Alignment in medical sciences: towards improvement of UDC

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- Short description of NLM Classification
- Comparative analysis of UDC Class 61 and NLM Classification
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CONTEXT

- Bibliographic classifications are powerful search tools
- End-users may encounter some difficulties when using classifications in their searches
- Classification data should be exposed in a way to reduce users’ effort

- In Portugal, most libraries use UDC following recommendations from the National Library of Portugal
- Hospital libraries and some medical colleges use also NLM Classification
- Non-medical literature: NLM Classification needs to be complemented with other general knowledge schemes. NLM Classification manual suggests the use of LCC

- UDC Class 61 Medical sciences was listed for an urgent revision 25 years ago
- The revision is taking significantly longer than originally planned
CONTEXT

There is a group of problematic issues to be explored and solved in a revision:

✓ discussion of the use of special auxiliary tables - in the current edition of UDC there are numerous special auxiliary tables in the class 61. There are only two special auxiliary tables in the new proposal for diseases in 615 and for regions and parts of the body in 616, however there is still the doubt of including more subtopics;

✓ necessity of determining precisely how much space would be needed to handle each of the subclasses, considering the possibility of expanding some subjects;

✓ applying the suggestion of moving medicine to class 4 which is currently vacant.

(McIlwaine, Williamson, 2008; Benito, 2007)
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• NLM Classification schedules are based in an alphanumeric scheme and are developed in articulation with Medical Subject Headings (MeSH), the NLM’s thesaurus. It is composed by two groups: Preclinical Sciences and Medicine and Related Subjects, using, respectively, schedules QS-QZ and W-WZ, excluded from LCC. However, various schedules of LCC are needed to complement the NLM Classification for subjects not included in its tables.
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Outline of the NLM Classification

Preclinical Sciences:

- QS Human Anatomy
- QT Physiology
- QU Biochemistry, Cell Biology and Genetics
- QV Pharmacology
- OW Microbiology and Immunology
- QX Parasitology
- QY Clinical Pathology
- QZ Pathology

Medicine and Related Subjects:

- W General Medicine, Health Professions
- WA Public Health
- WB Practice of Medicine
- WC Communicable Diseases
- WD Disorders of Systemic, Metabolic or Environmental Origin, etc.
- WE Musculoskeletal System
- WF Respiratory System
- WG Cardiovascular System
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- WG Cardiovascular System
- WH Hemic and Lymphatic Systems
- WI Digestive System
- WJ Urogenital System
- WK Endocrine System
- WL Nervous System
- WM Psychiatry
- WN Radiology, Diagnostic Imaging
- WO Surgery
- WP Gynecology
- WQ Obstetrics
- WR Dermatology
- WS Pediatrics
- WT Geriatrics, Chronic Disease
- WU Dentistry, Oral Surgery
- WV Otolaryngology
- WW Ophthalmology
- WX Hospitals and Other Health Facilities
- WY Nursing
- WZ History of Medicine, Medical Miscellany
- 19th Century Schedule
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WE

Musculoskeletal System

- Classify general works on the musculoskeletal system and its diseases in children in **WS 270**.
- Classify works on musculoskeletal disease nursing and nursing of patients with specific musculoskeletal diseases in **WY 157.6**.

**WE 1-141 Reference Works. General Works**
**WE 168-190 Orthopedic Procedures**
**WE 200-259 Bones**
**WE 300-400 Joint and Connective Tissues**
**WE 500-600 Muscles and Tendons**
**WE 700-708 Head and Neck**
**WE 710-760 Torso**
**WE 800-886 Extremities**
  - **WE 800 General Extremities**
  - **WE 805-835 Upper Extremity**
  - **WE 850-886 Lower Extremity**
**WE 890 Podiatry**
Head and Neck

WE 700
Head and neck

WE 705
Head. Face
Cf. WU 101-102 works for the dentist. Classify works on the jaw in WU; on the temporal bone written for the otolaryngologist in WV 201.

WE 706
Head and neck injuries
Classify works on bone and soft tissue injuries of the face and skull here; classify works which include brain injury at WL 354; classify works on neck injuries alone at WE 708.

WE 707
Head and neck neoplasms
Classify here works on the head and neck or the skull. Classify works on the neck alone at WE 708.

WE 708
Neck
• This classification has one only auxiliary table – Table G - used for geographical subdivisions and is restricted to classes annotated with "Table G" in the schedules. There are some cases that require the Table G only in certain approaches of the subject, and generic approaches, for example, are not covered.

