Department of Health and Human Services

Centers for Disease Control and Prevention

Docket CDC-2026-1519

Request for Information: Data Intermediaries and Approaches to Strengthen Public Health Data Exchange

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Regarding CDC-2026-1519, Data Intermediaries and Approaches to Strengthen Public Health Data Exchange

To Abigail Viall, Acting Lead, Technology Implementation Office:

HLN Consulting appreciates the opportunity to submit comments on CDC-2026-1519, CDC's request for information (RFI) on Data Intermediaries and Approaches to Strengthen Public Health Data Exchange.

HLN Consulting works directly with state and local health departments on immunization information systems (IIS), electronic case reporting (eCR), health information exchange, and data modernization. Our comments are informed by this hands-on experience and our longstanding involvement in interoperability projects for the public health community.

Our response recommends a hybrid system: One that combines the public health benefits of shared national services like AIMS and IZ Gateway with the HIEs, HDUs, and TEFCA-based networks that reach into clinical care. A hybrid approach also takes into account the operational, technical and sustainable aspects of data storage, processing, sharing, access, visualization and usage. We encourage CDC to design its intermediary framework so that it leverages the strengths of both. We also encourage CDC to build its framework so it fills public health specific gaps rather than duplicate what's already in existence.

HLN acknowledges and appreciates CDC's commitment to advancing interoperability across the public health ecosystem. The accessibility of data to public health programs is essential to public health operations and outcomes, and we appreciate what CDC has done and is doing to incentivize this vital exchange.

A. Definition of Public Health Data Intermediary

Question II.A-1:

How does this definition of "public health data intermediary" align or conflict with other established definitions, or on-the ground experiences, used across public health and health IT, and what changes would improve distinction or alignment?

HLN's Response:

HLN supports CDC's proposed definition and offers five refinements. First, we believe the definition needs to acknowledge that not all healthcare intermediaries are by nature public health intermediaries and CDC's role includes identifying and emphasizing intermediaries that can provide meaningful value to public health rather than treating all current intermediaries as public health intermediaries. Second, the definition should hold intermediaries accountable for outcomes. Rather than "seeking to" improve data quality, timeliness, and usefulness, an intermediary should be expected to deliver data that are at least as complete and reliable as what a public health agency would receive directly. Third, the definition should affirm that public health agencies, including tribal nations exercising their sovereign authority, retain decision-making power over what is reported, how data are used, and who may access them; intermediaries act on their behalf. Fourth, expectations should be consistent with what an intermediary does to the data. Passing data along carries different responsibilities than transforming, linking, or analyzing it. Finally, we encourage CDC to recognize that public health is both a recipient and a source of data, and that clinicians, patients, and community-based organizations are partners in exchange, not only senders.

The word "trusted" also needs definition. Patients, public health agencies, data senders, tribal nations, and communities each need to trust an intermediary for different, specific purposes. That trust should be demonstrated through transparency, independent assessment, and a reviewable track record, not conferred by designation alone. To avoid duplication, CDC should adopt the Trusted Exchange Framework and Common Agreement's (TEFCA's) existing exchange purposes and public health terminology wherever they apply. CDC's framework can then address what TEFCA does not: whether data reaching public health are complete, unaltered, and representative, including from intermediaries that operate outside the TEFCA network.

B. Standards and Technical Capabilities

Question II.B-1:

Which public health data capabilities, functions, and data sources (e.g., clinical, laboratory, claims, pharmacy, schools, social services) are data intermediaries currently supporting or well positioned to potentially support in the future? For which public health use cases do data intermediaries offer meaningful advantages over direct data exchange or other approaches? Where might the use of data intermediaries add unnecessary cost, complexity, latency, governance burden, or introduce risk? In your response, consider intermediary type, required technical and operational capabilities, and interoperability challenges, informed by: Public Health Data Modernization in Practice: Identification of Core Data Capabilities and Functions

(https://cdn.ymaws.com/www.cste.org/resource/resmgr/logo/identi_2__1_.pdf).

HLN's Response

We have seen intermediaries offer the most value for public health when they represent existing, or emerging, data partnerships supporting clinical care that can be leveraged for additional public health purposes. Intermediaries are also well positioned to support functionality to perform routing, use of national standards like HL7, validation, and monitoring as well as reducing point-to-point connections.

