

Response to Health Technology Ecosystem Request For Information #CMS-0042-NC

Executive Summary

The current health technology ecosystem faces fundamental challenges in achieving meaningful continuity of care for Medicare beneficiaries and all patients. While significant progress has been made in establishing technical standards and API requirements, the practical reality remains that patients experience fragmented care delivery, with critical health information often trapped in siloed systems that fail to communicate effectively with one another.

JSL Health Capital provides this response to CMS Request For Information (RFI) #CMS-0042-NC as a healthcare technology venture capital investor with extensive operational experience across the digital health ecosystem, including direct involvement with companies serving Medicare beneficiaries (including numerous CMMI Innovation Models), implementing FHIR-based APIs, and navigating complex data interoperability challenges. For example, our portfolio company TigerConnect demonstrates these challenges and opportunities in practice — providing HIPAA-compliant communication platforms that enable real-time data sharing between EMS personnel and hospital teams, streamline patient transfers between facilities, and support care coordination across different settings including hospitals, skilled nursing facilities, primary care providers, and home health agencies. TigerConnect's experience integrating with EHRs, paging systems, clinical systems, and other healthcare IT infrastructure illustrates both the technical feasibility and practical complexity of achieving meaningful interoperability in today's healthcare environment. As another example, our portfolio company Rippl participates in the GUIDE model to effectively address dementia in the Medicare population. Rippl uses technology and training to effectively catalyzes a broad group of caretakers, from family members, home health, physicians, and care coordinators to increase the effectiveness and efficiency of dementia care. Effective healthcare data exchange is a key enabling Rippl's care model.

Federated Systems Architecture: The most effective approach to addressing the challenges outlined in this RFI lies in promoting a flexible, federated system architecture rather than pursuing centralized solutions. A federated approach preserves the autonomy and incentives to innovate for individual organizations while enabling seamless data exchange through standardized protocols and interfaces. This includes implementing a federated identity system that allows patients to maintain control over their digital credentials without requiring a single, centralized identity authority. Such an approach respects the diverse technological ecosystems that exist across healthcare and promotes innovation while providing the interoperability necessary for effective care coordination.

CMS/HHS as Registry Authority: The appropriate role for CMS / HHS in this ecosystem is as a registry authority rather than a direct operator of health information exchanges or digital health



platforms. By maintaining an authoritative registry of healthcare providers, certified endpoints, and approved identity providers, CMS can facilitate trust and discoverability without creating bottlenecks or single points of failure. This registry function aligns with CMS's regulatory authority while enabling private sector innovation in developing the applications and services that patients and providers actually use.

Semantic Interoperability Priority: While much attention to date has been focused on *syntactic* interoperability in healthcare — ensuring systems can exchange data in compatible formats — the greater challenge lies in achieving *semantic* interoperability. Data must not only be exchangeable but also interpretable and actionable across different clinical contexts. JSL believes this semantic challenge can be addressed through shared registries of processing metadata — annotations, interpretations, and processing logic that enable healthcare entities to understand and combine data from multiple sources. Such an approach would reduce duplicative efforts across the digital health ecosystem and enable more sophisticated applications for Medicare beneficiaries. This requires attention to data quality, standardized terminologies, and context preservation that enables receiving systems to understand not just what data is being shared, but what it means for patient care decisions.

Balanced Information Blocking Enforcement: Effective enforcement of information blocking regulations must be balanced against legitimate clinical and legal concerns. Healthcare providers face real risks related to malpractice liability and documentation requirements that can create tension with broader data sharing objectives. Enforcement mechanisms should distinguish between legitimate clinical judgment about appropriate information sharing and anticompetitive practices that harm patient care. Additionally, policies should recognize that aggressive data sharing requirements without adequate safeguards may paradoxically lead to underdocumentation, as providers become reluctant to create records that might be inappropriately shared or misinterpreted outside their clinical context.

Digital Identity Implementation: JSL strongly supports the mandated adoption of digital credentials with appropriate privacy safeguards, while discouraging biometrics-based systems and centralized storage of private keys by federal entities. CMS should require providers to accept any digital identity system meeting basic criteria rather than mandating specific platforms, with particular attention to user experience standards that work across different levels of technical familiarity.

About JSL

JSL Health Capital (<https://jslhealth.com/>) is a **healthcare-focused investment firm** that invests exclusively in US healthcare companies at the intersection of AI, data, and technology. Founded in 2020 with \$110M in assets under management, JSL has deep operational experience in health technology implementation and scaling.



