



Office of the National Coordinator  
for Health Information Technology

# CMSS Annual Meeting: Data Standards – Building Your Lexicon USCDI and USCDI+

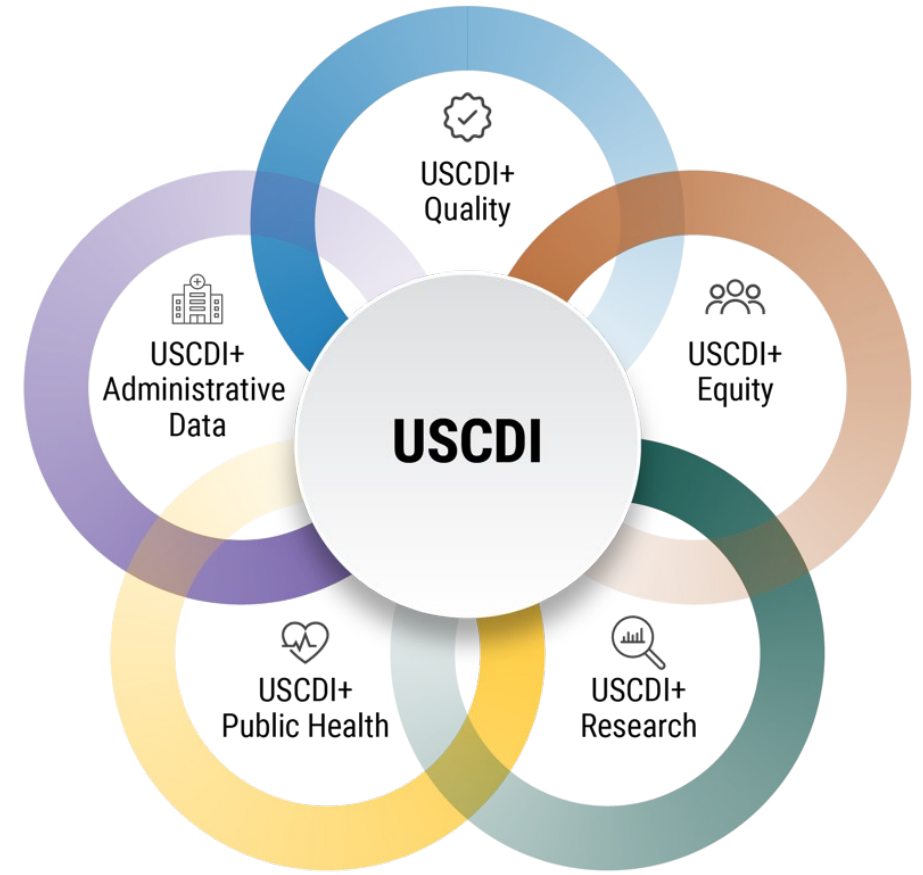
Kyle Cobb, Certification & Testing Division, Tools & Testing Branch Chief

November 10, 2022



# Benefits of Interoperability and Alignment

- For patients, providers and caregivers:
  - Access to accurate, complete care (and SDOH) information and records
  - Care management and coordination
  - Better, more consistent quality measurement and feedback
  - Reduced duplicate data entry
  - Cost savings/administrative efficiencies
- For HHS Agencies:
  - Consistent data across programs - enables analysis of data across programs
  - Reduced redundancy across programs – reduced burden of data collection
  - Reduced cost of measure development and deployment



# USCDI Essentials, Part 1



Comprises a core set of data needed to support patient care and facilitate patient access using health IT.

Establishes a consistent baseline of harmonized data elements that can be broadly reused across use cases, including those outside of patient care and patient access.

Expands incrementally over time via a transparent, established, and collaborative process, weighing both anticipated benefits and industry-wide impacts.