Examples of public health data capabilities where we see intermediaries provide valuable functions are routing of electronic case reports (eCRs) and electronic laboratory reports (ELRs), immunization data, syndromic surveillance data, cancer registry data, newborn screening and prescription drug monitoring data.

Routing of data to public health is complex, as different jurisdictions have different rules to identify what should be sent where. We want to point out that the critical service the Association of Public Health Laboratories (APHL) Informatics Messaging Services (AIMS) Hub with Reportable Conditions Knowledge Management System (RCKMS) takes the burden off the healthcare systems to determine what reporting data should be received at which health departments, while ensuring states receive only what they should receive.

It should be noted that many current public health data interoperability use cases are already mature and operating effectively, often with no intermediaries involved. We see more value from intermediaries for use cases that are less mature. For example, data intermediaries may be well positioned to facilitate a query-and-response approach that allows public health agencies to obtain data "just in time" or specific to their public health purpose.

Additionally, increasingly public health agencies at all levels need to share an increased amount of digital information with each other. The electronic interactions supporting these exchanges are often these relationships are new and provide a strong rationale for using intermediaries to support them. The Immunization (IZ) Gateway is a proven example of this.

A risk associated with intermediary models is the potential to create additional operational complexity for public health agencies and their staff. Intermediary services should be expected to complement, rather than complicate or replace, existing public health workflows and systems. For example, if a relationship between the intermediary and the healthcare organization does not yet exist, adding them to the network may present an initial challenge and additional cost. We have also seen examples of added complexity with troubleshooting when the initiator of the data is one (or more) steps away from the

receiving public health department. Finally, we see a risk in the intermediary becoming a potential single point of failure for a lot of critical data exchanges with a significant impact if something goes wrong.

We encourage CDC to expand upon proven intermediary infrastructure before building new models. Each new use case on a shared intermediary can reuse existing standards, onboarding processes, and infrastructure, thereby reducing redundant effort for public health agencies. Extending existing capabilities offers a lower risk model for rapidly building out an intermediary framework because operational foundations and security track records already exist.

Question II.B-2:

With the proposed layered approach, which capabilities and standards should sit in the universal baseline versus service-specific or use-case-specific profiles—for example: data quality/provenance (terminology normalization, record matching, longitudinal reconciliation, preservation of source values and transformation rules); exchange/routing (push/query/subscribe, bulk transfer, acknowledgments, jurisdiction-aware routing); security/trust (authentication, authorization, consent enforcement, auditability, incident response); and operational reliability (availability, latency, error rates, incident communication)? Please be specific about minimum requirements.

HLN's Response

It's hard to determine exactly what should sit in a universal versus service-specific or use-case specific profile; we encourage CDC to examine how (and if) this question has already been addressed both technically and from a policy standpoint through TEFCA's lens.

Generally we see the **universal intermediary baseline** as the floor or basic exchange capabilities, with no repository or add-on services. It would therefore need to support exchange/routing, security/trust, traceability and operational reliability. It would also serve to help state, Tribal, local, and territorial public health agencies (STLTs) exchange data with one another and with the CDC.

Service-specific profiles: This layer would add quality/provenance features allowing a public health agency to have not just routing/exchange, but data validation and master data management/master person index completed in addition to the baseline capabilities when these apply. Data validation would include structural and content validation, including terminology. This could also aid in converting/transforming messages between standards (example: Health Level 7 [HL7] V2 to HL7 Fast Healthcare Interoperability Resources [FHIR]).

It could also include data enrichment services to help fill in missing demographic or clinical information.

Finally for a few **use-case specific** examples:

The routing of eCRs using the rules in RCKMS is very use-case specific and has specific requirements. The authoring of the rules needs to be centralized (currently on the AIMS platform). The evaluation of the rules and the routing could be a use-case specific capability performed by other intermediaries (by receiving the rules from the central place); this would allow for control of the eCRs being transported between intermediaries (i.e., if they only need to be sent to a public health organization connected to the intermediary, there is no need to send it further). However, it should be noted that the rules related to eCR reporting are very complex and are updated frequently, escalating the risk that distributed rules across intermediaries get out of sync and important eCRs get missed as a result.

A query-response to seek additional information for a public health investigation is another use-case specific capability; different use cases will need different data and queries at different times. This varies by both use case and condition, which determine what data to query for and what to do with the responses.

