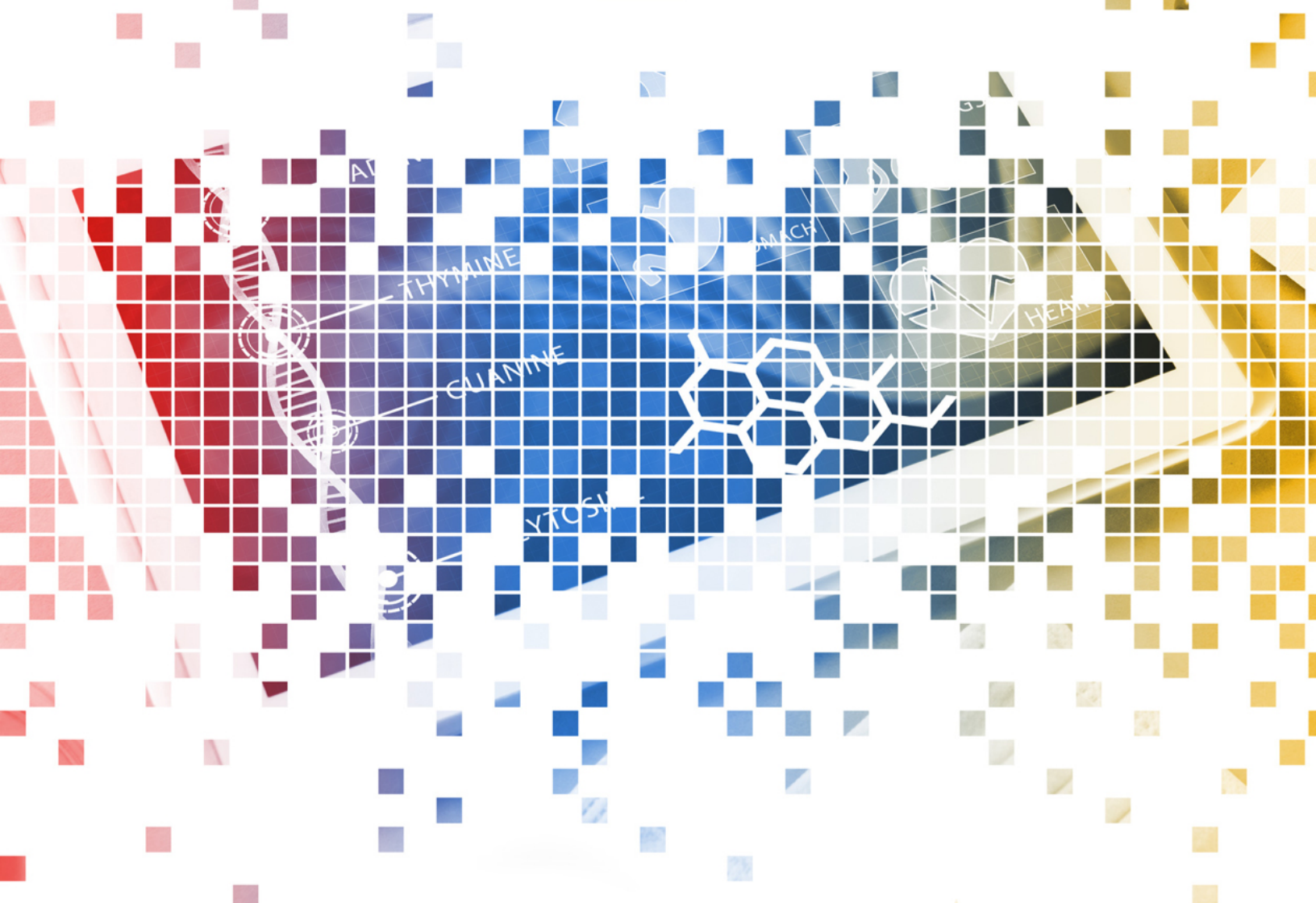





United States Core Data for Interoperability

— **VERSION 2 (JULY 2021)** —



The Office of the National Coordinator for
Health Information Technology



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 various Data Elements by a common theme or use case.

