus, and prepare for MU Stage 3
* MU Stage 3 and 2017 Edition Certification is not as powerful a lever as presumed by JASON
* Timelines are too short to require revolutionary changes in software and API design
  + Declining incremental incentives and competing industry priorities have partially diminished the market influence of the MU program
* A barrier to maximizing the power of MU Stage 3 is the long cycle required to get a technical standard included as part of federal certification.
  + For example, MU Stage 3 begins in approximately 24 months, yet that may not be enough time to get any standards-based data-level APIs incorporated under current processes
* As the MU program ramps down, the importance of effectively orchestrating other federal levers will be critical success factors in providing some channels for standardization
  + Purchasing of health IT systems (DoD, VA, IHS, other), interoperability with Federal health care providers, creating publicly accessible HIE infrastructure components (e.g., nationwide provider directory), Medicare and Medicaid value-based purchasing initiatives, NIH intramural and extramural research, FDA and pharmaceutical and medical device regulation, public health infrastructure, LTPAC regulation, CLIA lab accreditation, advanced imaging facilities accreditation

1. **<Add an observation on the “centralized orchestration” assumed by JASON. This will motivate recommendations related to Coordinated Architecture”>**

## 

## Recommendations

The JTF has developed specific recommendations based on our deliberation on the findings and recommendations of the JASON Report. We have the following recommendations:

1. **ONC should take immediate actions to motivate a public-private vision and roadmap for a nationwide Coordinated Architecture for Health IT. This coordination should target enabling and encouraging HIT market forces towards developing Data Sharing Networks that can leverage a new Public API that exposes Core Data Services and Core Data Profiles.**

* Our recommendations provide a high-level blueprint for an architecture that is aligned with the JASON vision and adapted to take into account market, business, legal, and other constraints
* We believe that operationally defining an initial Coordinated Architecture aligned with the JASON vision is achievable, in accordance with the JASON-recommended 12-month timeframe for ONC to develop such an architecture plan
* However, more focused work is required to take our recommendations to the next level of specificity to validate the key assumptions and conclusions, and specify the activities that need to be accomplished in order to execute these recommendations
* ONC should act as a market enabler by prompting detailed framing work through public-private collaboration using the FACAs and their working groups, which are well-established and with proper focus and direction are capable of providing the next level of detail required
  + The output of this framing work will be to identify the operational and execution activities that need to be performed to produce timely, effective standards and efficient conformity assessment schemes
  + FACAs are not structured to perform operational activities. Thus, based on these recommendations, ONC should contract with an SDO or well-accepted, operationally active industry consortium to establish and maintain the specifications of the Public API, Core Data Services, and Core Profiles, define staging of the expansion of the Core, and deploy monitoring and compliance structures and processes

1. **In order to allow vendors and providers to focus their efforts on interoperability, CMS and ONC should narrow the scope of MU Stage 3 and associated certification to focus on interoperability in return for higher requirements for interoperability, in order to enable vendors and providers to concentrate on high value use cases leveraging Public APIs.**

* Emerging approaches to Public APIs require concentrated development work in order to accelerate their market and certification readiness
* Meaningful Use Stage 2 and 2014 Edition Certification have demonstrated that there is a tradeoff between the complexity of requirements and the ability of most vendors and providers to stay with MU timelines
* Reducing the breadth of MU requirements to focus on use cases demanding interoperability will free up provider and vendor resources to implement and adopt Public APIs

1. **The JTF recommends that a Coordinated Architecture be defined to meet the nation’s current and future interoperability needs, rather than an architecture defined and controlled from the top-down.**

* A nationwide approach to interoperability should pursue the aim of tapping into the dynamism of the market to accomplish important societal healthcare objectives without stifling the ability of market players to continue to innovate to meet their business and clinical interoperability needs.
* There are already functioning and emerging data sharing networks in the market today utilizing disparate architectures and standards for specific business uses, and there is much heterogeneity in capabilities as well. With the adoption and exposure of the public API, these networks would become Data Sharing Networks in the Coordinated Architecture.
* Thus, any approach to a nationwide architecture needs to be flexible to these differences and responsive to future market needs for interoperability. The centrally Coordinated Architecture would provide direction and guidance to facilitate and encourage cross-DSN, standards-based, interoperability – “loose coupling” -- for an agreed upon set of core functions, without attempting to bind each Data Sharing Network to a single architecture approach.
* The CA would use internet-style patterns and building blocks, as described in the Technical Appendix.
* The loosely coupled architecture applies at the EHR- or data-container-level as well as at the DSN-level. In a world of ubiquitously available Public APIs, the key role played by DSNs will thus not be technical but will be to efficiently facilitate legal and business arrangements focused on the high value use cases defined by the DSN's customers

