ISO 13119 – MetaKnow

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Scope

• metadata elements to:
  • support unambiguous and international understanding of important aspects to describe a resource, e.g. purpose, issuer, intended audience, legal status and scientific background,
  • are applicable to **different kinds of digital resources**, e.g. recommendation from consensus of a professional group, regulation by a governmental authority, clinical trial protocol from a pharmaceutical company, scientific manuscript from a research group, advice to patients with a specific disease, review article
  • are possible to present to human readers including health professionals as well as citizens/patients, and
  • are **potentially usable for automatic processing** e.g. to support search engines to restrict matches to documents of a certain type or quality level.
3.1 medical knowledge
field of knowledge pertaining to the structure, function or dysfunction of the human body and how these can be influenced by external or internal factors and interventions
Medical does not imply “physician” – all health professionals have medical knowledge according to this definition.

3.2 clinical knowledge
part of medical knowledge pertaining to promoting good health and the management and prevention of ill health
Used to diagnose, treat and alleviate disease/dysfunction

• Structured data about “anything that can be named”
• First drafted 1995 in Dublin, OH
• To facilitate information discovery on the web, by embedding card-catalog-like metadata in web pages
• 15 core elements:
  • Creator, Contributor, Publisher, Title, Date, Language, Format, Subject, Description, Identifier, Relation, Source, Type, Coverage, and Rights
• Maintained by DCMI – Dublin Core Metadata Initiative
  • https://www.dublincore.org/
Overview of metadata elements
Knowledge resource types
– healthcare specific examples

• Text – see below
• Database for human reading –
  • e.g. journal, terminology, collection of guidelines
• Interactive resource – designed for interaction from user
• Image, sound
• Dataset – (set of weights in a trained AI model)
• Software – executable AI system
• Hardware device – with embedded software/knowledge
Text resource types

- Journal_article
- Book_chapter
- Book
- Report
- Abstract
- Patient_education_handout
- FAQ
- Algorithm — formal description of procedure e.g. calculation
- Clinical_guideline
- Policy_strategy
- Information_standard
- Teaching_material
- Computable_clinical_information_model (template..)
- Terminological_resource
- Metainformation — other resources (bibliography, catalogue, reviews, gateway, search engine).
- Case_report
- Proposal
- Event — invitation, description and schedules...
- Service_description
- Product_information
- Critically_appraised_topic — quick answer to a clinically focused/structured question,
- Known_uncertainty -- systematic reviews, clinical guideline
- Observational_study — including cohort, case-control..
- Qualitative_study
- RCT Randomised_controlled_trial
- Research_study — other
- Review
- Systematic_review — as in Cochrane..
- Structured_abstract — headings according to agreed protocol
- Care_pathway
- Health_Technology_Assessment — systematic evaluation of .. effects of a health technology
Audience

- Reduced_Understanding – children..
- General_Population
- Student
- Health_Professional → general medical background
- Health_Specialist
- Researcher → indirect clinical use
- Manager – politician..
Situation

• Clinical guidance
• Self-guidance
• Supporting software (e.g. decision support, but also e.g. a list of available services..)
• Research protocol
• Background knowledge – not directly intended to direct patient decisions..
Clinical process stage

• Risk_assessment
• Exception - Recognizing when to seek assistance
• Diagnosis - e.g. reference values for measurements in a population
• Treatment_selection - selecting most appropriate treatment
• Treatment_delivery
Subject/scope of knowledge

• Topic – MeSH code
• Coverage – e.g. area, time frame, age, sex where knowledge applies
• Inclusion criteria – for applicability
• Exclusion criteria
Publisher type

- Individual
- National_government
- Local_government
- Care_provider
- University
- Professional_organisation
- Patient_organisation
- Other_non-profit_organisation
- Commercial_publisher
- Pharmaceutical_company
- Other_company