Question II.B-3:

How should data intermediaries be assessed to determine whether they meet applicable capability, standards, performance expectations, security and data protection, and assessment of data quality? What standardized metrics, evidence, and testing approaches (e.g., conformance testing, certification, validation services) should be used, including to assess onboarding efficiency, scalability, and reach? What existing tools, programs, or approaches could be leveraged?

HLN's Response

In the U.S. we have tried to work this out several times, and we keep returning to the same approach: a common governance agreement (Data Use and Reciprocal Support Agreement, Carequality) which lays the policy foundation and understanding, and a technical framework based on prevailing or emerging standards as developed by an American National Standards Institute (ANSI) affiliated standards development organization (SDO). We use testing processes (e.g., connectathons) to allow organizations to demonstrate and test compliance. We recommend considering existing frameworks versus the creation of new ones.

For implementation of certification, we recommend a phased certification or accreditation approach that identifies a core set of minimum capabilities while allowing more advanced functions to mature over time. Developing core expectations, with stakeholder input, for

data intermediaries and ensuring alignment of services with these expectations will be a critical part of ensuring that data intermediaries offer consistent functionality as a way of avoiding vendor lock-in.

However, creating and maintaining a robust intermediary assessment program may require a long-term commitment comparable in scale to previous federal health IT certification initiatives such as the electronic health record (EHR) certification program. It is critical not to underestimate the resources needed on the part of both federal agencies and data intermediaries, to develop and implement the level of oversight and certification needed to ensure that STLTs can accurately assess, select and implement data intermediary services that meet their needs.

Question II.B-4:

How can a maturity model be useful for advancing data intermediary capabilities over time? If used, in what ways should a maturity model distinguish progression from minimum viable participation to repeatable production and advanced or adaptive capabilities? What capabilities or performance thresholds should characterize each maturity level, and what evidence, including attestation methods, should be required for progression?

HLN's Response

A maturity model tells an organization where it sits on a continuum of capability, no more, no less. It is useful as a self-diagnostic tool rather than as a compliance tool, and in that respect should not require evidence for progression through its phases. However, a maturity model can provide useful information, especially to provide transparency about an intermediary's capabilities if/when a public health agency needs to evaluate which intermediary to work with. Actual functional compliance needs to be assessed per use case not by intermediary; for example, an intermediary can be advanced for syndromic surveillance data but less advanced for something else. Re-assessment should be triggered by events (i.e., ownership changes), as well as by a calendar date.

Question II.B-5:

How might artificial intelligence (AI) capabilities affect data intermediaries' technical, governance, and operational roles—including accelerating, replacing, or distributing functions?

HLN's Response

Invariably, artificial intelligence (AI) tools will be used in the design, development, and

maintenance of interoperability products and services. This should improve the turnaround time for system development, but may also introduce additional risks if AI is used in any decision component of interoperability routing, processing or enrichment of data. Intermediaries need to be fully transparent in their use of AI for this functionality and develop safeguards to maintain the efficacy of AI-assisted capabilities.

On the technical side, AI is well suited to the labor-intensive work that has long constrained intermediaries: mapping local codes to Logical Observation Identifiers, Names, and Codes (LOINC) and Systematized Medical Nomenclature for Medicine - Clinical Terminology (SNOMED CT), profiling incoming HL7 v2, eCR, and FHIR messages against implementation guides, detecting anomalies in submitter volume or completeness, resolving duplicate records across streams, and extracting usable signals from free text such as syndromic chief complaints. AI can also be positioned as a public health agency-side auditor - using AI to independently check an intermediary's performance. This could include validating data mappings and translations, verifying routing capabilities, flagging missed messages, or resolving ambiguous silences (distinguishing "no cases" from "feed delay" and "absent at source" from "lost in transformation").

Operationally, AI shifts the workforce rather than eliminating it. We will need fewer interface builders and more people who can validate models, monitor drift, and explain outputs.

C. Shared Infrastructure: Funding and Sustainability

Question II.C-1:

What funding and revenue sources do data intermediaries currently rely on to support public health services, which entities bear those costs, and which entities receive the resulting benefits? How does this vary between public health-specific services and shared infrastructure supporting multiple participants or purposes (e.g., healthcare delivery)?

National public health networks are funded through CDC programs, connections to these networks are often paid for with time-limited grant funding to STLTs. The conditions and timing of these funding sources makes it very challenging to provide predictable, sustainable, long-term commitments to this infrastructure.

