



The Office of the National Coordinator for  
Health Information Technology

**Project**  
US@

**Unified  
Specification**  
*for Address  
in health care*



**December 6, 2022**



Carmen Smiley, Senior Health IT Specialist  
Standards Division, Office of Technology  
Office of the National Coordinator (ONC) for Health Information Technology  
U.S. Department of Health and Human Services



## Background

- ONC received comments from the public on the use of USPS Publication 28 in response to a request for information on patient matching in the 21st Century Cures Act proposed rule
  - Our analysis of Pub 28 led us to conclude that it is insufficient for this purpose
- Promising public research on effects of data standardization on patient matching accuracy
  - These and other efforts indicate the potential for improved patient matching through the development and implementation of standards
- Deliverable: A unified, cross-standards, healthcare industry-wide specification for representing patient address



# Approach

- Version 1 of Project US@ Technical Specification and AHIMA Companion Guide released January 7, 2022
  - USPS Publication 28 as a foundation, maintaining alignment as much as possible throughout, with many new constraints and the addition of metadata
    - Many health IT software developers use USPS standards to improve patient address standardization for improved mailability as well as other purposes
    - Project US@ aims to meet health systems who already use these standards where they are by requiring only minor changes and refinements to what they already do
    - Guidance is designed to support accurate patient matching while maintaining mailability as much as possible
- Technical Workgroup and Companion Guide Workgroup



# AHIMA Companion Guide

The optimal solution to accurately matching patient records is a combination of technology, processes, and people.

- Uniformity of Practice
  - Accurate patient matching relies on a number of other factors beyond standards and specifications
  - Accurate and timely capture and management of patient addresses that support conformance to Project US@ and improve patient matching
  - Uniformity of practice in the real-world application of Project US@
  - Health information professionals, providers, health IT developers, federal and state agencies, and so on
- Greatest impact can be realized by using both the Technical Specification and the AHIMA Companion Guide



# AHIMA Companion Guide Development Process

- AHIMA Companion Guide Workgroup built operational guidance based on the technical guidance outlined in the specification
  - Modifications to specification triggered edits to the Companion Guide
  - Same challenges and opportunities were discussed in both workgroups
  - Efforts to ensure alignment throughout
- Beyond technical guidance, the AHIMA Companion Guide also references:
  - Naming convention policies
  - Data integrity and quality improvement
  - Staff training
  - Cleansing, mitigation and remediation
  - Guardians, guarantors, children in foster care, incarcerated patients, etc.
  - Identity verification practices, fraud prevention, identity integrity overall

## Project US@ 2022 and beyond

- Technical Specification and AHIMA Companion Guide, Version 2 (under draft)
  - Equity
    - HHS Equity Technical Assistance Center (ETAC)
  - Address and location data for American Indian and Alaska Native patients, Active-Duty Military and Veterans, Patients experiencing homelessness
    - Engagement with IHS, VA
  - Consumer Engagement
    - Consumer Engagement workgroup w/AHIMA
  - Geolocation data
    - Standards + API
  - Project US@ API Pilot
  - Provider addresses





# Equity

# Project US@ Equity Assessment

- HHS Equity Technical Assistance Center (ETAC)
  - Consulting experts from Mathematica + Center for the Study of Social Policy
  - Introductory call explored ONC's priorities and motivation for the consulting engagement
  - Experts reviewed version 1 of Project US@ Technical Specifications and Companion Guide
  - Experts led an in-depth consultation with ONC and AHIMA to discuss and guide our thinking around:
    - 1) special considerations for patients experiencing homelessness, other underrepresented groups from an equity lens
    - 2) other general equity considerations, including other populations to consider
    - 3) with the goal that healthcare experience and quality is equitable for ALL patients
- Deliverable: Written feedback on each resource and summary memo





# Consumer Engagement

# Project US@ Consumer Engagement

- Consumer Engagement section in Version 2 of the AHIMA Companion Guide
  - Meeting patients where they are
  - Background
    - Consumer access to data
    - Guardians and other caregiver considerations
    - Consumer data correction
    - Current technical landscape
    - Stakeholder training and education
  - Recommendations
  - Example scripts





# Infographics

# Patient Infographic



## How Does It Work?

Project US@ aims to provide guidance to software developers who design and maintain health IT systems and to health care staff who record and verify your address and other information to assist them with accurately matching you to your correct health record.