## USCDI Essentials, Part 2



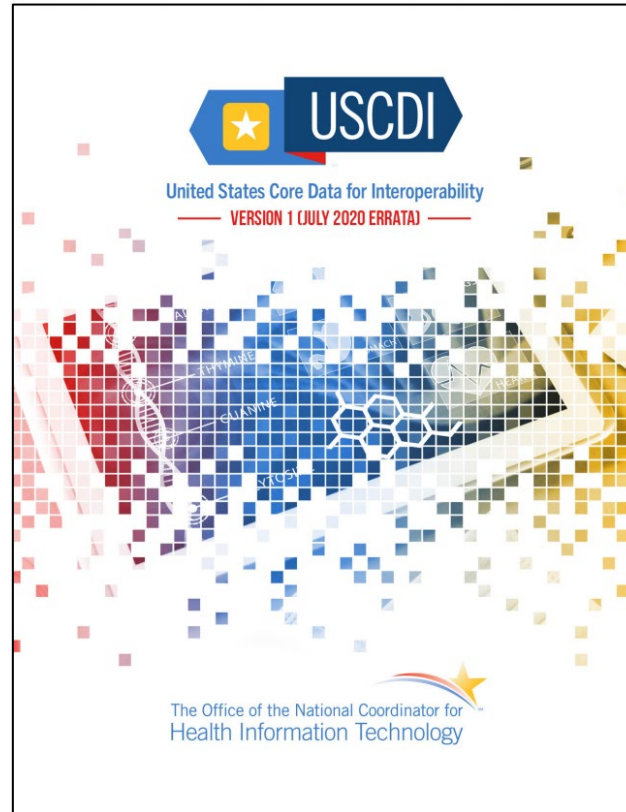
Ensures updates represent important new data, with only modest developmental and implementation burden that result in measurable improvements in utility.

Is required for Certification in the ONC Health IT Certification Program: standards-based application programming interface (API) to access patient data

Is required by other HHS Programs as well: In 2020, CMS finalized API requirements for payers using USCDI

# United States Core Data for Interoperability (USCDI)

- **New standard established by ONC in the 2020 21<sup>st</sup> Century Cures Act Final Rule**
- **Minimum dataset required for interoperability**
  - Defines required data elements and vocabulary standards
  - Agnostic to format
  - Focuses on patient access/care coordination use cases
- **Updated on annual cycle with federal agency and industry input**
  - Updates based on multiple criteria including standards maturity and public/industry priority



USCDI v1 Summary of Data Classes and Data Elements		
<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>Laboratory</b> <ul style="list-style-type: none"> <li>• Tests</li> <li>• Values/Results</li> </ul>	<b>Smoking Status</b> <ul style="list-style-type: none"> <li>• Smoking Status</li> </ul>
<b>Assessment and Plan of Treatment</b> <ul style="list-style-type: none"> <li>• Assessment and Plan of Treatment</li> </ul>	<b>Medications</b> <ul style="list-style-type: none"> <li>• Medications</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>Care Team Members</b> <ul style="list-style-type: none"> <li>• Care Team Members</li> </ul>	<b>Patient Demographics</b> <ul style="list-style-type: none"> <li>• First Name</li> <li>• Last Name</li> <li>• Previous Name</li> <li>• Middle Name (incl Middle Initial)</li> <li>• Suffix</li> <li>• Birth Sex</li> <li>• Date of Birth</li> <li>• Race</li> <li>• Ethnicity</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> </ul>	<b>Vital Signs</b> <ul style="list-style-type: none"> <li>• Diastolic Blood Pressure</li> <li>• Systolic Blood Pressure</li> <li>• Body Height</li> <li>• Body Weight</li> <li>• Heart Rate</li> <li>• Respiratory Rate</li> <li>• Body Temperature</li> <li>• Pulse Oximetry</li> <li>• Inhaled Oxygen Concentration</li> <li>• BMI Percentile (2 - 20 Years)</li> <li>• Weight-for-length Percentile (Birth - 36 Months)</li> <li>• Head Occipital-frontal Circumference Percentile (Birth - 36 Months)</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>• Imaging Narrative</li> <li>• Laboratory Report Narrative</li> <li>• Pathology Report Narrative</li> <li>• Procedure Note</li> <li>• Progress Note</li> </ul>	<b>Problems</b> <ul style="list-style-type: none"> <li>• Problems</li> </ul>	
<b>Goals</b> <ul style="list-style-type: none"> <li>• Patient Goals</li> </ul>	<b>Procedures</b> <ul style="list-style-type: none"> <li>• Procedures</li> </ul>	
<b>Health Concerns</b> <ul style="list-style-type: none"> <li>• Health Concerns</li> </ul>	<b>Provenance</b> <ul style="list-style-type: none"> <li>• Author Time Stamp</li> <li>• Author Organization</li> </ul>	
<b>Immunizations</b> <ul style="list-style-type: none"> <li>• Immunizations</li> </ul>		

