



Office of the National Coordinator
for Health Information Technology

Data Standards & Partnerships for Catalyzing Information Into Action: WA Health Data Innovation Summit

Ryan Dempsey Argentieri, MBA, MA
National Coordinator for Health Information Technology
U.S. Department of Health and Human Services

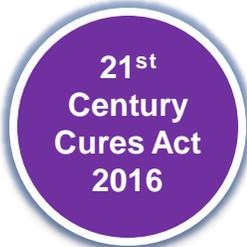
August 17, 2023



Office of the National Coordinator for Health IT



- Founded in 2004 by executive order, established in statute in 2009
- ONC is charged with formulating the **federal government’s health IT strategy** to advance national goals for better and safer health care through an **interoperable nationwide health IT infrastructure**



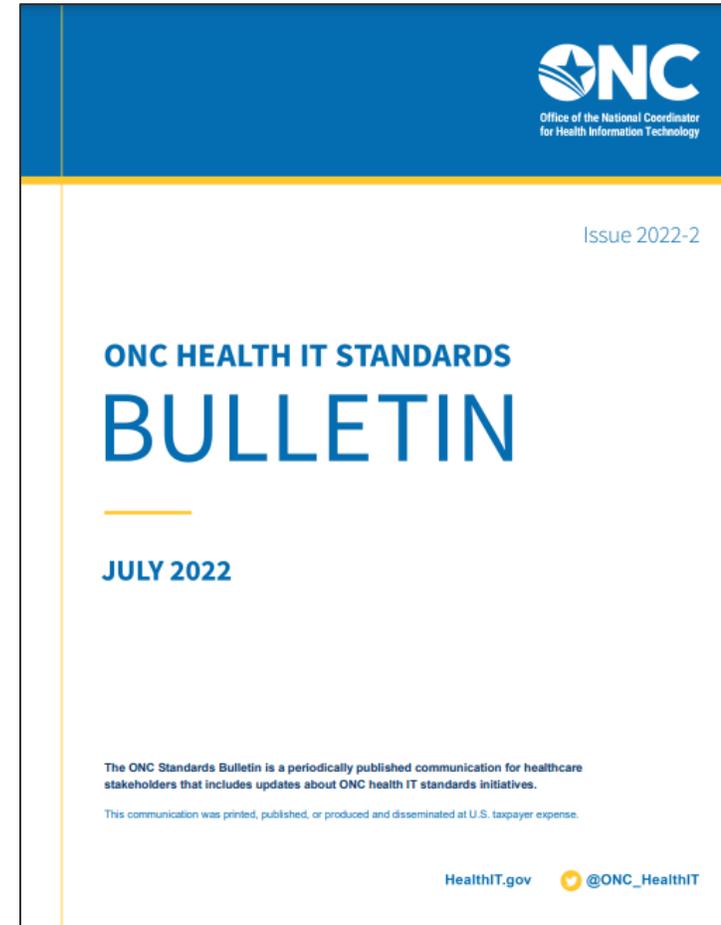
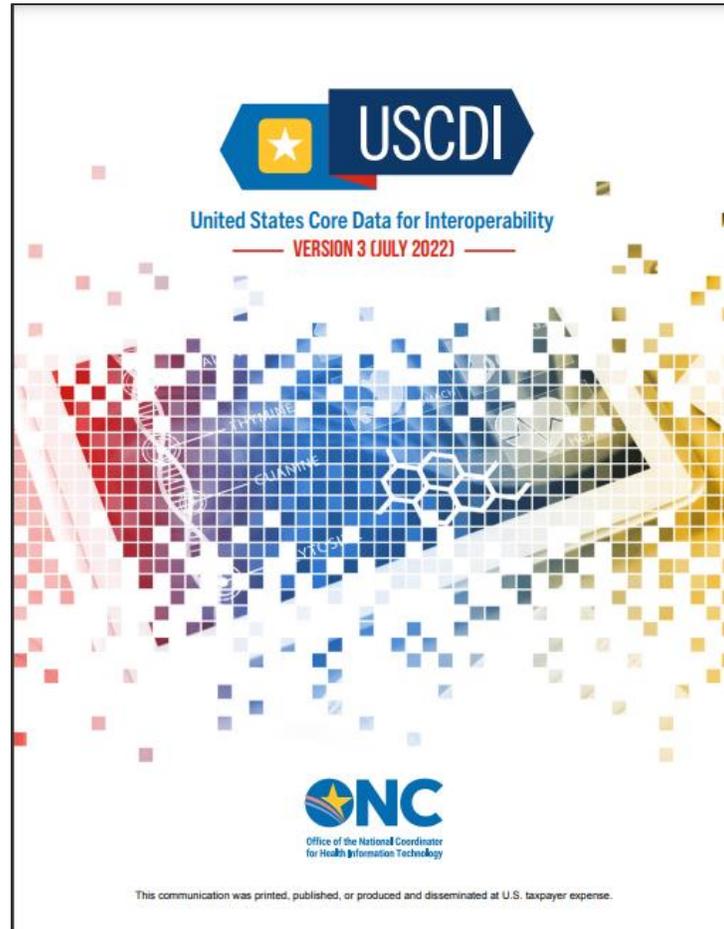
Laying the foundation of EHRs across the industry