**Over the Phone**

**My address?**  
Five Thirteen Seventh Ave, Apt 3-A.

**Avenue?**  
I'm only seeing Seventh Street.

**Oof!**  
You're right, my mom lives on an avenue, my address is Five Thirteen Seventh Street. Thanks!

**Address Search**

- 513 Seventh
- 513 Seventh Street Apartment 20
- 513 Seventh Street Apartment 30
- 513 Seventh Avenue Apartment 1A

**At the Point of Care**

**I see a conflict.**  
It looks like the address in our system and the one on your ID do not match. Is that intentional?

**On no, that's not on purpose.**  
I forgot, that's my old apartment. Can you update it?

**Online Scheduling or Telehealth**

**Please verify your address for this telehealth visit**

To ensure delivery accuracy, we suggest the change selected below. Please choose which address you would like to use.

**Suggested address**  
300 C STREET SW  
STE 700  
WASHINGTON DC 20024

**Entered address**  
300 C Street Southwest  
Suite 700  
Washington, District of Columbia 20201

[Edit Address](#) [Save Address](#)

# Health Information Professional Infographic

## How does the Project US@ Companion Guide help Health Information Professionals?



### Protects Patient Safety

Inaccurate patient matching leads to incomplete medical information available to providers when they need it, or clinical information from two different patients may be comingled in the same record. Both of these scenarios place patients at risk for adverse events, including missed or delayed diagnoses or missed allergies.



### Protects Patient Privacy

Privacy is at risk when technology, people, or processes cannot accurately match patient data to the correct record; systems may expose patient information to the wrong person or may leave the patient at risk for fraud or identity theft.



### Supports Administrative Efficiencies

Standardized data and processes can reduce administrative burdens in several ways, including but not limited to time and energy invested in deduplicating records and investigating and correcting comingled records (i.e., overlays).

Uniformity of practice, in combination with standards, works to improve the accuracy of patient data. More accurate data will decrease work in error queues, alleviate downstream issues and delays in the revenue cycle including coding and billing, release of information, and clinical documentation integrity (CDI).



## Resources Available Now!

- Review and adopt the Project US@ AHIMA Companion Guide.
- Review and share the Project US@ Technical Specification with your IT colleagues and decision makers.
- Don't wait until your EHR vendor has adopted the Project US@ Technical Specification – start improving patient addresses now!

# Health IT Developer Infographic

## How does it help Health IT Developers?

### Unified Technical Specification

Project US@ includes a unified technical specification, created by the industry for the industry in partnership with Health Level Seven (HL7) International, the National Council for Prescription Drug Programs (NCPDP), and X12.

### Reduces Developer Burden

Many health systems have already adopted or deployed 3rd party solutions that have adopted United States Postal Service (USPS) Publication 28. The Project US@ Technical Specification and the AHIMA Companion Guide are built on Publication 28 as a foundation; maintaining the benefits of enhanced mailability and improving patient address data quality for matching while meeting health IT developers where they are.

Adopting Project US@ may help reduce burden associated with developing and continuously working to improve patient query and matching efficiency, errors experienced when de-duplicating patient records, investigating billing errors, and other challenges.



### Helps You Meet Market Needs

As more patient information is being exchanged nationwide, more patients and providers need standardized, high-quality data they can consistently rely upon for a wide range of clinical and administrative needs. Improved patient matching is a critical component to interoperability. By implementing a single specification that gives precise answers to how address data should be standardized, the quality of record matches can increase significantly and the cost and time associated with data management and error correction can be reduced.

