

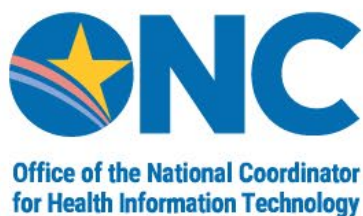



United States Core Data for Interoperability

DRAFT VERSION 4 (JANUARY 2023)



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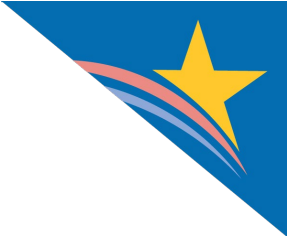




The USCDI is a standardized set of health data classes and constituent data elements for nationwide, interoperable health information exchange.

A USCDI **Data Class** is an aggregation of Data Elements by a common theme or use case.

A USCDI **Data Element** is a piece of data defined in USCDI for access, exchange or use of electronic health information.



Version History

Version #	Description of change	Version Date
Draft Version 4	Publication	January 2023





USCDI Background

The United States Core Data for Interoperability (USCDI) is a standardized set of health data classes and constituent data elements for nationwide, interoperable health information exchange. The USCDI establishes a baseline set of data that can be commonly exchanged across care settings for a wide range of uses. USCDI version 1 (USCDI v1) was adopted as a standard (at 45 CFR 170.213) in the [21st Century Cures Act: Interoperability, Information Blocking, and the ONC Health IT Certification Program Final Rule \(Cures Act Final Rule\)](#). The USCDI v1 was included as a required part of certain certification criteria and, as a result, certified health IT must be able to exchange USCDI data elements.

The USCDI's impact is not limited to just health IT products certified under the ONC Health IT Certification Program. The USCDI is also used to align interoperability requirements and national priorities for health IT and health care broadly across industry initiatives, such as part of a USCDI+ initiative. From a policy perspective, the USCDI establishes a minimum, foundational data set for the access, exchange, and use of electronic health information. Various HHS programs, as well as industry clinical practice guidelines, may also require the capture or exchange of USCDI-defined data.

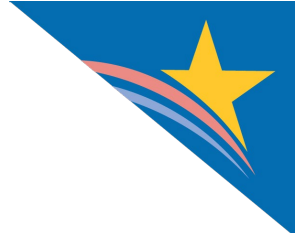
The USCDI is organized by data classes and data elements. Data elements represent concepts that can be used and exchanged as needed. USCDI data classes group data elements by a common theme. Importantly, a data element's use is not bound by its data class title. Furthermore, a data class title does not define the workflow where the data elements are collected and used.

USCDI Expansion

ONC has established a predictable, transparent, and collaborative expansion process for USCDI based on public evaluation of previous versions and submissions by the health IT community. This process includes the Health Information Technology Advisory Committee (HITAC) as well as members of the public.

During the submission process that ended in September 2022, ONC reviewed new submissions entered through the ONC New Data Element and Class ([ONDEC](#)) system and reviewed recommendations on data elements received in previous cycles. Each submitted data element was classified into one of three levels (Comment, Level 1, or Level 2) based on published criteria around overall value, maturity, and known challenges to implementation.





ONC evaluated all Level 2 data elements to determine if they met ONC priorities for including data elements in this version of USCDI. The criteria are:

- Represent important additions over previous USCDI versions
- Mitigate health and health care inequities and disparities
- Address the needs of underserved communities
- Address behavioral health integration with primary care and other physical care
- Address public health interoperability needs of reporting, investigation, and emergency response
- Require only modest standards or implementation guide developmental burden
- Require only modest developmental burden on health IT modules
- Create only modest implementation burden on providers and health systems
- Result in only modest aggregate lift for all new data element combined

Based on the assessment of Level 2 data elements, ONC identified a set of new data classes and elements for the Draft USCDI v4, which is set forth on the following pages and discussed in greater detail in the [ONC Standards Bulletin 2023, Volume 1](#).





New Data Classes and Elements in Draft USCDI v4

<p>Allergies and Intolerances</p> <ul style="list-style-type: none"> • Substance (non-medication) 	<p>Encounter Information</p> <ul style="list-style-type: none"> • Encounter identifier 	<p>New Data Class</p> <p>Facility Information</p> <ul style="list-style-type: none"> • Facility identifier • Facility type • Facility name
<p>Goals</p> <ul style="list-style-type: none"> • Treatment intervention preference • Care experience preference 	<p>Health Status Assessments</p> <ul style="list-style-type: none"> • Alcohol use • Substance use • Physical activity 	<p>Laboratory</p> <ul style="list-style-type: none"> • Result unit of measure • Result reference range • Result interpretation • Specimen source site • Specimen identifier • Specimen condition and disposition
<p>Medications</p> <ul style="list-style-type: none"> • Medication instructions • Medication adherence 	<p>Procedures</p> <ul style="list-style-type: none"> • Time of procedure 	<p>Vital Signs</p> <ul style="list-style-type: none"> • Average blood pressure

Public Feedback Process

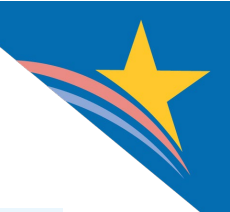
ONC encourages the public to evaluate the Draft USCDI v4 and submit comments to ONC on data classes and elements that should be included in the final USCDI v4. Specifically, ONC encourages the community to provide feedback on the following areas:

- 1) Suggestions for improvements in the data classes or elements included in Draft USCDI v4, including:
 - a. Data class and data element definitions,
 - b. Examples of code sets used by health IT developers and implementers to communicate data element scope.
- 2) Should other data elements, already classified as Level 2 on the USCDI web pages, be added to USCDI v4 instead, or in addition to those in Draft USCDI v4? If so, why?
- 3) Are there significant barriers to development, implementation, or use for any of these data elements that warrant a change in definition, or removal from Draft USCDI v4?