A USCDI “**Data Element**” is the most granular level at which a piece of data is represented in the USCDI for exchange.

Version History

| Version # | Description of change | Version Date |
|-----------|-----------------------|--------------|
| 2 | First Publication | July 2021 |

USCDI v2 Summary of Data Classes and Data Elements

Allergies and Intolerances

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

Goals

- Patient Goals
- SDOH Goals

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- Procedures
- SDOH Interventions

Assessment and Plan of Treatment

- Assessment and Plan of Treatment
- SDOH Assessment

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- Health Concerns

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- Immunizations

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- Care Team Member Name
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- Care Team Member Location
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Unique Device Identifier(s) for a Patient's Implantable Device(s)

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

Medications

- Medications

Clinical Notes

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

Patient Demographics

- First Name
- Last Name
- Previous Name
- Middle Name (including Middle Initial)
- Suffix
- Sex (Assigned at Birth)
- Sexual Orientation
- Gender Identity
- Date of Birth
- Race
- Ethnicity
- Preferred Language
- Current Address
- Previous Address
- Phone Number
- Phone Number Type
- Email Address

Vital Signs

- Diastolic Blood Pressure
- Systolic Blood Pressure
- Body Height
- Body Weight
- Heart Rate
- Respiratory Rate
- Body Temperature
- 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)

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

Problems

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

DATA CLASS

Allergies and Intolerances

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

| DATA ELEMENT | APPLICABLE VOCABULARY STANDARD(S) |
|-------------------------------|--|
| Substance (Medication) | <ul style="list-style-type: none">RxNorm Full Monthly Release, June 7, 2021 |
| Substance (Drug Class) | <ul style="list-style-type: none">SNOMED International, Systematized Nomenclature of Medicine Clinical Terms (SNOMED CT®) U.S. Edition, March 2021 Release |
| Reaction | <ul style="list-style-type: none">SNOMED International, Systematized Nomenclature of Medicine Clinical Terms (SNOMED CT®) U.S. Edition, March 2021 Release |

DATA CLASS

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 <i>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.</i> | <ul style="list-style-type: none">Logical Observation Identifiers Names and Codes (LOINC®) version 2.70SNOMED International, Systematized Nomenclature of Medicine Clinical Terms (SNOMED CT®) U.S. Edition, March 2021 Release |

DATA CLASS

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 <i>Function or functions that a person may perform while participating in the care for a patient.</i> | |
| Care Team Member Location <i>Physical location of provider or other care team member.</i> | |
| Care Team Member Telecom <i>Electronic contact information of a provider or other care team member.</i> | <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 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) |
|--|--|
| <p>Consultation Note</p> <p><i>Contains the response to request from a clinician for an opinion or advice from another clinician.</i></p> | <ul style="list-style-type: none"> Logical Observation Identifiers Names and Codes (LOINC®) version 2.70 Consult Note (LOINC® code 11488-4) |
| <p>Discharge Summary Note</p> <p><i>A synopsis of a patient's admission and course in a hospital or post-acute care setting.</i></p> | <ul style="list-style-type: none"> Logical Observation Identifiers Names and Codes (LOINC®) version 2.70 Discharge Summary (LOINC® code 18842-5) |
| <p>History & Physical</p> <p><i>Documents the current and past conditions and observations of the patient.</i></p> | <ul style="list-style-type: none"> Logical Observation Identifiers Names and Codes (LOINC®) version 2.70 History and Physical Note (LOINC® code 34117-2) |
| <p>Procedure Note</p> <p><i>Encompasses non-operative procedures including interventional cardiology, gastrointestinal endoscopy, osteopathic manipulation, and other specialty's procedures.</i></p> | <ul style="list-style-type: none"> Logical Observation Identifiers Names and Codes (LOINC®) version 2.70 Procedure Note (LOINC® code 28570-0) |
| <p>Progress Note</p> <p><i>Represents a patient's interval status during a hospitalization, outpatient visit, 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 2.70 Progress Note (LOINC® code 11506-3) |