1. **The Coordinated Architecture should be based on the use of a “Public API” that can enable data- and document-level access to EHR-based information in accordance with modern interoperability design principles and patterns**

* The Public API comprises two components
* an implementation of certain *technical standards*
* an agreement to meet certain *obligations* governing "public" access to the API
* The API should enable access to both atomic, codified data as well as to structured and unstructured clinical documents
* JASON and others have correctly noted that automatically-generated documents (such as some CCDAs) can be unwieldy, even though they may convey useful structured data. Nevertheless, the narrative content in documents is extremely important clinically in order to provide the context and richness important to diagnostic and treatment decisions that are not provided by structured data elements alone.
* There is currently no widely accepted healthcare industry API that provides data-level access to EHR data. Current exchange standards (such as XDS/XCA) allow access to structured and unstructured documents, but not to individual data elements.
* The JTF believes that FHIR and FHIR profiles are currently the best candidate API approach to data-level and document-level access to healthcare data
* What makes an API a “Public API” is a set of conventions defining “public” access to the API
* A “Public API” does not imply that data is exposed without regard to privacy and security.
* An API provides the technical means for data-level and document-level access to EHR data, however, there are legal and business considerations that must be addressed before any given provider and/or vendor would allow another party to use the API to access information.
* What is “public” in a “public API” is that the means for interfacing to it are uniformly available, it is based on non-proprietary standards, it is tested for conformance to such standards by trusted third parties, and there are well-defined, fairly-applied, business and legal frameworks for using the API.

5. **The Public API should implement a set of rigorously defined Core Data Services, which should be selected to expose key data access functions for high value healthcare interoperability use cases**

* The Coordinated Architecture and Public APIs could take years to completely span the full range of healthcare data, so the JTF recommends starting with more narrow data services in high-value use cases
* The JTF recommends that the Core Data Services and Public API cover four general use case categories, in accordance with the JASON report:
* Clinician-to-clinician exchange
* Consumer access
* "Pluggable" apps
* Population health and research
* Core Data Services are highly specific, rigorously defined data access services focused on discrete, high-priority clinical and business use cases. The Core Data Services will be accompanied by Core Data Profiles, which will tightly specify the required and optional data elements used by each of the Core Data Services, such that on-the-wire data formats, codes and value-sets can be shared and understood by both sending and receiving parties.
* The Core Data Services and associated Profiles define and circumscribe the “coupling” implied by the “loosely coupled” Coordinated Architecture
* They define targeted interoperability for a select group of functions and use cases to make technical development and workflow alignment feasible
* Core Data Services will include access to both clinical documents (e.g., CCDA, discharge summary, etc) and discrete clinical data elements (e.g., problems, medications, allergies, etc)
* Core Data Profiles define the key data elements and codification of those elements for specific use cases. By constraining the Core Service data elements to match specific Profiles, the degree of semantic mismatch can be significantly reduced
* This is key in a loosely coupled architecture. Rather than trying to build complex, monolithic semantic translation/normalization services, which are very difficult to build at scale, the JTF believes that it is much more feasible to expect that clinical data holders will find value in aligning their public APIs to support a set of well-defined data element profiles
* The scope of data services covered by the Core Data Services and Profiles will expand over time, as experience is gained and new use-cases are identified.

1. **The first Coordinated Architecture uses of the Public API should support Data Sharing Networks that promote EHR-to-EHR interchange, and consumer access to the Core Data Services via patient portals.**

* Clinician-to-clinician is a top priority to support care improvement and is the foundation for all other interoperability. The use of the Public API will expand on the current document-centric capabilities as was recommended by JASON.
* Consumer access to discrete clinical data, via patient portals is a natural extension of the current document-centric "View Download and Transmit" and Blue Button patient portal function. Consumer-mediated authentication and authorization has the advantage that it does not require development of novel trust frameworks
* There is a growing and active community of entrepreneurial developers in the mhealth and consumer space who are not constrained by legacy software issues and could be a leading driver of real-world experimentation and technical and ecosystem maturation
* The JTF expects that the Core Data Services will also be used to support "pluggable apps" as well as new ways to access EHR data for population health and researchers. This work can proceed in parallel, but not necessarily as part of Meaningful Use or other incentive programs.