Our leadership team includes former executives from healthcare AI companies with expertise in both commercial health technology deployments and government healthcare initiatives, providing us with direct insight into the practical challenges of health technology adoption across various stakeholder groups.

Our portfolio spans companies serving diverse healthcare stakeholders, from health systems and payers to patients and clinical research organizations, with several investments specifically targeting Medicare populations, chronic disease management for seniors, and care coordination between providers serving older adults. These companies directly address many of the challenges outlined in the RFI, including health management applications, care navigation tools, data interoperability solutions, and digital health products designed specifically for Medicare beneficiaries and their caregivers. We have gained extensive experience with the implementation challenges of FHIR-based APIs, the development of patient-facing applications that integrate with health systems, and the deployment of digital health solutions that must navigate complex data sharing requirements across payers, providers, and patients. Through our past experience, investment activities, and portfolio company operations, we have observed recurring patterns in health technology adoption barriers, implementation challenges, and successful scaling strategies across different care settings and regulatory environments.

Our investment activities have provided direct insight into the market dynamics affecting digital health product development for Medicare populations, including the challenges developers face in accessing comprehensive health data, the barriers to user adoption among older adults and their caregivers, and the infrastructure requirements necessary to support effective care navigation and health management applications. This operational experience across multiple digital health companies positions JSL to offer informed perspectives on the challenges and opportunities within the current health technology landscape, particularly regarding the practical realities of implementing and scaling innovative health technologies within existing healthcare infrastructure and regulatory frameworks.

Response to Questions

PC-1. What health management or care navigation apps would help you understand and manage your (or your loved ones) health needs, as well as the actions you should take?

Through our portfolio companies and market observations, JSL has encountered numerous startups attempting to improve end-to-end healthcare delivery with patient engagement components at various scales. A foundational requirement enabling many patient-centric workflows is effective two-way communication of up-to-date medical data between digital health applications and patients' various healthcare providers.

The most valuable health management applications would be those that can synthesize data from multiple healthcare touchpoints — primary care visits, specialist consultations, diagnostic tests, pharmacy records, and wearable devices — into coherent, actionable insights for patients and their caregivers. However, while the mechanical aspects of data exchange (APIs, data formats, interoperability standards) have been a topic of fierce interest, we believe a critical but neglected challenge is the semantic problem of enabling organizations to process and interpret healthcare data that combines multiple data streams into medically coherent and understandable information, reducing the currently highly manual and repetitive work of processing data into a single dataset.

PC-2. Do you have easy access to your own and all your loved ones' health information in one location?

The current reality is that comprehensive health information access remains fragmented across multiple provider portals, each with different login credentials, data formats, and varying levels of completeness. Even when patients can technically access their data through existing portals or FHIR-based APIs, the information often exists in formats that are difficult to interpret or combine meaningfully — whether as raw clinical codes, scanned PDFs, or data lacking sufficient context for patient understanding. There is a large graveyard of startups attempting to innovate in this space that have hit a wall when the cost of accessing, processing, and connecting this data has become too great on a per-patient basis.

The most valuable use case for unified health information access would be in scenarios requiring care coordination across multiple specialists, medication management across different prescribers, or when patients need to share comprehensive health histories with new providers. However, current solutions require patients to perform the complex work of synthesizing and interpreting data from disparate sources, often without the clinical knowledge necessary to understand relationships between different data elements.

PC-4. What features are missing from apps you use or that you are aware of today?

The most significant missing feature in digital health applications is sophisticated semantic processing that can transform raw healthcare data into actionable, personalized insights. While apps can display lab results or medication lists, they generally cannot help patients understand how different data elements relate to each other or what actions they should take based on their complete health picture.

We believe this semantic challenge could be addressed through a shared and distributed semantic layer that allows healthcare entities to contribute processing metadata — annotations, interpretations, and processing logic for healthcare data streams that is read from a known API or data stream. This would function similarly to open-source software repositories, where any entity (individuals, researchers, healthcare organizations, or technology companies) could contribute

processing algorithms, clinical decision support rules, or data interpretation tools that others could freely use and build upon. A submitting entity may indicate licensing information for commercial use of any of the processing metadata, but by default, processing metadata should have an open source license.