Feedback will be accepted until April 17, 2023, 11:59 pm ET, on the main [Draft USCDI v4](#) page or on individual data class or data element pages. ONC will consider these comments and recommendations when preparing the final USCDI v4 for publication in July 2023.

Once USCDI v4 is finalized, ONC will consider its inclusion in a future cycle of the Standards Version Advancement Process (SVAP), which permits health IT developers to voluntarily update their certified health IT with these new USCDI data elements and provide those updates to their customers.





Draft USCDI v4 Summary of Data Classes and Data Elements

Allergies and Intolerances

- Substance (Medication)
- Substance (Drug Class)
- Substance (Non-Medication)★
- Reaction

Care Team Member(s)

- Care Team Member Name
- Care Team Member Identifier
- Care Team Member Role
- Care Team Member Location
- Care Team Member Telecom

Clinical Notes

- Consultation Note
- Discharge Summary Note
- History & Physical
- Procedure Note
- Progress Note

Diagnostic Imaging

- Diagnostic Imaging Test
- Diagnostic Imaging Report

Encounter Information

- Encounter Identifier★
- Encounter Type
- Encounter Diagnosis
- Encounter Time
- Encounter Location
- Encounter Disposition

Facility Information★

- Facility Identifier★
- Facility Type★
- Facility Name★

Goals

- Patient Goals
- SDOH Goals
- Treatment Intervention Preference★
- Care Experience Preference★

Health Insurance Information

- Coverage Status
- Coverage Type
- Relationship to Subscriber
- Member Identifier
- Subscriber Identifier
- Group Number
- Payer Identifier

Health Status Assessment△

- Health Concerns
- Functional Status
- Disability Status
- Mental/Cognitive Status
- Pregnancy Status
- Alcohol Use★
- Substance Use★
- Physical Activity★
- SDOH Assessment➡
- Smoking Status

Immunizations

- Immunizations

Laboratory

- Tests
- Values/Results
- Specimen Type
- Result Status
- Result Unit of Measure★
- Result Reference Range★
- Result Interpretation★
- Specimen Source Site★
- Specimen Identifier★
- Specimen Condition and Disposition★

Medical Device△

- Unique Device Identifier - Implantable△

Medications

- Medications
- Dose
- Dose Unit of Measure
- Indication
- Fill Status
- Medication Instructions★
- Medication Adherence★

Patient Demographics /Information

- First Name
- Last Name
- Middle Name (Including middle initial)
- Name Suffix
- Previous Name
- Date of Birth
- Date of Death
- Race
- Ethnicity
- Tribal Affiliation

Patient Demographics (cont.)

- Sex
- Sexual Orientation
- Gender Identity
- Preferred Language
- Current Address
- Previous Address
- Phone Number
- Phone Number Type
- Email Address
- Related Person's Name
- Relationship Type
- Occupation
- Occupation Industry

Patient Summary and Plan△

- Assessment and Plan of Treatment

Problems

- Problems
- SDOH Problems/Health Concerns
- Date of Diagnosis
- Date of Resolution

Procedures

- Procedures
- Time of Procedure★
- SDOH Interventions
- Reason for Referral

Provenance

- Author Organization
- Author Time Stamp

Vital Signs

- Systolic Blood Pressure
- Diastolic Blood Pressure
- Average 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)

Key: ★ New Data Class or Element | △ Changed Data Class or Element Name | ➡ Data Element Reclassified



DATA CLASS

ALLERGIES AND INTOLERANCES

Harmful or undesired physiological responses associated with exposure to a substance.

DATA ELEMENT	APPLICABLE VOCABULARY STANDARD(S)
<p>Substance (Medication)</p> <p><i>Pharmacologic agent believed to cause a harmful or undesired physiologic response following exposure.</i></p>	<ul style="list-style-type: none"> RxNorm Full Monthly Release, January 3, 2023
<p>Substance (Drug Class)</p> <p><i>Pharmacologic category for an agent believed to cause a harmful or undesired physiologic response following exposure.</i></p>	<ul style="list-style-type: none"> Systematized Nomenclature of Medicine Clinical Terms (SNOMED CT®) U.S. Edition, September 2022 Release
<p>Substance (Non-Medication)</p> <p><i>Non-pharmacologic agent believed to cause a harmful or undesired physiologic response following exposure.</i></p> <p><i>Examples include but are not limited to latex, eggs, pollen, and peanuts.</i></p>	<ul style="list-style-type: none"> Systematized Nomenclature of Medicine Clinical Terms (SNOMED CT) U.S. Edition, September 2022 Release
<p>Reaction</p> <p><i>Harmful or undesired physiologic response following exposure to a pharmacologic agent or class of agents.</i></p>	<ul style="list-style-type: none"> Systematized Nomenclature of Medicine Clinical Terms (SNOMED CT) U.S. Edition, September 2022 Release



DATA CLASS

CARE TEAM MEMBER(S)

Information on a person who participates or is expected to participate in the care of a patient.

