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A Thematic Dictionary for Doctor–Patient Communication: The Principles and Process of Compilation

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Abstract

Increasing internationalisation has resulted in a constantly growing need for community interpreting worldwide. Healthcare is one of the most challenging domains for community interpreters, as misunderstandings, especially those caused by the use of incorrect terminology, may cost lives. In this paper, we describe the process of planning and compiling the *Finnish-Russian Thematic Dictionary for Doctor-Patient Communication* aimed at professional community interpreters and university-level students of community interpreting. We start by describing the theoretical background of dictionary planning and analysing the information needs of the target groups. We then describe and justify the selection of dictionary sources as well as the mega-, macro-, and microstructure of the dictionary. The dictionary has been compiled using a tailored version of the in-house dictionary writing system MyTerMS. We briefly report the details of the technical implementation of the project. Finally, we reflect on some challenges encountered in this project as well as its future prospects. The dictionary can be further developed by increasing the volume of its disease-specific part, adding verbs and usage examples, and customising the electronic version for various target groups and purposes.

Keywords: medical dictionary; medical glossary; medical terminology; doctor-patient communication; community interpreting; healthcare interpreting

1 Introduction

Increasing internationalisation has resulted in a constantly growing need for community interpreting worldwide. In Finland, like in many other European countries, representatives of language minorities in many cases have the right to communicate with officials and public service providers in their native language, which in practice means that a community interpreter is invited to the meeting.

The quality of community interpreting has lately become a hot topic in interpreting studies (e.g. Hale 2007; Valero-Garcés 2008; Flores et al. 2012; Maley 2018). Using the correct terminology is a key factor in quality interpreting. Healthcare is one of the most critical domains in this respect, as misunderstandings, especially those caused by the use of incorrect terminology, may cost lives.

In Finland, the training of community interpreters has been systematically developed (Mäntynen 2013). However, there is still a lot of variation in interpreters' competence levels (Ollila 2017: 28), which is also the case in many other countries (Roat & Crezee 2015). The project "Developing Healthcare Interpreting Training" (2019–2020) aimed at improving the university-level training of community interpreters working in the healthcare sector in Finland. One of the major goals of the project was the compilation of the *Finnish-Russian Thematic Dictionary for Doctor-Patient Communication*. Russian was chosen as the first target language because it is the most requested language in community interpreting in Finland (cf. Koskinen, Vuori & Leminen 2018: 9).

In this paper, we describe the process of planning and compiling the dictionary; present its mega-, macro-, and microstructure; report on the technical implementation; and reflect on some of the challenges encountered in this project and the dictionary's future prospects.

2 Factors Affecting Dictionary Planning

We begin by describing the theoretical background of dictionary planning. Factors affecting the planning of any dictionary can be divided into the factors deriving from the target group's needs and the factors which reflect the restrictions of the outside world. They can be called lexicographic factors proper and external lexicographic factors, respectively (Kudashev 2007: 66).

While performing some task (e.g. healthcare interpreting), dictionary users (e.g. community interpreters) have some information needs (e.g. they need information about the target language equivalents and their usage), as well as needs related to information retrieval and processing (e.g. they need to find and process this information very fast in the field). However, the lexicographer compiling the dictionary in most cases does not know precisely what the potential user's needs will be in a particular communicative situation. The general picture the lexicographer has is only an approximation, which can be improved with the help of surveys and interviews with target group representatives and by the careful selection of dictionary sources. In this way, the process of dictionary planning is highly affected by the methodology of gathering information about the users' needs, the volume and quality of this information, and the methodology of source selection. These factors are summarised in Figure 1 (cf. Kudashev 2007: 68).