# US Core Data for Interoperability 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>Clinical Tests</b> <ul style="list-style-type: none"> <li>Clinical Test</li> <li>Clinical Test Result/Report</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 Function ★</li> <li>Pregnancy Status ★</li> <li>Smoking Status →</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> </ul>	<b>Procedures</b> <ul style="list-style-type: none"> <li>Procedures</li> <li>SDOH Interventions</li> <li>Reason for Referral ★</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>Diagnostic Imaging</b> <ul style="list-style-type: none"> <li>Diagnostic Imaging Test</li> <li>Diagnostic Imaging Report</li> </ul>		<ul style="list-style-type: none"> <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>Provenance</b> <ul style="list-style-type: none"> <li>Author Organization</li> <li>Author Time Stamp</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>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>Immunizations</b> <ul style="list-style-type: none"> <li>Immunizations</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>
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	<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>	<b>Medications</b> <ul style="list-style-type: none"> <li>Medications ★</li> <li>Dose ★</li> <li>Dose Units of Measure ★</li> <li>Indication ★</li> <li>Fill 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>	

★ New Data Classes and Elements   □ Data Element Reclassified   ★ ★ Name and Other Changes to Existing Data Classes/Elements

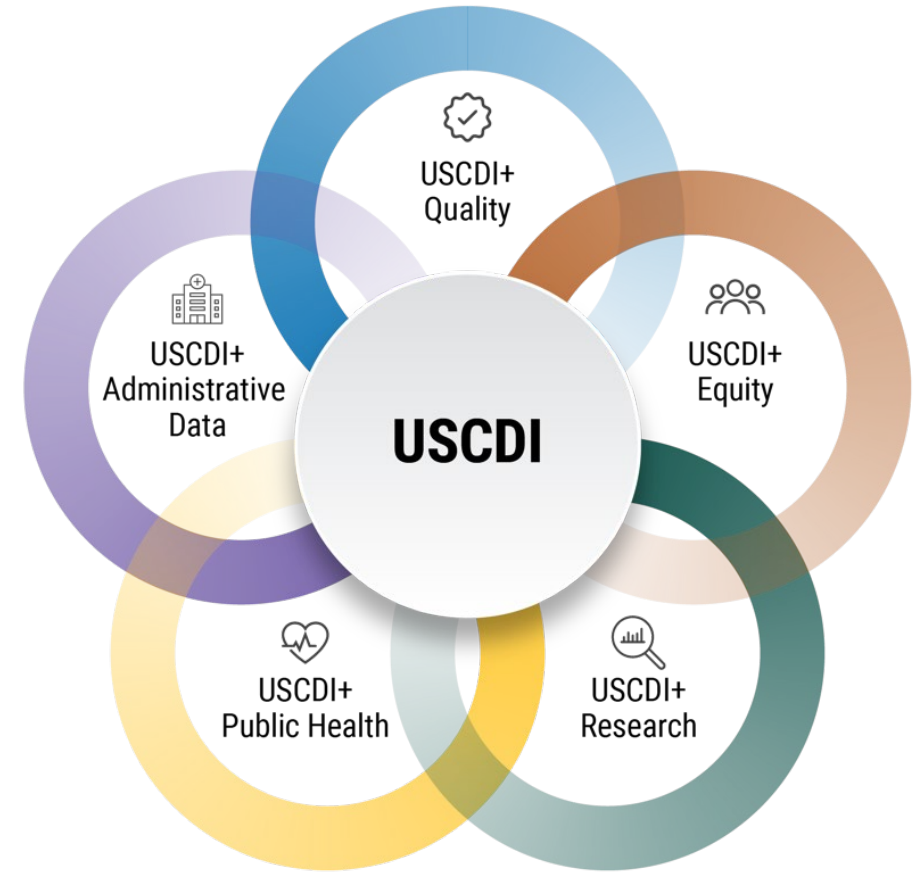
## To Recap: Why USCDI Matters

- New standard in the ONC Cures Act Final Rule in 2020
- Required for new Certification Criterion (application programming interface (API) to access patient data, using FHIR® US Core Implementation Guide (IG)
- USCDI v1 replaces the Common Clinical Data Set in these Certification Criteria, using C-CDA or US Core:
  - Transitions of Care documents (create, send, and receive)
  - Clinical Information reconciliation and incorporation
  - Patient View, Download, and Transmit their health data to a 3rd party
  - Electronic case reporting to public health agencies
  - Create C-CDA document
  - Access to data via APIs