<p>DATA ELEMENT</p>	<p>APPLICABLE VOCABULARY STANDARD(S)</p> <p>Standards listed are required. If more than one is listed, at least one is required unless otherwise noted. If a cell is empty, an applicable vocabulary standard has not been identified.</p>
<p>Care Team Member Name</p>	
<p>Care Team Member Identifier</p> <p><i>Sequence of characters used to uniquely refer to a member of the care team.</i></p>	
<p><i>Examples include but are not limited to National Provider Identifier (NPI), and National Council of State Boards of Nursing Identifier (NCSBN ID).</i></p>	
<p>Care Team Member Role</p> <p><i>Responsibility of an individual within the care team.</i></p>	
<p><i>Examples include but are not limited to primary care physician, and caregiver.</i></p>	
<p>Care Team Member Location</p> <p><i>Place where care is delivered by a care team member.</i></p>	
<p><i>Examples include but are not limited to clinic address, and location description.</i></p>	





DATA ELEMENT	APPLICABLE VOCABULARY STANDARD(S)
<p>Care Team Member Telecom</p> <p><i>Phone or email contact information for a care team member.</i></p>	<p>Standards listed are required. If more than one is listed, at least one is required unless otherwise noted. If a cell is empty, an applicable vocabulary standard has not been identified.</p> <ul style="list-style-type: none"> • ITU-T E.123, Series E: Overall Network Operation, Telephone Service, Service Operation and Human Factors, International operation - General provisions concerning users: Notation for national and international telephone numbers, email addresses and web addresses (incorporated by reference in § 170.299); and • ITU-T E.164, Series E: Overall Network Operation, Telephone Service, Service Operation and Human Factors, International operation - Numbering plan of the international telephone service: The international public telecommunication numbering plan

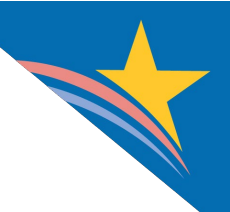
DATA CLASS

CLINICAL NOTES

Narrative patient data relevant to the context identified by note types.

DATA ELEMENT	APPLICABLE VOCABULARY STANDARD(S)
<p>Consultation Note</p> <p><i>Response to request from a clinician for an opinion, advice, or service from another clinician.</i></p> <p><i>Examples include but are not limited to dermatology, dentistry, and acupuncture.</i></p>	<p>Standards listed are required. If more than one is listed, at least one is required unless otherwise noted. If a cell is empty, an applicable vocabulary standard has not been identified.</p> <ul style="list-style-type: none"> • Logical Observation Identifiers Names and Codes (LOINC®) version 2.73 <ul style="list-style-type: none"> • At minimum: Consult Note (LOINC code 11488-4)





DATA ELEMENT	APPLICABLE VOCABULARY STANDARD(S)
<p>Discharge Summary Note</p> <p><i>Synopsis of a patient's admission and course in a hospital or post-acute care setting.</i></p> <p><i>Usage note: Must contain admission and discharge dates and locations, discharge instructions, and reason(s) for hospitalization.</i></p> <p><i>Examples include but are not limited to dermatology discharge summary, hematology discharge summary, and neurology discharge summary.</i></p>	<ul style="list-style-type: none"> • Logical Observation Identifiers Names and Codes (LOINC) version 2.73 <ul style="list-style-type: none"> • At minimum: Discharge Summary (LOINC code 18842-5)
<p>History & Physical</p> <p><i>Summary of current and past conditions and observations used to inform an episode of care.</i></p> <p><i>Examples include but are not limited to admission, surgery, and other procedure.</i></p>	<ul style="list-style-type: none"> • Logical Observation Identifiers Names and Codes (LOINC) version 2.73 <ul style="list-style-type: none"> • At minimum: History and Physical Note (LOINC code 34117-2)
<p>Procedure Note</p> <p><i>Synopsis of non-operative procedure.</i></p> <p><i>Examples include but are not limited to interventional cardiology, gastrointestinal endoscopy, and osteopathic manipulation.</i></p>	<ul style="list-style-type: none"> • Logical Observation Identifiers Names and Codes (LOINC) version 2.73 <ul style="list-style-type: none"> • At minimum: Procedure Note (LOINC code 28570-0)
<p>Progress Note</p> <p><i>Summary of a patient's interval status during an encounter.</i></p> <p><i>Examples include but are not limited to hospitalization, outpatient visit, and treatment with a post-acute care provider, or other healthcare encounter.</i></p>	<ul style="list-style-type: none"> • Logical Observation Identifiers Names and Codes (LOINC) version 2.73 <ul style="list-style-type: none"> • At minimum: Progress Note (LOINC code 11506-3)



DATA CLASS

CLINICAL TESTS

Non-imaging and non-laboratory tests performed that result in structured or unstructured findings specific to the patient to facilitate the diagnosis and management of conditions (e.g., electrocardiogram (ECG), visual acuity exam, macular exam, or graded exercise testing (GXT)).

DATA ELEMENT	APPLICABLE VOCABULARY STANDARD(S)
	Standards listed are required. If more than one is listed, at least one is required unless otherwise noted. If a cell is empty, an applicable vocabulary standard has not been identified.
Clinical Test <i>Non-imaging or non-laboratory test.</i>	<ul style="list-style-type: none"> Logical Observation Identifiers Names and Codes (LOINC) version 2.73
Clinical Test Result/Report <i>Findings of clinical tests.</i>	

DATA CLASS

DIAGNOSTIC IMAGING

Tests that result in visual images requiring interpretation by a credentialed professional.

