MedDRA
Medical Dictionary for Regulatory Activities

Coding with MedDRA

ICH harmonisation for better health 1

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MedDRA

MedDRA was developed under the auspices of the International Council for Harmonisation of Technical Requirements for Pharmaceuticals for Human Use (ICH). The activities of the MedDRA Maintenance and Support Services Organization (MSSO) are overseen by an ICH MedDRA Management Committee, which is composed of the ICH parties, the Medicines and Healthcare products Regulatory Agency (MHRA) of the UK, Health Canada, and the WHO (as Observer).

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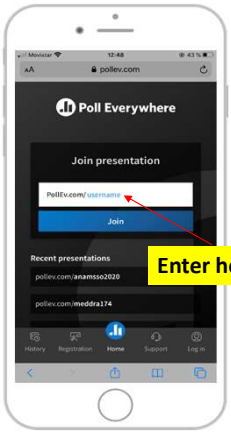
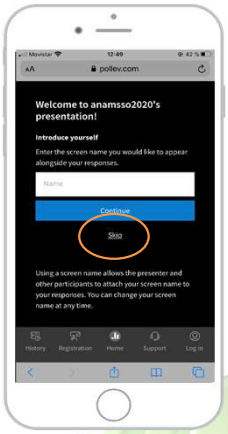
Course Overview

- Describe MedDRA's background, scope, structure, and characteristics (including primary SOC allocation rules)
- Discuss the maintenance of MedDRA, coding conventions, synonym lists, and coding quality assurance
- Introduce the MedDRA Term Selection: Points to Consider document
- Discuss and present examples of coding exercises with MedDRA

4

Get ready to participate !





1. Open an internet browser on your computer or cell phone
2. Go to **PollEv.com**
3. Enter **xxxxxxxx** as the "username"
4. Click **Join**
5. Click **Skip**
6. Respond to activity

5

Instructors should insert slide with a screenshot of their QR code

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MedDRA

MedDRA Background

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MedDRA

What is MedDRA?

Med = Medical

D = Dictionary for

R = Regulatory

A = Activities

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MedDRA Definition

MedDRA is a clinically-validated international medical terminology used by regulatory authorities and the regulated biopharmaceutical industry. The terminology is used through the entire regulatory process, from pre-marketing to post-marketing, and for data entry, retrieval, evaluation, and presentation.

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MedDRA's Purpose

- Facilitate the exchange of clinical information through standardization
- Important tool for product evaluation, monitoring, communication, electronic records exchange, and oversight
- Supports coding (data entry) and retrieval and analysis of clinical information about human medical products including pharmaceuticals, biologics, vaccines, and drug-device combination products

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MedDRA and the MSSO

MSSO

International support and development of terminology
"Custodians", not owners, of the terminology

Governance

Governed by a Management Committee (industry, regulators, multi-national, other interested parties)

Educational offerings

Foster use of MedDRA through communications and educational offerings

JMO

Partner organization for Japanese-language MedDRA

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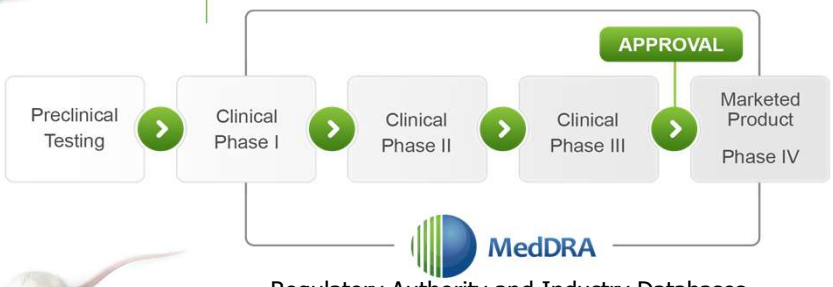
Where MedDRA is Used



Regulatory Authority and Industry Databases
Individual Case Safety Reports and Safety Summaries
Clinical Study Reports
Investigators' Brochures
Core Company Safety Information
Marketing Applications
Publications
Prescribing Information
Advertising

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MedDRA

Global View

MedDRA is in over 130 countries

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MedDRA

MedDRA's Scope, Structure, and Characteristics

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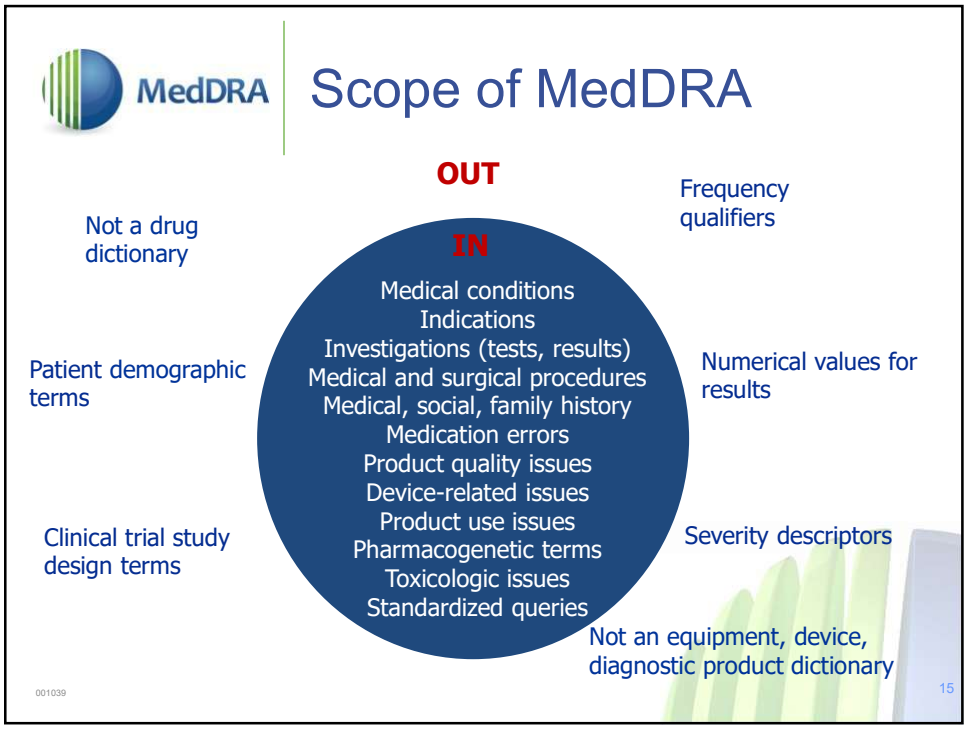
MedDRA
Scope of MedDRA
OUT
Not a drug dictionary
Frequency qualifiers
IN
Medical conditions
Indications
Investigations (tests, results)
Medical and surgical procedures
Medical, social, family history
Medication errors
Product quality issues
Device-related issues
Product use issues
Pharmacogenetic terms
Toxicologic issues
Standardized queries
Patient demographic terms
Numerical values for results
Clinical trial study design terms
Severity descriptors
Not an equipment, device, diagnostic product dictionary
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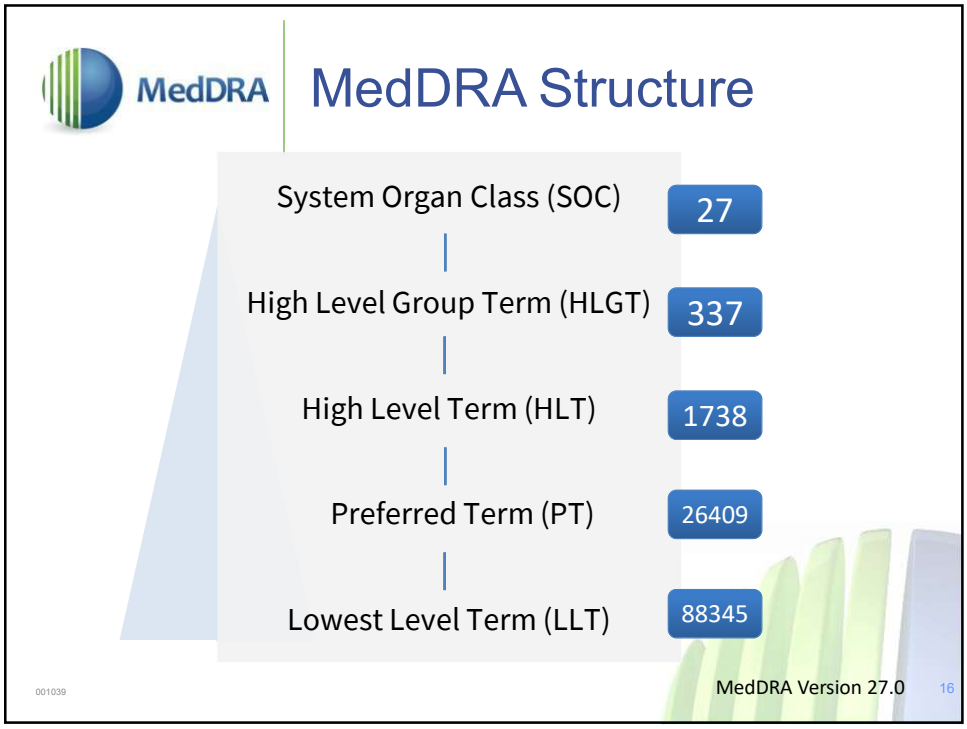
MedDRA
MedDRA Structure
System Organ Class (SOC)
27
High Level Group Term (HLGT)
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High Level Term (HLT)
1738
Preferred Term (PT)
26409
Lowest Level Term (LLT)
88345
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MedDRA Version 27.0
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System Organ Classes