1. **CMS and ONC should leverage MU Stage 3 and associated certification to motivate industry development of a Coordinated Architecture based on Public APIs focused on Core provider and consumer use cases.**

* The Public API should support Core Data Services and Profiles that offer value to priority use cases but are circumscribed enough in scope that certification standards, MU attestation requirements, and market ecosystem approaches can be developed by the beginning of the MU Stage 3 window
  + HITECH incentive and certification levers, though diminishing in influence, remain as the only industry-wide levers that vendors and providers cannot ignore
  + The initial definition of Core Services and Profiles should be highly focused to allow a toehold in CEHRT that can be a gateway to an expanding definition of Core over time
* There are three complementary HITECH levers that should be orchestrated:
* ONC should require that CEHRT include certification of the Core Services of the Public API in a manner that accommodates more rapid incorporation of the evolution of Core Services
* ONC and CMS should require that vendors grant third-party access to Public APIs based on agreed upon business and legal conventions
  + Vendors should not be allowed to bar access to the Public API for competitive or proprietary reasons, however, a trust framework that includes standard business terms needs to support this requirement (e.g., licensing, appropriate use, etc)
* CMS should create incentives through Meaningful Use Stage 3 levers that health care organizations who have implemented a compliant CEHRT expose third-party access to their HCO data, via the Public API, according to agreed upon trust frameworks
  + Providers should not be allowed to block access to the Public API for competitive or proprietary reasons, however, a trust framework (i.e., a Data Sharing Network) that includes privacy, security, and liability needs to support this requirement

1. **ONC should aggressively monitor the progress of exchange across Data Sharing Networks and consider an incremental range of interventions to accelerate cross-DSN exchange if the market does not enable such exchange on its own**

* Data Sharing Networks will already have governance in place for their own network activities, thus alignment of these governance mechanisms to support loose coupling is a much higher leverage and feasible approach than top-down regulatory directives that attempt to supersede or displace existing DSN governance
* The existence of data sharing networks today with non-trivial market presence (such as vendor-specific networks, Healtheway, selected collaborative HIEs, etc) suggests that there may be enough market maturity and organization that DSN coordination could develop without explicit government intervention
* However, this is not a foregone conclusion and ongoing monitoring should be conducted to ensure that persistent network-specific barriers do not prevent Public API use across the market
* In the event that the market does not organize itself, the government should consider a series of escalating interventions, such as:
* Convening Data Sharing Networks to catalyze development of industry-based governance mechanisms
* Developing additional data services for cross-network bridging if the industry does not progress beyond the initial Core Services
* Developing shared resources to facilitate DSN alignment, such as identity management (patient, provider, entities), authorization/authentication/key management, complex orchestration and transaction services (SOA), etc
* Incentives for DSN activities
* Direct regulation of DSN activities

# Appendix A: Glossary

* **Coordinated Architecture**

A loosely-coupled architecture, patterned on Internet principles, with sufficient top-down coordination to ensure that a robust and efficient market-driven ecosystem of interoperability will emerge.

* **Public API**

A standards-based API that is to be implemented with certain obligations and expectations governing “public” access to the API

* **Data Sharing Network - DSN**

An interoperable network whose participants have establish the legal and business frameworks necessary for data sharing. In this document, the data sharing networks are those that conform to the coordinated architecture and use the public API.

* **Core Data Services**

The Public API will expose certain key data services known as the Core Data Services which shall be exposed by any implementation of the Public API.

* **Core Data Profiles**

The Core Data Profiles describe the content and format of the data exposed by the Core Data Services, including required and optional data attributes, cardinality, and value sets for coded fields.