CMS could play a valuable role in this ecosystem by creating the registry infrastructure that enables entities to submit and discover these semantic processing tools, potentially endorsing certain high-quality contributions. This model would mirror successful approaches used in the bioinformatics community, by the National Institutes of Health's (NIH) National Center for Biotechnology Information (NCBI), where the government maintains the registry infrastructure while the broader community contributes data, curation, and standards development in a distributed manner.

Such an approach would reduce the repeated work currently required by each digital health company to build their own data processing and interpretation capabilities, ultimately enabling more sophisticated and useful applications for Medicare beneficiaries and their caregivers.

PC-7. If CMS were to collect real-world data on digital health products' impact on health outcomes and related costs once they are released into the market, what would be the best means of doing so?

To collect and disseminate real-world data on digital health products' impact, CMS should model its approach after successful examples such as NIH's NCBI. Data for public release should ideally feature a simple but accessible web-based front-end that allows basic browsing and visualization of outcomes data, while providing bulk as well as search-based APIs as the main access point for researchers, developers, and other users who need to conduct more sophisticated analyses.

This approach would enable multiple types of users to access the data effectively: researchers could use bulk APIs to download large datasets for comprehensive studies, app developers could use search-based APIs to query specific metrics relevant to their products, and the general public could use the web interface to understand basic performance comparisons between different digital health solutions.

The API-first approach would also facilitate the development of third-party tools and analyses, encouraging a broader ecosystem of research and evaluation around digital health product effectiveness. This would be particularly valuable for understanding outcomes across different Medicare populations and identifying which types of digital health interventions are most effective for specific demographic groups or clinical conditions.

Additionally, this model would support transparency and accountability in the digital health marketplace, allowing patients, providers, and payers to make more informed decisions about which digital health products are most likely to deliver meaningful health outcomes and cost savings.

PC-8. In your experience, what health data is readily available and valuable to patients or their caregivers or both?

a. What data is valuable, but hard for patients and caregivers, or app developers and other technical vendors, to access for appropriate and valuable use?

While basic claims data and clinical summaries are increasingly accessible through patient portals and APIs, the most valuable but difficult-to-access data includes the contextual information and processing logic necessary to properly interpret clinical results across different healthcare settings and testing methodologies.

As a result, we would recommend establishing standards that encourage the release of raw data when possible, as well as any metadata and processing logic that would allow the data to be semantically comparable and combined with other datasets. For example, multiple tests for an antibody titer may exist — using ELISA and flow cytometry, using an immunofluorescence assay, and more. In addition, each category of test has various sensitivities across different technology implementations, labs, and techniques. Moreover, different thresholds may be used to determine clinically relevant levels (e.g., marginal, low, high, positive, negative).

This nuance creates significant challenges when patients receive care from multiple providers or when digital health applications attempt to provide meaningful insights based on lab results from different sources. A patient's antibody test results from one laboratory may not be directly comparable to results from another laboratory using different methodologies or reference ranges, yet current data sharing approaches often lack the semantic context necessary to make these distinctions clear.

b. What are specific sources, other than claims and clinical data, that would be of highest value, and why?

Beyond traditional clinical data, the processing metadata and interpretive context surrounding clinical results would be of highest value. This includes information about testing methodologies, reference ranges, quality control measures, and clinical decision thresholds used by different providers and laboratories.

As with our response to PC-1, PC-2, and PC-4, we would encourage the creation of a system where entities may register the processing metadata of the actual data. Note that it may not be the entity creating this data or the format of this data that is registering processing metadata. Other entities may use the information in the registry to properly process data. Allowing multiple contributors to provide processing metadata would ultimately enable digital health applications to provide more accurate interpretations of clinical data and help patients better understand how results from different providers relate to their overall health status.

This approach would be particularly valuable for Medicare beneficiaries who often receive care from multiple specialists and may have lab work done at different facilities, making it difficult to track trends or understand the clinical significance of variations in test results over time.

PC-10. How is the Trusted Exchange Framework and Common Agreement™ (TEFCA™) currently helping to advance patient access to health information in the real world?

TEFCA has demonstrated value in today's healthcare data exchange ecosystem and has become mainstream among the innovative entities we work with. Developers and maintainers of digital healthcare systems now routinely choose the most stable and efficacious route to access the patient data they need to serve their patients' clinical workflows, with TEFCA and electronic Health Information Exchanges (HIEs) serving as a key pathway.