- Blood and lymphatic system disorders
- Cardiac disorders
- Congenital, familial and genetic disorders
- Ear and labyrinth disorders
- Endocrine disorders
- Eye disorders
- Gastrointestinal disorders
- General disorders and administration site conditions
- Hepatobiliary disorders
- Immune system disorders
- Infections and infestations
- Injury, poisoning and procedural complications
- Investigations
- Metabolism and nutrition disorders
- Musculoskeletal and connective tissue disorders
- Neoplasms benign, malignant and unspecified (incl cysts and polyps)
- Nervous system disorders
- Pregnancy, puerperium and perinatal conditions
- Product issues
- Psychiatric disorders
- Renal and urinary disorders
- Reproductive system and breast disorders
- Respiratory, thoracic and mediastinal disorders
- Skin and subcutaneous tissue disorders
- Social circumstances
- Surgical and medical procedures
- Vascular disorders

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The Five Levels of MedDRA

SOC	Cardiac disorders
HLGT	Cardiac arrhythmias
HLT	Rate and rhythm disorders NEC
PT	Arrhythmia
LLT	LLT Arrhythmia NOS LLT Arrhythmia LLT (Non-current) Other specified cardiac dysrhythmias LLT Dysrhythmias

Note:
Not all HLGTs, HLTs, PTs or LLTs shown

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Non-Current Terms

LLT

- Flagged at the LLT level in MedDRA
- Not recommended for continued use
- Retained to preserve historical data for retrieval and analysis
- Terms that are vague, ambiguous, out-dated, truncated, or misspelled
- Terms derived from other terminologies that do not fit MedDRA rules

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MedDRA Codes

PT *Anaemia*
[10002034]

- Each MedDRA term is assigned an 8-digit numeric code
  - Non-expressive
  - Assigned sequentially
- Codes can fulfill a data field in various electronic submission types (e.g., E2B (R3))

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A Multi-Axial Terminology

Multi-axial = the representation of a medical concept in multiple SOCs

- ✓ Allows grouping by different classifications
- ✓ Allows retrieval and presentation via different data sets

All PTs assigned a primary SOC

- ✓Determines which SOC will represent a PT during cumulative data outputs
- ✓Prevents "double counting"
- ✓Supports standardized data presentation
- ✓Pre-defined allocations should not be changed by users

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Rules for Primary SOC Allocation

- PTs represented in only one SOC are automatically assigned that SOC as primary
- PTs for diseases, signs and symptoms are assigned to prime manifestation site SOC
- Congenital and hereditary anomalies terms have SOC *Congenital, familial and genetic disorders* as Primary SOC
- Neoplasms terms have SOC *Neoplasms benign, malignant and unspecified (incl cysts and polyps)* as Primary SOC
  - **Exception:** Cysts and polyps have prime manifestation site SOC as Primary SOC
- Infections and infestations terms have SOC *Infections and infestations* as Primary SOC

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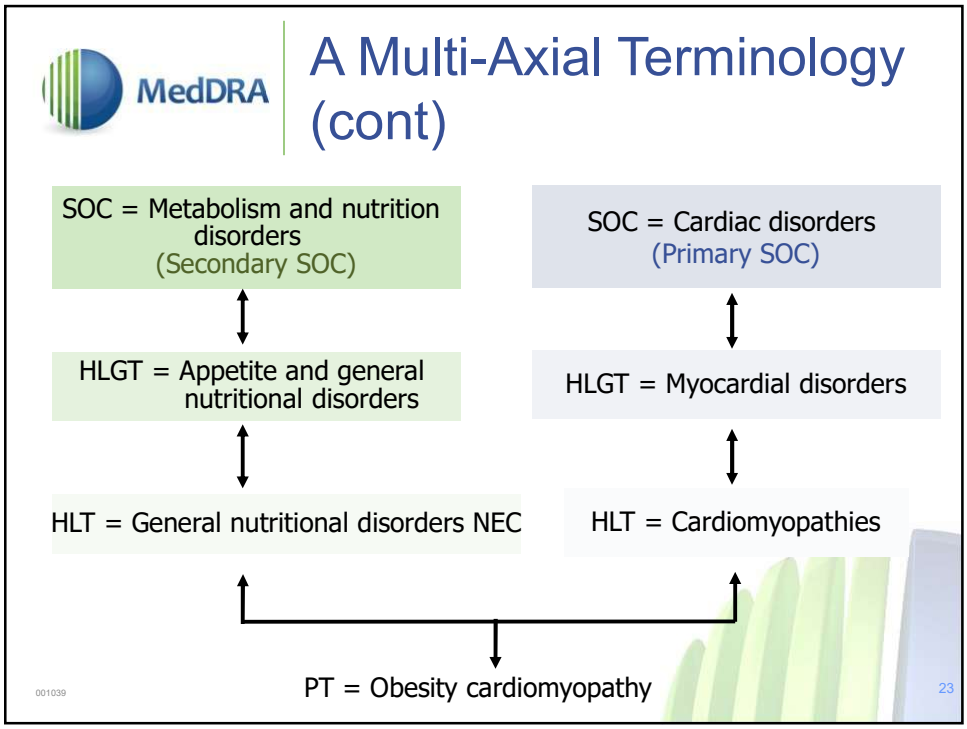
MedDRA
A Multi-Axial Terminology (cont)
SOC = Metabolism and nutrition disorders (Secondary SOC)
HLGT = Appetite and general nutritional disorders
HLT = General nutritional disorders NEC
SOC = Cardiac disorders (Primary SOC)
HLGT = Myocardial disorders
HLT = Cardiomyopathies
PT = Obesity cardiomyopathy
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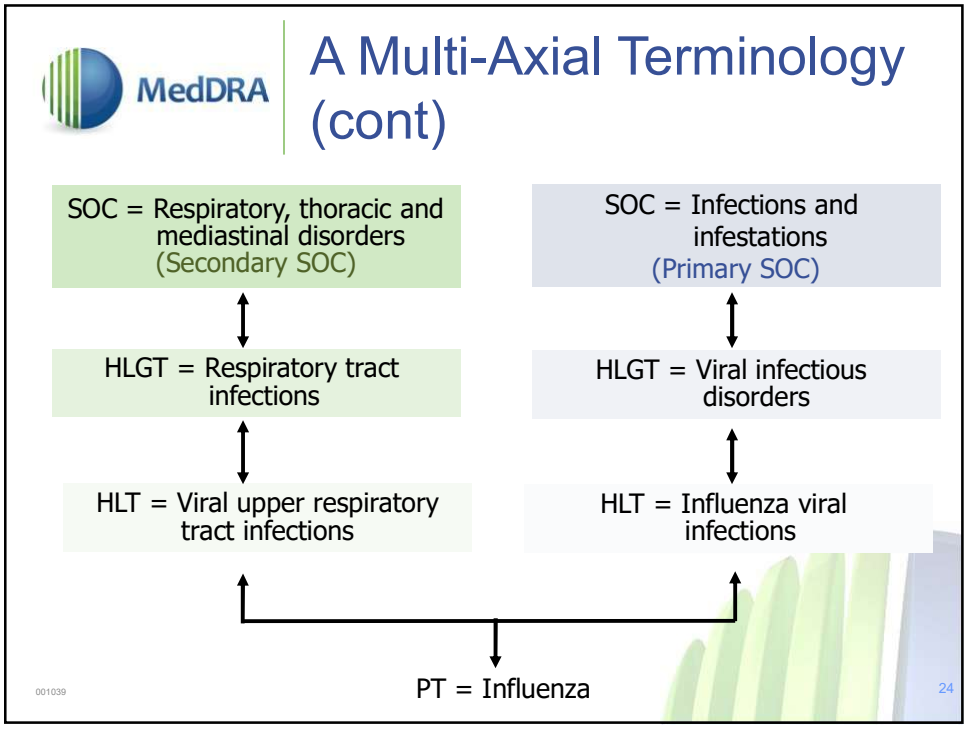
MedDRA
A Multi-Axial Terminology (cont)
SOC = Respiratory, thoracic and mediastinal disorders (Secondary SOC)
HLGT = Respiratory tract infections
HLT = Viral upper respiratory tract infections
SOC = Infections and infestations (Primary SOC)
HLGT = Viral infectious disorders
HLT = Influenza viral infections
PT = Influenza
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Primary SOC Priority