DATA ELEMENT	APPLICABLE VOCABULARY STANDARD(S)
	Standards listed are required. If more than one is listed, at least one is required unless otherwise noted. If a cell is empty, an applicable vocabulary standard has not been identified.
Diagnostic Imaging Test <i>Tests that generate visual images and require interpretation by qualified professionals.</i> <i>Examples include but are not limited to radiographic, photographic, and video images.</i>	<ul style="list-style-type: none"> Logical Observation Identifiers Names and Codes (LOINC) version 2.73
Diagnostic Imaging Report <i>Interpreted results of imaging tests.</i> <i>Usage Note: Includes both structured and unstructured (narrative) components.</i>	



DATA CLASS

ENCOUNTER INFORMATION

Information related to interactions between healthcare providers and a patient.

DATA ELEMENT	APPLICABLE VOCABULARY STANDARD(S)
<p>Encounter Type</p> <p><i>Category of health care service.</i></p> <p><i>Examples include but are not limited to office visit, telephone assessment, and home visit.</i></p>	<p>Standards listed are required. If more than one is listed, at least one is required unless otherwise noted. If a cell is empty, an applicable vocabulary standard has not been identified.</p>
<p>Encounter Identifier</p> <p><i>Sequence of characters by which an encounter is known.</i></p>	
<p>Encounter Diagnosis</p> <p><i>Coded diagnoses associated with an episode of care.</i></p>	<ul style="list-style-type: none"> • Systematized Nomenclature of Medicine Clinical Terms (SNOMED CT) U.S. Edition, September 2022 Release • International Classification of Diseases ICD-10-CM 2022
<p>Encounter Time</p> <p><i>Date/times related to an encounter.</i></p> <p><i>Examples include but are not limited to scheduled appointment time, check in time, start and stop times.</i></p>	
<p>Encounter Location</p> <p><i>Place where a patient's care is delivered.</i></p>	
<p>Encounter Disposition</p> <p><i>Place or setting to which the patient left a hospital or encounter.</i></p>	



DATA CLASS

FACILITY INFORMATION

Physical place of available services or resources.

DATA ELEMENT	APPLICABLE VOCABULARY STANDARD(S)
<p>Facility Identifier</p> <p><i>Sequence of characters representing a physical place of available services or resources.</i></p>	<p>Standards listed are required. If more than one is listed, at least one is required unless otherwise noted. If a cell is empty, an applicable vocabulary standard has not been identified.</p>
<p>Facility Type</p> <p><i>Category describing available services or resources.</i></p> <p><i>Examples include but are not limited to laboratory, pharmacy, hospital, ambulatory providers, long-term and post-acute care, and pharmacy.</i></p>	
<p>Facility Name</p>	
<p><i>Word or words by which a facility is known.</i></p>	

DATA CLASS

GOALS

Desired state to be achieved by a patient.

DATA ELEMENT	APPLICABLE VOCABULARY STANDARD(S)
<p>Patient Goals</p> <p><i>Desired outcomes of patient's care.</i></p>	<p>Standards listed are required. If more than one is listed, at least one is required unless otherwise noted. If a cell is empty, an applicable vocabulary standard has not been identified.</p>





<p style="text-align: center;">DATA ELEMENT</p>	<p style="text-align: center;">APPLICABLE VOCABULARY STANDARD(S)</p> <p>Standards listed are required. If more than one is listed, at least one is required unless otherwise noted. If a cell is empty, an applicable vocabulary standard has not been identified.</p>
<p>SDOH Goals</p> <p><i>Desired future states for an identified Social Determinants of Health-related health concern, condition, or diagnosis.</i></p> <p><i>Examples include but are not limited to food security, transportation security, and ability to access health care.</i></p>	<ul style="list-style-type: none"> • Systematized Nomenclature of Medicine Clinical Terms (SNOMED CT) U.S. Edition, September 2022 Release • Logical Observation Identifiers Names and Codes (LOINC) version 2.73
<p>Treatment Intervention Preference</p> <p><i>Person's goals, preferences, and priorities for care and treatment in case that person is unable to make medical decisions because of a serious illness or injury.</i></p> <p><i>Examples include but are not limited to preferences regarding cardiopulmonary resuscitation, endotracheal intubation, and tube feeding.</i></p>	<ul style="list-style-type: none"> • Logical Observation Identifiers Names and Codes (LOINC) version 2.73
<p>Care Experience Preference</p> <p><i>Person's goals, preferences, and priorities for overall experiences during their care and treatment.</i></p> <p><i>Examples include but are not limited to honoring religious beliefs, and conditions of the care environment.</i></p>	<ul style="list-style-type: none"> • Logical Observation Identifiers Names and Codes (LOINC) version 2.73





DATA CLASS

HEALTH INSURANCE INFORMATION

Data related to an individual's insurance coverage for health care.