For example:

QS Human Anatomy, Histology
QS 511 History (Table G)
QS 511.1 General coverage (Not Table G)
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COMPARATIVE ANALYSIS

All classes, subclasses and special auxiliary subdivisions available in the UDC Summary were analysed in order to find compatible notations between both schemes, as well as possible out-of-date UDC vocabulary and subdivisions (see comparative table in Appendix 2).

In some cases it was necessary to analyse numbers in lower levels of the hierarchy (not available in the UDC Summary) in order to better understand the context of a given class.

In some cases and due to the complete different structure of each classification table, it was difficult to provide a compatible number from NLM Classification. It is a broader classification, as far as its vocabulary is concerned. The representation of specific concepts may be complex.
## COMPARATIVE ANALYSIS

<table>
<thead>
<tr>
<th>UDC</th>
<th>Compatible NLM Classification classes</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>61 Medical sciences</td>
<td></td>
<td></td>
</tr>
<tr>
<td>611/612 Human biology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>611 Anatomy. Human and comparative anatomy</td>
<td>QS Human Anatomy</td>
<td>NLMC: Classify works on anatomy of a part of the body with the part.</td>
</tr>
<tr>
<td>612 Physiology. Human and comparative physiology</td>
<td>QT Physiology QT 104-172 ............Human Physiology</td>
<td>NLMC: Classify physiology of a part of the body with the part.</td>
</tr>
<tr>
<td>612.1/8 Systematic physiology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>612.1 Blood. Cardiovascular, circulatory system</td>
<td>WH Hemic and Lymphatic Systems WG Cardiovascular System</td>
<td>NLMC: Classify works on morphology, physiology, and clinical aspects of diseases of blood in WH (Hemic and Lymphatic Systems); WG for works on the cardiovascular system;</td>
</tr>
<tr>
<td>612.2 Respiration. Breathing. Respiratory system</td>
<td>WF Respiratory System WF 102 Physiology of respiration WF 110 Biochemistry of respiration and the respiratory system</td>
<td></td>
</tr>
<tr>
<td>612.4 Glandular system. Secretion. Excretion</td>
<td>WK Endocrine System WI 802 Physiology. Secretions (Pancreas) WJ 303 Urinary secretion. Anuria (General)</td>
<td></td>
</tr>
</tbody>
</table>
Suggestions for the revision of UDC Class 61

• Classes 611 and 612 should be reviewed in connection to class 616, in order to avoid possible redundancy or extremely close semantics in captions: the systems’ approach presented in the NLM Classification in classes from WD to WL may “inspire” the revision.
  (611 Anatomy. Human and comparative anatomy
   612 Physiology. Human and comparative physiology
   616 Pathology. Clinical medicine)

• Classes 613 and 614 should be maintained, considering that they explore and represent important subjects in a clear way. These classes also consider a substantial and useful group of subjects not covered by the NLM Classification.
  (613 Hygiene generally. Personal health and hygiene
   614 Public health and hygiene. Accident prevention)
Suggestions for the revision of UDC Class 61

• The structure of NLM Classification provided by classes WC and from WM to WW could be followed in order to complete the coverage of medical specialties in their specificities and related pathologies.

• NLM Classification options provided by numbers from 1 to 39 (used in some tables) could be followed, considering that they express the same subjects in each upper class, and may facilitate user searching. These numbers that are not considered true subject numbers, as they are defined for aspects different from the core subjects of a class. The range from 1 to 39 is used to classify the main subject of a class by, for example, publication type (e.g., 17 corresponds to Atlases. Pictorial works) or with a special emphasis as education (18) or research (20.5).
Suggestions for the revision of UDC Class 61

• Class 615.8 shouldn’t include Physiotherapy, Physical therapy and Radiotherapy. These subjects could be included in class 616, associated to each pathology.

• There is an urgent need to review the position of class 616.89 (Psychiatry). In the current UDC structure, it will be complex to relocate this number. A possible suggestion is its inclusion in 616.8 caption, resulting, for example, in the following sequence:


   (current 616.8 Neurology. Neuropathology. Nervous system)

In NLM Classification:
   WL Nervous System
   WM Psychiatry
FINAL CONSIDERATIONS

- Comparison of two different classification schemes
- NLM Classification is aligned with Medical Subject Headings, enhancing its use and vocabulary proximity
- The universal coverage of UDC is a strong advantage that can make the difference
- Importance of libraries’ collaboration in the revision process – identifying the level of usage of class 61 numbers
- Comparison with other classifications – health related, …
SOME REFERENCES:


Thank you  Merci  Grazie
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