Question II.C-2:

What funding models are most likely to sustain and scale data intermediary services for public health over time? What factors most affect data intermediary costs and technical burden, and

how should shared funding models account for differences in use, cost, and benefits across participants? Please provide examples from current practice where available.

HLN's Response

National health networks that focus specifically on public health (like IZ Gateway and AIMS/RCKMS) require more funding and more sustained funding. The investments by CDC programs that support these networks are relatively modest given the high degree of impact these networks have on national data interoperability. Similarly, STLTs need consistent, sustained funding from these programs to better support connectivity and onboarding. As providers benefit from these connections too, CMS should be consistently supporting these networks as well, not just CDC.

One fear in the public health community is that participants will be charged fees to execute public health transactions. Public health has no available funding for these activities and can barely afford to keep its own interoperability services running. Funding should never be a barrier to public health transactions, so intermediaries either need to look to government-provided funding or to their own overhead charges to fund public health transactions.

The more that public health relies on existing and widely-deployed technical and semantic standards, the easier it will be to leverage clinical care transactions for public health purposes. Public health has done a good job historically of leveraging existing standards, including HL7 V2, clinical document architecture (CDA), and most recently, FHIR. Public health has been extensively involved in various SDOs and has worked over the years to reduce its dependence on specialized products or standards.

Question II.C-3:

How could funding models, fee structures, contract terms, or onboarding processes reduce financial barriers for rural providers, small laboratories, under-resourced public health jurisdictions, tribal entities, safety-net providers, and community-based organizations? Please provide examples from current practice where available.

The kind of sustained funding to support both the network and the onboarding as described in our response to C-2 above would help reduce barriers for rural, small, tribal participants as well.

Question II.C-4:

What funding and contracting approaches could CDC or other public-sector funders use to promote portability, competition, open standards, and sustainable market participation while

avoiding unintended market distortion or vendor lock-in? (See also Section II.D for the broader governance section about this issue.)

HLN refrains from responding to this question - refer to our response in II.D.

D. Governance

Question II.D-1:

What governance and accountability expectations should apply to data intermediaries, and should these vary based on the functions performed, the data handled, the entities/communities served, or the jurisdiction's laws and authorities?

HLN's Response

Effective governance depends on strong, collaborative relationships between public health agencies and intermediaries. Public health agencies must have confidence that intermediaries and downstream data users adhere to applicable privacy, security, and data-sharing requirements, supported by clear accountability and ongoing communication. Public health agencies need to have meaningful representation in governance, decision-making and oversight of public health data intermediaries. Governance structures should ensure that public health agencies have an active role in shaping intermediary priorities, policies, and services, particularly when intermediaries support public health reporting, surveillance, or data exchange activities on behalf of jurisdictions.

A strong governance framework should be a core expectation for data intermediaries. This framework includes transparency about how data is used and disclosed, including downstream and secondary uses; prohibitions on the commercialization of public health data; security protocols; and legal agreements, policies, and procedures. Intermediaries should also be transparent about their full fee structure, so public health agencies can budget and plan. In general, the expectations around governance must increase when the intermediary plays a role beyond simply transmitting data, for example, when an intermediary transforms, retains, links, or analyzes data or provides services to support population-level analysis. Participation in an intermediary by a public health agency will require legal, program, and leadership review. Approval in these realms often requires allaying fears around how data might be used and disclosed, adding further rationale for transparent data governance. We also believe it's important to require a named accountable party for oversight and a service level agreement (SLA) remedy when an intermediary does not meet its requirements.

Guidance from CDC and federal agencies on accountability, oversight, and cross-jurisdictional exchange that accommodates jurisdiction-specific requirements could strengthen trust, support effective data stewardship, and reduce unnecessary governance burden without undermining

public health authorities.

Question II.D-2:

What safeguards would ensure transparent access to data intermediary services and prevent conflicts of interest, biased routing, vendor lock-in, proprietary dependencies, or market concentration—including across jurisdictions with differing legal requirements? (See also Section II.C for funding-specific mechanisms addressing the same risks.)

HLN's Response

A key safeguard will be the establishment of clear, consistent policies regarding data ownership, stewardship, portability, and retention. Public health agencies should retain the ability to transfer data maintained on their behalf between intermediary organizations without loss of fidelity, functionality, or historical context. Public health also needs to be involved in the creation of value-added services, especially summaries and visualizations, to ensure that what intermediaries provide complements what public health agencies provide, rather than competing with it.