## Resources Available Now!

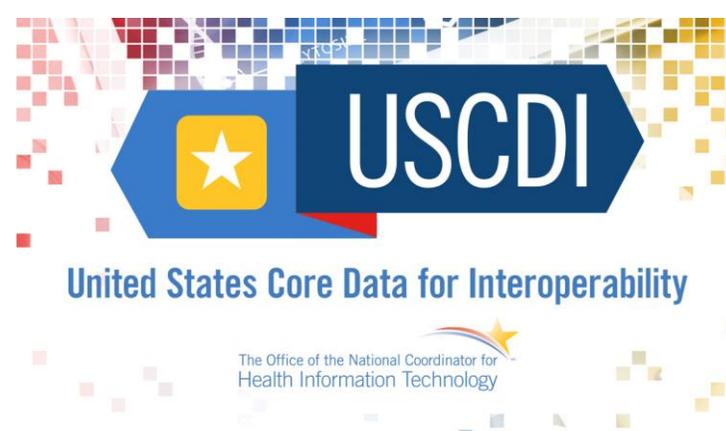
- Review and adopt the Project US@ Technical Specification
- Work with standards development organizations to adopt guidance outlined in the Technical Specification into existing and emerging standards.
- Review and integrate Project US@ AHIMA Companion Guide best practices into enduser trainings and resources.
- Don't wait until federal, state, or local policy requires adoption or until customers request adoption of Project US@ – begin development now!
- Get engaged in ongoing Project US@ work. More details can be found [here](#).





# **Project US@ in Federal Programs**

# USCDI v3



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

# Why USCDI Matters

- A standardized set of health data classes and constituent data elements for nationwide, interoperable health information exchange
- Adopted as a standard in the ONC 21<sup>st</sup> Century Cures Act Final Rule
  - Required for new Certification Criteria
  - Required as part of the new API certification criterion, “standardized API for patient and population services” (§ 170.315(g)(10))
- Replaces the Common Clinical Data Set in these Certification Criteria:
  - Transitions of Care document (create, send, and receive) (§ 170.315(b)(1))
  - Clinical Information reconciliation and incorporation (§ 170.315(b)(2))
  - Patient View, Download, and Transmit of their health data to 3rd party” (§ 170.315(e)(1))
  - Electronic case reporting transmission to public health agencies (§ 170.315(f)(5))
  - Create C-CDA document (§ 170.315(g)(6))
  - Access to data via APIs (§ 170.315(g)(9))





ONC  
TEFCA  
RECOGNIZED  
COORDINATING  
ENTITY

Trusted Exchange Framework and Common Agreement  
**Qualified Health Information Network  
(QHIN) Technical Framework (QTF)**

Version 1.0

January 2022





# **Interoperability Standards Advisory**

# Project US@



## Representing Patient Address

Type	Standard / Implementation Specification	Standards Process Maturity	Implementation Maturity	Adoption Level	Federally required	Cost	Test Tool Availability
Implementation Specification	Project US@ Technical Specification, Version 1.0	Final	Pilot	Feedback Requested	No	Free	No
Operating Rules	Project US@ AHIMA Companion Guide, Version 1.0	Final	Pilot	Feedback Requested	No	Free	No

Limitations, Dependencies, and Preconditions for Consideration	Applicable Value Set(s) and Starter Set(s)
Feedback requested	Feedback requested

# AHIMA Patient Naming Conventions



## Representing Patient Names

Type	Standard / Implementation Specification	Standards Process Maturity	Implementation Maturity	Adoption Level	Federally required	Cost	Test Tool Availability
Operating Rules	Recommended Data Elements for Capture in the Master Patient Index	Final	Feedback requested	Feedback Requested	No	Free	No

