ConnectedHealthInitiative

June 23, 2025

Dr. Martin A. Makary
Commissioner
Food and Drug Administration
10903 New Hampshire Ave
Silver Spring, Maryland 20993

Re: Comments of the Connected Health Initiative, *Exploration of Health Level Seven Fast Healthcare Interoperability Resources for Use in Study Data Created From Real-World Data Sources for Submission to the Food and Drug Administration; Establishment of a Public Docket; Request for Comments*

The Connected Health Initiative (CHI) welcomes the opportunity to provide input to the Food and Drug Administration (FDA) which explores the Health Level Seven (HL7) Fast Healthcare Interoperability Resources (FHIR) for submission of data collected from real-world data (RWD) sources.[1]

CHI is the leading multistakeholder policy and legal advocacy effort dedicated to improving health outcomes while reducing costs. Our work is driven by the consensus of stakeholders from across the connected health ecosystem. CHI aims to realize an environment in which Americans can see improvements in their health through policies that allow for connected health technologies to advance health outcomes and reduce costs. CHI members develop and use connected health technologies across a wide range of use cases. We actively advocate before Congress, numerous U.S. federal agencies, and state legislatures and agencies, where we seek to promote responsible pro-digital health policies and laws in areas including reimbursement/payment, privacy/security, effectiveness/quality assurance, U.S. Food and Drug Administration (FDA) regulation of digital health, health data interoperability, and the rising role of artificial intelligence (AI) in care delivery. For more information, see www.connectedhi.com.

CHI has consistently advocated for greater interoperability in digital health and has expressed strong support for the FDA's efforts to explore the use of HL7 FHIR for study data created from RWD sources intended for regulatory submission. CHI views interoperability as essential to realizing the promise of digital health, enabling more cost-effective, patient-centered care, and supporting innovative research and care models. CHI fully agrees with the Administration's goals of unleashing innovation in, and maximizing the potential of, the healthcare sector.

We emphasize the linkage of ensuring interoperability to the Administration's priority for leveraging the tremendous potential of artificial intelligence (AI). Many AI use cases, ranging from solving administrative/backend efficiencies to supportive clinical decisions, have already begun to emerge as necessary to advancing the Quadruple Aim. Data exchange, use of standardized terminologies,

1

and the normalization of data flows across the care continuum, are a must if AI is to positively transform the American healthcare system.

CHI believes that interoperability, including the adoption of standards like HL7 FHIR, is critical for synthesizing health information from a variety of sources, such as medical devices, electronic health records, and patient-generated data, to produce actionable insights for both care and research. The organization has applauded legislative and regulatory steps that encourage the FDA to study and recommend improvements in data interoperability, including the use of FHIR for medical device and clinical research data.[2] Leveraging HL7 FHIR can help maximize the benefits of digital health tools, improve data exchange for regulatory purposes, and ultimately support the FDA's mission to ensure safe and effective healthcare innovations reach patients efficiently.

To support FDA, we offer the following responses to each question posed in the RFI:

1. **What challenges do you see for the pharmaceutical industry regarding the *current state* of submitting clinical study data collected from RWD sources to FDA?**

Representing stakeholders across the digital health ecosystem, CHI sees both promise and challenges in the submission of clinical study data collected from RWD sources to the FDA.

One of the largest challenges our members face is the lack of standardized data formats and true interoperability across the healthcare landscape. RWD is generated from a wide array of sources, such as electronic health records, insurance claims, mobile health apps, and patient registries. Harmonizing these diverse datasets into formats that meet FDA regulatory requirements can be a complex and resource-intensive process. While CHI supports FDA's efforts to encourage the adoption of standards like HL7 FHIR, the reality is that mapping real-world data to frameworks such as the Clinical Data Interchange Standards Consortium's remains a technical and operational barrier for many in our community.

Challenges also remain in the areas of data quality and provenance. FDA expects that all submitted data be high quality, relevant, and fully traceable to its original source, but RWD collection can face practical issues with some missing information and/or gaps when data is captured in non-traditional settings. Ensuring that all data points are well-documented and traceable can be an obstacle for digital health innovators working with novel data streams. CHI agrees that scientific integrity should remain a priority as the use of RWD is advanced. Studies must be designed with careful attention to issues such as sample size, bias, confounding factors, and clear reporting of study periods and inclusion/exclusion criteria.