- \$40B CMS investment to subsidize EHRs for hospitals and ambulatory providers
- ONC certification of EHR systems to support CMS and CDC programs

Leveraging EHRs to drive value

- Information blocking: Prohibits providers, technology developers, and health information networks from interfering with access, exchange, and use of electronic health information
- Standards: Data and API standards for access “without special effort”
- TEFCA: Nationwide governance for health information exchange networks – Trusted Exchange Framework and Common Agreement

United States Core Data for Interoperability (USCDI)





Allergies and Intolerances <ul style="list-style-type: none"> Substance (Medication) Substance (Drug Class) Reaction 	Clinical Tests <ul style="list-style-type: none"> Clinical Test Clinical Test Result/Report 	Health Status/ Assessments <ul style="list-style-type: none"> Health Concerns → Functional Status ★ Disability Status ★ Mental / Cognitive Status ★ Pregnancy Status ★ Smoking Status → 	Patient Demographics/ Information <ul style="list-style-type: none"> First Name Last Name Middle Name (Including middle initial) Suffix Previous Name Date of Birth Date of Death ★ Race Ethnicity Tribal Affiliation ★ Sex Sexual Orientation Gender Identity Preferred Language Current Address Previous Address Phone Number Phone Number Type Email Address Related Person's Name ★ Related Person's Relationship ★ Occupation ★ Occupation Industry ★ 	Procedures <ul style="list-style-type: none"> Procedures SDOH Interventions Reason for Referral ★
Assessment and Plan of Treatment <ul style="list-style-type: none"> Assessment and Plan of Treatment SDOH Assessment 	Diagnostic Imaging <ul style="list-style-type: none"> Diagnostic Imaging Test Diagnostic Imaging Report 			Provenance <ul style="list-style-type: none"> Author Organization Author Time Stamp
Care Team Member(s) <ul style="list-style-type: none"> Care Team Member Name Care Team Member Identifier Care Team Member Role Care Team Member Location Care Team Member Telecom 	Encounter Information <ul style="list-style-type: none"> Encounter Type Encounter Diagnosis Encounter Time Encounter Location Encounter Disposition 	Immunizations <ul style="list-style-type: none"> Immunizations 		Unique Device Identifier(s) for a Patient's Implantable Device(s) <ul style="list-style-type: none"> Unique Device Identifier(s) for a patient's implantable device(s)
Clinical Notes <ul style="list-style-type: none"> Consultation Note Discharge Summary Note History & Physical Procedure Note Progress Note 	Goals <ul style="list-style-type: none"> Patient Goals SDOH Goals 	Laboratory <ul style="list-style-type: none"> Test Values/Results Specimen Type ★ Result Status ★ 		Vital Signs <ul style="list-style-type: none"> Systolic blood pressure Diastolic blood pressure Heart Rate Respiratory rate Body temperature Body height Body weight Pulse oximetry Inhaled oxygen concentration BMI Percentile (2 - 20 years) Weight-for-length Percentile (Birth - 24 Months) Head Occipital-frontal Circumference Percentile (Birth - 36 Months)
	Health Insurance Information ★ <ul style="list-style-type: none"> Coverage Status ★ Coverage Type ★ Relationship to Subscriber ★ Member Identifier ★ Subscriber Identifier ★ Group Number ★ Payer Identifier ★ 	Medications <ul style="list-style-type: none"> Medications Dose ★ Dose Unit of Measure ★ Indication ★ Fill Status ★ 	Problems <ul style="list-style-type: none"> Problems SDOH Problems/Health Concerns Date of Diagnosis Date of Resolution 	

★ New Data Classes and Elements → Data Element Reclassified

USCDI is the minimum data set for key EHR functions, interoperability, and patient access

