

Exposure, Risk, Underlying Conditions

CSTE DSWG Data Element Specific Team
02/09/2023



Council of State and Territorial Epidemiologists

Please mute phone/ headset/ computer audio!

Agenda

- Welcome & Announcements
- ERU Background Review
- ERU, distinct or the same?
- ERU definitions
- ERU as core?
- Next Steps
- Wrap-Up & Adjourn

DEST Opportunities for Participation



- The Data-element Specific Team (DEST) Interest Sign-Up sheet has been updated to include known future data classes:
 - Signs/Symptoms/Clinical Manifestations (Call #1 on Feb 16)
 - Identifiers (Case/Event Related/Laboratory)
 - Reporting Source
 - Laboratory
 - Race/Ethnicity/Tribal Affiliation
 - Medication/Treatment
 - Disability
 - Social Determinants of Health

Link to Sign-Up sheet:

<https://app.smartsheet.com/b/form/3da89d48bda94fc7a33c4a8a505fe54a>

If you have signed up previously but feel you are not getting the emails/meeting invites that you expected to get, please reach out directly to llane@jmmichael-consulting.com.

- Industry/Occupation draft out to wider DSWG for comment now!
 - Link in chat (input due by 2/19)
- The following data elements are out for their DEST review and will be covered at the upcoming general DSWG meeting:
 - Death (input due by COB today!)
 - Immunization History (input due by 2/19)
 - SOGI (input due by 2/21)

Meeting ground rules



- Discussion Guidelines
 - "Raise" your hand
 - Use the chat to provide feedback and ask questions
 - When called, state your name and affiliation
 - Stay on point, be brief, and within the context of the discussion in progress
 - 80/20 consensus
 - Co-Chairs/moderators' prerogative to move the discussion forward as needed
 - [Post-meeting survey](#) provided for additional input
 - Be courteous and be open to new ideas

Active participation encouraged for all!

- Chats, voting, comments, etc.
- Includes STLT jurisdictions + CDC Programs + CSTE, etc.

Background Review: Exposure, Risk, Underlying Conditions



Potential data elements related to Exposure, Risk, and Underlying Conditions



- Three potential **data concepts** → Many **data elements**
- Current state of message mapping guides
 - Many message mapping guides include these **data concepts** as either:
 - Individual questions, each representing one **data element**
 - Repeating blocks allowing for many **data elements** in the same data concept

Data Element (DE) Name	DE Identifier Sent in HL7 Message	Data Element Description	Data Type	Value Set Name (VADS Hyperlink)
START: Epidemiological Exposures Repeating Group				
Exposure	INV1085	In the 14 days prior to illness onset, did the patient have any of the following exposures	Coded	Exposure Setting (COVID-19)
Exposure Indicator	INV1086	Exposure Indicator	Coded	Yes No Unknown (YNU)
END: Epidemiological Exposures Repeating Group				
Name of Ship	TRAVEL53	Name of ship patient sailed on	Text	N/A
Workplace Critical Infrastructure	95373-7	If workplace exposure, is the workplace critical infrastructure? Workplaces classified as Critical infrastructure are defined at the state or local level.	Coded	Yes No Unknown (YNU)
Critical Infrastructure Workplace Setting	95374-5	If critical infrastructure, specify workplace setting	Coded	Critical Infrastructure Sector (NND)