We also encourage FDA to recognize that regulatory uncertainty is another challenge within scope of its inquiry. FDA's guidance on RWD is evolving and there is no universal standard, which creates uncertainty for innovators, researchers, care providers, and others. Integrating RWD submissions into existing regulatory frameworks adds further difficulty. CHI recognizes the importance of harmonizing with both U.S. and international regulatory approaches (e.g., International Medical

[2] https://connectedhi.com/legislation-introduced-on-requiring-the-fda-to-study-medical-device-data-interoperability/.

Device Regulatory Forum, which has not squarely addressed interoperability in guidance), but further collaboration amongst government, the private, sector, academia, and others is needed.

2. **What opportunities and/or challenges do you see for the pharmaceutical industry on reaching a future state of clinical study data submissions collected from RWD sources using HL7 FHIR (*e.g.*, business processes, technical considerations)?**

CHI recognizes that some government policymakers are increasingly encouraging the adoption of HL7 FHIR for data submissions. Using HL7 FHIR to submit clinical study data collected from real-world data sources should be helpful in positively transforming the sector through providing new efficiencies and capabilities, but also gives rise to some challenges that should be navigated carefully.

Initially, CHI reiterates that HL7 FHIR offers the potential to improve interoperability across the healthcare and research ecosystem. By providing a common language and structure for health data, FHIR can bridge gaps between electronic health records, digital health tools, and clinical research systems, enabling data to flow seamlessly and securely between clinical sites, sponsors, and regulators. For pharmaceutical companies (and others), this could translate into faster study start-up times, more agile study management, and ultimately, a shorter path from research to regulatory submission.

FHIR also creates an opportunity for more efficient and accurate patient matching for clinical trials. With standardized and up-to-date patient data and digital trial protocols that accelerate recruitment but also support more representative research, it becomes easier for clinicians and patients to identify and enroll in studies that are a good fit.

Challenges persist, including ensuring the quality, consistency, and completeness of RWD. Variability in how data is captured and coded across different sites can create semantic and technical mismatches that complicate data integration and regulatory review. And while HL7 FHIR is a standard, its implementation can vary between institutions. Building and maintaining the technical infrastructure required for FHIR can require new investments in resources, integration with legacy systems, and ongoing adaptation to evolving FHIR guidelines, after which business processes may need to be reengineered, staff retrained, and roles and responsibilities within research teams redefined.

Notably, because standards underpin the connectivity and data sharing essential for efficient, high-quality patient care, a notable challenge facing any entity using technical standards, such as HL7, in enabling real-time data exchange and seamless interoperability within modern health care systems is standard-essential patent (SEP) licensing abuses. SEPs are patents deemed essential to a standard and must be licensed for compliance, giving SEP holders significant market power that disrupts competition, stifles innovation, and drives up costs for manufacturers and providers, ultimately impacting patient care and access to advanced technologies.[3] FDA can and should address these challenges by reinforcing the importance of fair, reasonable, and non-discriminatory (FRAND) licensing terms and outlines baseline principles to prevent SEP licensing abuses. These

[3] https://connectedhi.com/wp-content/uploads/2025/03/CHI-Issue-Paper-Healthcare-and-Standard-Essential-Patents-Feb-202568.pdf.

include ensuring that SEP holders license to all users on FRAND terms, limiting the use of prohibitive legal orders, and basing royalty rates on the actual value of the invention. CHI calls for ongoing collaboration among industry stakeholders, policymakers, and regulators to balance the benefits of standardization, such as interoperability and innovation, with the risks associated with SEP-related abuse of dominance. As health care technology evolves with the growth of the internet of things (IoT), telehealth, and AI, maintaining this balance will be crucial for fostering innovation while ensuring broad access to life-saving technologies.

Across these challenges, guidance and support from regulators is also still evolving, creating a degree of uncertainty around compliance and best practices. All stakeholders will need to stay closely engaged with regulators and standards bodies to ensure they understand the standards as they mature.

3. **What are your suggestions on how, from a data standards perspective, FDA might reach a future state of clinical study data submissions collected from RWD sources that aligns with ASTP/ONC health IT goals for HL7 FHIR-based exchange?**

CHI believes the FDA has a unique opportunity to help realize a future where clinical study data submissions collected from RWD sources are seamlessly aligned with ASTP/ONC health IT goals for HL7 FHIR-based exchange. FDA could take the following actions, in coordination with other key decisionmakers across the Department of Health and Human Services (HHS) and the Administration:

- **Formally recognize HL7 FHIR as an acceptable standard for regulatory submissions involving RWD** to send a strong signal to the industry and accelerate the adoption of interoperable data exchange practices across the research and healthcare continuum, either alongside or as a complement to the existing CDISC-based requirements. Such a step would harmonize FDA's approach with the ASTP/ONC's nationwide push for FHIR-based interoperability and also leverage the standardized data elements promoted through ASTP's HTI-1 rule.[4] FDA should also develop guidance for sponsors addressing which FHIR resources and profiles are considered acceptable, how to ensure robust traceability and data provenance, and how to map FHIR data to established regulatory models such as the Study Data Tabulation Model (SDTM) and the Analysis Data Model (ADaM) that addresses differences in terminology and coding systems, such as SNOMED and ICD, to support consistency and reliability in regulatory submissions.
- **Define a core set of data elements and controlled terminologies specifically for RWD submissions in collaboration with ONC and standards organizations** to make it easier for sponsors to prepare their data, facilitate mapping from FHIR to regulatory standards, and support more reliable and efficient regulatory review.
- **Establish clear guidance for documenting data provenance and traceability within FHIR submissions** to address the complexity and diversity of RWD sources. FDA could, for example, provide standardized metadata fields or FHIR extensions that capture the origin, transformation, and custodianship of each data element.

4

To support the above efforts, FDA should continue to invest in pilots and public-private collaborations (including public workshops) that surface views and areas for agreement/progress, and that facilitate testing FHIR-based RWD submissions in real-world regulatory contexts. In this way, FDA can identify practical challenges and ensure that the technical guidance is feasible and effective before broad implementation.

We reemphasize that ongoing coordination with ASTP and other federal and state policy leaders will be essential. Through an aligned approach, FDA can ensure that its regulatory data standards keep pace with broader national health data interoperability goals and remain responsive to future innovations.

4. **Does USCDI version 3 provide enough information for collecting RWD for research purposes? Is there information that USCDI version 3 does not sufficiently address?**

CHI believes that USCDI version 3 is a significant advancement in standardizing health data for nationwide interoperability, and notes that it introduces several new elements that support the collection of RWD for research. Notably, USCDI v3 expands on social determinants of health (SDOH) data elements, which are increasingly critical to understanding and addressing health outcomes. The inclusion of SDOH elements, such as housing, transportation, social isolation, and occupation, reflects a growing awareness that factors outside traditional clinical care can account for up to 50 percent of health outcomes.[5] While USCDI v3 provides a strong foundation, CHI continues to advocate for its expansion to further SDOH elements, which are needed to support the longitudinal and highly prescriptive data capture to support for clinical research protocols, such as detailed medication histories, device exposures, and nuanced clinical outcomes

Today, USCDI v3 does not fully meet all the nuanced needs of research and regulatory-grade RWD collection. USCDI v3 is relatively high-level and its different flavors of implementation can lead to inconsistencies across healthcare organizations and laboratories attempting to capture more granular or specialized data. As an example, USCDI v3 lacks detailed data elements like unique device and test kit identifiers for the laboratory domain, which are essential for validating, integrating, and deduplicating laboratory results.

5. **Under TEFCA, a variety of "Exchange Purposes" are authorized. If "Research" was added as an "Exchange Purpose," what role could TEFCA play with using RWD for clinical research? How could TEFCA support more efficient collection and exchange of RWD for clinical research purposes? What challenges might exist with this approach?**

Currently, TEFCA supports a range of health data exchange activities, such as treatment, payment, and public health, but does not specifically permit data sharing for research. CHI generally agrees that adding research to the list would better enable researchers to access high-quality, standardized real-world data from across the country through TEFCA's trusted network of Qualified Health Information Networks (QHINs). Such a change could mitigate the burdensome task of negotiating separate data use agreements with each healthcare organization or data holder, making it easier to tap into the nationwide TEFCA infrastructure. Such a capability would accelerate the

5

launching and execution of clinical studies, particularly those requiring large or diverse patient populations. CHI also believes that TEFCA's framework would help build trust among stakeholders by ensuring that data sharing for research is conducted transparently and securely.

Expanding data exchange to include research can present challenges in providing for patient privacy protections, clear informed consent, and well-defined boundaries to prevent misuse of sensitive health data. Not all QHINs or participating organizations may be technically prepared to handle the complex data types and workflows research requires, and aligning the diverse interests and policies of providers, patients, payers, and researchers may be challenging.

***

Digital health tools and services that CHI members produce and leverage for a wide range of use cases will squarely support the FDA's efforts to modernize governance, grow the economy, and unleash innovation. We welcome the opportunity to meet to elaborate on our views and to identify ways our community can support FDA's mission.

Sincerely,

Brian Scarpelli
Executive Director

Priya Nair
Senior IP Policy Counsel

Chapin Gregor
Policy Counsel

Connected Health Initiative
1401 K St NW (Ste 501)
Washington, DC 20005