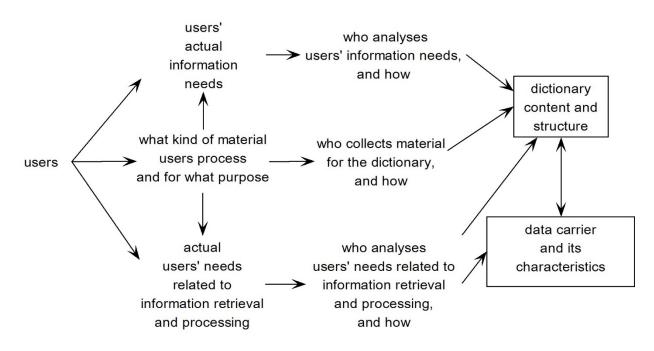


Figure 1: Factors Affecting Dictionary Planning.

External factors, in turn, are first of all related to the availability of resources, such as temporal, financial, human, and technical resources. Resource providers (e.g. sponsors, publishers) may set certain additional conditions of their own. Another external factor consists of the limitations imposed by the data carrier. The lexicographer's background, education, previous experience of dictionary-making, etc., may also affect the dictionary planning (Kudashev 2007: 71–73).

The target users' needs in our dictionary project, along with the methodology of gathering this information, are described in Section 3. The sources of the dictionary and the rationale behind their selection are described in Section 4. Among the external factors with a major impact on the dictionary project, we have to mention the tight schedule (one year) and limited budget, due to which we could only hire a part-time terminologist and only use volunteers from the healthcare sector as domain experts. However, we have managed to compile a dictionary with 4,000 entry words covering 30 common diseases.

3 Target Groups and Their Needs

Following the general theory of designing dictionaries of special languages (e.g. Bergenholtz & Tarp 1995; Fuertes-Olivera & Arribas-Baño 2008; Kudashev 2007), we started the project by analysing the information needs of the target groups. The dictionary's main target group comprises professional community interpreters and university-level students of community interpreting. Secondary target groups include patients, medical staff, and medical students.

Information about the target groups' needs was collected with the help of self-reflection and by studying professional literature on community interpreting in general and healthcare interpreting in particular. In addition, we interviewed Seija Koskinen, the Director of the Pirkanmaa Interpreter Centre (Tampere, Finland), and Girta Roots, a community interpreter working with the Finnish, Russian, and Estonian languages. Pirkanmaa Interpreter Centre provides community interpreting in the second most populated urban region in Finland. Almost 40% of the Centre's interpreting assignments are related to healthcare. Secondary target groups were represented by Galina Mäkäräinen, a Russian-speaking medical doctor who participated in language courses for doctors with an immigrant background. Mäkäräinen also consulted on various medical aspects and verified the equivalents. Students of the special course *Finnish-Russian Healthcare Interpreting* organised in the autumn semester of 2019 at Tampere University also gave their feedback on the first version of the dictionary.

Working community interpreters use medical dictionaries to revise medical terms while preparing for an assignment. They may also need the dictionary during the interpreting to check a term they do not know or do not remember. Students of interpreting use medical dictionaries for the same purposes, but the focus is on mastering the vocabulary and preparing for simulated interpreting sessions.

While preparing for a real or simulated assignment, both working interpreters and students familiarise themselves with the topic and study the terminology related to it. They cannot know beforehand what part of the material is going to be useful for interpreting the particular case (Veisbergs 2006: 1220). While students know the topic of the assignment beforehand, working interpreters do not always have this luxury due to the General Data Protection Regulation (GDRP) and similar regulations restricting access to confidential information, and they may therefore have very little time for preparation. To facilitate the quick learning of medical vocabulary by topic, the dictionary should be organised thematically and contain only the most relevant information (cf. Grinjov-Grinevitš 2009: 68).

Students of interpreting have less background knowledge and lower linguistic competence than working interpreters. Consequently, they require more linguistic information about the terms and equivalents. For example, our experience has shown that Finnish-speaking students need information on the word stress for most Russian equivalents, while experienced

Finnish-speaking interpreters only want this information in difficult cases.

Interpreting assignments, for example doctor's appointments, are strictly limited in time, so a healthcare interpreter has very little time for checking terms. This implies that the dictionary must be well structured and have fast and convenient search tools.