# USCDI+: Extending Beyond the USCDI

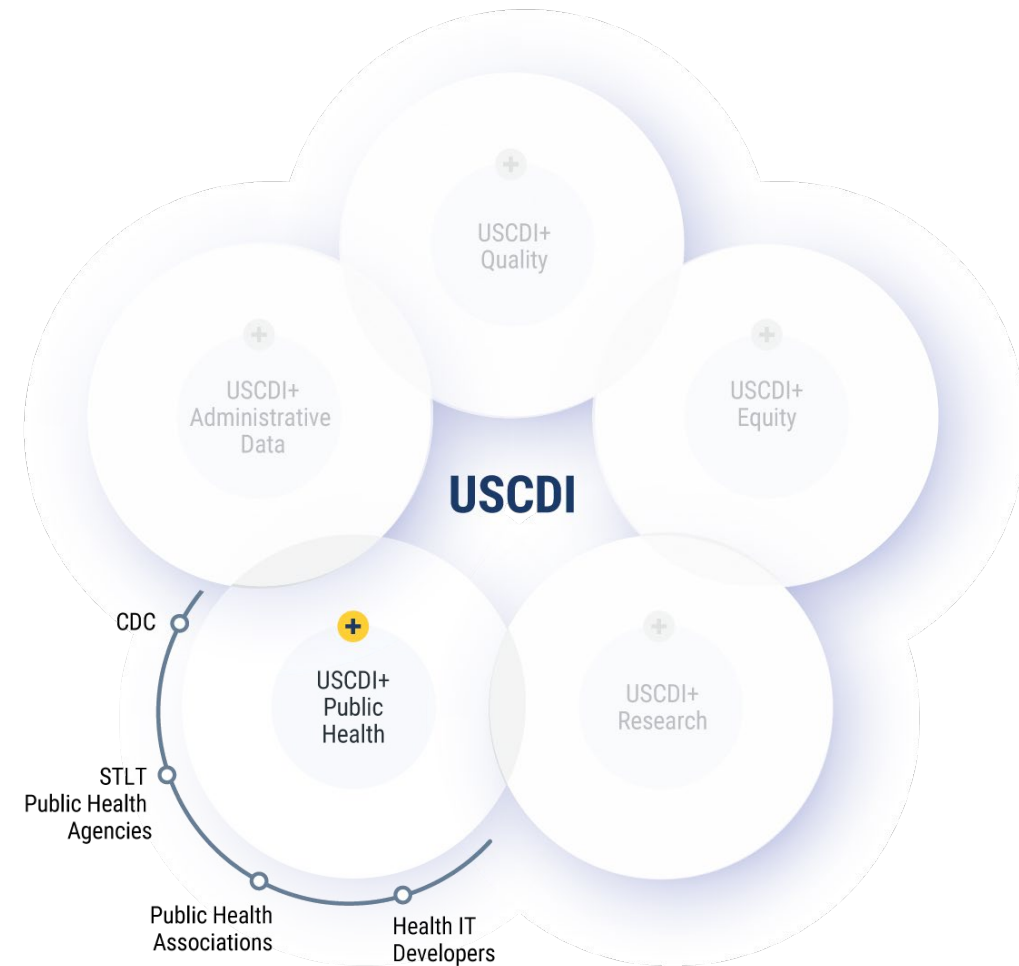
- Unique agency or program-specific data systems and requirements are sometimes not fully met by USCDI.
- ONC USCDI+ initiative helps federal partners build on USCDI to support specific program needs.
- Applies USCDI processes for submission and harmonization while focusing on agency-led priorities.
- Seeks to leverage programs and authorities across HHS to drive adoption.
- USCDI+ for Quality Measurement and Public Health kicked off with CDC, CMS & HRSA.