If a PT links to more than one of the exceptions, the following priority will be used to determine primary SOC:

1. *Congenital, familial and genetic disorders*
2. *Neoplasms benign, malignant and unspecified (incl cysts and polyps)*
3. *Infections and infestations*

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A Multi-Axial Terminology (cont)

PTs in the following SOCs **only** appear in that particular SOC and not in others, i.e., they are not multi-axial

- *Investigations*
- *Surgical and medical procedures*
- *Social circumstances*

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Can You Select the Primary SOC for This PT?

PT	HLT	HLGT	SOC
Congenital HIV infection	Viral infections congenital	Infections and infestations congenital	Congenital, familial and genetic disorders
	Congenital neonatal infections	Neonatal and perinatal conditions	Pregnancy, puerperium and perinatal conditions
	Retroviral infections	Viral infectious disorders	Infections and infestations
	Acquired immunodeficiency syndromes	Immunodeficiency syndromes	Immune system disorders

MedDRA Maintenance

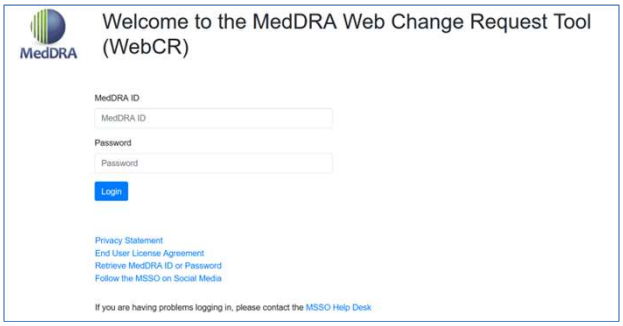
MedDRA Maintenance

- Users can send change requests (CRs) to MSSO for consideration
  - Organizations allowed 100 CRs/month
  - Rigorous medical review by MSSO physicians
  - For simple changes (PT and LLT levels), response within 7-10 working days
  - Complex changes (above PT level) posted for comments mid-year
- Two MedDRA updates/year
  - 1 March X.0 (Complex release)
  - 1 September X.1 (Simple release)

WebCR

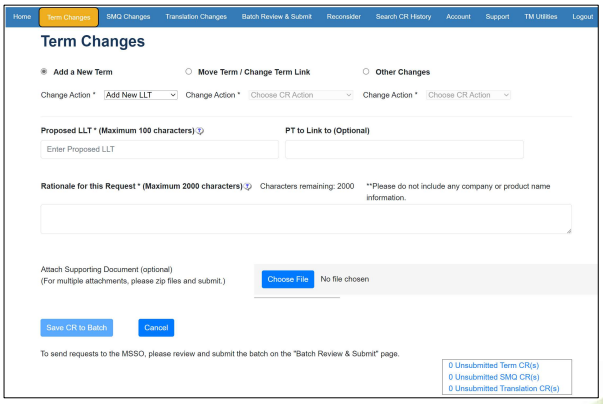
- Web-based tool for Change Requests (CR)
  - URL: https://webcr.meddra.org/
  - Via the Change Request Information page
- Requests must be in English
- Users may propose Term, SMQ and Translation change requests
- Improved "user-friendly" interface
- Immediate confirmation
- Ability to export requests you submitted for review
- Ability to query CR history for all requests considered back to v5.1

Submitting Changes



- MedDRA ID and Change Request password needed to submit term and SMQ changes
- Online change request submission tool guides user to enter all needed information
- User guide available within the "Support" section of the application or on the Change Request Information page

Submitting Changes (cont)



- Sample entry for a new LLT in WebCR
- Justification and supporting documentation is important to help MSSO understand the need

Proactive MedDRA Maintenance

- What is the proactive approach?
  - Corrections/improvements made internally by the MSSO
  - General changes suggested by users
- Submitting ideas
  - Send to MSSO Help Desk. Justification is helpful.
  - Example: Review placement of bruise and contusion terms to facilitate coding and analysis
- Evaluation of proposals
  - Final disposition is not time limited; MSSO may take time to review
  - Proactive approach does not replace usual CR process

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MedDRA Version Analysis Tool (MVAT)

- Web-based (https://tools.meddra.org/mvat)
- Free to all users
- Features
  - Version Report Generator (produces exportable report comparing any two versions)
  - Data Impact Report (identifies changes to a specific set of MedDRA terms or codes uploaded to MVAT)
  - Search Term Change (identifies changes to a single MedDRA term or code)

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MedDRA Version Analysis Tool (MVAT) (cont)

- User interface and report output available in all MedDRA languages
- Ability to run reports on supplemental changes
- Option to run reports on secondary SOC changes