Pulled from the COVID-19 mmg

Potential data elements related to Exposure, Risk, and Underlying Conditions

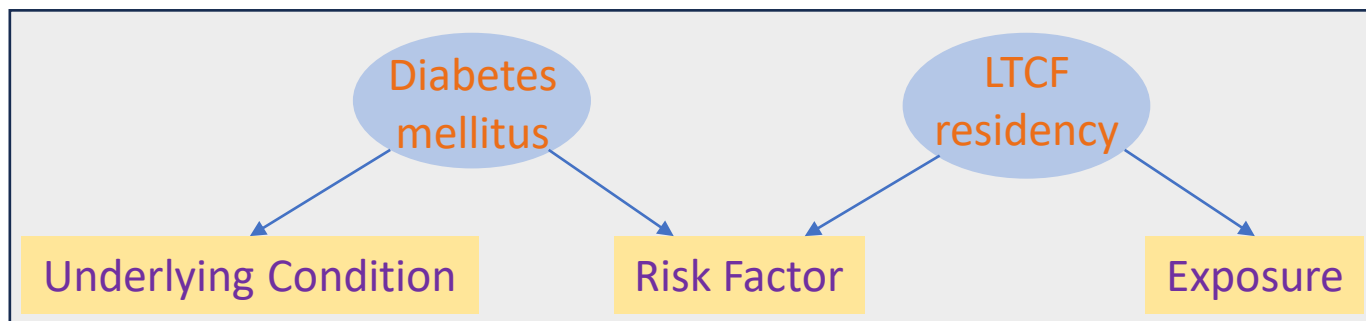


- Three potential **data concepts** → Many **data elements**
- Current state message mapping guides
 - **Data elements** might be assigned to different **data concepts** in different MMG's

Examples:

Diabetes mellitus is referred to as an **Underlying Condition** in the Respiratory and Invasive Bacterial Diseases (RIBD) MMG but is referred to as a **Risk Factor** in the COVID-19 mmg.

Residence in a Long-Term Care Facility is considered a **Risk Factor** in the TB mmg but is listed in the contact (**Exposure**) section of the Hepatitis B, acute mmg.



Proposed Definitions



Data Concept	Suggested Definition	Examples
Exposures	Within exposure window, either the patient's contact with an entity (person, animal, or substance) or presence at a location where exposure to an agent could have occurred. (<i>e.g.</i> where did pathogen come from).	Within an exposure period: • Visited a water park • Got a tattoo • Worked in a daycare
Risk Factors	Characteristics, behaviors, or social factors that increase the likelihood of developing a disease or condition.	• Substance Use ever • Unstable Housing • Smoking Status
Underlying Medical Conditions	Pre-existing medical conditions that may worsen the course or severity of a new disease or health condition.	• COPD • Diabetes • Prior History of Disease

Potential data elements related to Exposure, Risk, and Underlying Conditions



- Potential Electronic/Automated Data Sources
 - Electronic Lab Report (ELR):
 - Some information might be captured via the OBR-31 (Reason for Study)
 - Electronic Case Report (eCR):
 - Exposures – Exposure/Contact Information
 - Risk Factors – Problem Observations in several sections of eCR
 - Underlying conditions – Problem Observations in several sections of eCR; Past Medical History
- Other potential data sources:
 - Case interview
 - Medical Record/Electronic Health Record abstraction
 - Administrative data (*e.g.* school/workplace attendance records)

In-scope vs Out-of-scope



What this is:

- Discussion about data elements/classes which are:
 - collected at the jurisdiction and sent to CDC for surveillance purposes
 - Abstracted, calculated, or derived from a combination of electronic sources, patient interviews and chart abstractions
- Collaborative consensus building about the best ways to approach the transmission of public health data in a standardized way

What this is not:

- Discussion of data elements for research studies
- Recommendations for public facing surveys
- Limitations on what can be collected for a data element within a jurisdiction
- Recommendations for how to ask about data elements in a case interview
- Implementation guidance

Exposures, Risk Factors, and Underlying Conditions



Discussion Points



Future

1. Discussion of data concept/element message structure for transport of data from jurisdiction to CDC.
 - a. Plan for informatics-based discussion of this in March.
 - b. We encourage informaticians who have worked on building the HL7 messages from message mapping guides to join us.

Please spread the word!

Call 1: 8 March 2024

Call 2 (if required): 15 March 2024

2. Definitions

- a. Are exposure, risk, and underlying conditions separate **data concepts**?
- b. If yes, how are they distinct from one another?
 - i. Timing component?
e.g. Recent vs. Ever?
 - ii. Medical vs. Social

Why does this matter?

- In its current state, the lack of clear definition leads to a large variety of data elements to address these topics.
- This large variety of data elements is often burdensome on surveillance systems and its users.
- Standardizing these concepts will increase message flexibility and decrease the effort required to implement messages for new or emerging conditions.

3. Are these concepts core surveillance?
 - a. Are these **data concepts**, in general, part of core surveillance?
 - i. Should there always be some way to collect Exposures? Risk Factors? Underlying Conditions?