The dictionary has two functions. The first one is pedagogical. Community interpreters and students must know some basic terminology by heart. As it is hardly possible to always remember more specific terminology related to each disease, they also need to revise disease-specific terminology while preparing themselves for a concrete assignment. The second function of the dictionary is referential, as interpreters may forget a particular term on the spot and want to check it. The dictionary must therefore be thematic and alphabetical in order to comply with both requirements.

4 Dictionary Sources

The best source for a medical dictionary aimed at healthcare interpreters would probably have been recordings of authentic doctor's appointments. Unfortunately, this information is confidential, so getting access to it is problematic. The only possible alternative to authentic conversations is written sources, preferably aimed at doctor-patient communication. The following sources of Finnish terms were selected as the primary ones:

- evidence-based guidelines for patients (*Käypä hoito*) and descriptions of diseases published by the Finnish Medical Society, Duodecim (Terveyskirjasto 2020)
- international classifications and standards
 - International Classification of Diseases, 10th revision¹
 - International Classification of Primary Care, 2nd edition²
 - Terminologia Anatomica (Kolesnikov 2003)
- Finnish classifications and ontologies
 - Finnish Classification of Surgical Procedures (Lehtonen, Lehtovirta, & Mäkelä-Bengs 2013)
 - Medicine Classification by the Finnish Medicines Agency FIMEA³
 - Finnish Ontology of Health and Welfare TERO⁴

The primary sources of Russian equivalents included:

- Evidence-based guidelines by the Ministry of Health of the Russian Federation⁵
- The Doctor's Handbook "2000 diseases from A to Z" (Denisov & Ševtšenko 2010)

As secondary sources of Finnish terms and Russian equivalents, we have also used course books and manuals for medical staff as well as mono- and bilingual dictionaries. As a rule, we have not used materials translated from other languages. However, at present, many classifications are international anyway. Besides, most materials on evidence-based medicine available in Russian are translations from English or other languages. For example, we have used a unique printed manual "Evidence-Based Medicine Guidelines" (Denisov, Ševtšenko, Kulakov, & Haitov 2002) translated from English. Translated texts, however, were used with care, and terms extracted from them were cross-checked in non-translated sources.

5 Megastructure

The dictionary's front matter consists of the Preface and instructions on how to use the dictionary. The back matter contains the Russian-Finnish index and the list of sources.

The dictionary proper consists of two parts. Part 1 contains about 2,000 of the most common terms, which are supposed to be learned by heart. As terms are easier to learn thematically, they are grouped according to the domains listed below. Within each domain, the vocabulary is further divided into basic and advanced. For example, the basic level of anatomic terminology contains about 150 terms and the advanced level about 800. The domains in Part 1 are as follows:

- Healthcare system
- General medical vocabulary
- Diseases, symptoms, and complaints
- Anatomy and physiology
- Medical examinations
- Treatment and care, disease prevention, and rehabilitation
- Medication
- Medical equipment

The second part of the dictionary is disease-specific. Its function is twofold. First, it helps interpreters and students to prepare for the assignment related to a particular disease, even at short notice. The second function is referential. Even experienced interpreters – let alone students – cannot keep in mind all the terminology they may need. The second part of the dictionary provides them with disease-specific equivalents conveniently grouped into subdomains for quicker retrieval.

¹ https://icd.who.int/browse10/2016/en [09/05/2020]

² https://www.who.int/classifications/icd/adaptations/icpc2/en/ [09/05/2020]

³ https://www.fimea.fi/ [09/05/2020]

⁴ https://finto.fi/tero/fi/ [09/05/2020]

⁵ http://cr.rosminzdrav.ru/#!/ [09/05/2020]

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Each disease-specific section in Part 2 is divided into the following thematic sections:

- Disease and its subclasses
- Associated diseases and diseases with similar symptoms
- Anatomy and physiology
- Symptoms and complaints
- Medical examinations
- Treatment and care, disease prevention, and rehabilitation
- Medication
- Medical equipment
- Miscellaneous

Terms from Part 2 may also be included in Part 1, which means that the two parts of the dictionary are not exclusive but partly overlap. In the current version of the dictionary, Part 2 covers about 30 of the most common diseases, which were selected on the basis of healthcare statistics by the Finnish Institute for Health and Welfare⁶ and consultations with a domain expert. Domains in Parts 1 and 2 were selected by grouping terms extracted from medical texts into thematic classes and by performing a frame analysis of the communicative situation "doctor's appointment" (cf. Madžajeva 2012; Gagarina 2012).