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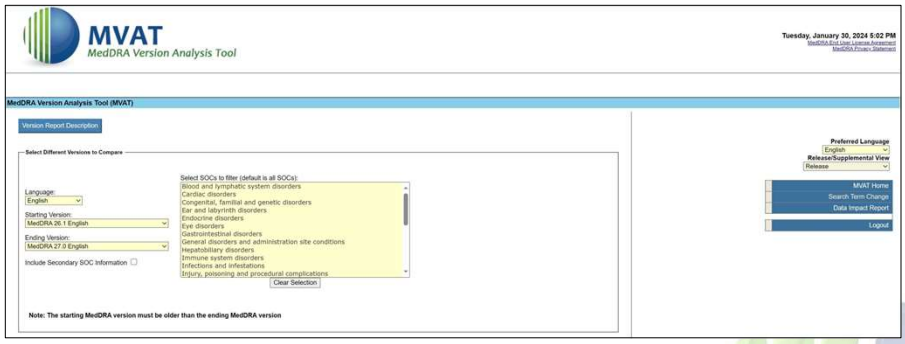
MedDRA Version Analysis Tool



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MSSO's MedDRA Browsers

MedDRA Desktop Browser (MDB)
Download MDB and release files from MedDRA website

MedDRA Web-Based Browser (WBB)
https://tools.meddra.org/wbb/

Mobile MedDRA Browser
https://mmb.meddra.org

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MSSO's MedDRA Browsers (cont)

- Features
  - Each require MedDRA ID and password
  - View/search MedDRA and SMQs
  - Support for all MedDRA languages
  - Language specific interface
  - Ability to export search results and Research Bin to local file system (MDB and WBB only)

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MDB and WBB Special Features

- Preview upcoming (supplemental) changes in next release*
  **Supplemental view not available on MDB*
- View primary **and** secondary link information
- Upload terms to run against SMQs
- Advanced search options (e.g., NOT, OR)

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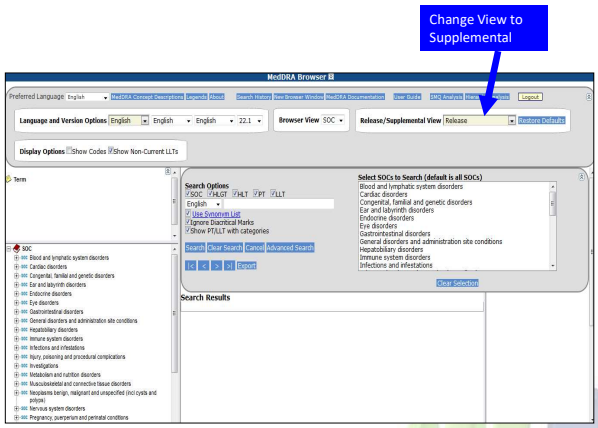
Data WBB Supplemental View

- Where will Change Requests I submitted appear in next release of MedDRA?
- What are the changes in an area of MedDRA in the next release?



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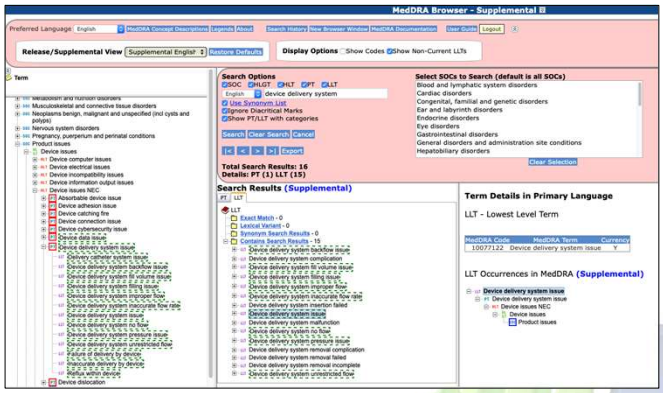
WBB Supplemental View (cont)

- Display changes color to pink
- Supplemental terms highlighted by broken green line
- Changes for the next release are displayed immediately after they are approved by the MSSO



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MedDRA Browser Demonstration and Instruction

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Coding Exercises

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Assessing the Reported Information

- Consider what is being reported. Is it a:
  - Clinical condition - Diagnosis, sign or symptom?
  - Indication?
  - Test result?
  - Injury?
  - Procedure?
  - Medication error?
  - Product use issue?
  - Product quality issue?
  - Social circumstance?
  - Device issue?
  - Procedural complication?
  - **Is it a combination of these?**

The type of report will influence the way you search for a suitable LLT.
It may indicate in which SOC you expect to find the closest match.

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MedDRA Browsing Tips

- First, try using reporter's actual words
- Be aware of MedDRA's specificity
- Exploit MedDRA's hierarchy – if an LLT is close to what you need, look at its "siblings" and "parent"
- Check where the LLT lies in MedDRA (i.e., check the hierarchy above to be sure it represents the verbatim term accurately)

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MedDRA Browsing Tips (cont)

- Use "top-down" and "bottom-up" navigation
- Use available resources for difficult verbatim terms (web search, medical dictionaries, colleagues)
- Use advanced Boolean search terms features (i.e., "begins with", "exact match", "ends with", "not contains", "and", "or") when needed
- Become familiar with MedDRA Concept Descriptions

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Concept Descriptions

- Descriptions of how a concept is interpreted, used, and classified in MedDRA
- Not a definition
- Intended to aid accurate and consistent use of MedDRA
- Overcome differences in medical practice worldwide
- Accessible in MSSO's browsers

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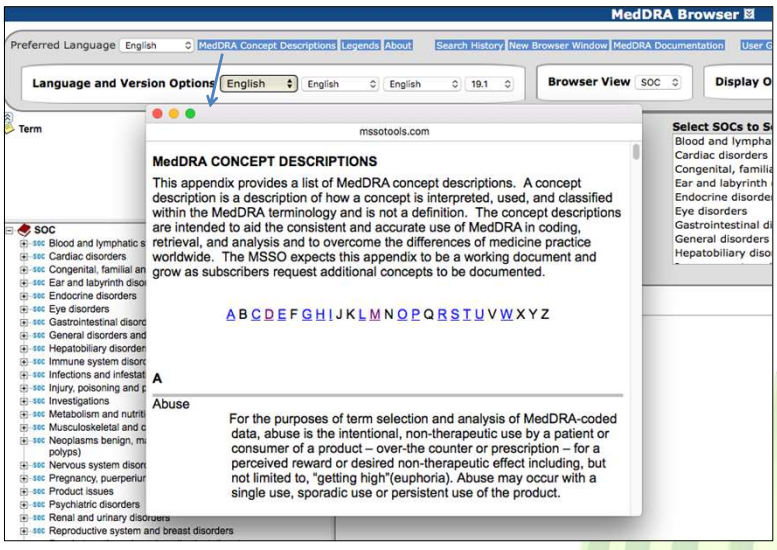
Concept Descriptions (cont)



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Exercise 1

The patient states she has been experiencing <u>headaches, dizziness and vertigo</u>.

_____ LLT → _____ PT
_____ LLT → _____ PT
_____ LLT → _____ PT

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Exercise 2

Lab results indicate an <u>increase in erythrocytes</u>.

_____ LLT → _____ PT

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Exercise 3

Drug was contaminated with Staphylococcus.

_____ LLT → _____ PT

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Exercise 4

A six year old boy was admitted for toxicity after accidentally ingesting the remaining antihypertensive tablets in the bottle.

_____ LLT → _____ PT
_____ LLT → _____ PT

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Exercise 5

The patient's urinary catheter was blocked.

_____ LLT → _____ PT

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Coding with MedDRA

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What are Coding Conventions?

- Written guides and sets of principles for using MedDRA that help achieve consistency in coding and data retrieval
- Conventions harmonize exchange of MedDRA coded data worldwide
- Common topics
  - Misspellings, abbreviations and acronyms
  - Combination terms and "due to" concepts
  - "Always query" terms, e.g., "Chest pain"

Why Do We Need Coding Conventions?

