# USCDI

United States Core Data for Interoperability

DRAFT VERSION 3 (JANUARY 2022)
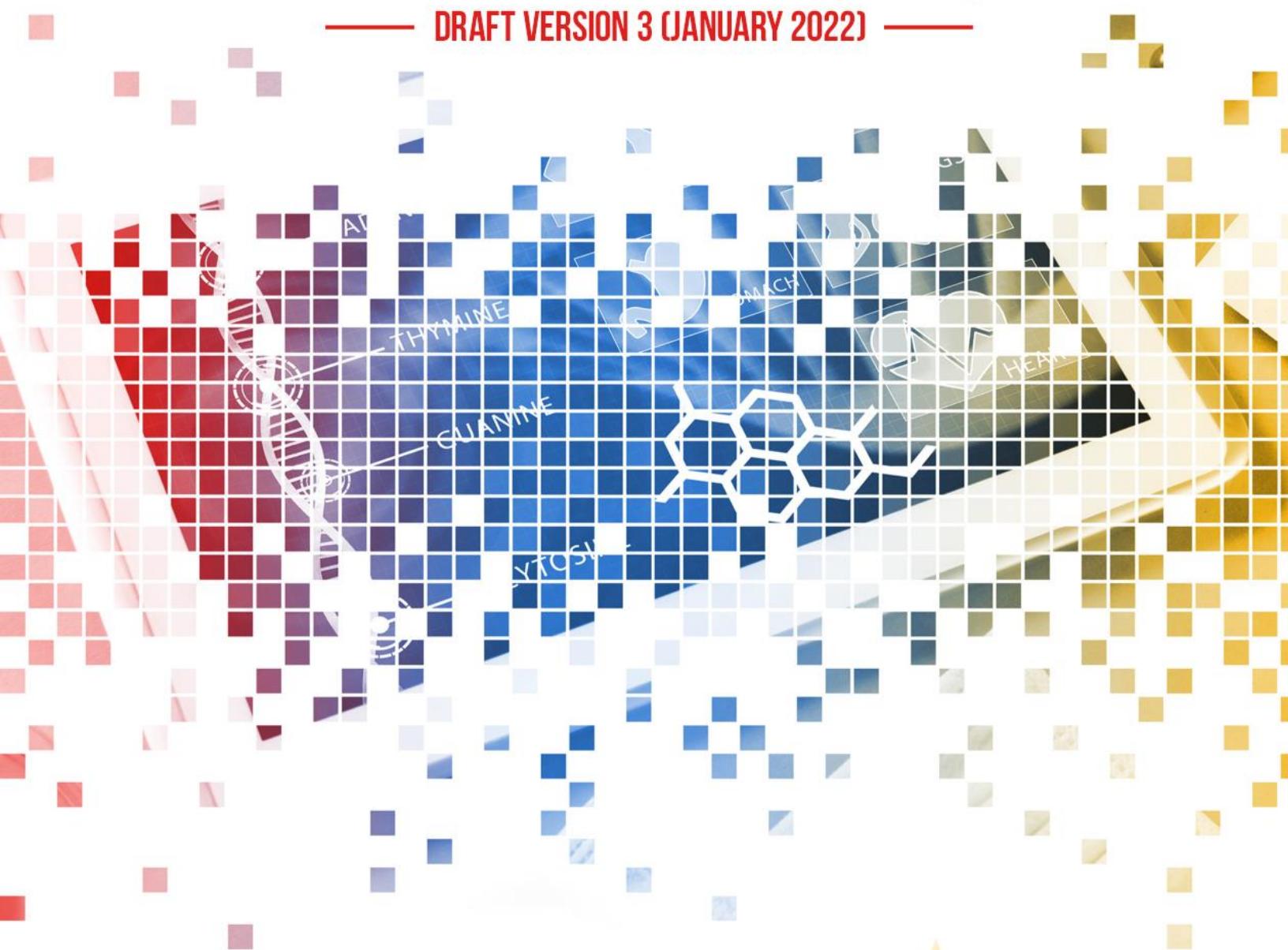
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USCDI Background

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. The USCDI version 1 (USCDI v1) was adopted as a standard in the ONC Cures Act Final Rule published May 1, 2020. The standard was included as a required part of certain certification criteria in the 2015 Edition Cures Update and is also referenced in the context of information blocking.