Policies are needed in several areas; these are some examples:

- How will data ownership and stewardship be defined when intermediary services enrich, normalize, or link information from multiple sources? Does adding value constitute ownership of the enriched data set?
- How will data retention be addressed when a public health agency terminates a relationship with a given intermediary?
- What standards will be needed to facilitate meaningful portability of public health data assets during times of intermediary transition?
- Under what conditions can the intermediary disclose public health data? Are there requirements around including public health experts and/or community in the design and creation of publicly available data sets? Are there requirements around transparency about how the visualizations and summaries are created?

Question II.D-3:

What requirements should govern a data intermediary's authority to receive, access, route, transform, enrich, or disclose public health data, including delegated authority, reciprocal exchange, and compliance with jurisdiction-specific laws?

HLN's Response

"Public health data" is not a defined legal concept with consistent meaning across jurisdictions.

Absent a consistent meaning established in law, such as protected health information (PHI) in the Health Insurance Portability and Accountability Act (HIPAA), what is meant by public health data is itself unclear and unevenly applicable across jurisdictions. Variations in whether a STLT is HIPAA covered, hybrid, or fully exempt further complicate attempts at uniform approaches to governance of data exchange across the public health system. An intermediary's authority should not exceed or be exercised independently of the authority of those they act on behalf of.

Compliance with jurisdiction-specific law is a critical requirement as well as transparency in how any of these functions are performed. The public health agency needs to keep stewardship of the data and what the intermediary does with the data, including the right to audit and retrieve data and receive certified deletion at termination.

Requirements related to enriching or disclosing public health data must have public health input on the specific data that's being disclosed. Attention and transparency must be brought to the denominator as it can't be assumed an intermediary has complete population coverage, and what it will be able to provide will be dependent on its connected network. An intermediary's authority to disclose public health data is also challenging from a communication and trust perspective.

Question II.D-4:

What roles should CDC, other federal agencies, state, tribal, local, and territorial (STLT) public health authorities, data intermediary governing bodies, participants, and other relevant entities play in oversight and accountability? How should these roles be coordinated, and what monitoring, audit, corrective-action, suspension, sanction, or termination mechanisms are appropriate?

HLN's Response

STLTs and CDC need to have a central role in the governance and oversight of data intermediaries serving public health. As data stewards and operational users, STLTs possess critical expertise regarding public health requirements, workflows, reporting needs, jurisdictional priorities and the communities they serve. This includes the authority to suspend or terminate, as well as a pause switch, where a public health agency can suspend a flow based on quality or privacy grounds.

This could be achieved by certification of intermediaries by public health with recurring audits and re-certifications toward a set of determined capabilities (depending on function).

It needs to be recognized that the resources necessary for STLTs to participate in governance and oversight activities may be significant, and CDC needs to support a broad and diverse set

of STLTs to participate in these activities.

Finally, any governance of intermediaries needs to be aligned with TEFCA; CDC's framework needs to fill public health specific gaps rather than duplicate the common agreement under TEFCA.

Question II.D-5:

How should governance accommodate jurisdictional differences in law, reporting mandates, privacy, consent, data use agreements, and public health authority while minimizing administrative, technical, and financial burden and supporting equitable participation?

HLN's Response

In order to accommodate jurisdictional differences, governance needs to be as close to the jurisdiction the intermediary serves as possible, and governance has to be set up to ensure intermediaries don't become a back door around jurisdictional consent (for example, under current policy, federal access to state and local syndromic surveillance data is restricted without each jurisdiction's consent). As mentioned in our response to question II.D-1, we believe it's important to require a named accountable party for oversight, which could be the public health agency in the jurisdiction the intermediary serves. For intermediaries where a local 'home' can't be identified, or where the service is across multiple jurisdictions (*e.g.*, RCKMS or IZ Gateway), national organizations (or the Joint Public Health Informatics Taskforce [JPHIT]) could be the governing body.

As stated in the answer to II.D-4, it must be recognized that the resource needs for governance may be significant, and CDC needs to support this activity to ensure broad and diverse participation. Utilizing the national organizations and JPHIT is a good way to capitalize on existing networks rather than building new ones.