Proposed Definitions



Data Concept	Suggested Definition	Examples
Exposures	Within exposure window, either the patient's contact with an entity (person, animal, or substance) or presence at a location where exposure to an agent could have occurred. (<i>e.g.</i> where did pathogen come from).	Within an exposure period: • Visited a water park • Got a tattoo • Worked in a daycare
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Discussion Points



1. Are exposures, risk factors, and underlying conditions separate **data concepts**?
2. If yes, how are they distinct from one another?
 - a. Timing component?
e.g. Recent vs. Ever vs. Current
 - b. Medical vs. Social

Poll 1 – Exposure, Risk Factors, and Underlying Conditions



- Are Exposures, Risk Factors and Underlying Conditions different **data concepts**?
 - Yes, they should be treated as three different concepts.
 - Exposures and Risk Factors are the same and Underlying Conditions is different.
 - Exposures and Underlying Conditions are the same and Risk Factors is different.
 - Risk Factors and Underlying Conditions are the same and Exposures is different.
 - No, they should all be considered as one concept.

Poll 2 – Exposure Definition



- Is the following definition acceptable for the **data concept** Exposures?
 - Yes
 - No

Data Concept	Suggested Definition	Examples
Exposure	Within exposure window, either the patient's contact with an entity (person, animal, or substance) or presence at a location where exposure to an agent could have occurred. (i.e. where did pathogen come from).	Within an exposure period: • Visited a water park • Got a tattoo • Worked in a daycare

Poll 3 – Risk Factors Definition



- Is the following definition acceptable for the **data concept** Risk Factors?
 - Yes
 - No

Data Concept	Suggested Definition	Examples
Risk Factors	Characteristics, behaviors, or social factors that increase the likelihood of developing a disease or condition.	• Substance Use ever • Unstable Housing • Smoking Status

Poll 4 – Underlying Conditions Definition



- Is the following definition acceptable for the **data concept** Underlying Conditions?
 - Yes
 - No

Data Concept	Suggested Definition	Examples
Underlying Medical Conditions	Pre-existing medical conditions that may worsen the course or severity of a new disease or health condition.	• COPD • Diabetes • Prior History of Disease

Discussion Points



1. Are these **data concepts**, in general, part of core surveillance?
 - a. Should there be a place for information within them to be captured?
 - b. *Try to think of this in a conceptual way and not in specifics.*

NOTE: Some concepts have been or will be covered in other Data Element Specific Teams

e.g., Travel, Hospitalization, Social Determinants of Health, Disability

Poll 5 – Exposure as Core



- As defined below, would “Exposures” be considered a core surveillance **data concept** ?
 - Yes, the **data concept** is core.
 - No, the **data concept** is never core

Data Concept	Suggested Definition	Examples
Exposure	Within exposure window, either the patient's contact with an entity (person, animal, or substance) or presence at a location where exposure to an agent could have occurred. (i.e. where did pathogen come from).	Within an exposure period: • Visited a water park • Got a tattoo • Worked in a daycare

Poll 6 – Risk Factors as Core



- As defined below, would “Risk Factors” be considered a core surveillance **data concept** ?
 - Yes, the **data concept** is core.
 - No, the **data concept** is never core.

Data Concept	Suggested Definition	Examples
Risk Factors	Characteristics, behaviors, or social factors that increase the likelihood of developing a disease or condition.	• Substance Use ever • Unstable Housing • Smoking Status

Poll 7 – Underlying Conditions as Core



- As defined below, would “Underlying Conditions” be considered a core surveillance **data concept** ?
 - Yes, the **data concept** is core.
 - No, the **data concept** is never core.

Data Concept	Suggested Definition	Examples
Underlying Medical Conditions	Pre-existing medical conditions that may worsen the course or severity of a new disease or health condition.	• COPD • Diabetes • Prior History of Disease

Future Discussion Points



1. Within a **data concept**, are there any core **data elements** that might be pertinent to many/most conditions?

Examples

Exposures – Indicator that patient was exposed in the workplace

Risk factors – Indicator that patient was a resident of a LTCF

Underlying conditions – Indicator that patient was immunocompromised

2. Within a **data concept**, would it be good to have a customizable set of **data elements** which would secure a place in a message for this data concept but would have details that were condition-specific?

Examples

Indicator that patient had the following Exposure with a value set of exposures relevant to that condition.

Next Steps



- Upcoming DEST team meetings:
 - 2/16 1-2 pm ET – Signs, Symptoms, Clinical Manifestations
 - 3/8 1-2 pm ET – ERU and SSCM combined calls to address structure in Message Mapping Guides
 - Intended audience is people who work on building the HL7 messages from message mapping guides to join us. *Please spread the word!*
 - [Link to Sign Up](#)
- The next large DSWG call will be on 23 February 2024.