EHR functions requiring USCDI

USCDI is a required component for following 2015 Edition Cures Update Certification Criteria	
Standardized API for patient and population services (§170.315(g)(10))	Update to USCDI by December 31, 2022 (replacing Common Clinical Data Set)
Transitions of care (§170.315(b)(1))	
Clinical information reconciliation and incorporation (§170.315(b)(2))	
View, download, and transmit to 3rd party (§170.315(e)(1))	
Transmission to public health agencies –electronic case reporting (§170.315(f)(5))	
Consolidated CDA creation performance (§170.315(g)(6))	
Application access –all data request (§170.315(g)(9))	

CMS patient access rule requires USCDI

Medicare and Medicaid Programs; Patient Protection and Affordable Care Act; Interoperability and Patient Access for Medicare Advantage Organization and Medicaid Managed Care Plans, State Medicaid Agencies, CHIP Agencies and CHIP Managed Care Entities, Issuers of Qualified Health Plans on the Federally-Facilitated Exchanges, and Health Care Providers

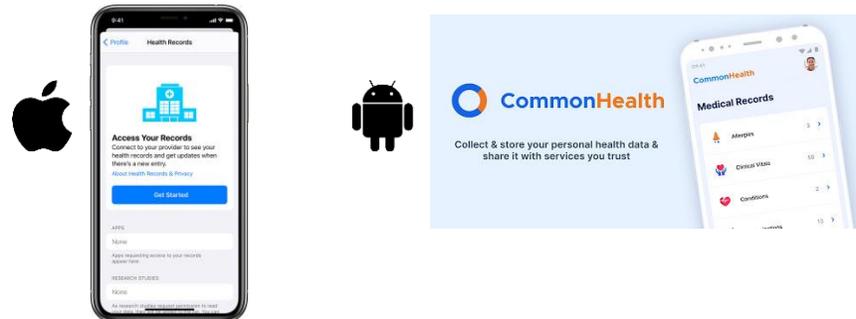
AGENCY: Centers for Medicare & Medicaid Services (CMS), HHS.

ACTION: Final rule.

Interoperability networks requiring USCDI



Mobile apps based on USCDI



ONC FHIR API Requirements: Access “without special effort”