DATA ELEMENT	APPLICABLE VOCABULARY STANDARD(S) Standards listed are required. If more than one is listed, at least one is required unless otherwise noted. If a cell is empty, an applicable vocabulary standard has not been identified.
<p>Coverage Status</p> <p><i>Presence or absence of health care insurance.</i></p>	
<p>Coverage Type</p> <p><i>Categories of health care payers.</i></p> <p><i>Examples include but are not limited to Medicare, Tricare, Commercial Preferred Provider Organization.</i></p>	
<p>Relationship to Subscriber</p> <p><i>Relationship of a patient to the primary insured person.</i></p>	
<p>Member Identifier</p> <p><i>Sequence of characters used to uniquely refer to an individual with respect to their insurance.</i></p>	
<p>Subscriber Identifier</p> <p><i>Sequence of characters used to uniquely refer to the individual that selects insurance benefits.</i></p>	
<p>Group Identifier</p> <p><i>Sequence of characters used to uniquely refer to a specific health insurance plan.</i></p>	
<p>Payer Identifier</p> <p><i>Sequence of characters used to uniquely refer to an insurance payer.</i></p>	



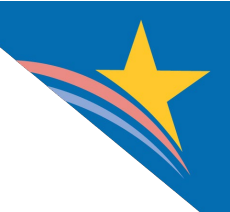


DATA CLASS

HEALTH STATUS ASSESSMENTS

Assessments of a health-related matter of interest, importance, or worry to a patient, patient's authorized representative, or patient's healthcare provider that could identify a need, problem, or condition.

DATA ELEMENT	APPLICABLE VOCABULARY STANDARD(S)
<p>Health Concerns</p> <p><i>Health-related issue or worry.</i></p> <p><i>Examples include but are not limited to weight gain and cancer risk.</i></p>	<p>Standards listed are required. If more than one is listed, at least one is required unless otherwise noted. If a cell is empty, an applicable vocabulary standard has not been identified.</p>
<p>Functional Status</p> <p><i>Assessment of a patient's capabilities, or their risks of development or worsening of a condition or problem.</i></p> <p><i>Examples include but are not limited to fall risk, and pressure ulcer risk.</i></p>	<ul style="list-style-type: none"> Logical Observation Identifiers Names and Codes (LOINC) version 2.73
<p>Disability Status</p> <p><i>Assessments of a patient's physical, cognitive, intellectual, or psychiatric disabilities.</i></p> <p><i>Examples include but are not limited to vision, hearing, memory, and activities of daily living.</i></p>	<ul style="list-style-type: none"> Logical Observation Identifiers Names and Codes (LOINC) version 2.73
<p>Mental/Cognitive Status</p> <p><i>Assessment or screening for the presence of a mental or behavioral problem.</i></p> <p><i>Examples include but are not limited to alertness, orientation, comprehension, concentration, and immediate memory for simple commands.</i></p>	<ul style="list-style-type: none"> Logical Observation Identifiers Names and Codes (LOINC) version 2.73
<p>Pregnancy Status</p> <p><i>State or condition of being pregnant or intent to become pregnant.</i></p> <p><i>Examples include but are not limited to pregnant, not pregnant, and unknown.</i></p>	



DATA ELEMENT	APPLICABLE VOCABULARY STANDARD(S)
<p>Physical Activity</p> <p><i>Evaluation of a patient's current or usual exercise.</i></p> <p><i>Examples include but are not limited to Exercise Vital Sign.</i></p>	<ul style="list-style-type: none"> Logical Observation Identifiers Names and Codes (LOINC) version 2.73
<p>Alcohol Use</p> <p><i>Evaluation of a patient's consumption of alcohol.</i></p> <p><i>Examples include but are not limited to history of alcohol use, alcohol use disorder identification test and alcohol intake assessment.</i></p>	<ul style="list-style-type: none"> Logical Observation Identifiers Names and Codes (LOINC) version 2.73
<p>Substance Use</p> <p><i>Evaluation of a patient's reported use of drugs or other substances for non-medical purposes or in excess of a valid prescription.</i></p> <p><i>Examples include but are not limited to substance use disorder score, and substance use knowledge assessment.</i></p>	<ul style="list-style-type: none"> Logical Observation Identifiers Names and Codes (LOINC) version 2.73
<p>SDOH Assessment</p> <p><i>Screening questionnaire-based, structured evaluation for a Social Determinants of Health-related risk.</i></p> <p><i>Examples include but are not limited to food, housing, and transportation security.</i></p>	<ul style="list-style-type: none"> Logical Observation Identifiers Names and Codes (LOINC) version 2.73 Systematized Nomenclature of Medicine Clinical Terms (SNOMED CT) U.S. Edition, September 2022 Release
<p>Smoking Status</p> <p><i>Assessment of a patient's smoking behaviors.</i></p>	<ul style="list-style-type: none"> Systematized Nomenclature of Medicine Clinical Terms (SNOMED CT) U.S. Edition, September 2022 Release



DATA CLASS

IMMUNIZATIONS

Record of vaccine administration.

DATA ELEMENT	APPLICABLE VOCABULARY STANDARD(S)
<p>Immunizations</p> <p><i>Vaccine product administered, planned, or reported.</i></p>	<p>Standards listed are required. If more than one is listed, at least one is required unless otherwise noted. If a cell is empty, an applicable vocabulary standard has not been identified.</p> <p>Both standards are required:</p> <ul style="list-style-type: none"> • IIS: Current HL7 Standard Code Set, CVX – Vaccines Administered, updates through December 19, 2022 • Vaccine National Drug Code (NDC) Directory – Vaccine NDC Linker Table, updates through December 20, 2022

DATA CLASS

LABORATORY

Analysis of clinical specimens to obtain information about the health of a patient.