However, significant gaps remain in TEFCA's current implementation. We find that the data shared through TEFCA is often overly rigid — TEFCA today is primarily used by a set of large hospital systems, which limits its utility for the broader healthcare ecosystem. The framework tends to facilitate exchange of standardized data elements that may not capture the full clinical context needed for comprehensive patient care.

b. What changes would you suggest?

We encourage a distributed and federated approach that would expand TEFCA's reach beyond large hospital systems to include the full spectrum of healthcare data sources. Many pre-hospital and post-discharge data sources are largely left out of current data exchange frameworks, even though these data sources are key for many preventative care, chronic care, and value-based care navigation workflows. These may include data from home health agencies, skilled nursing facilities, long-term care facilities, community care coordinators, EMT services, pharmacies and PBMs, digital health apps, symptom trackers, and other sources that are critical for comprehensive care coordination, particularly for Medicare beneficiaries.

PC-11. How are health information exchanges (HIEs) currently helping to advance patient access to health information in the real world?

HIEs have established valuable infrastructure for healthcare data exchange and are widely utilized by our portfolio companies and other digital health innovators. They provide essential connectivity between disparate healthcare systems and have proven their utility in enabling basic data sharing workflows.

a. How valuable, available, and accurate do you find the data they share to be?

While HIEs provide valuable connectivity, we find that they often exchange the "least common denominator" of data elements or will coerce the source data into formats that are not amenable to combining with other data sources. This creates semantic challenges where the data may be technically accessible but lacks the contextual information needed for meaningful clinical interpretation or integration with other datasets.

b. What changes would you suggest?

HIEs should expand their scope to include the broader ecosystem of healthcare data sources that are critical for comprehensive patient care but currently underrepresented in data exchange frameworks. The focus should shift from simply moving data between large healthcare systems to enabling semantic interoperability that preserves the clinical context and meaning of shared information. This would be particularly valuable for Medicare beneficiaries who often receive care across multiple settings and require coordination between hospital-based specialists, community providers, and post-acute care facilities.

As with our previous responses, we encourage a distributed and federated approach that allows individual HIEs to maintain their local strengths while participating in broader data sharing networks that can accommodate diverse data sources and use cases.

PC-14. Regarding digital identity credentials (for example, CLEAR, Login.gov, ID.me, other NIST 800-63-3 IAL2/AAL2 credentialing service providers (ICSP)):**a. What are the challenges today in getting patients/caregivers to sign up and use digital identity credentials?**

Current challenges in digital identity access include inconsistent user experiences across different credentialing providers, lack of universal acceptance by healthcare providers, and concerns about privacy and data security. Many patients, particularly Medicare beneficiaries, may be unfamiliar with digital identity concepts or hesitant to create yet another digital account.

b. What could be the benefits to patients/caregivers if digital identity credentials were more widely used?

We strongly urge CMS to consider mandating digital credentials, as widespread adoption would eliminate the current burden of managing multiple provider-specific login credentials and enable seamless access to health information across different healthcare systems. This would be particularly beneficial for Medicare beneficiaries who often see multiple specialists and need to access information from various provider portals.

c. What are the potential downsides?

We strongly discourage biometrics-based digital credentials due to significant privacy concerns, and also strongly discourage that US government entities be a central store of any patient private keys. The risks include potential data breaches, loss of privacy control, and the creation of attractive targets for malicious actors.

d. How would encouraging the use of CSPs improve access to health information?

Widespread adoption of CSPs would eliminate the current burden of managing multiple provider-specific login credentials and enable seamless access to health information across different healthcare systems.

e. What role should CMS/payers, providers, and app developers have in driving adoption?

We believe CMS should require providers on CMS contracts to implement a digital identity credentialing system of the provider's choice that meets a set of basic criteria and has a registered credential checking API. This approach would create interoperability while preserving choice and competition among credentialing providers.

These stakeholders can also work together to ensure that user experience standards exist across CSPs, to allow digital credentials that can be widely adopted across different levels of familiarity with technology and digital identity, and can be used with ease even in urgent care and emergent care settings. User experience standards should include the ability for an individual to revoke a digital credential and/or an associated account with that credential, and be able to associate another NIST 800-63-3 IAL2 verified credential with their account — giving individuals control over their credentials to promote adoption.

PR-2. What are obstacles that prevent development, deployment, or effective utilization of the most useful and innovative applications for physician workflows, such as quality measurement reporting, clinical documentation, and billing tasks? How could these obstacles be mitigated?