E. Implementation

Question II.E-1:

What tools, templates, or guidance (e.g., implementation playbooks, procurement language, data use/service-level agreement templates, security checklists, evaluation tools, governance models) do public health agencies need to evaluate, select, implement, and oversee data intermediary partnerships, and their associated outcomes?

HLN's Response

Public health agencies have a lot of experience in identifying, onboarding, and supporting

partner organizations for data interoperability. Onboarding activities are well documented in many jurisdictions and there is a plethora of available material and examples. Shared projects such as the IZ Gateway and eCR/RCKMS provide another example, as does guidance from public health organizations such as the American Immunization Registry Association (AIRA) and Council for State and Territorial Epidemiologists (CSTE). We suggest a scan of existing materials at public health agencies and the national organizations to inform this topic.

One specific area we have found to be useful (that is currently missing on a national level), is onboarding test guidelines for different use cases, with synthetic edge-case data (twins, newborn naming, hyphenated names, missing fields), full Race, Ethnicity and Language [REaL]/Sexual Orientation and Gender Identity [SOGI] profiles, validation sandboxes, and quality benchmarks.

Question II.E-2:

What barriers (e.g., workforce, funding, procurement, legal authority, governance, technical infrastructure, trust, sustainability, jurisdictional variation)—limit STLT public health agency readiness to use data intermediary services, and what support would address them? How should implementation build on existing investments and support coexistence, migration, or transition without unnecessarily replacing already functioning infrastructure? Where relevant, note differences by data intermediary type.

HLN's Response

Almost all of the barriers identified in the question limit STLT public health agency readiness to use data intermediary services. Without sustainable funding for public health data intermediaries, public health agencies are reluctant to invest in both workforce and technical infrastructure. For example, the Minnesota Department of Health (MDH) is currently working on a project to assess MDH's capability to sign on to TEFCA, which on its own has taken more than 12 months; any additional or new agreements needed will most likely take an equivalent amount of time to develop. Public health is also reluctant to work extensively with healthcare organizations to onboard them to intermediaries if they can't be certain the intermediary will be sustained into the future.

Question II.E-3:

What approaches should CDC consider to test, learn from, and scale promising intermediary models or capabilities for public health purposes? How can pilots, demonstrations, learning collaboratives, phased implementation, or other approaches build evidence and trust while informing decisions about whether, when, and how to scale?

HLN's Response

Multiple current initiatives can serve as resources to inform CDC's approach. For example, the emerging national model for health data interoperability seems to be TEFCA, so leveraging TEFCA as much as possible would be beneficial. Also, given that Wave 2 of the Public Health Infrastructure Grant (PHIG) Implementation Center Program requires use of intermediaries, we believe much could be gleaned from the STLTs who were selected for this funding.

IZ Gateway is another very successful project of a national intermediary with a strong adherence to standards and broad implementation that should be considered as a strong model.

Finally, the AIMS Hub provides exceptional leverage for public health use cases while delivering significant value. It is standards-based and supports a broad set of public health interoperability transactions. For eCR, RCKMS (on the AIMS Hub) also supports a centrally coordinated environment for the structured authoring and maintenance of decision support rules, maintained in a decentralized fashion by STLTs.

Question II.E-4:

Where do public health needs and capabilities align with those of healthcare providers, payers, laboratories, community organizations, and other partners? What data, information, services, or capabilities could public health provide to partners (e.g., providers) through intermediaries to create shared value and strengthen reciprocal exchange? What collaboration approaches could enable this value, and what constraints, tensions, or tradeoffs should be considered?

HLN's Response

We believe that public health agencies share several goals with providers, payers and other partners that include: avoiding numerous point-to-point connections, streamlining data sharing agreements, leveraging national standards for interoperability, reducing manual burden and trying to ensure cost effectiveness for everyone.

Public health needs are embedded within clinical care, as the "public's" health is driven in many cases by patient health and treatment outcomes. We need to treat patients and clinical care providers as participants in the public health workflow, just as public health should be a part of the larger healthcare system. Public health should strive to return tangible value to providers using their data, such as intervention outcomes, updated guidelines, immunization forecasts and outbreak alerts. Public health should also strive for maximum leverage of clinical care transactions and resist inventing new capabilities.

Question II.E-5:

Where can CDC add the greatest value in strengthening the data intermediary ecosystem, and through what role(s)—for example, as a convener, funder, purchaser, technical assistance provider, standards advocate, evaluator, or facilitator of shared infrastructure? Where should CDC instead leverage, align with, or defer to existing public- and private-sector efforts?