DATA ELEMENT	APPLICABLE VOCABULARY STANDARD(S)
<p>Tests</p> <p><i>Analysis of specimens derived from humans which provide information for the diagnosis, prevention, treatment of disease, or assessment of health.</i></p>	<p>Standards listed are required. If more than one is listed, at least one is required unless otherwise noted. If a cell is empty, an applicable vocabulary standard has not been identified.</p> <ul style="list-style-type: none"> • Logical Observation Identifiers Names and Codes (LOINC) version 2.73



DATA ELEMENT	APPLICABLE VOCABULARY STANDARD(S)
<p>Values/Results</p> <p><i>Documented findings of a tested specimen including structured and unstructured components.</i></p>	<p>Standards listed are required. If more than one is listed, at least one is required unless otherwise noted. If a cell is empty, an applicable vocabulary standard has not been identified.</p> <ul style="list-style-type: none"> Systematized Nomenclature of Medicine Clinical Terms (SNOMED CT) U.S. Edition, September 2022 Release
<p>Result Status</p> <p><i>State or condition of a laboratory test.</i></p>	
<p>Result Unit of Measure</p> <p><i>Unit of measurement to report laboratory test results so that they can be compared.</i></p> <p><i>Usage note: required when the test result value is numeric.</i></p>	<ul style="list-style-type: none"> The Unified Code of Units for Measure, Revision 2.1
<p>Result Reference Range</p> <p><i>Upper and lower limit of test values expected for a designated population of individuals.</i></p> <p><i>Usage note: reference range values may differ by patient characteristics, laboratory test manufacturer and laboratory test performer.</i></p>	
<p>Result Interpretation</p> <p><i>Categorical assessment of a laboratory value, often in relation to a test's reference range.</i></p> <p><i>Examples include but are not limited to high, low, critical, and normal.</i></p>	
<p>Specimen Type</p> <p><i>Substance being sampled or tested.</i></p> <p><i>Examples include but are not limited to nasopharyngeal swab, whole blood, serum, urine, and wound swab.</i></p>	<ul style="list-style-type: none"> Systematized Nomenclature of Medicine Clinical Terms (SNOMED CT) U.S. Edition, September 2022 Release
<p>Specimen Source Site</p> <p><i>Body location from where a specimen was obtained.</i></p> <p><i>Examples include but are not limited to right internal jugular, left arm, and right eye.</i></p>	<ul style="list-style-type: none"> Systematized Nomenclature of Medicine Clinical Terms (SNOMED CT) U.S. Edition, September 2022 Release



DATA ELEMENT	APPLICABLE VOCABULARY STANDARD(S)
Specimen Identifier <i>Sequence of characters assigned by a laboratory for an individual specimen.</i>	Standards listed are required. If more than one is listed, at least one is required unless otherwise noted. If a cell is empty, an applicable vocabulary standard has not been identified.
Specimen Condition and Disposition <i>Indication whether a specimen was acceptable and reason for rejection if unacceptable.</i>	

DATA CLASS

MEDICAL DEVICES

An instrument, machine, appliance, implant, software or other article intended to be used for a medical purpose.

DATA ELEMENT	APPLICABLE VOCABULARY STANDARD(S)
Unique Device Identifier - Implantable <i>Numeric or alphanumeric code that uniquely identifies an implantable device.</i> <i>Usage note: Contains a Device Identifier (DI) and one or more Production Identifiers (PI).</i>	Standards listed are required. If more than one is listed, at least one is required unless otherwise noted. If a cell is empty, an applicable vocabulary standard has not been identified. <ul style="list-style-type: none"> • FDA Unique Device Identification System (UDI System)





DATA CLASS

MEDICATIONS

Pharmacologic agents used in the diagnosis, cure, mitigation, treatment, or prevention of disease.

DATA ELEMENT	APPLICABLE VOCABULARY STANDARD(S)
<p>Medications</p> <p><i>Pharmacologic agent used in the diagnosis, cure, mitigation, treatment, or prevention of disease.</i></p>	<p>Standards listed are required. If more than one is listed, at least one is required unless otherwise noted. If a cell is empty, an applicable vocabulary standard has not been identified.</p> <ul style="list-style-type: none"> RxNorm Full Monthly Release, January 3, 2023 Optional: National Drug Code (NDC), January 6, 2023
<p>Dose</p> <p><i>Amount of a medication for each administration.</i></p>	
<p>Dose Unit of Measure</p> <p><i>Units of measure of a medication.</i></p> <p><i>Examples include but are not limited to milligram (mg), and milliliter (mL).</i></p>	<ul style="list-style-type: none"> The Unified Code for Units of Measure, Revision 2.1
<p>Indication</p> <p><i>Sign, symptom, or medical condition that is the reason for giving or taking a medication.</i></p>	
<p>Fill Status</p> <p><i>State of a medication with regards to dispensing or other activity.</i></p> <p><i>Examples include but are not limited to dispensed, partially dispensed, not dispensed.</i></p>	
<p>Medication Instructions</p> <p><i>Directions for administering or taking a medication.</i></p> <p><i>Examples include but are not limited to prescription directions for taking a medication, and package instructions for over-the-counter medications.</i></p>	
<p>Medication Adherence</p> <p><i>Medication is consumed according to instructions.</i></p> <p><i>Examples include but are not limited to taking as directed, taking not as directed, and not taking.</i></p>	



DATA CLASS

PATIENT DEMOGRAPHICS/INFORMATION

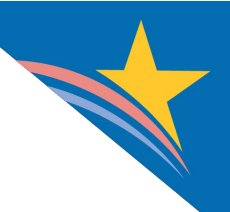
Data used to categorize individuals for identification, records matching, and other purposes.