6 Macrostructure

Dictionary entries are organised into a table with two columns. Although the table format speeds up searches, the table borders should be light so as not to distract the user's attention. The dictionary is divided into thematic sections as described above, but within all the sections of Part 1 and Part 2, the terms are arranged alphabetically. Thematic order supports the pedagogical function and alphabetical order the referential function.

Figure 2 demonstrates a portion of the dictionary from the disease-specific section *Reflux*. The first bolded caption is *Disease and its Subclasses*, and the second one is *Associated Diseases and Diseases with Similar Symptoms*.

Osa 2 <u>Refluksi</u> Sairaus ja sen alatyypit		
refluksi; refluksitauti	рефлюкс	
$refluksitauti \rightarrow refluksi$	рефлюкс	
Osa 2 <u>Refluksi</u> Liitännäissairaudet ja oireiltaan samantapaiset sairaudet		
adenokarsinooma	аденокарцинома	
ahtauma l; <u>striktuura</u>	сужение канала; стрикт у ра	
anemia	анемия; малокровие (разг.)	
aspiraatio	аспирация	
Barrettin epiteeli \rightarrow Barrettin ruokatorvi	пищевод Барретта	
<u>Barrettin</u> ruokatorvi; <u>Barrettin</u> epiteeli	пищевод Барретта	
ylävatsavaivat mon.; dyspepsia; ruoansulatushäiriö;	расстройство пищеварения; диспепсия	
ruoansulatusvaivat mon. (ark.)		
esofagiitti $ ightarrow$ ruokatorven tulehdus	эзофагит; воспаление слизистой оболочки пищевода	
$gastriitti \rightarrow mahatulehdus$	гастрит	

Figure 2: Example of a Disease-specific Section.

By default, the synonyms of Finnish terms are put both under the main entry word and as cross-references in their alphabetical place. Cross-references are vital when the user checks an unfamiliar term. For the user's convenience, cross-references are also provided with Russian equivalents. However, as repetitions may bother users who are learning terms, it is possible to switch cross-references off in the electronic version of the dictionary.

Homonyms, i.e. words or word combinations referring to two or more concepts, are provided with Roman indexes and disambiguation notes. In the example below (see Figure 3), *kuivuminen I* refers to *dryness* (as in *skin dryness*) and *kuivuminen II* to *dehydration* (as in *dehydration of the body*).

Osa 1 Sairaudet, oireet ja vaivat Vaikeusaste A		
kuivuminen I	С ү ХОСТЬ (ж.) (кожи, слизистых и т.п.)	
kuivuminen II; dehydraatio; nestehukka	обезв о живание (организма); дегидр а ция; дегидрат а ция	

Figure 3: Treatment of Homonyms.

⁶ https://sampo.thl.fi/pivot/prod/fi/avo/perus06/summary_icd1001 [09/05/2020]

The concept-oriented approach prevents one of the "deadly sins" of bilingual lexicography (cf. Kromann, Riiber, & Rosbach 1991: 2724), when multiple meanings are presented in the same entry without proper disambiguation. This results in a long line of translation equivalents, some of which are not interchangeable as they refer to different concepts. Besides, the lack of disambiguation notes may slow down the process of choosing the correct equivalent and result in translation mistakes. The primary need of any translator or interpreter using a dictionary is to locate a correct translation equivalent as quickly as possible and to be sure that this is the right choice (Varantola 1998: 181; Grinjov-Grinevitš 2009: 68; Nkwenti-Azeh 2001: 604–606).

7 Microstructure

Entries in the dictionary consist of the following data fields: main Finnish term, its possible synonyms, the grammar and usage labels related to them, Russian equivalent, its possible synonyms, and the grammar and usage labels related to them. The order of synonyms within the entry was determined with the help of statistical analysis and domain experts.