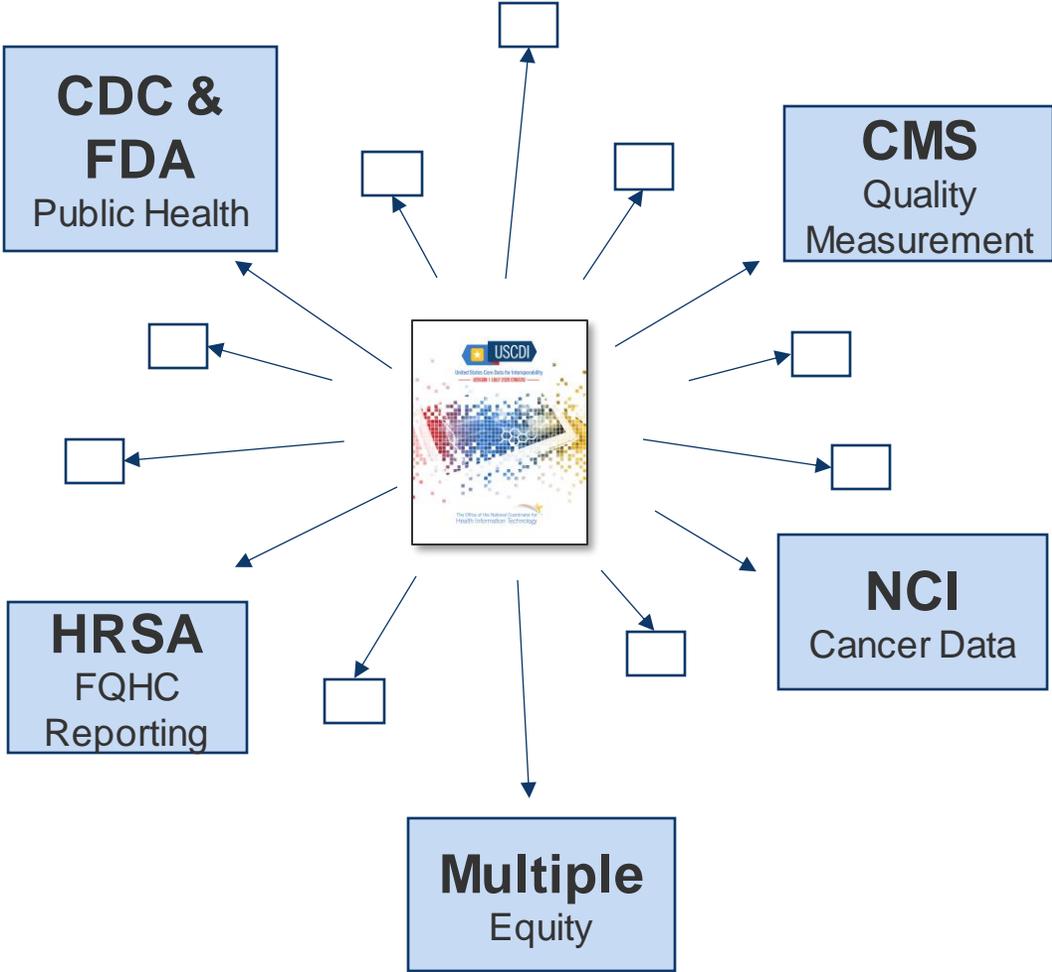


HL7[®] FHIR[®]

- **Open “application programming interfaces” (APIs) and apps are what make it easy to check your bank account or buy stocks or order meal delivery on your smartphone**
 - We want that same experience for the health care delivery and public health systems
- **21st Century Cures Act requires availability of APIs that can be accessed “without special effort”**
 - ONC rule takes steps to prevent business and technical barriers to information-sharing
- **By December 31, 2022, all certified technology developers required to deploy a standard FHIR API (individual and bulk) across their entire customer base**
 - Will create a climate for innovation as apps can now be developed that will work across all EHR systems
- **Looking ahead to interactive functions: questionnaires, scheduling, FHIR links, subscriptions**

USCDI+: Extending Beyond the USCDI

- Unique agency or program-specific data systems and requirements sometimes not fully met by USCDI
- ONC USCDI+ initiative helps federal partners build on USCDI to support specific program needs
- Allows ONC to better serve federal partners, assures that extensions build from the same foundation, and creates the opportunity for aligning similar data needs across agency programs





USCDI+ for Public Health: New Platform Now LIVE!

Collaboration among CDC, ONC, STLTs, and PH SME Input

Official Website of The Office of the National Coordinator for Health Information Technology (ONC)

HealthIT.gov
USCDI+

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United States Core Data for Interoperability (USCDI)+

USCDI+ is a service that ONC provides to federal partners who have a need to establish, harmonize, and advance the use of interoperable datasets that extend beyond the core data in the USCDI in order to meet agency-specific programmatic requirements. Learn more about USCDI+ on HealthIT.gov. If you have any questions, technical issues, or need to request access for a colleague, please email USCDI.Plus@hhs.gov.

A USCDI+ "Category" is a common set of data elements required for interoperability for multiple scenarios and use cases governed by the same set of standards, policies and/or guidelines. (Example: Public Health)

A USCDI+ "Use Case" is a common set of data elements required to support a specific set of functions within a Category. (Example: Resource Reporting/Situational Awareness)

A USCDI+ "Data Class" is an aggregation of various Data Elements by a common scenario or use case. (Example: Facility Level Data)

A USCDI+ "Data Element" is the most granular level at which a piece of data is exchanged. (Example: Facility Address)

[New Data Element & Class \(ONDEC\) Submission System](#)

USCDI+ Categories

- Public Health
- Quality
- Cancer
- [View All](#)

Latest News

- [How to Deal with Spam](#)
2mo ago
- [What is Spam?](#)
2mo ago
- [What are phishing scams and how can I avoid them?](#)
2mo ago

Comments

- [Resource reporting dataset looks perfect!](#)
28d ago • brett.andriesen@hhs.gov

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USCDI data is maintained in ONDEC. This site displays USCDI+ data. USCDI+ will update USCDI references on a regular basis; however, complete information about data classes and data elements in USCDI are located at healthit.gov/uscdi.

Data Type	Created	Updated	State
USCDI+ Category	3mo ago	22d ago	Open

Public Health

ONC and CDC are establishing the USCDI+ for public health to address core data and interoperability for public health needs beyond the scope of USCDI. USCDI+ for public health intends to establish a list of data elements that support public health transactions, use cases and related implementation guides for public health authorities across jurisdictions.