DATA ELEMENT	APPLICABLE VOCABULARY STANDARD(S)
First Name	
Last Name	
Middle Name (Including middle initial)	
Name Suffix <i>Name component following family name that may be used to describe a person's position in a family.</i>	
Previous Name	
Date of Birth <i>Known or estimated year, month, and day of the patient's birth.</i>	
Date of Death <i>Known or estimated year, month, and day of the patient's death.</i>	
Race	Both standards are required: <ul style="list-style-type: none"> • The Office of Management and Budget Standards for Maintaining, Collecting, and Presenting Federal Data on Race and Ethnicity, Statistical Policy Directive No. 15, as revised, October 30, 1997 • CDC Race and Ethnicity Code Set Version 1.2 (July 2021)



DATA ELEMENT	APPLICABLE VOCABULARY STANDARD(S)
Ethnicity	<p>Standards listed are required. If more than one is listed, at least one is required unless otherwise noted. If a cell is empty, an applicable vocabulary standard has not been identified.</p> <p>Both standards are required:</p> <ul style="list-style-type: none"> • The Office of Management and Budget Standards for Maintaining, Collecting, and Presenting Federal Data on Race and Ethnicity, Statistical Policy Directive No. 15, as revised, October 30, 1997 • CDC Race and Ethnicity Code Set Version 1.2 (July 2021)
<p>Tribal Affiliation</p> <p><i>Tribe or band with which an individual associates.</i></p>	
<p>Sex</p> <p><i>Documentation of a specific instance of sex and/or gender information.</i></p>	<ul style="list-style-type: none"> • Systematized Nomenclature of Medicine Clinical Terms (SNOMED CT) U.S. Edition, September 2022 Release
<p>Sexual Orientation</p> <p><i>A person’s emotional, romantic, sexual, or affectional attraction to another person.</i></p>	<ul style="list-style-type: none"> • Systematized Nomenclature of Medicine Clinical Terms (SNOMED CT) U.S. Edition, September 2022 Release
<p>Gender Identity</p> <p><i>A person’s internal sense of being a man, woman, both, or neither.</i></p>	<ul style="list-style-type: none"> • Systematized Nomenclature of Medicine Clinical Terms (SNOMED CT) U.S. Edition, September 2022 Release
<p>Preferred Language</p>	<ul style="list-style-type: none"> • IETF (Internet Engineering Task Force) Request for Comment (RFC) 5646, “Tags for Identifying Languages”, September 2009 • Adopted at 45 CFR 170.207(g)(2)
<p>Current Address</p> <p><i>Place where a person is located or may be contacted.</i></p>	<ul style="list-style-type: none"> • Project US@ Technical Specification for Patient Addresses, Final Version 1.0
<p>Previous Address</p> <p><i>Prior place where a person may have been located or could have been contacted.</i></p>	<ul style="list-style-type: none"> • Project US@ Technical Specification for Patient Addresses, Final Version 1.0





DATA ELEMENT	APPLICABLE VOCABULARY STANDARD(S)
<p>Phone Number</p> <p><i>Numbers and symbols to contact an individual when using a phone.</i></p>	<p>Standards listed are required. If more than one is listed, at least one is required unless otherwise noted. If a cell is empty, an applicable vocabulary standard has not been identified.</p> <p>Both standards are required:</p> <ul style="list-style-type: none"> • ITU-T E.123, Series E: Overall Network Operation, Telephone Service, Service Operation and Human Factors, International operation - General provisions concerning users: Notation for national and international telephone numbers, email addresses and web addresses, February 2001 • ITU-T E.164, Series E: Overall Network Operation, Telephone Service, Service Operation and Human Factors, International operation - Numbering plan of the international telephone service, The international public telecommunication numbering plan, November 2010 <p>Adopted at 45 CFR 170.207(q)(1)</p>
<p>Phone Number Type</p> <p><i>Contact point when using a phone.</i></p> <p><i>Examples include but are not limited to home, work, and mobile.</i></p>	
<p>Email Address</p> <p><i>Unique identifier of an individual's email account that is used to send and receive email messages.</i></p>	
<p>Related Person's Name</p> <p><i>Name of a person with a legal or familial relationship to a patient.</i></p>	
<p>Relationship Type</p> <p><i>Relationship of a person to a patient.</i></p> <p><i>Examples include but are not limited to parent, next-of-kin, guardian, and custodian.</i></p>	



DATA ELEMENT	APPLICABLE VOCABULARY STANDARD(S)
<p>Occupation</p> <p><i>Type of work of a person.</i></p> <p><i>Examples include but are not limited to infantry, business analyst, and social worker.</i></p>	<p>Standards listed are required. If more than one is listed, at least one is required unless otherwise noted. If a cell is empty, an applicable vocabulary standard has not been identified.</p> <ul style="list-style-type: none"> Occupational Data for Health, version 20201030
<p>Occupation Industry</p> <p><i>Type of business that compensates for work or assigns work to an unpaid worker or volunteer.</i></p> <p><i>Examples include but are not limited to U.S. Army, cement manufacturing, and children and youth services.</i></p>	<ul style="list-style-type: none"> Occupational Data for Health, version 20201030

DATA CLASS

PATIENT SUMMARY AND PLAN

Conclusions and working assumptions that will guide treatment of the patient, and recommendations for future treatment.