The primary obstacles for physician workflow applications stem from a fundamental disparity in IT implementation capabilities across healthcare organizations. The largest, most well-capitalized healthcare institutions are often able to implement modern IT and quality systems that optimize multi-caretaker workflows, quality measurement and improvement, and administrative tasks, especially as they are able to care for a patient entirely within their own system or affiliated systems. However, outside of such organizations, IT and quality departments are very frequently too underresourced to properly implement such systems. Even when implementation is technically possible, such providers must make tradeoffs — and the cost for physician workflow applications often cannot be justified.

Much of this cost is often due to two interrelated factors:

1. Clinical operations depend heavily on existing systems. As a result, change management and the engineering of a switchover is very risky and may result in reduced caretaker satisfaction and efficiency, a cascade of unforeseen but necessary integration upgrades, and effective data

loss. We have seen this even in major hospital systems where, after an EHR upgrade, certain data elements were relegated to free-text notes or PDFs.

2. Healthcare data suffers from what are stringent global standards in terms of payer contracts, EHR implementations, and CMS guidelines. A healthcare entity that has an existing system that must interact with a number of these global standards will be loath to upgrade to a system, even one that they know to be better and more effective, because changes require matching to the entirety of a global standard and extremely comprehensive testing. Any upgrades will inevitably be both costly and disruptive.

As above, we believe that a federated approach is more effective, especially if API elements and processing metadata can be hosted in a trusted registry. This would allow smaller healthcare organizations to incrementally adopt interoperability capabilities without requiring complete system overhauls. Instead of forcing providers to implement comprehensive solutions that may be beyond their technical or financial capacity, a registry-based approach would enable them to selectively adopt specific API connections or data processing capabilities that address their most pressing workflow needs. Larger organizations or technology vendors could contribute processing logic, data transformation tools, and integration modules to the registry, which smaller organizations could then utilize without having to develop these capabilities independently. This approach would dramatically reduce the individual implementation burden while still advancing overall interoperability goals, allowing innovation to occur at the component level rather than requiring wholesale system replacement.

PR-3. How important is it for healthcare delivery and interoperability in urban and rural areas that all data in an EHR system be accessible for exchange, regardless of storage format?

Interoperability of EHR data is critically important. Today, outside of clinics in major integrated systems in the US, most patients will be entering their health history at their clinic or provider manually. Further, their care and charts are likely not coordinated with any other provider, they will need to redo labs and tests, and discharge and post-care instructions will be a template PDF at best or a print-out at worst, and with no follow-up. Even in integrated systems, a transfer from one unit or department to another may result in an intake process due to differing uses and semantic meanings of data elements.

a. Current challenges in accessing different data formats

The primary challenge is that healthcare organizations often store critical clinical information in formats that are not easily interoperable or exchangeable — scanned documents, faxed records, free-text notes, and PDFs that contain important clinical context but cannot be easily parsed or integrated by receiving systems.

b. Impact on patient care quality

The prevalence of such unstructured data creates significant care fragmentation, particularly affecting rural and under-resourced providers who cannot afford sophisticated data integration solutions. Effective digital health solutions, which have the potential to improve patient care, are rarely used due to these factors.

PR-7. What strategies can CMS implement to support providers in making high-quality, timely, and comprehensive healthcare data available for interoperability in the digital product ecosystem?

CMS should focus on strategies that accommodate the resource constraints of smaller healthcare organizations rather than imposing uniform requirements that only large, well-capitalized systems can effectively implement. A distributed, federated approach that allows providers to participate in data sharing at different levels of sophistication would be more effective than current all-or-nothing approaches.

The burden of increasing data availability can be mitigated by creating shared infrastructure that reduces the individual implementation burden on each provider. This includes establishing trusted registries for API elements and processing metadata that allow smaller providers to benefit from interoperability investments made by larger organizations or third-party vendors.

CMS should also recognize that workflows and metrics that providers are already motivated to optimize for quality improvement and patient care can be reused for interoperability efforts, rather than creating separate, parallel requirements that duplicate effort and increase administrative burden.

PR-9. How might CMS encourage providers to accept digital identity credentials from patients and their partners instead of proprietary logins?

CMS should establish requirements for providers participating in Medicare and Medicaid programs to accept any digital identity credentialing system that meets CMS-defined basic criteria and provides a registered credential checking API. This approach would create market incentives for adoption while maintaining provider flexibility in choosing which credentialing systems to support.

a. What would providers need help with to accelerate the transition?