DATA CLASS

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 <i>The name of the non-imaging or non-laboratory test performed on a patient.</i> | <ul style="list-style-type: none">Logical Observation Identifiers Names and Codes (LOINC®) version 2.70 |
| Clinical Test Result/Report <i>Interpreted results of clinical tests that may include study performed, reason performed, findings, and impressions. Includes both structured and unstructured (narrative) components.</i> | |

DATA CLASS

Diagnostic Imaging

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

| DATA ELEMENT | APPLICABLE VOCABULARY STANDARD(S) |
|---|---|
| Diagnostic Imaging Test <i>The name of the test performed which generates visual images (radiographic, photographic, video, etc.) of anatomic structures; and requires interpretation by qualified professionals.</i> | <ul style="list-style-type: none">Logical Observation Identifiers Names and Codes (LOINC®) version 2.70 |
| Diagnostic Imaging Report <i>Interpreted results of imaging test that includes the study performed, reason, findings, and impressions. Includes both structured and unstructured (narrative) components.</i> | |

DATA CLASS

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 | <ul style="list-style-type: none">• SNOMED International, Systematized Nomenclature of Medicine Clinical Terms (SNOMED CT®) U.S. Edition, March 2021 Release• International Classification of Diseases ICD-10-CM 2021 |
| Encounter Time <i>Represents a date/time related to an encounter (e.g., scheduled appointment time, check in time, start and stop times).</i> | |
| Encounter Location <i>Physical location of facility which delivered a person's health care or related services.</i> | |
| Encounter Disposition <i>Identifies the location or type of facility to where the patient left following a hospital or encounter episode.</i> | |

DATA CLASS

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 <i>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.</i> | <ul style="list-style-type: none">• SNOMED International, Systematized Nomenclature of Medicine Clinical Terms (SNOMED CT®) U.S. Edition, March 2021 Release• Logical Observation Identifiers Names and Codes (LOINC®) version 2.70 |

DATA CLASS

Health Concerns

Health-related matter that is of interest, importance, or worry to someone who may be the patient, patient's family, or patient's healthcare provider.

| DATA ELEMENT | APPLICABLE VOCABULARY STANDARD(S) |
|------------------------|-----------------------------------|
| Health Concerns | |

DATA CLASS

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 <ul style="list-style-type: none">IIS: Current HL7 Standard Code Set, CVX – Vaccines Administered, updates through April 6, 2021Vaccine National Drug Code (NDC) Directory – Vaccine NDC Linker Table, updates through May 18, 2021 |

DATA CLASS

Laboratory

| DATA ELEMENT | APPLICABLE VOCABULARY STANDARD(S) |
|---|---|
| Test <i>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.</i> | <ul style="list-style-type: none">Logical Observation Identifiers Names and Codes (LOINC®) version 2.70 |
| Values/Results <i>Documented findings of the analysis of a tested specimen. Includes both structured and unstructured (narrative) components.</i> | |

DATA CLASS

Medications

| DATA ELEMENT | APPLICABLE VOCABULARY STANDARD(S) |
|--------------------|---|
| Medications | <ul style="list-style-type: none">RxNorm Full Monthly Release, June 7, 2021 |

DATA CLASS

Patient Demographics

| DATA ELEMENT | APPLICABLE VOCABULARY STANDARD(S) |
|--|---|
| First Name | |
| Last Name | |
| Previous Name | |
| Middle Name (including middle initial) | |
| Suffix | |
| Sex (assigned at birth) | <ul style="list-style-type: none"> • Birth sex must be coded in accordance with HL7 Version 3 Standard, Value Sets for AdministrativeGender and NullFlavor, attributed as follows: <ul style="list-style-type: none"> • Female. F • Male. M • Unknown. nullFlavor UNK Adopted at 45 CFR 170.207(n)(1) |
| Sexual Orientation <i>A person's identification of their emotional, romantic, sexual, or affectional attraction to another person.</i> | <ul style="list-style-type: none"> • Sexual orientation must be coded in accordance with SNOMED CT® and HL7 Version 3 Standard, Value Sets for AdministrativeGender and NullFlavor, attributed as follows: <ul style="list-style-type: none"> • 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) |