# Appendix B: Technical Appendix

**Coordinated Architecture**

* The Coordinated Architecture should follow these high level architectural patterns:
* The architecture should be based on loosely coupled systems that leverage the core building blocks that have allowed the Internet to scale. These Internet building blocks may include (but are not limited to) IP, HTTPS, OAuth2, and DNS
* The architecture will leverage the Public API (as defined below) and other services, to create a loose-coupling of heterogeneous systems.
* The architecture should be designed to support asynchronous upgrades by allowing for a reasonable degree of “version skew” during rolling upgrades as standards evolve.
* Respect Postel’s principle (send conservatively; receive liberally)
* Support use-case appropriate, standards-based authentication and authorization technologies which should be implemented using best practice encryption and key management.
* The architecture should anticipate that multiple Data Sharing Networks (DSN) will use the Public API. These DSNs may address different use-cases, or may reflect different business drivers in heterogeneous settings.
* Typically, a DSN will create the proper legal and business framework in which actual interchange is accomplished using the Public API. DSNs may also chose to address network-specific infrastructure such as identity management, key management, consent and preference tracking
* DSNs will also address the necessary legal agreements around data use and licensing (e.g., DURSA, etc.)
* If the emergence of multiple DSNs becomes a barrier to interoperability, then network bridging agreements and services may be needed, and should be addressed as part of the Coordinating architecture process.
* The various DSNs may enable the Public API to be used for patient care, but should not be limited to patient care. The Public API should also be used to address consumer access to their health data, cross-provider population health aggregation, as well as to enable the research community in service of the learning healthcare system.
* Various users of the Public API should seek to reuse the Core Profiles as much as possible, but should allow for necessary variations by domain of usage, since data needs and access patterns may vary
* In addition to Data Sharing Networks, the Public API should also be exposed to in support use of “apps”, “modules” and other mechanisms that encourage innovation around “pluggable” extensions to baseline clinical and financial systems.
* The JTF believes that “pluggable applications” are simply another kind of interoperability, and should be considered a key interoperability target of the Coordinated Architecture and the Public API.
* The Coordinated Architecture should start with simple goals and technical standards, but should anticipate emerging higher functions (e.g., follow the “Internet Hourglass” pattern.)
* Future cross-DSN orchestrated services may be needed. Initially, cross organization interoperability is best addressed by the emerging Data Sharing Networks, though over time it may make sense to create cross-DSN connections via network-to-network data bridges. Cross-DSN services could include:
* Identity management (providers and patients, and other endpoints)
* Authentication, authorization, key management
* Consent and privacy preferences
* Directories and data indexing services (for example, in supporting Internet-like search services)
* Complex orchestration and transactions services (SOA)

**Public API Definition**

An implementation of the Public API will have the following characteristics:

* *Shall* support all of the Core Data Services and Core Data Profiles, as long as the Data Service is relevant for the implementing module or service that exposes the Public API
* For example, a module implementing only eRx would not need to expose services that are not part of electronic prescribing functions.
* *Shall* support public documentation for the exposed Core Data Services and associated Core Data Profiles
* *May* support exposure of Custom Data Services and/or Custom Data Profiles as extensions of the core data services.
  + If custom data services are exposed that go beyond the Core Data Services, the implementation *shall* follow the underlying standard’s regular method for exposing extension services and extension profiles, where possible.
  + Extended services *should not* duplicate services that are already defined in the underlying data service standard. Use the standard-based services where possible.
  + Custom extensions *should* support public documentation of the custom services and custom profiles
* In addition to supporting the Core Data Services and Profiles, an implementation of the Public API:
  + *Shall* enable access to and use of the Core Services in a way consistent with the Public API Operating Rules and Guidelinesas defined below.
  + *Should* be validated against rigorous certification tests
  + The Core Data Services and Core Data Profile certification tests *should* be closely coordinated with the entities that are responsible for the Core definitions. This is to ensure that there is no mismatch between the standards and the certification tests of the standards.
  + *Should* be accompanied by a implementer-provided “sandbox” that enables testing by external entities (with proper access)