Providers would need technical assistance with API integration, clear guidance on liability and security responsibilities, and support for user experience design that works for patients with varying levels of technical sophistication. User experience standards should ensure the system works seamlessly even in urgent care and emergent care settings.

PR-10. Regarding digital identity credentials:

a. What are the challenges and benefits for providers?

The primary benefit for providers would be reduced administrative burden from managing multiple patient authentication systems and improved patient experience leading to better engagement. Challenges include initial implementation costs and ensuring the system works reliably across different clinical workflows.

b. How would requiring their use improve access to health information?

Standardized digital identity credentials would enable seamless patient access to their health information across all participating providers, reducing barriers to care coordination and patient engagement with their health data.

c. What are the potential downsides?

The main downsides relate to privacy and security risks, particularly if biometric data is involved or if government entities serve as central repositories for private keys. An individual must be able to revoke a digital credential and/or an associated account with that credential, and be able to associate another NIST 800-63-3 IAL2 verified credential with their account to maintain control over their digital identity.

TD-4. How can CMS better encourage use of open, standards-based, publicly available APIs over proprietary APIs?

We question the premise of this question. We believe that proprietary APIs are not necessarily detrimental to the healthcare ecosystem and to the delivery of quality care. In many cases, proprietary APIs can drive innovation, enable specialized functionality, and provide competitive advantages that ultimately benefit patients through improved services and capabilities.

However, we strongly believe that there should be incentives to publish or register both public and private APIs, and that there should be a registry of processing metadata to allow for effective use of these APIs. Rather than discouraging proprietary APIs, CMS should focus on creating transparency and interoperability at the semantic level.

A more effective approach would be to require that all APIs — whether open or proprietary — register their endpoints, data formats, and processing requirements in a centralized registry. This would enable developers and healthcare organizations to discover and utilize available APIs regardless of whether they are open-source or proprietary, while still maintaining the innovation incentives from allowing proprietary development.

The key is ensuring that the processing metadata associated with these APIs is available, so that organizations can understand how to effectively integrate and interpret data from different sources.

This approach would preserve the benefits of both open and proprietary development while addressing the semantic interoperability challenges that currently limit effective data exchange in healthcare.

CMS could incentivize this registry participation through existing reimbursement and quality programs, making API registration a requirement for certain types of healthcare organizations or technology vendors that work with Medicare beneficiaries.

TD-5. How could a nationwide provider directory of FHIR endpoints improve access to health information for patients, providers, and payers? Who should publish such a directory, and should users bear a cost?

A nationwide directory of FHIR endpoints would significantly improve the discoverability of healthcare data and lower the barrier for healthcare technology innovators to create products that can help patients. With a lower bar to entry, smaller apps and solutions may be more readily created that serve targeted groups of patients, which is particularly important for addressing the diverse needs of Medicare beneficiaries who may have specialized conditions or care requirements.

We believe that, ideally, FHIR endpoint publishers would maintain a directory entry following a standard meta-format, and register the endpoint to the directory entry in a registry maintained by CMS. This registry would then be mirrored in a distributed fashion by API users, and queries to the directory itself would access the mirrored entries.

This distributed mirroring approach would provide several advantages: it would reduce the load on a central CMS registry, improve reliability and performance for directory queries, and create a more resilient system that doesn't depend on a single point of failure. Healthcare technology developers could maintain local copies of the directory entries most relevant to their applications, enabling faster discovery and integration of new data sources.

CMS should publish and maintain the authoritative registry, as this aligns with its regulatory authority and ensures a trusted, standardized approach. However, the distributed mirroring system would allow the broader healthcare technology ecosystem to participate in maintaining and improving directory accessibility without creating bottlenecks at the central authority level.

Users should not bear direct costs for accessing the directory, as this would create barriers to innovation and potentially disadvantage smaller developers who are often best positioned to create targeted solutions for specific patient populations. The directory should be funded as part of CMS's broader interoperability and innovation mandate. Ultimately, this is the most cost-effective approach in comparison to a fully centralized one; and while CMS may incur some costs for overseeing the directory, the costs are likely to translate to direct improvements around the quality of patient care.

TD-13. What new opportunities and advancements could emerge with APIs providing access to the entirety of a patient's electronic health information (EHI)?