Use Cases Details Comments

Use Cases in Category

Keyword Search

Name	Use Case Description
Case Reporting	Crucial data elements received by public health from clinical providers in order to conduct a case investigation and follow-up with a patient.
Laboratory Data Exchange	The exchange of reportable laboratory order and result data necessary for the investigation and treatment of reportable diseases. Includes electronic ordering and reporting of suspect cases, reporting point of care and at-home testing results to public health, and other more traditional lab data exchange with immunization & vital records systems.
Resource Reporting & Situational Awareness	Data exchanged between public health and hospital/health systems to track resources available across a region to inform public health guidance and decision making. Examples may include tracking hospital bed capacity, supply of PPE, and availability of staff to understand where additional resources are necessary during emergency response.
Risk Behaviors and Drivers of Inequity	Crucial data elements on risks and drivers of inequity for leading health conditions, such as physical activity as a vital sign, vulnerability indices and systematic race and ethnicity reporting, and medical outcomes of consequence.

< > Rows 1 - 4 of 4

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Data Type	Created	Updated	State
USCDI+ Use Case	3mo ago	24d ago	Open

Case Reporting

Crucial data elements received by public health from clinical providers in order to conduct a case investigation and follow-up with a patient.

Details Comments

Details

Keyword Search

Data Element	Data Element Description	Data Class	Category
Values/Results	Documented findings of a tested specimen including structured and unstructured components.	Laboratory	Public Health
Vaccination Event Record Type	Indicates whether the vaccination event is based on a historical record (e.g., second hand knowledge of the vaccination event) or was administered at the facility submitting the data.	Immunizations	Public Health
Vaccination Administration Date	The date the vaccination event occurred.	Immunizations	Public Health
Usual Occupation	A self-reported, coded term for the type of work (paid or unpaid) done by a person for the longest amount of time during his or her life, not including voluntary work (done by choice for the benefit of others without compensation).	Work Information	Public Health
Usual Industry	A self-reported term that identifies the kind of business, i.e., primary business activity, in which a person has worked for the longest time while in their Usual Occupation. For a military position, this is the self-reported branch of service. If an appropriate term is not available (e.g., a new kind of business), then a text entry is used.	Work Information	Public Health

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☰ Relationships

🔍 All

Data Element	Category	Data Class	Use Case
Product Code	Quality	Biologically Derived Product	Quality Overarching
Specimen Collection Method	Cancer	Laboratory	Cancer
Specimen Condition Acceptability	Cancer	Laboratory	Cancer
Specimen Collector	Cancer	Laboratory	Cancer
Specimen Identifier	Cancer	Laboratory	Cancer
Tests	Cancer	Laboratory	Cancer
Specimen Laterality	Cancer	Laboratory	Cancer
Result Unit of Measure	Cancer	Laboratory	Cancer
Result Status	Cancer	Laboratory	Cancer
Specimen Collection Date/Time	Cancer	Laboratory	Cancer
Values/Results	Cancer	Laboratory	Cancer
Result Interpretation	Cancer	Laboratory	Cancer
Result Reference Range	Cancer	Laboratory	Cancer
Specimen Type	Cancer	Laboratory	Cancer
Specimen Source Site	Cancer	Laboratory	Cancer
Tumor Size - Longest Dimension	Cancer	Tumor	Cancer
Tumor Histologic Type	Cancer	Tumor	Cancer

Success Story: Smart Health Card Framework



SMART Health Cards (Static)

Verified versions of your clinical information, e.g., vaccination history or test results, which contain a secure QR code and may be saved digitally or printed.

Used by

- 20+ US states
- Canada
- Japan
- Sydney, Australia
- 5+ other non-GDHP nations not listed

*Uses numeric encoding -
encoded as Compact Serialization
JSON Web Signatures (JWS)*



SMART Health Links (Dynamic)

An **embedded URL** in a QR code that links to data and/or FHIR endpoints. Generally, they would be used when the information is too big, changes regularly and/or has a need for additional security.

Prototyped in 2022
(IPS in Spring 2023)



*Uses alphanumeric encoding -
logo works due to error correction*

Success Story: International Patient Summary (IPS)



Table of Contents > International Patient Summary Implementation Guide

International Patient Summary Implementation Guide, published by Health Level Seven International - Patient Care Work Group. This is not an authorized publication; it is the continuous build for version 1.1.0. This version is based on the current content of <https://github.com/HL7/fhir-ips/> and changes regularly. See the [Directory of published versions](#)

1 International Patient Summary Implementation Guide

Official URL: http://hl7.org/fhir/uv/ips/ImplementationGuide/hl7.fhir.uv.ips	Version: 1.1.0
IG Standards status: Trial-use	Maturity Level: 2
Page standards status: Informative	Computable Name: InternationalPatientSummaryIG