- Differences in medical aptitude of coders

- Consistency concerns (many more "choices" in MedDRA vs. older terminologies)
- Even with autoencoder, may still need manual coding

Autoencoder Pitfalls

- Inappropriate terms may be selected by autoencoder
- Review all autoencoding carefully
  - "Allergic to CAT scan" autoencoded as:
    LLT *Allergic to cats*
  - "Myocardial infarction in the fall of 2000" autoencoded as:
    LLT *Myocardial infarction*
    LLT *Fall*

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Can I Make Coding Conventions Specific to My Company/Product?

- MedDRA may reduce the need to do this because:
  - Increased size/granularity results in more accurate representation of data
  - Secondary SOC allocations allow for different "views" of the data
- This type of approach should be done cautiously

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Synonym Lists

- Recurring verbatims – one-time assignment to an LLT
- Promotes consistency
- Increases likelihood of autoencoding "hit"
- Maintenance required

Verbatim	LLT	Comment
Throbbing above temple Aching all over head Pulsing pain in head	Headache	
Muscular pain in legs	Myalgia of lower extremities	LLT *Myalgia of lower extremities* is a better choice than LLT *Muscular pain* since it captures both the event and body site

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Quality Assurance (QA) Reports

- Allows reviewers to check for consistency (both auto-encoded and human-coded terms)
- Check for adherence to/deviation from coding conventions
- Check for emerging drifts/biases
- Multiple data views (verbatims to coded terms; coded term to verbatims; by SOC, etc.)

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MedDRA

QA Sample Report

SOC	HLT	PT	Verbatim	Count
Respiratory, thoracic and mediastinal disorders				
	Bronchospasm and obstruction			
		Wheezing		
			WHEEZING	16
			Wheeze	5
			INCREASED WHEEZING	1
			Breathing suppressed wheezing	1
			HYPERREACTIVITY AND WHEEZING	1
			wheeze in chest	1
	Laryngeal and adjacent sites disorders NEC (excl infections and neopla			
		Vocal cord disorder		
			SPASMODIC DYSTONIA OF THE VOCAL CORDS	1
	Newborn respiratory disorders NEC			
		Transient tachypnoea of the newborn		
			Transient hazy vision	1
			Transient tachypnea, neonatal	1
			Tachypnea of the newborn, transient	1

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MedDRA

Unqualified Test Name Term List

- MSSO developed and maintains list of unqualified test name terms
  - These terms (e.g., PT *Blood glucose*) should never be reported as AEs
  - Intended for use in E2B test name field only
- List can be used to check data quality
  - Identifies inappropriate terms in data fields other than test name data element
  - Intended as recommendation only

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Unqualified Test Name Term List (cont)

- Link on Support Documentation page on MedDRA website
- Spreadsheet of LLT/PT names and codes from SOC *Investigations*
  - > 4,600 terms in v27.0
- Explanatory document
  - Purpose, uses, development of list
- Also available in Japanese on JMO website

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MedDRA Term Selection: Points to Consider Document

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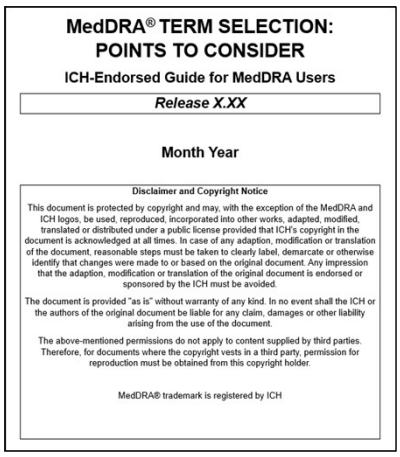
MedDRA Term Selection: Points to Consider (MTS:PTC)



MedDRA® TERM SELECTION: POINTS TO CONSIDER

ICH-Endorsed Guide for MedDRA Users

Release X.XX

Month Year

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MedDRA® trademark is registered by ICH

- Provides term selection advice for industry and regulatory purposes
- Objective is to promote accurate and consistent term selection to facilitate common understanding of shared data
- Recommended to be used as basis for individual organization's own coding conventions

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MedDRA Term Selection: PTC (cont)

- Developed by a working group of the ICH Management Committee
- Updated annually in March
- Complete versions available in
  - English, Japanese, Chinese, Korean, Spanish, and Russian
- Condensed versions available for other MedDRA languages*
- Available on MedDRA and JMO websites

*Arabic, Brazilian Portuguese, Czech, Dutch, French, German, Hungarian, Italian, Portuguese

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MTS:PTC Points of Note

- In some cases, with more than one option for selecting terms, a "preferred option" is identified but this does not limit MedDRA users to applying that option. Organizations should be consistent in their choice of option.
- Section 4 – Appendix
  - 4.1 Versioning (which refers reader to MedDRA Best Practices document)
  - 4.2 Links and References

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PtC Documents

PtC Category	PtC Document	Purpose	Languages	Release Cycle
Term Selection	MedDRA Term Selection: Points to Consider	Promote accurate and consistent coding with MedDRA	English, Japanese, Chinese, Russian, Korean, and Spanish	Updated annually with the March release of MedDRA
	MedDRA Term Selection: Points to Consider Condensed Version	Shorter version focusing on general coding principles to promote accurate and consistent use of MedDRA worldwide	All MedDRA languages (except English, Japanese, other languages with an available translation of the full MTS:PTC document, and EEA languages*)	Update as needed
Data Retrieval and Presentation	MedDRA Data Retrieval and Presentation: Points to Consider	Demonstrate how data retrieval options impact the accuracy and consistency of data output	English, Japanese, Chinese, Russian, Korean, and Spanish	Updated annually with the March release of MedDRA
	MedDRA Data Retrieval and Presentation: Points to Consider Condensed Version	Shorter version focusing on general retrieval and analysis principles to promote accurate and consistent use of MedDRA worldwide	All MedDRA languages (except English, Japanese, other languages with an available translation of the full DRP:PTC document, and EEA languages*)	Update as needed

*The following European Economic Area (EEA) languages in MedDRA do not have translations of user documentation, including PtC documents: Bulgarian, Croatian, Danish, Estonian, Finnish, Greek, Icelandic, Latvian, Lithuanian, Maltese, Norwegian, Polish, Romanian, Slovak, Slovenian, Swedish

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PtC Documents (cont)

PtC Category	PtC Document	Purpose	Languages	Release Cycle
General	MedDRA Points to Consider Companion Document	More detailed information, examples, and guidance on specific topics of regulatory importance. Intended as a "living" document with updates based on users' needs. First edition covered data quality and medication errors. Updated in July 2020 (Release 1.1). Release 2.0 in October 2020 included a section on product quality issues. Additional section on Manufacturing and Quality System Issues is in development with expected release during 2024.	English and Japanese	Updated as needed

General Term Selection Principles

- Quality of Source Data
- Quality Assurance
- Do Not Alter MedDRA
- Always Select a Lowest Level Term
- Select Only Current Lowest Level Terms
- When to Request a Term
- Use of Medical Judgment in Term Selection
- Select Terms for All Reported Information, Do Not Add Information

Quality of Source Data Quality Assurance

- Quality of original information impacts quality of output
- Obtain clarification of data
- Can be optimized by careful design of data collection forms and proper training of staff
- Organizations' coding guidelines should be consistent with MTS:PTC
- Review of term selection by qualified individuals
- Human oversight of automated coding results

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Do Not Alter MedDRA

- MedDRA is a standardized terminology with a pre-defined term hierarchy
- Users must not make *ad hoc* structural alterations, including changing the primary SOC allocation