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. In fact, CMS and other federal, state, local, and tribal partners reference the USCDI for a range of health information exchange purposes.

USCDI Expansion

ONC has established a predictable, transparent, and collaborative expansion process for USCDI based on public evaluation of previous versions and submissions by health IT stakeholders, including the Health Information Technology Advisory Committee's USCDI Task Force.
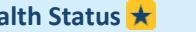
During the submission process, which ended in September 2021, ONC received several hundred submissions through the ONC New Data Element and Class (ONDEC) system. These included comments on data elements from previous cycles, as well as newly proposed data elements. Each submitted data element was then classified into one of three levels (Comment, Level 1, or Level 2) based on the overall value, maturity, breadth of applicability to health data users, and any known challenges to implementation.

ONC evaluated all Level 2 data elements to determine if they met ONC priorities, outlined in Standards Bulletin 2021-3, for including data elements in future versions of USCDI. The criteria include:

1. Created only minimal developmental burden on standards organizations, health IT developers, and implementing facilities and providers,
2. Met additional needs of USCDI to address areas not previously represented,
3. Addressed areas of health data that could reduce inequity and disparities in health care,
4. Addressed areas of health data that could improve care delivery to underserved populations,
5. Addressed certain public health data requirements for reporting, investigation, and emergency response.

Based on our overall assessment of these level 2 data elements, we identified a set of data classes and elements for the Draft USCDI v3, which is set forth on the following pages.

New Data Classes and Elements in Draft USCDI v3

Health Insurance Information ⭐
- Coverage Status
- Coverage Type
- Relationship to Subscriber
- Member Identifier
- Subscriber Identifier
- Group Number
- Payer Identifier

Health Status ⭐
- Functional Status
- Disability Status
- Mental Function
- Pregnancy Status

Laboratory
- Specimen Type
- Result Status

Patient Demographics
- Date of Death
- Tribal Affiliation
- Related Person's Name
- Related Person's Relationship
- Occupation
- Occupation Industry

Procedures
- Reason for Referral

Key: ⭐ New Data Class

Public Feedback Process

Over the next 3 months, we encourage the public to evaluate the Draft USCDI v3 and submit comments to ONC on the data classes and elements that should be included in the final USCDI v3. Specifically, we encourage the community to take the following steps:

1. Are there any improvements needed in the data classes or elements included in Draft USCDI v3, including:
    a. Appropriate and meaningful data class and element names and definitions?
    b. Representative examples or value sets used by health IT developers and implementers to fully understand the intent of the data element?
2. Should other data elements classified as Level 2 in the ONDEC system be added to USCDI v3 instead, or in addition to those in the Draft? If so, why?
3. Are there significant barriers to development, implementation or use for any of these data elements that warrant removing them from Draft USCDI v3?

Feedback will be accepted until April 30, 2022, on the main Draft USCDI v3 page or on individual data class or data element pages. ONC will consider these comments and recommendations in preparing the final USCDI v3 for publication in July 2022.

Once USCDI v3 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.

We encourage review of the ONC Standards Bulletin 2022-1, for additional discussion on the development of Draft USCDI v3 .

Draft USCDI v3 Summary of Data Classes and Data Elements

Allergies and Intolerances
- Substance (Medication)
- Substance (Drug Class)
- Reaction

Assessment and Plan of Treatment
- Assessment and Plan of Treatment
- SDOH Assessment

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

Clinical Tests
- Clinical Test
- Clinical Test Result/Report

Diagnostic Imaging
- Diagnostic Imaging Test
- Diagnostic Imaging Report

Encounter Information
- Encounter Type
- Encounter Diagnosis
- Encounter Time
- Encounter Location
- Encounter Disposition

Goals
- Patient Goals
- SDOH Goals

Health Insurance Information ⭐
- Coverage Status ⭐
- Coverage Type ⭐
- Relationship to Subscriber ⭐
- Member Identifier ⭐
- Subscriber Identifier ⭐
- Group Number ⭐
- Payer Identifier ⭐

Health Status ⭐
- Health Concerns ➡️
- Functional Status ⭐
- Disability Status ⭐
- Mental Function ⭐
- Pregnancy Status ⭐
- Smoking Status ➡️