HLN's Response

We believe CDC can add value in all the areas listed in this question: Convening STLTs to set priorities for intermediary use across the ecosystem, funding opportunities to build out intermediary capabilities to meet public health agencies' needs, sustainable/prolonged funding to support what's being built, continued support (and sustainable funding) of AIMS services for the STLT community, technical assistance through mechanisms like the PHIG Implementation Centers, advocating along with STLTs for the data standards advancement that public health needs, evaluating best practices, and facilitating shared infrastructure (e.g., APHL AIMS). We appreciate the investment the CDC has made in AIMS and believe the large investment is not only critical but is also a more efficient, cost-effective way to provide nationwide public health intermediary services that cannot be done more easily or inexpensively by trying to federate it across the jurisdictions.

CDC can make prudent investments in central services like AIMS/RCKMS and IZ Gateway as examples of delivering high national value with relatively small investment. Continuing support for shared governance for these systems in partnership with major public health organizations (like APHL, AIRA, CSTE, National Association of County and City Health Officials [NACCHO], Association of State and Territorial Health Officials [ASTHO]) ensures buy-in from STLT agencies.

CDC needs to carry the torch, which highlights positive patient and community outcomes as the most important driver for data modernization. It's easy to get lost in the weeds regarding data, but our overall goal should be to improve patient and community health through reliable and responsible data use.

F. Dynamic Evaluation

Question II.F-1:

Where can CDC add the greatest value as an evaluator (e.g., in providing guidance on evaluating pilots or implementation models, synthesizing evaluation evidence across settings, or evaluating the strategic outcomes and value of the broader intermediary framework)?

HLN's Response

CDC can add the greatest value as an evaluator by assessing efforts and providing evidence across jurisdictions, including any negative results. CDC can also support and partner with academic institutions to independently evaluate use of intermediaries and implementations. Publishing these evaluations, positive or negative, contributes to public health informatics as a science as well as aiding in future adoption and use.

Question II.F-2:

What frameworks, benchmarks, and measures should CDC use to evaluate the intermediary framework, including impacts on workflows, workforce burden, user experience, data usability, situational awareness, and response capacity? What data sources and methods could support feasible measurement and assess the contribution of intermediary-enabled exchange to observed changes and, where feasible, support causal attribution?

HLN's Response

We suggest using the evaluation approaches discussed in published articles, such as: "Evaluating Public Health Uses of Health Information Exchange - PMC" and "A Framework for evaluating the costs, effort, and value of nationwide health information exchange - PMC." CMS also has a new Interoperability Framework as part of their Health Tech Ecosystem - Interoperability Framework | CMS. We also encourage Department of Health and Human Services (HHS) collaboration in this space to try to ensure all health ecosystem partners are moving forward in a coordinated fashion.

In terms of metrics, we suggest aligning with the CMS required outcomes and metrics for health information exchange (HIE) certification: MES Certification Repository: Health Information Exchange (HIE).

CDC should also consider using its annual Public Health Data Strategy as a way to measure important progress in intermediary use for advancing public health agency data exchange.

Question II.F-3:

How should CDC and STLT public health partners assess value and cost efficiency, including startup and recurring costs, costs borne by different parties, avoided costs, and monetary and non-monetary benefits to public health, healthcare, and other ecosystem participants? How should evaluation account for the distribution of costs and benefits and unintended consequences such as added burden, cost shifting, reduced flexibility, inequitable distribution of benefits, or vendor dependency?

HLN's Response

The assessment of the value of data intermediary services should extend beyond that of direct cost savings. Many of the outcomes most important to public health, including improvements in workflow efficiency, workforce burden reduction, user experience, data usability, situational awareness, timeliness, and response capacity, may be difficult to quantify or monetize. Any evaluation framework must consider both quantitative and qualitative measures and recognize that the value of intermediary services may vary substantially by jurisdiction, program, and use case.

We recommend working with a public health economist who can not only look at cost effectiveness, but also return on investment. Another way to show cost efficiency would be to evaluate the cost of building and maintaining multiple connections to all the trading partners compared to only having to build and pay for a few (qualified health information network, HIE/health data utility, AIMS). It will be important to evaluate both the technical costs and costs of establishing individual data sharing agreements versus potentially one shared agreement signed by all.