**Core Data Services**

* + Core Data Services will include both read and write access to data, as specified by the corresponding Core Data Profiles.
* The JTF considers FHIR and FHIR Profiles to be an emerging exemplar of this pattern, and recommends strong consideration of FHIR as the basis for the Core Data Services and Core Data Profiles
* The JTF believes that the approach of using Profiles to define on-the-wire “semantics by contract” makes best sense for rapid development of the Coordinated Architecture. By constraining the Core Service data elements to match specific Profiles, the degree of semantic mismatch can be dramatically reduced. This is key in a loosely coupled architecture.
* Core Data Services will include access to both clinical documents (e.g., CCDA, discharge summary, etc.) and discrete clinical data elements (e.g., problems, medications, allergies, etc
* Core Data Profiles define the key data elements and codification of those elements for specific use cases -- by constraining the Core Service data elements to match specific Profiles, the degree of semantic mismatch can be dramatically reduced. This is key in a loosely coupled architecture.
* Expanded Core Data Services should be carefully versioned such that implementations can identify which version of the Core Services is supported.
* Versioning should support reasonable levels of forward and backward compatibility in order to allow for rolling upgrades across the Data Sharing Networks.
* Standards, governance and certification support for rolling out new versions of standards asynchronously
* When standards are updated, the overall network must permit bilateral interoperation between a node that has updated to the new feature or requirement and one that has not
* Nodes that have installed the update must continue to receive and process actions using the old version, although they may not be able to perform new functions enabled by the update
* Standards should specify a method whereby nodes on the old version can accept transactions from a node on the new version and provide all the functionality contemplated in the old version.
* Bilateral inter-version compatibility should be maintained for a period of time specified in governance.

# Appendix C: Listening Session Description

**Day 1 (31 July 2014)**

**Exchange Service Providers**

* David Horrocks, Chesapeake Regional Information System for our Patients (CRISP)
* Ted Kremer, Rochester RHIO
* Jitin Asnaani, CommonWell Health Alliance
* Eric Heflin, Healtheway

**Research**

* William Tierney, Regenstrief Institute
* Sarah Greene, Patient-Centered Outcomes Research Institute (PCORI)
* Landen Bain, CDISC
* Gwen Darien, Cancer Support Community

**Standards**

* Grahame Grieve, Fast Healthcare Interoperability Resources (FHIR)
* Thomas Beal, openEHR
* Steve Emrick, National Library of Medicine (NLM)
* Stan Huff, Healthcare Services Platform Consortium

**Day 2 (5 Aug 2014)**

**Consumer-facing ecosystems**

* Ali Emami, HealthVault
* John Mattison, Kaiser
* Kevin Riddleberger and Patrick Leonard, iTriage
* Gordon Raup , Datuit
* Anil Sethi, Gliimpse

**Vendor APIs**

* Charles Parisot, EHRA
* George Cole, Allscripts
* Carl Dvorak, EPIC
* Ryan Hamilton, Cerner