Immunizations
- Immunizations

Laboratory
- Tests
- Values/Results
- Specimen Type ⭐
- Result Status ⭐

Medications
- Medications

Patient Demographics
- First Name
- Last Name
- Middle Name (Including middle initial)
- Suffix
- Previous Name
- Date of Birth
- Date of Death ⭐
- Race
- Ethnicity
- Tribal Affiliation ⭐
- Sex (Assigned at Birth)
- 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 ⭐

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

Procedures
- Procedures
- SDOH Interventions
- Reason for Referral ⭐

Provenance
- Author Organization
- Author Time Stamp

Unique Device Identifier(s) for a Patient's Implantable Device(s)
- Unique Device Identifier(s) for a patient's implantable device(s)

Vital Signs
- 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 - 36 Months)
- Head Occipital-frontal Circumference Percentile (Birth-36 Months)

Key: ⭐ New Data Class or Element ➡️ Data Element Reclassified

Allergies and Intolerances

Represents harmful or undesired physiological responses associated with exposure to a substance.

DATA ELEMENT	APPLICABLE VOCABULARY STANDARD(S)
Substance (Medication)	• RxNorm Full Monthly Release, January 3, 2022
Substance (Drug Class)	• SNOMED International, Systematized Nomenclature of Medicine Clinical Terms (SNOMED CT®) U.S. Edition, January 2022 Release
Reaction	• SNOMED International, Systematized Nomenclature of Medicine Clinical Terms (SNOMED CT®) U.S. Edition, January 2022 Release

Assessment and Plan of Treatment

Represents a health professional's conclusions and working assumptions that will guide treatment of the patient.

DATA ELEMENT	APPLICABLE VOCABULARY STANDARD(S)
Assessment and Plan of Treatment	
SDOH Assessment *Structured evaluation of risk (e.g., PRAPARE, Hunger Vital Sign, AHC-HRSN screening tool) for any Social Determinants of Health domain such as food, housing, or transportation security. SDOH data relate to conditions in which people live, learn, work, and play and their effects on health risks and outcomes.*	• Logical Observation Identifiers Names and Codes (LOINC®) version 2.71 • SNOMED International, Systematized Nomenclature of Medicine Clinical Terms (SNOMED CT®) U.S. Edition, January 2022 Release

Care Team Member(s)

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

DATA ELEMENT	APPLICABLE VOCABULARY STANDARD(S)
Care Team Member Name	
Care Team Member Identifier	
Care Team Member Role *Function or functions that a person may perform while participating in the care for a patient.*	
Care Team Member Location *Physical location of provider or other care team member.*	
Care Team Member Telecom *Electronic contact information of a provider or other care team member.*	• 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 As adopted at 45 CFR 170.207(q)(1)

Clinical Notes

Represents narrative patient data relevant to the respective note types.

DATA ELEMENT	APPLICABLE VOCABULARY STANDARD(S)
Consultation Note *Contains the response to request from a clinician for an opinion or advice from another clinician.*	• Logical Observation Identifiers Names and Codes (LOINC®) version 2.71 • Consult Note (LOINC® code 11488-4)
Discharge Summary Note *A synopsis of a patient's admission and course in a hospital or post-acute care setting. Must contain admission and discharge dates and locations, discharge instructions, and reason(s) for hospitalization.*	• Logical Observation Identifiers Names and Codes (LOINC®) version 2.71 • Discharge Summary (LOINC® code 18842-5)
History & Physical *Documents the current and past conditions and observations of the patient.*	• Logical Observation Identifiers Names and Codes (LOINC®) version 2.71 • History and Physical Note (LOINC® code 34117-2)
Procedure Note *Encompasses non-operative procedures including interventional cardiology, gastrointestinal endoscopy, osteopathic manipulation, and other specialty's procedures.*	• Logical Observation Identifiers Names and Codes (LOINC®) version 2.71 • Procedure Note (LOINC® code 28570-0)
Progress Note *Represents a patient's interval status during a hospitalization, outpatient visit, treatment with a post-acute care provider, or other healthcare encounter.*	• Logical Observation Identifiers Names and Codes (LOINC®) version 2.71 • Progress Note (LOINC® code 11506-3)

Clinical Tests

Includes non-imaging and non-laboratory tests performed on a patient that results in structured or unstructured (narrative) findings specific to the patient, such as electrocardiogram (ECG), visual acuity exam, macular exam, or graded exercise testing (GXT), to facilitate the diagnosis and management of conditions.