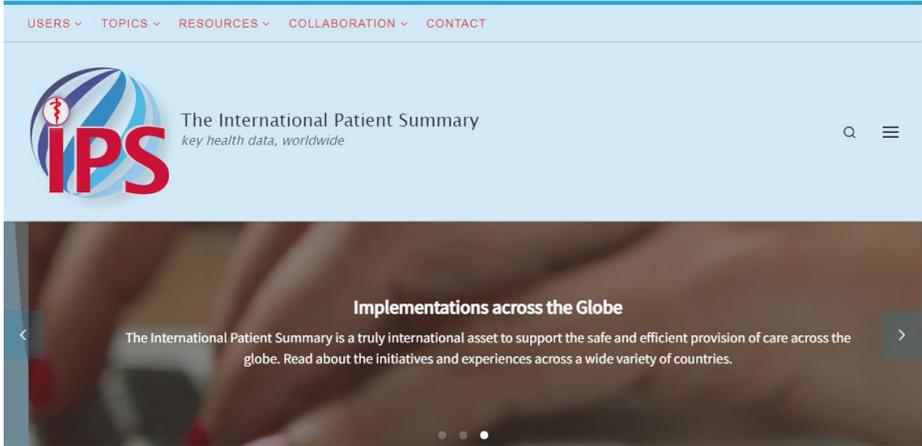
An **International Patient Summary (IPS) document** is an electronic health record extract containing essential healthcare information about a subject of care. As specified in EN 17269 and ISO 27269, it is designed for supporting the use case scenario for 'unplanned, cross border care', but it is not limited to it. It is intended to be international, i.e., to provide generic solutions for global application beyond a particular region or country.

- Purpose
- Project Background
- Project Scope
- Relationships with Other Projects and Guidelines
- Ballot Status
- Dependencies
- Cross Version Analysis
- Global Profiles
- Authors and Contributors

The IPS dataset is **minimal and non-exhaustive; specialty-agnostic and condition-independent; but still clinically relevant.**

The IPS document is composed by a set of robust, well-defined and potentially reusable sets of core data items (indicated as IPS library in the figure below). The tight focus of the IPS on unplanned care is in this case not a limitation, but, on the contrary, facilitates their potential re-use beyond the IPS scope.

Figure 1: The IPS product and by-products



The International Patient Summary is a minimal and non-exhaustive set of basic clinical data of a patient, specialty-agnostic, condition-independent, but readily usable by all clinicians for the unscheduled (cross-border) patient care.

About Patient Summaries

A Patient Summary is a standardized set of basic clinical data that includes the most important health and care related facts required to ensure safe and secure healthcare. This summarized version of the patient's clinical data gives health professionals the essential information they need to provide care in the case of an unexpected or unscheduled medical situation (e.g. emergency or accident). While this data is mainly intended to aid health professionals in providing unscheduled care, it can also be used to provide planned medical care, e.g. in the case of citizen movements or cross-organizational care paths, or even as a crystallization point for health records.



<https://build.fhir.org/ig/HL7/fhir-ips/>

<https://international-patient-summary.net/>

Success Story: WA State, IPS and SMART Health Card Framework



WA Verify+ International Patient Summary

Welcome to a demonstration of WA State's ability to allow individuals in WA State to share their health data, including state immunization records.

The WA Verify+ system builds on the WA Verify vaccination verification system to allow people to access and share their own health data, stored for them by the Washington State Department of Health, including immunizations, advance directives, and other data specified by the International Patient Summary. This data may be helpful to those traveling away from home, to parents and caregivers, and to anyone who wants to be able to see their own records, or securely share their data with healthcare providers or others of their choosing.

WA Verify+ uses the secure, patient-controlled SMART Health Link standard. If you would like to share your records, you may use either the electronic or a printed version of the QR Code you'll get from the system. We recommend waiting 3-7 days for any new immunization to show up in the State system, and therefore be



Label for SMART Health Link

SHL from 2023-06-01

Update Label

Protect with Passcode (optional)

Assign Passcode

Update Passcode

Delete SMART Health Link

<https://smart-health-links-ips.cirg.washington.edu/> with fictional patients from <https://ips.health>



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Contact ONC

Ryan Dempsey Argentieri, MBA, MA

Office of Technology

National Coordinator for Health Information Technology



Health IT Feedback Form:

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healthit-feedback-form](https://www.healthit.gov/form/healthit-feedback-form)



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<https://www.youtube.com/user/HHSONC>

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