Access to full EHI, above and beyond USCDI (including multimedia, lab and testing metadata, and post-acute notes like PT notes, home aide notes), would enable many use cases that rely on more raw data, and on combining datasets. This is especially true for research use cases, including in trialing a new care model for a disease. We generally support giving patients more access to their data, up to and including their full health information.

The availability of comprehensive EHI would particularly benefit Medicare beneficiaries who often receive care across multiple settings and providers. Access to post-acute care notes, rehabilitation records, and home health documentation would enable better care coordination and support more sophisticated digital health applications that can provide meaningful insights across the entire care continuum.

a. What are the primary obstacles to this?

Nevertheless, we express caution on two items:

1. There is very much an appropriate place in the practice of medicine for providers to take private notes on a patient, especially in the current malpractice environment
2. Certain datasets, especially with modern imaging, genome sequencing, and scanning technologies, can both be excessively large from a storage perspective, and may be challenging for the vast majority of patients to even view or process at a basic level.

Given the potential significant overhead for providers and data holders, we support having certain reasonable gating checks prior to release of such information, but still releasing that information through reasonable means (e.g., on a mailed flash drive) if the patient demonstrates a basic ability to use the data in any way.

b. What are the primary tradeoffs between USCDI and full EHI, especially given more flexible data processing capabilities today?

The primary tradeoff is between comprehensive data access and practical usability. While USCDI provides a standardized, manageable subset of health information that most patients and applications can effectively utilize, full EHI access would enable more sophisticated use cases but may overwhelm both patients and smaller technology developers with data volume and complexity. However, given advances in AI and data processing capabilities, the technical barriers to processing full EHI are diminishing, making the comprehensive approach more feasible than in the past.

The key is developing tiered access approaches that provide USCDI-level information by default while enabling access to full EHI for patients and applications that can demonstrate the capability to use it effectively.

TD-16. What are the tradeoffs of maintaining point-to-point models vs. shared network infrastructure?

We strongly encourage decentralization over the creation of more centralized networks or global standards. Centralized approaches often create bottlenecks, single points of failure, and tend to favor large, well-resourced organizations while creating barriers for smaller healthcare entities and innovative technology developers.

a. Do current rules encourage scalable network participation?

Current rules often discourage scalable participation by smaller entities because they require significant upfront investments in network infrastructure and compliance with complex, uniform standards that may not align with diverse organizational needs and capabilities.

b. What changes would improve alignment (for example, API unification, reciprocal access)?

We encourage the adoption of API and processing metadata registries that enable distributed sharing of APIs and the ways to use data, with commercial licensing options for the processing metadata enabling API publishers to monetize the effective usage of their data. This approach would create economic incentives for participation while maintaining the flexibility that different healthcare organizations need.

We would be cautious regarding reciprocal access requirements, as the incentive to not participate at all may be stronger than the incentive to provide reciprocal access. Mandatory reciprocal access could discourage organizations from sharing data altogether, particularly smaller entities that may have valuable specialized data but lack the resources to consume and process large volumes of data from other sources.

A registry-based approach would allow organizations to participate at different levels — some might contribute APIs and processing metadata, others might primarily consume registered resources, and many might do both selectively based on their capabilities and needs. This flexibility would encourage broader participation across the healthcare ecosystem while still advancing interoperability goals through distributed collaboration rather than centralized mandates.

Conclusion

The healthcare technology ecosystem stands at a critical juncture where the foundational infrastructure for data exchange exists, but meaningful interoperability remains elusive for many patients and providers. Through our experience investing in and supporting digital health companies serving Medicare beneficiaries and the broader healthcare ecosystem, JSL has observed that the



most significant barriers to progress are not technical but semantic — the challenge of making healthcare data meaningful and actionable across different systems and contexts.

We believe the path forward lies in embracing distributed, federated approaches that leverage shared registries for APIs and processing metadata, rather than pursuing centralized solutions that may create bottlenecks and favor only the largest, most well-resourced healthcare organizations. By enabling semantic interoperability through open sharing of data processing logic and interpretation tools while maintaining flexibility for both proprietary and open-source innovation, CMS can foster an ecosystem where digital health solutions can truly serve the diverse needs of Medicare beneficiaries. This approach would reduce duplicative efforts across the healthcare technology landscape, lower barriers to innovation, and ultimately deliver better health outcomes and care experiences for patients while supporting the sustainability and growth of the broader healthcare delivery system.