DATA ELEMENT	APPLICABLE VOCABULARY STANDARD(S)
Clinical Test *The name of the non-imaging or non-laboratory test performed on a patient.*	• Logical Observation Identifiers Names and Codes (LOINC®) version 2.71 • [USCDI Clinical Tests Minimum Set](#)
Clinical Test Result/Report *Interpreted results of clinical tests that may include study performed, reason performed, findings, and impressions. Includes both structured and unstructured (narrative) components.*	

Diagnostic Imaging

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

DATA ELEMENT	APPLICABLE VOCABULARY STANDARD(S)
Diagnostic Imaging Test *The name of the test performed which generates visual images (radiographic, photographic, video, etc.) of anatomic structures; and requires interpretation by qualified professionals.*	• Logical Observation Identifiers Names and Codes (LOINC®) version 2.71
Diagnostic Imaging Report *Interpreted results of imaging test that includes the study performed, reason, findings, and impressions. Includes both structured and unstructured (narrative) components.*	

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Encounter Information

Information related to interactions between healthcare providers and the subject of care in which healthcare-related activities take place.

DATA ELEMENT	APPLICABLE VOCABULARY STANDARD(S)
Encounter Type	
Encounter Diagnosis	• SNOMED International, Systematized Nomenclature of Medicine Clinical Terms (SNOMED CT®) U.S. Edition, January 2022 Release • International Classification of Diseases ICD-10-CM 2021
Encounter Time *Represents a date/time related to an encounter (e.g., scheduled appointment time, check in time, start and stop times).*	
Encounter Location *Location of facility which delivered a person's health care or related services.*	
Encounter Disposition *Identifies the location or type of facility to where the patient left a hospital or encounter.*	

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Goals

An expressed desired health state to be achieved by a subject of care (or family/group).

DATA ELEMENT	APPLICABLE VOCABULARY STANDARD(S)
Patient Goals	
SDOH Goals *Identifies a future desired condition or change in condition related to an SDOH risk in any domain and is established by the patient or provider. (e.g., Has adequate quality meals and snacks, Transportation security-able to access health and social needs). SDOH data relate to conditions in which people live, learn, work, and play and their effects on health risks and outcomes.*	• SNOMED International, Systematized Nomenclature of Medicine Clinical Terms (SNOMED CT®) U.S. Edition, January 2022 Release • Logical Observation Identifiers Names and Codes (LOINC®) version 2.71

DATA CLASS

Health Insurance Information

Data related to an individual's health insurance coverage.

DATA ELEMENT	APPLICABLE VOCABULARY STANDARD(S)
Coverage Status *The presence or absence of coverage for a particular encounter or claim.*	
Coverage Type *Categories of health care payors (e.g., Medicare, TRICARE, Commercial Managed Care - PPO).*	• Source of Payment Typology (SoPT) • SoPT Payer Value Set
Relationship to Subscriber *Relationship of a person to the primary insured person in an insurance plan.*	
Member Identifier *Identifies an individual covered by the benefits offered by an employer or healthcare insurer.*	
Subscriber Identifier	

DATA ELEMENT	APPLICABLE VOCABULARY STANDARD(S)
The identifier assigned to the individual that selects benefits offered by an employer or healthcare insurer.	
Group Identifier *The identifier associated with a specific health insurance plan typically provided thorough an employer.*	
Payer Identifier *The identifier defining a payer entity.*	

DATA CLASS

Health Status

Health-related matter of interest, importance, or worry to a patient, patient's family, or patient's healthcare provider.