If terms are incorrectly placed, submit a change request to the MSSO

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MTS:PTC General Principle

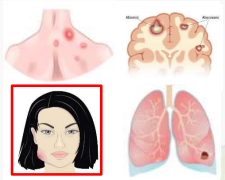
- Always Select a Lowest Level Term
  Select Only Current LLTs

✓ Select the Lowest Level Term that most accurately reflects the reported verbatim information

"Abscess on face"

→ Do not simply select LLT *Abscess*

→ Select a term with greater specificity LLT *Facial abscess*



✓ Select current LLTs only
– Non-current terms for legacy conversion/historical purposes

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When to Request a Term
Use of Medical Judgment

- Avoid company-specific "work-arounds" for MedDRA deficiencies. If concept not adequately represented in MedDRA, submit Change Request to MSSO.
- If no exact match in MedDRA, use medical judgment to match to an existing term that adequately represents the concept

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Select Terms for All Reported Information

- Select terms for every AR/AE reported, regardless of causal association
- Select terms for device-related events, product quality issues, medication errors, medical and social history, investigations and indications as appropriate

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Do Not Add Information

- Do not make diagnosis if only signs/symptoms reported

Reported	LLT Selected	Comment
Abdominal pain, increased serum amylase, and increased serum lipase	Abdominal pain	It is inappropriate to assign an LLT for diagnosis of "pancreatitis"
	Serum amylase increased	
	Lipase increased	

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General Principles

- Selecting More Than One Term

✓ Can select more than one LLT to represent reported information.
- Selecting one term may lead to loss of specificity
- Selecting more than one term may lead to redundant counts

Document your procedures!

Report: "Metastatic gingival cancer"

→ Select LLT Gingival cancer **OR** LLT Metastatic carcinoma

→ Select LLT Gingival cancer **AND** LLT Metastatic carcinoma

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Term Selection Points

Section 3

- Diagnoses and Provisional Diagnoses with or without Signs and Symptoms
- Death and Other Patient Outcomes
- Suicide and Self-Harm
- Conflicting/Ambiguous/Vague Information
- Combination Terms
- Age vs. Event Specificity
- Body Site vs. Event Specificity
- Location-Specific vs. Microorganism-Specific Infection
- Modification of Pre-existing Conditions
- Exposures During Pregnancy and Breast Feeding
- Congenital Terms
- Neoplasms
- Medical and Surgical Procedures
- Investigations

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Term Selection Points

Section 3

- Medication Errors, Accidental Exposures and Occupational Exposures
- Misuse, Abuse and Addiction
- Transmission of Infectious Agent via Product
- Overdose, Toxicity and Poisoning
- Device-related Terms
- Drug Interactions
- No Adverse Effect and "Normal" Terms
- Unexpected Therapeutic Effect
- Modification of Effect
- Social Circumstances
- Medical and Social History
- Indication for Product Use
- Off Label Use
- Product Quality Issues

Important Coding Errors

- Missed Concepts
  - All medical concepts described after the product is taken should be coded
  - Example: "*The patient took drug X and developed alopecia, increased LFTs and pancreatitis*". Manufacturer only codes alopecia and increased LFTs (missed concept of pancreatitis)
  - Example: "*The patient took drug X and developed interstitial nephritis which later deteriorated into renal failure*". Manufacturer only codes interstitial nephritis (missed renal failure concept)

Important Coding Errors (cont)

- "Soft Coding"
  - Selecting a term which is both less specific and less severe than another MedDRA term is "soft coding"
  - Example: "*Liver failure*" coded as hepatotoxicity or increased LFTs
  - Example: "*Aplastic anemia*" coded as unspecified anemia
  - Example: "*Rash subsequently diagnosed as Stevens Johnson syndrome*" coded as rash

Diagnoses and Provisional Diagnoses

SINGLE DIAGNOSIS	
DEFINITIVE DIAGNOSIS	**PROVISIONAL DIAGNOSIS**
Single diagnosis without signs and symptoms •Diagnosis (only possible option)	Single provisional diagnosis without signs and symptoms •Provisional diagnosis (only possible option)
Example: *"Myocardial infarction"* → select *"Myocardial infarction"*	Example: *"Possible myocardial infarction"* → select *"Myocardial infarction"* (select term as if definitive diagnosis)

TiP Similar principles apply for multiple diagnoses

Diagnoses and Provisional Diagnoses (cont)

SINGLE DIAGNOSIS	
DEFINITIVE DIAGNOSIS	**PROVISIONAL DIAGNOSIS**
Single diagnosis with signs/ symptoms •Preferred: Diagnosis only	Single provisional diagnosis with signs/symptoms •Preferred: Provisional diagnosis and signs/symptoms
Example: *"Anaphylactic reaction with rash, dyspnoea, hypotension, and laryngospasm"* → select *"Anaphylactic reaction"*	Example: "*Possible myocardial infarction with chest pain, dyspnoea, diaphoresis*" → select *"Myocardial infarction"* "*Chest pain"*, "*Dyspnoea*", and "*Diaphoresis*"

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TiP Similar principles apply for multiple diagnoses

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Diagnoses and Provisional Diagnoses (cont)

SINGLE DIAGNOSIS	
DEFINITIVE DIAGNOSIS	**PROVISIONAL DIAGNOSIS**
Single diagnosis with signs/ symptoms •Alternate: Diagnosis and signs/symptoms	Single provisional diagnosis with signs/symptoms •Alternate: Signs/symptoms only (as provisional diagnosis may change)
Example: *"Anaphylactic reaction with rash, dyspnoea, hypotension, and laryngospasm"* → select "*Anaphylactic reaction*", "*Rash*", "*Dyspnoea*", *Hypotension*", and "*Laryngospasm*"	Example: "*Possible myocardial infarction with chest pain, dyspnoea, diaphoresis*" → select "*Chest pain"*, "*Dyspnoea*", and "*Diaphoresis*"

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TiP Similar principles apply for multiple diagnoses

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Diagnoses and Provisional Diagnoses (cont)

- Always include signs/symptoms not associated with diagnosis

Reported	LLT Selected
Myocardial infarction, chest pain, dyspnoea, diaphoresis, ECG changes and jaundice	Myocardial infarction Jaundice (note that jaundice is not typically associated with myocardial infarction)

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About the Coding Exercises

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What Terms to Select?

- Sepsis leading to shock from possible spontaneous bacterial peritonitis or bowel perforation

Sepsis
Shock
Septic shock
Spontaneous bacterial peritonitis
Bowel perforation

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Conflicting/Ambiguous Information

- First, try to obtain more specific information

Reported	LLT Selected	Comment
Hyperkalaemia with a serum potassium of 1.6 mEq/L	Serum potassium abnormal	LLT *Serum potassium abnormal* covers both of the reported concepts (note: serum potassium of 1.6 mEq/L is a low result, not high)
GU pain	Pain	"GU" could be either "genito-urinary" or "gastric ulcer". If additional information is not available, then select a term to reflect the information that is known, i.e., LLT *Pain*

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Vague Information

- First, try to obtain more specific information

Reported	LLT Selected	Comment
Turned green	Unevaluable event	"Turned green" reported alone is vague; this could refer to a patient condition or even to a product (e.g., pills)
Patient had a medical problem of unclear type	Ill-defined disorder	Since it is known that there is some form of a medical disorder, LLT *Ill-defined disorder* can be selected

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What Terms to Select?