**App Providers**

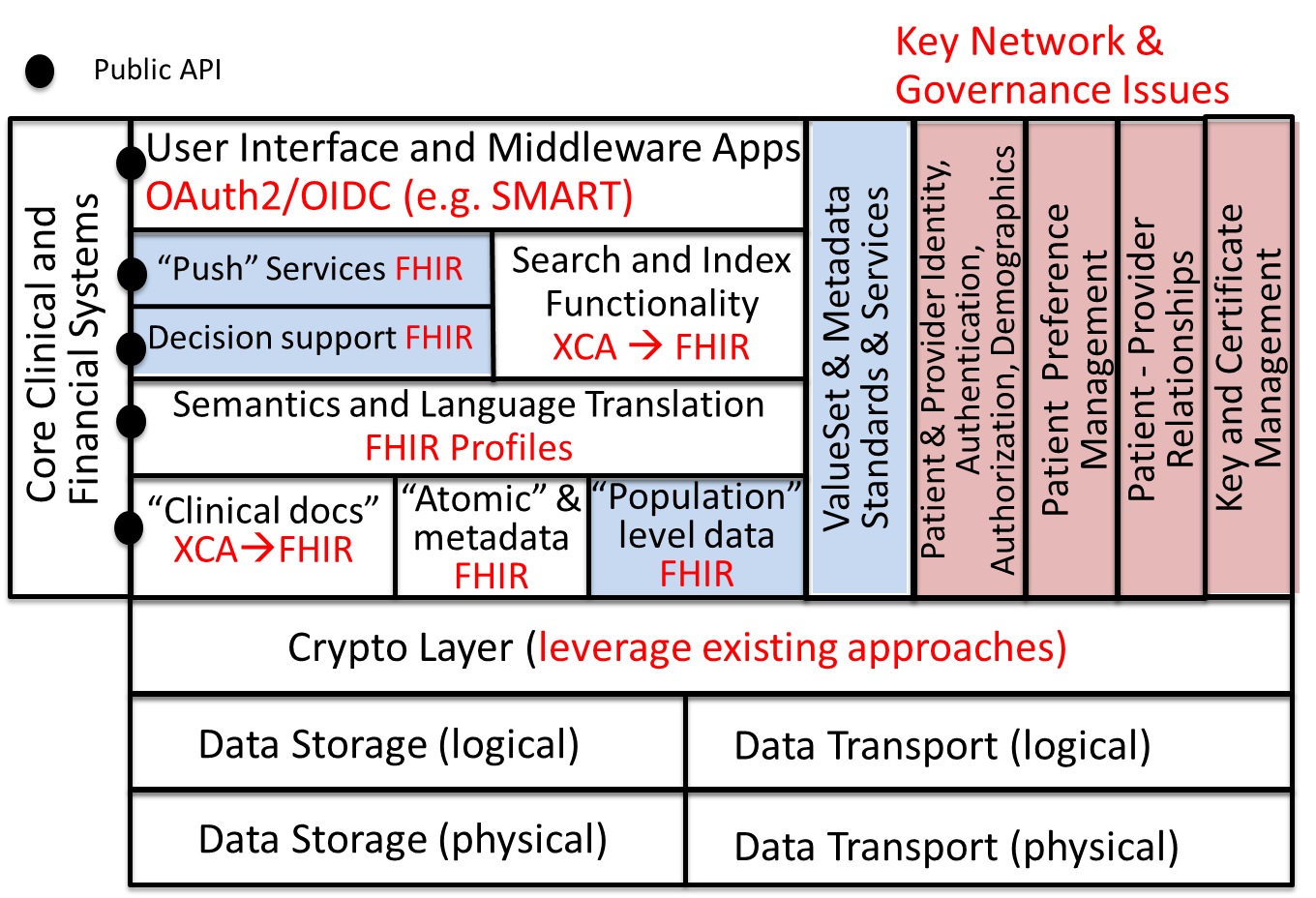
* Dave Vockell, Lyfechannel
* Tim Michalski, Point of Care Decision Support
* Nate Weiner, Avhanahealth
* Chris Burrow and Steve Mickelsen, Humetrix
* Denis Coleman, AppMedicine
* Jonathan Baran, healthfinch

# Appendix D: JASON Task Force Membership

|  |  |  |
| --- | --- | --- |
| **Member Name** | **Organization** | **Role** |
| David McCallie | Cerner | Co-Chair |
| Micky Tripathi | MA eHealth Collaborative | Co-Chair |
| Deven McGraw | Manatt | Member |
| Gayle Harrell | Florida State Legislator | Member |
| Larry Wolf | Kindred Healthcare | Member |
| Troy Seagondollar | Kaiser | Member |
| Andy Wiesenthal | Deloitte | Member |
| Arien Malec | RelayHealth | Member |
| Keith Figlioli | Premier, Inc. | Member |
| Wes Rishel |  | Member |
| Larry Garber | Reliant Medical Group | Member |
| Josh Mandel | Children's Hospital Boston | Member |
| Landen Bain | CDISC | Member |
| Nancy J. Orvis | FHA/DoD | Ex Officio |
| Tracy Meyer | FHA/ONC | Ex Officio |
| Jon White | HHS | Ex Officio |

# Appendix E: Possible Implementation Pathway for Public API

The following diagram maps current standards and approaches to JASON-specified gaps.



The following table identifies current standards and services that would form the foundational building blocks for a Public API

|  |  |
| --- | --- |
| **Category** | **Pathway or Approach** |
| Base standard for Public API and Core Data Services | * FHIR |
| Document access | * Initially continue XCA/CCDA, phase over to FHIR |
| Auth/Auth | * EHR-to-EHR: Network-specific (OAUTH?) * Consumer access via tethered portal: OAuth2/OIDC (i.e., updated Blue Button Pull, SMART on FHIR) |
| Semantics | * Use FHIR Profiles for initial phase. In later phases explore tying Profiles to specific Clinical Models * National Value Set repository (NLM) for core profile value sets |
| Modularity | * SMART on FHIR for EHR and Portal “apps” * ?? for SOA modules |
| Population health data | * FHIR bundles, FHIR pub/sub? |