DATA ELEMENT	APPLICABLE VOCABULARY STANDARD(S)
<p>Assessment and Plan of Treatment</p> <p><i>Health professional's conclusions and working assumptions that will guide treatment of the patient.</i></p>	<p>Standards listed are required. If more than one is listed, at least one is required unless otherwise noted. If a cell is empty, an applicable vocabulary standard has not been identified.</p>



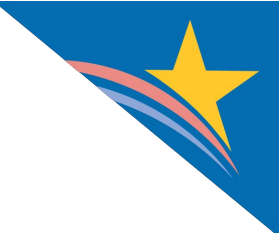


DATA CLASS

PROBLEMS

Condition, diagnosis, or reason for seeking medical attention.

DATA ELEMENT	APPLICABLE VOCABULARY STANDARD(S)
<p>Problems</p> <p><i>Condition, diagnosis, or reason for seeking medical attention.</i></p>	<p>Standards listed are required. If more than one is listed, at least one is required unless otherwise noted. If a cell is empty, an applicable vocabulary standard has not been identified.</p> <ul style="list-style-type: none"> • Systematized Nomenclature of Medicine Clinical Terms (SNOMED CT) U.S. Edition, September 2022 Release • International Classification of Diseases ICD-10-CM 2022
<p>SDOH Problems/Health Concerns</p> <p><i>Social Determinants of Health-related health concerns, conditions, or diagnoses.</i></p> <p><i>Examples include but are not limited to homelessness and food insecurity.</i></p>	<ul style="list-style-type: none"> • Systematized Nomenclature of Medicine Clinical Terms (SNOMED CT) U.S. Edition, September 2022 Release • International Classification of Diseases ICD-10-CM 2022
<p>Date of Diagnosis</p> <p><i>Date of first determination by a qualified professional of the presence of a problem or condition affecting a patient.</i></p>	
<p>Date of Resolution</p> <p><i>Date of subsiding or termination of a symptom, problem, or condition.</i></p>	



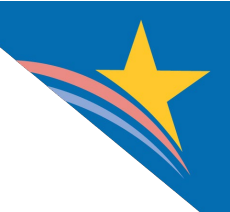
DATA CLASS

PROCEDURES

Activity performed for or on a patient as part of the provision of care.

<p>DATA ELEMENT</p>	<p>APPLICABLE VOCABULARY STANDARD(S)</p> <p>Standards listed are required. If more than one is listed, at least one is required unless otherwise noted. If a cell is empty, an applicable vocabulary standard has not been identified.</p>
<p>Procedures</p> <p><i>Activity performed for or on a patient as part of the provision of care.</i></p>	<ul style="list-style-type: none"> • Systematized Nomenclature of Medicine Clinical Terms (SNOMED CT) U.S. Edition, September 2022 Release • Current Procedural Terminology (CPT®) 2022, as maintained and distributed by the American Medical Association, for physician services and other health care services, and Healthcare Common Procedure Coding System (HCPCS), as maintained and distributed by HHS. • For technology primarily developed to record dental procedures: Code on Dental Procedures and Nomenclature (CDT), maintained and distributed by the American Dental Association, for dental services. <p>Optional:</p> <ul style="list-style-type: none"> • International Classification of Diseases ICD-10-PCS 2022
<p>Time of Procedure</p> <p><i>Time and/or date a procedure or other action is performed.</i></p>	





DATA ELEMENT	APPLICABLE VOCABULARY STANDARD(S)
<p>SDOH Interventions</p> <p><i>Actions or services to address an identified Social Determinants of Health-related health concern, condition, or diagnosis.</i></p> <p><i>Examples include but are not limited to education about food pantry program, referral to non-emergency medical transportation program.</i></p>	<p>Standards listed are required. If more than one is listed, at least one is required unless otherwise noted. If a cell is empty, an applicable vocabulary standard has not been identified.</p> <ul style="list-style-type: none"> • Systematized Nomenclature of Medicine Clinical Terms (SNOMED CT) U.S. Edition, September 2022 Release • Current Procedural Terminology (CPT) 2022, as maintained and distributed by the American Medical Association, for physician services and other health care services. • Healthcare Common Procedure Coding System (HCPCS) Level II, as maintained and distributed by HHS.
<p>Reason for Referral</p> <p><i>Explanation or justification for a referral or consultation.</i></p>	

DATA CLASS

PROVENANCE

The metadata, or extra information about data, regarding who created the data and when it was created.

DATA ELEMENT	APPLICABLE VOCABULARY STANDARD(S)
<p>Author Time Stamp</p> <p><i>Date and time of author action.</i></p>	<p>Standards listed are required. If more than one is listed, at least one is required unless otherwise noted. If a cell is empty, an applicable vocabulary standard has not been identified.</p>
<p>Author Organization</p> <p><i>Organization associated with author.</i></p>	





DATA CLASS

VITAL SIGNS

Physiologic measurements of a patient that indicate the status of the body's life sustaining functions.

DATA ELEMENT	APPLICABLE VOCABULARY STANDARD(S)
Systolic Blood Pressure	Both standards are required.
Diastolic Blood Pressure	<ul style="list-style-type: none"> Logical Observation Identifiers Names and Codes (LOINC®) version 2.73
Average Blood Pressure <i>Mean value of two or more blood pressure readings in a specified time period.</i> <i>Usage note: Must include both systolic and diastolic components of the mean and specify the relevant time period of measurements.</i>	<ul style="list-style-type: none"> The Unified Code of Units for Measure, Revision 2.1
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)	