- Clinical complication of IUD

  IUD complication (PT Complication associated with device)
  Intra-uterine death (PT Foetal death)
  Unevaluable event

- Hypoglycemia (blood glucose = 200 mg/dL)

  Blood glucose abnormal
  Blood glucose increased
  Hypoglycemia

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Combination Terms

- One condition is more specific than the other

Reported	LLT Selected
Arrhythmia due to atrial fibrillation	Atrial fibrillation
Hepatic function disorder (acute hepatitis)	Hepatitis acute

- A MedDRA combination term is available

Reported	LLT Selected
Retinopathy due to diabetes	Diabetic retinopathy
Rash with itching	Itchy rash
Breast cancer (HER2 positive)	HER2 positive breast cancer

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Combination Terms (cont)

- If splitting provides more clinical information, select more than one term
- In all cases of combination terms, apply medical judgment

Reported	LLT Selected
Diarrhoea and vomiting	Diarrhoea Vomiting
Wrist fracture due to fall	Wrist fracture Fall
BRAF positive malignant melanoma	BRAF gene mutation Malignant melanoma

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What Terms to Select?

- Retinal disease from HIV with near total blindness (R and L)

Retinal damage
Retinal disorder
HIV disease
Blindness
HIV retinopathy
Blindness, both eyes

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Investigations

- Medical condition vs. investigation result

Reported	LLT Selected	Comment
Hypoglycaemia	Hypoglycaemia	LLT *Hypoglycaemia* links to SOC *Metabolism and nutrition disorders*
Decreased glucose	Glucose decreased	LLT *Glucose decreased* links to SOC *Investigations*

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Investigations (cont)

- Unambiguous investigation result

Reported	LLT Selected	Comment
Glucose 40 mg/dL	Glucose low	Glucose is clearly below the reference range

- Ambiguous investigation result

Reported	LLT Selected	Comment
His glucose was 40	Glucose abnormal	No units have been reported. Select LLT *Glucose abnormal* if clarification cannot be obtained.

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Investigations (cont)

- Investigation results consistent with diagnosis

Reported	LLT Selected	Comment
Elevated potassium, K 7.0 mmol/L, and hyperkalaemia	Hyperkalaemia	It is not necessary to select LLT *Potassium increased*

- Grouped investigation result terms

Reported	LLT Selected	Comment
Increased alkaline phosphatase, increased SGPT, increased SGOT and elevated LDH	Alkaline phosphatase increased SGPT increased SGOT increased LDH increased	Select four individual terms. A single term such as LLT *Liver function tests abnormal* should not be selected.

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What Terms to Select?

- Testing showed increased serum creatinine and BUN, with increased BUN/creatinine ratio

  Increased serum creatinine
  BUN increased
  Blood urea nitrogen/creatinine ratio increased
  Renal function tests NOS abnormal

- Patient had features of aldosterone excess

  Aldosterone increased
  Aldosteronism
  Blood aldosterone abnormal

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Medication Errors

Definition:

For the purposes of term selection and analysis of MedDRA-coded data, medication errors are defined as any unintentional and preventable event that may cause or lead to inappropriate medication use or patient harm while the medication is in the control of the health care professional, patient or consumer.

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Medication Errors (cont)

- See MedDRA Concept Descriptions
- Discussed in MedDRA Points to Consider Companion Document – Section 3
  - Detailed examples
  - "Questions and Answers" about medication errors
- "Top-down" navigation in HLGT *Medication errors and other product use errors and issues* is best approach for term selection

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Medication Errors with Clinical Consequences

- If a medication error with clinical consequences is reported, select terms for the error and consequences

Reported	LLT Selected	Comment
Patient was administered wrong drug and experienced hypotension	Wrong drug administered Hypotension	
Because of similar sounding drug names, the wrong drug was dispensed; as a result, the patient took the wrong drug and experienced a rash	Wrong drug dispensed Wrong drug administered Drug name sound-alike Rash	The 'originating' error (Wrong drug dispensed) and reported additional or 'consequent' errors and contributing factors (Drug name sound-alike) stated in the report should all be coded, while not subtracting or inferring information

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Medication Errors with Clinical Consequences (cont)

Reported	LLT Selected	Comment
Insulin preparation was given using the wrong syringe resulting in the administration of an overdose. The patient developed hypoglycaemia.	Drug administered in wrong device Accidental overdose Hypoglycaemia	If an overdose is reported in the context of a medication error, the more specific term *LLT Accidental overdose* can be selected (see also Section 3.18)

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Medication Errors without Clinical Consequences

- Reported medication errors <u>without</u> clinical consequences are not ARs/AEs.
- Preferred option is to select a term for the medication error

Reported	LLT Selected	Preferred Option
Intramuscular formulation medication was given intravenously instead of intramuscularly but the patient did not experience any adverse effects	Intramuscular formulation administered by other route	✓
	Intramuscular formulation administered by other route No adverse effect	

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Medication Errors (cont)

- Important to record occurrence or potential occurrence of medication error by selecting term closest to the described error
- Unlikely to be reported as an adverse event but may need to be recorded in periodic safety reports

Reported	LLT Selected	Comment
Pharmacist notices that the names of two drugs look similar and is concerned that this may result in someone getting a wrong drug	Drug name look-alike Potential for medication error, wrong drug	This example is a potential medication error. LLT *Drug name look-alike* is a contributing factor, and LLT *Potential for medication error, wrong drug* indicates that there is a potential medication error including the error type.

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Intercepted Medication Errors

Definition:

For the purposes of term selection and analysis of MedDRA-coded data, an intercepted medication error refers to the situation where a medication error has occurred, but is prevented from reaching the patient or consumer.

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Intercepted Medication Errors (cont)

- When reporting an intercepted medication error, select a term to reflect the stage at which the error occurred, rather than the stage at which it was intercepted

Reported	LLT Selected	Comment
The physician prescribed the wrong dose of the drug; the error was identified at the time of dispensing	Intercepted drug prescribing error Drug dose prescribing error	The intercepted error terms reflect the stage at which the error occurred, which is not necessarily the stage at which it was intercepted. Capture the type of error that was intercepted and contributing factors when reported.
The pharmacist dispensed the wrong drug because of a similar label design but the patient realized the error and did not take the drug	Intercepted drug dispensing error Drug label look-alike Wrong drug dispensed	

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Medication Monitoring Errors

Definition:

For the purposes of term selection and analysis of MedDRA-coded data, a medication monitoring error is an error that occurs in the process of monitoring the effect of the medication through clinical assessment and/or laboratory data.

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Medication Monitoring Errors (cont)

- Examples

Reported	LLT Selected	Comment
The patient's liver enzymes were measured every six months instead of the recommended monthly schedule	Drug monitoring procedure incorrectly performed	The monthly monitoring schedule is in the label for this drug. This is an example of incorrect monitoring of laboratory tests recommended in the use of a drug.
Patient taking lithium-based drug did not have his lithium levels measured	Therapeutic drug monitoring analysis not performed	This is an example of not monitoring the therapeutic drug level to ensure that it is within the therapeutic range as recommended in the label for this drug.

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Medication Monitoring Errors (cont)

- Medication monitoring errors can also refer to errors in following instructions or information pertinent to safe drug use

Reported	LLT Selected	Comment
Patient with sulfa allergy documented in patient's medical file is administered a sulfonamide-based drug and experienced wheezing	Documented hypersensitivity to administered drug Wheezing	This medication error refers to the situation when a patient is administered a drug that is documented in the patient's medical file to cause a hypersensitivity reaction in the patient.