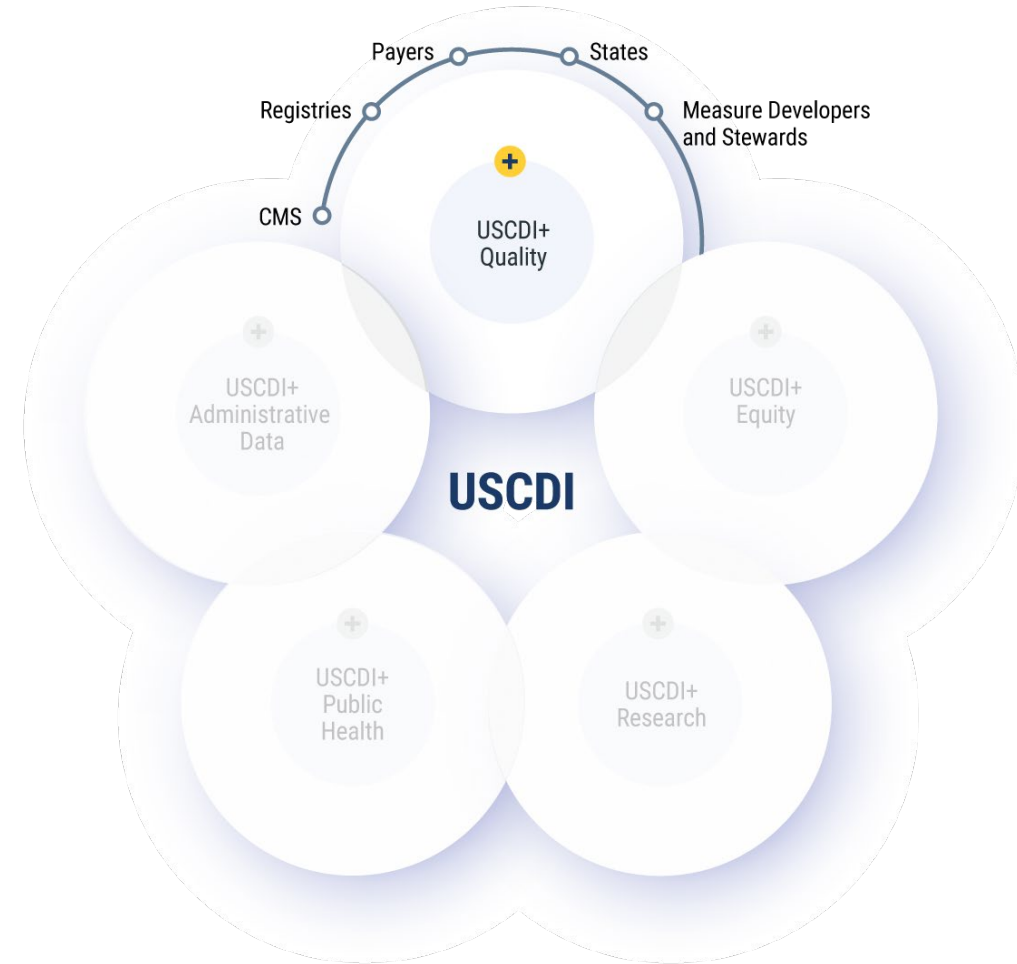
# USCDI+ Public Health Domain

- ONC, CDC, and public health stakeholders are establishing the USCDI+ for public health
- Capture the data needs of public health that fall outside the scope of USCDI and aim to improve data quality and availability, helping to save time and resources for end users and public health officials.
- Through engagements with partners, several potential areas of need have emerged:
  - Case-based Surveillance
  - Lab Data Exchange
  - Bi-Directional Exchange with Healthcare and Other Partners
  - Maternal and Child Health
  - Resource Reporting / Situational Awareness
  - Risk Behaviors & Health Equity
- From an implementation perspective, goal is to provide implementation guidance analogous to US Core for USCDI+ for PH.
- Profile/IG development will be necessary for many data elements included, may need to occur within respective domain areas.



# USCDI+ Quality Domain

- Support CMS' dQM strategy and development of harmonized data sets for FHIR-based quality reporting.
- Capture the data needs of other federal agencies for quality reporting that fall outside the scope of USCDI to support streamlined development and reporting of quality measures.
- Identify opportunities for policy alignment around quality reporting programs under existing authorities across HHS agencies.
- From an implementation perspective, goal is to provide implementation guidance analogous to US Core for USCDI+ for Quality.





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# Questions/Discussion



Phone: 202-690-7151



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