DATA ELEMENT	APPLICABLE VOCABULARY STANDARD(S)
Health Concerns	
Functional Status *Represents assessments of a patient's capabilities, or their risks of development or worsening of a condition or problem (e.g., Morse Scale - falls, Bradon Scale - pressure ulcer, VR-12 Health Survey, CAGE – alcohol use disorder)*	• Logical Observation Identifiers Names and Codes (LOINC®) version 2.71
Disability Status *Represents assessments of an individual's physical, cognitive, intellectual, or psychiatric disabilities (e.g., vision, hearing, memory, activities of daily living)*	• Logical Observation Identifiers Names and Codes (LOINC®) version 2.71
Mental Function *Represents observations related to a patient's current level of cognitive functioning, including alertness, orientation, comprehension, concentration, and immediate memory for simple commands.*	• Logical Observation Identifiers Names and Codes (LOINC®) version 2.71
Pregnancy Status *Indicator that a patient is currently pregnant, not pregnant, or that their pregnancy status is*	

DATA ELEMENT	APPLICABLE VOCABULARY STANDARD(S)
unknown currently, as it relates to potential risks and exposures.	
Smoking Status *Representing a patient's smoking behaviors.*	• SNOMED International, Systematized Nomenclature of Medicine Clinical Terms (SNOMED CT®) U.S. Edition, January 2022 Release

Immunizations

Record of an administration of a vaccination or a record of a vaccination as reported by a patient, a clinician, or another party.

DATA ELEMENT	APPLICABLE VOCABULARY STANDARD(S)
Immunizations	Both standards are required • IIS: Current HL7 Standard Code Set, CVX – Vaccines Administered, updates through November 9, 2021 • Vaccine National Drug Code (NDC) Directory – Vaccine NDC Linker Table, updates through November 18, 2021

Laboratory

DATA ELEMENT	APPLICABLE VOCABULARY STANDARD(S)
Test *The name of the analysis of specimens derived from humans which provide information for the diagnosis, prevention, treatment of disease, or impairment of, or assessment of health.*	• Logical Observation Identifiers Names and Codes (LOINC®) version 2.71
Values/Results *Documented findings of the analysis of a tested specimen. Includes both structured and unstructured (narrative) components.*	

DATA ELEMENT	APPLICABLE VOCABULARY STANDARD(S)
Specimen Type *Type of specimen (e.g., nasopharyngeal swab, whole blood, serum, urine, wound swab) on which a lab test is performed.*	
Result Status *Representing the stage of completeness of a result of a laboratory test.*	

DATA CLASS

Medications

DATA ELEMENT	APPLICABLE VOCABULARY STANDARD(S)
Medications	• RxNorm Full Monthly Release, January 3, 2022

Patient Demographics

DATA ELEMENT	APPLICABLE VOCABULARY STANDARD(S)
First Name	
Last Name	
Middle Name (including middle initial)	
Suffix	
Previous Name	
Date of Birth	
Date of Death	
Race	Both standards are required: • 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 1.0 (March 2000) Adopted at 45 CFR 170.207(f)
Ethnicity	Both standards are required: • 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 1.0 (March 2000) Adopted at 45 CFR 170.207(f)
Tribal Affiliation	

DATA ELEMENT	APPLICABLE VOCABULARY STANDARD(S)

Sex (Assigned at Birth)	• Birth sex must be coded in accordance with HL7 Version 3 Standard, Value Sets for AdministrativeGender and NullFlavor, attributed as follows:
	  • Female. F
	  • Male. M
	  • Unknown. nullFlavor UNK
	Adopted at 45 CFR 170.207(n)(1)

Sexual Orientation
A person's identification of their emotional, romantic, sexual, or affectional attraction to another person.
	• Sexual orientation must be coded in accordance with SNOMED CT® and HL7 Version 3 Standard, Value Sets for AdministrativeGender and NullFlavor, attributed as follows:
	
	  • Lesbian, gay or homosexual. 38628009
	  • Straight or heterosexual. 20430005
	  • Bisexual. 42035005
	  • Something else, please describe. nullFlavor OTH
	  • Don't know. nullFlavor UNK
	  • Choose not to disclose. nullFlavor ASKU
	Adopted at 45 CFR 170.207(o)(1)

Gender Identity
A person's internal sense of being a man, woman, both, or neither.
	• Gender Identify must be coded in accordance with SNOMED CT® and HL7 Version 3 Standard, Value Sets for AdministrativeGender and NullFlavor, attributed as follows:
	
	  • Male. 446151000124109
	  • Female. 446141000124107
	  • Female-to-Male (FTM)/Transgender Male/Trans Man. 407377005
	  • Male-to-Female (MTF)/Transgender Female/Trans Woman. 407376001
	  • Genderqueer, neither exclusively male nor female. 446131000124102
	  • Additional gender category or other, please specify. nullFlavor OTH
	  • Choose not to disclose. nullFlavor ASKU
	Adopted at 45 CFR 170.207(o)(2)