Limitations, Dependencies, and Preconditions for Consideration	Applicable Value Set(s) and Starter Set(s)
<ul style="list-style-type: none"> <li>Feedback requested.</li> </ul>	<ul style="list-style-type: none"> <li>Feedback requested.</li> </ul>



# Project US@ API Pilot

## Example v1 Comments Received - APIs

- *... Pew suggests that ONC, in conjunction with other stakeholders, including the SDOs involved in Project US@, develop an application programming interface (API) to update current addresses in EHR systems to the US@ standard. Such an API, similar to the one already available through USPS to support address standardization for mail, would reduce the burden of implementing the new standard for vendors and for health care organizations. – Pew Research*
- *We would encourage ONC to mandate third-party verification/validation tools to update to the proposed standard in draft v1. We support the standardization and applaud the work to make patient matching streamlined. However, we have concerns that developing a native tool that conforms to this standard would be a big lift for the industry. Unless a verification/validation tool can be integrated into an EHR, the standards would rely on a user, and user error is inevitable. - MEDITECH*

# Project US@ API

The screenshot displays the USPS.COM API documentation interface. The main content area is titled "Address" and "Validate Address". It includes a search bar for operations, a "Group by tag" toggle, and a list of API endpoints: GET City&State Lookup, POST City&State Lookup, GET Validate Address, POST Validate Address, GET ZIP Lookup, and POST ZIP Lookup. The "Validate Address" endpoint is selected, showing its API definition and request parameters.

**Request parameters table:**

Name	In	Required	Type	Descr
address1	query	false	String	Delive design
address2	query	true	String	Delive packa provic
city	query	false	String	City n
state	query	false	String	Two-c
zip5	query	false	String	Destir zeroe
zip4	query	false	String	Destir to spe
urbanization	query	false	String	Urban
firmName	query	false	String	Name

**HTTP request code snippet:**

```
// // This sample uses the Apache HTTP client from HTTP Components (http://hc.apache.org/httpcomponents-client-ga/)
import java.net.URI;
import org.apache.http.HttpEntity;
import org.apache.http.HttpResponse;
import org.apache.http.client.HttpClient;
import org.apache.http.client.methods.HttpGet;
import org.apache.http.client.utils.URIBuilder;
import org.apache.http.impl.client.HttpClients;
import org.apache.http.util.EntityUtils;

public class JavaSample
{
    public static void main(String[] args)
    {
        HttpClient httpClient = HttpClients.createDefault();

        try
        {
            URIBuilder builder = new URIBuilder("https://gateway.api.usps.optimo-it.us/address/validate?address2=2800%20Dartmouth%20Road%20%235&city=Alexandria&state=VA");

            URI uri = builder.build();
            HttpGet request = new HttpGet(uri);
            request.setHeader("Cache-Control", "no-cache");
            request.setHeader("Ocp-Apim-Subscription-Key", "c3b06f48139f4f9b8a61799508927be");

            HttpResponse response = httpClient.execute(request);
            HttpEntity entity = response.getEntity();

            if (entity != null)
            {
                System.out.println(EntityUtils.toString(entity));
            }
        }
    }
}
```



The Office of the National Coordinator for  
Health Information Technology

# Contact ONC

**Carmen Smiley, Senior Health IT Specialist**  
**Standards Division, Office of Technology**  
[carmen.smiley@hhs.gov](mailto:carmen.smiley@hhs.gov)  
[www.linkedin.com/in/carmenjsmiley](http://www.linkedin.com/in/carmenjsmiley)  
[@CarmenJSmiley](https://twitter.com/CarmenJSmiley)



**Phone:** 202-690-7151



**Health IT Feedback Form:**  
<https://www.healthit.gov/form/healthit-feedback-form>



**Twitter:** @onc\_healthIT



**LinkedIn:** Search “Office of the National Coordinator for Health Information Technology”



---

**Subscribe to our weekly eblast**  
at [healthit.gov](http://healthit.gov) for the latest updates!