| DATA ELEMENT | APPLICABLE VOCABULARY STANDARD(S) |
|--|--|
| <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"> Gender Identify must be coded in accordance with SNOMED CT® and HL7 Version 3 Standard, Value Sets for AdministrativeGender and NullFlavor, attributed as follows: <ul style="list-style-type: none"> 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 <p>Adopted at 45 CFR 170.207(o)(2)</p> |
| <p>Date of Birth</p> | |
| <p>Race</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 1.0 (March 2000) <p>Adopted at 45 CFR 170.207(f)</p> |
| <p>Ethnicity</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 1.0 (March 2000) <p>Adopted at 45 CFR 170.207(f)</p> |
| <p>Preferred Language</p> | <ul style="list-style-type: none"> Request for Comment (RFC) 5646, "Tags for Identifying Languages, September 2009" <p>Adopted at 45 CFR 170.207(g)(2)</p> |

| DATA ELEMENT | APPLICABLE VOCABULARY STANDARD(S) |
|--|--|
| <p>Current Address</p> <p><i>Includes street name, number, city/town, state, and zip code.</i></p> | |
| <p>Previous Address</p> <p><i>Includes street name, number, city/town, state, and zip code.</i></p> | |
| <p>Phone Number</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, 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 <p>Adopted at 45 CFR 170.207(q)(1)</p> |
| <p>Phone Number Type</p> | |
| <p>Email Address</p> | |

DATA CLASS

Problems

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

| DATA ELEMENT | APPLICABLE VOCABULARY STANDARD(S) |
|--|--|
| Problems | <ul style="list-style-type: none">• SNOMED International, Systematized Nomenclature of Medicine Clinical Terms (SNOMED CT®) U.S. Edition, March 2021 Release• International Classification of Diseases ICD-10-CM 2021 |
| SDOH Problems/Health Concerns <i>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.</i> | <ul style="list-style-type: none">• SNOMED International, Systematized Nomenclature of Medicine Clinical Terms (SNOMED CT®) U.S. Edition, March 2021 Release• International Classification of Diseases ICD-10-CM 2021 |
| Date of Diagnosis <i>Date of first determination by a qualified professional of the presence of a problem or condition affecting a patient.</i> | |
| Date of Resolution <i>Date of subsiding or termination of a symptom, problem, or condition.</i> | |

Procedures

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

| DATA ELEMENT | APPLICABLE VOCABULARY STANDARD(S) |
|---|---|
| <p>Procedures</p> | <ul style="list-style-type: none"> • SNOMED International, Systematized Nomenclature of Medicine Clinical Terms (SNOMED CT®) U.S. Edition, March 2021 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. <p>Optional:</p> <ul style="list-style-type: none"> • International Classification of Diseases ICD-10-PCS 2021 |
| <p>SDOH Interventions</p> <p><i>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.</i></p> | <ul style="list-style-type: none"> • SNOMED International, Systematized Nomenclature of Medicine Clinical Terms (SNOMED CT®) U.S. Edition, March 2021 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. |

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) |
|----------------------------|-----------------------------------|
| Author Time Stamp | |
| Author Organization | |

DATA CLASS

Smoking Status

Representing a patient's smoking behavior.

| DATA ELEMENT | APPLICABLE VOCABULARY STANDARD(S) |
|-----------------------|--|
| Smoking Status | <ul style="list-style-type: none">SNOMED International, Systematized Nomenclature of Medicine Clinical Terms (SNOMED CT®) U.S. Edition, March 2021 Release |

DATA CLASS

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) | <ul style="list-style-type: none">FDA Unique Device Identification System (UDI System) |

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) |
|---|---|
| Diastolic Blood Pressure | <ul style="list-style-type: none">Logical Observation Identifiers Names and Codes (LOINC®) version 2.70The Unified Code of Units for Measure, Revision 2.1 |
| Systolic Blood Pressure | |
| Body Height | |
| Body Weight | |
| Heart Rate | |
| Respiratory Rate | |
| Body Temperature | |
| 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) | |