Preferred Language	• Request for Comment (RFC) 5646, "Tags for Identifying Languages", September 2009 Adopted at 45 CFR 170.207(g)(2)
Current Address *Includes street name, number, city/town, state, and zip code.*	

DATA ELEMENT	APPLICABLE VOCABULARY STANDARD(S)
Previous Address *Includes street name, number, city/town, state, and zip code.*	
Phone Number	• 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, 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, November 2010 Adopted at 45 CFR 170.207(q)(1)
Phone Number Type	
Email Address	
Related Person's Name *The name of a person involved in the care of a patient, but who is not the target of that care.*	
Related Person's Relationship *Represents the relationship between a patient and a person involved in the care of a patient (e.g., parent, next-of-kin, guardian, custodian).*	
Occupation *A self-reported term for the type of work done by a person. For a military position, this is the primary occupational specialty.*	• Occupational Data for Health 　• [Occupation ONETSOC Detail (ODH)](#) Value Set
Occupation Industry *A self-reported term for the primary business activity of an entity for which a person works, including volunteer work. For a military position, this is the self-reported branch of service.*	• Occupational Data for Health 　• [Industry NAICS Detail (ODH)](#) Value Set

Problems

Information about a condition, diagnosis, or other event, situation, issue, or clinical concept that is documented.

DATA ELEMENT	APPLICABLE VOCABULARY STANDARD(S)
Problems	• SNOMED International, Systematized Nomenclature of Medicine Clinical Terms (SNOMED CT®) U.S. Edition, January 2022 Release • International Classification of Diseases ICD-10-CM 2021
SDOH Problems/Health Concerns *An identified Social Determinants of Health-related condition (e.g., Homelessness (finding), Lack of adequate food Z59.41, Transport too expensive (finding)). SDOH data relate to conditions in which people live, learn, work, and play and their effects on health risks and outcomes.*	• SNOMED International, Systematized Nomenclature of Medicine Clinical Terms (SNOMED CT®) U.S. Edition, January 2022 Release • International Classification of Diseases ICD-10-CM 2021
Date of Diagnosis *Date of first determination by a qualified professional of the presence of a problem or condition affecting a patient.*	
Date of Resolution *Date of subsiding or termination of a symptom, problem, or condition.*	

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Procedures

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

DATA ELEMENT	APPLICABLE VOCABULARY STANDARD(S)
Procedures	- SNOMED International, Systematized Nomenclature of Medicine Clinical Terms (SNOMED CT®) U.S. Edition, January 2022 Release - Current Procedural Terminology (CPT®) 2021, 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. Optional: - International Classification of Diseases ICD-10-PCS 2021
SDOH Interventions *A service offered to a patient to address identified Social Determinants of Health concerns, problems, or diagnoses (e.g., Education about Meals on Wheels Program, Referral to transportation support programs). SDOH data relate to conditions in which people live, learn, work, and play and their effects on health risks and outcomes.*	- SNOMED International, Systematized Nomenclature of Medicine Clinical Terms (SNOMED CT®) U.S. Edition, January 2022 Release - Current Procedural Terminology (CPT®) 2021, 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.
Reason for Referral *An explanation or justification for why this service is being requested or was provided.*	

Provenance

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

DATA ELEMENT	APPLICABLE VOCABULARY STANDARD(S)
Author Time Stamp	
Author Organization	

Unique Device Identifier(s) for a Patient's Implantable Device(s)

A unique numeric or alphanumeric code that consists of a device identifier and a production identifier.

DATA ELEMENT	APPLICABLE VOCABULARY STANDARD(S)
Unique Device Identifier(s) for a patient's implantable device(s)	• FDA Unique Device Identification System (UDI System)

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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	
Diastolic Blood Pressure	
Heart Rate	
Respiratory Rate	
Body Temperature	
Body Height	• Logical Observation Identifiers Names and Codes (LOINC®) version 2.71
Body Weight	• The Unified Code of Units for Measure, Revision 2.1
Pulse Oximetry	
Inhaled Oxygen Concentration	
BMI Percentile (2 - 20 years)	
Weight-for-length Percentile (Birth - 36 Months)	
Head Occipital-frontal Circumference Percentile (Birth - 36 Months)	