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Medication Error Terms - Labelled Interactions

Description:

Specific medication error situations can occur when a product is prescribed, dispensed, or co-administered with specific drugs, with specific foods, or to patients with specific disease states, or genetic variants, and the product label describes known noxious effects of these interactions. Select a medication error term for the type of interaction, such as those listed below

Medication Error Terms – Labelled Interactions
Labelled drug-drug interaction medication error
Labelled drug-food interaction medication error
Labelled drug-disease interaction medication error
Labelled drug-genetic interaction medication error

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Medication Error Terms - Labelled Interactions (cont)

Examples

Reported	LLT Selected	Comment
Patient became pregnant whilst taking an antifungal drug and an oral contraceptive. She was unaware of the interaction warning in the label.	Labelled drug-drug interaction medication error Pregnancy on oral contraceptive	Product is labelled for this drug-drug interaction (see also Section 3.20)
Patient with renal failure is accidentally prescribed a drug that is contraindicated in renal failure	Labelled drug-disease interaction medication error Contraindicated drug prescribed	Product is labelled for this drug-disease interaction. LLT *Contraindicated drug prescribed* provides additional information about the nature of the labelled interaction medication error and the stage at which the error occurred.

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Medication Error Terms - Labelled Interactions (cont)

Examples

Reported	LLT Selected	Comment
Patient drank grapefruit juice by mistake whilst taking a calcium channel blocker.	Labelled drug-food interaction medication error	Product is labelled for this drug-food interaction with grapefruit juice
Patient was inadvertently given a drug that is contraindicated in patients who are cytochrome P450 2D6 poor metabolisers	Labelled drug-genetic interaction medication error Contraindicated drug administered CYP2D6 poor metaboliser status	Product is labelled for this drug-genetic variant interaction

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Medication Errors (cont)

- Do not infer a medication error has occurred unless specific information is provided. This includes inferring that extra dosing, overdose or underdose has occurred (see Section 3.18)

Reported	LLT Selected	Comment
Patient took only half of the minimum recommended dose in the label	Underdose	Based on this report, it is not known whether the underdose is intentional or accidental. If information is available, select the more specific LLT *Accidental underdose* or LLT *Intentional underdose* as appropriate.

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Overdose, Toxicity and Poisoning

If overdose, poisoning or toxicity is explicitly reported, select the appropriate term

- Overdose <u>with</u> clinical consequences

Reported	LLT Selected
Stomach upset from study drug Overdose	Stomach upset Overdose

- Overdose <u>without</u> clinical consequences

Reported	LLT Selected	Preferred Option
Patient received an overdose of medicine without any adverse consequences	Overdose	✓
	Overdose No adverse effect	

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What Term(s) to Select?

- The patient's renal function was measured every six months instead of on the monthly schedule recommended in the label for the drug

  Medication monitoring error
  Renal function test abnormal
  Drug monitoring procedure incorrectly performed

- Unintentionally took more than maximum recommended dose due to dispensing error

  Accidental overdose
  Incorrect dose administered
  Drug dispensing error

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What Term(s) to Select?

- Although the product label stated that the patient's inherited disease would not allow him to safely take the new drug, he was mistakenly given a prescription for the medication

  Intercepted drug prescribing error
  Contraindicated drug administered
  Labelled drug-genetic interaction medication error
  Contraindicated drug prescribed

- Since the intravenous and intramuscular formulations of the drug had similar packaging, the nurse worried that either one could be incorrectly administered

  Potential for medication error, wrong route
  Look alike packaging
  Product outer packaging issue

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Death and Other Patient Outcomes

- Death, disability and hospitalization are considered outcomes and not usually coded as adverse events (AE) or adverse reactions (AR)
- If one of these outcomes is the only reported information, select an appropriate LLT for coding
- If a death term in MedDRA adds important clinical information, code it along with reported ARs/AEs

Reported	LLT Selected
Patient experienced a rash and had sudden cardiac death	Rash Sudden cardiac death

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Drug Interactions

- Term includes reactions between drugs (including biologic products) and other drugs, foods, devices and alcohol
- If reporter states an interaction, select terms for interaction term and reported medical event(s)

Reported	LLT Selected
Patient drank cranberry juice which interacted with anticoagulant drug causing an INR increase	Food interaction INR increased

- If reporter does not specifically state an interaction, select terms for reported medical event(s) only

Suicide and Self-Harm

- Coding of suicide attempts, completed suicides and self-harm should be accurate and consistent
- Do not assume that an overdose, even if intentional, is a suicide attempt
- If a self-harm report does not mention suicide or suicide attempt, only code self-injury term
- If a suicide attempt is fatal, select a term that reflects the outcome instead of the attempt

Reported	LLT Selected	Comment
Suicide attempt resulted in death	Completed suicide	Report death as an outcome

What Term to Select?

- Death from cerebral hemorrhage

Sudden death
Death
Cerebral hemorrhage
Brain death

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What Term to Select?

- Patient was found dead

Death from natural causes
Death
Died in sleep
Found dead

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What Term(s) to Select?

- After taking an antihistamine along with her prescription proton pump inhibitor, a 53-year-old woman developed vertigo

Drug interaction NOS
Vertigo subjective
Vertigo
Drug interaction

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What Term(s) to Select?

- Deliberately took an overdose

Intentional overdose
Suicide attempt
Deliberate overdose
Overdose NOS

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Misuse, Abuse and Addiction

Concept	Intentional?	By Whom?	Therapeutic Use?	Additional Sections in this Document
Misuse	Yes	Patient/consumer	Yes*	3.16.1
Abuse	Yes	Patient/consumer	No	3.16.2
Addiction	Yes	Patient/consumer	No	3.16.3
The concepts Medication error and Off label use are placed here for comparison reasons:				
Medication error	No	Patient/consumer **or** healthcare professional	Yes	3.15
Off label use	Yes	Healthcare professional	Yes	3.27

* Definitions of misuse may not always include the concept of therapeutic use; misuse may be similar to the concept of abuse in some regions.

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Coding Exercises

- Narratives and short verbatims
- Assess the reported terms
  - Identify what concepts are reported (diagnosis, death, investigations, etc.)
- Refer to the appropriate sections of the MTS:PTC for guidance on term selection
  - For example, Section 3.2 for death terms
- Use MTS:PTC preferred options (forget your organization's conventions)
- Use browser to search for and select LLTs

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Specific Tips for Narrative Exercises

- Overall, coding principles are the same as for short verbatim exercises
- Code all of the following:
  - Events (including procedures and investigations as needed)
  - Indications
  - Medical history
  - Social history

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Sample Narrative

A 75-year-old male receiving Drug X for rheumatoid arthritis developed an area of darkened skin on his chest. The patient's medical history is significant for peripheral vascular disease and cigarette smoking. The skin lesion was excised; it was revealed to be a seborrhoeic wart.

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Course Summary

- ✓ Described MedDRA's background, scope, and structure (including primary SOC allocation rules)
- ✓ Discussed maintenance of MedDRA, coding conventions, synonym lists, and coding QA
- ✓ Introduced the MedDRA Term Selection: Points to Consider document
- ✓ Discussed and presented examples of coding exercises with MedDRA

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MSSO Contacts

- Website
  - www.meddra.org
- Email
  - mssohelp@meddra.org
- Frequently Asked Questions
  - www.meddra.org/faq
- MedDRA Browsers
  - https://www.meddra.org/meddra-desktop-browsers (Desktop Browser)
  - https://tools.meddra.org/wbb/ (Web-Based Browser)
  - https://mmb.meddra.org (Mobile Browser)

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MSSO Contacts (cont)

- Change Request Submission
  - https://www.meddra.org/how-to-use/change-requests
- Training Schedule
  - https://www.meddra.org/training/schedule
- MedDRA Support Documentation
  - https://www.meddra.org/how-to-use/support-documentation

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Thank You!

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