Assuming that most community interpreters have a good command of the foreign language, we have provided only a limited amount of phonetic and grammatical information. However, in some cases we also had to take into consideration the needs of the second target group, students.

All Russian equivalents are provided with stresses marked in bold. Terms in the plural form and abbreviations are equipped with the corresponding labels. Informal, colloquial forms are marked with a usage label (see Figure 4). For example, *HDL cholesterol* is often informally called *good cholesterol*. Both terms are included in the dictionary, but the latter one is marked as colloquial.

HDL-kolesteroli; hyvä	липопроте и ды высокой плотности мн.ч.; ЛПВП сокр.;
kolesteroli (ark.)	хороший холестерин (<i>разг.</i>)

Figure 4: Examples of Grammatical and Usage Labels.

Irregular plural forms are given in italics in round parentheses to warn users about the unusual inflection. Terms which are typically used in the plural are provided with a note (see Figure 5).

	pohje (mon. pohkeet)	икра (чаще мн.ч икры)
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Figure 5: Examples of Irregular Grammatical Forms and a Note on Predominant Usage in the Plural.

Russian equivalents ending in the soft sign ('b') are provided with gender labels, as their gender is not obvious (see Figure 6).

käheys; äänen käheys	осиплость (ж.); хрипота
köhä \rightarrow yskä	кашель (м.)

Figure 6: Examples of the Gender Label.

Partial equivalents are marked with the \approx sign (see Figure 7). For example, the Finnish concept *luontaistuote* (\approx natural product/health food) differs from the Russian concept *биодобавка* (\approx dietary supplement), although in many cases they can be used as contextual equivalents.

luontaistuote ≈ биодобавка; БАД сокр.; биологически активная добавка

Figure 7: Treatment of Partial Equivalents.

Ideally, the differences between the concepts should also be commented on, but such comments would at the same time prevent the dictionary from being a compact reference work. This is an example of the inevitable inner contradictions of a dictionary that has multiple functions and/or is aimed at multiple target groups. In such cases, dictionary compilers must either prioritise or make compromises.

8 Challenges Encountered in the Project

Among the main challenges of any bilingual dictionary project are of course culture-specific terms, as national concept systems and terminology differ even in such an international domain as medicine. In particular, terms related to the organisation of healthcare in different countries may cause problems. However, to understand the nuances of translating culture-specific terms, one must have a good command of the languages used in the dictionary, in our case Finnish and Russian. As there is no point in discussing such issues in an article written in English, we will skip this topic and focus on two less language-specific challenges: the opposition between scientific and informal terms, and the treatment of synonyms and abbreviations.

8.1 Scientific vs Informal Terms

Medical discourse, like many other languages for special purposes, is multi-dimensional. In particular, it can be categorised according to the participants. One can distinguish communication between doctors, doctors and nurses, doctors and

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patients, etc. (cf. Bergenholtz & Tarp 1995: 19; Alexeeva & Mishlanova 2002: 104–105; Gotti 2018: 13–14). Doctorpatient communication differs from other communicative situations in many respects. Typically, patients (and community interpreters) lack a medical background, which means that they tend to communicate using everyday vocabulary rather than scientific medical terminology. This presents a major challenge for dictionary compilers, who have to balance between the general and professional dimensions.

For example, the Russian word *гипертония* (arterial hypertension) used to be an official medical term. It is generally understood and very frequent in everyday discourse. However, it has become obsolete in scientific parlance and has been substituted by the term *артериальная гипертензия*, which is much less familiar to patients. A similar case is the pair of terms *аденома простаты* and *гипертлазия предстательной железы* (prostatic hyperplasia). As our dictionary describes communication between doctors and patients, we have decided to include informal yet widely used terms alongside official ones. However, official terms precede the informal ones. It is not obvious how such informal terms should be labelled. From the doctor's point of view, they are obsolete, but from the patient's perspective they are not. We have decided to mark them as colloquial, as they are a part of the patients' vocabulary which has been "determinologosated".

8.2 Treatment of Synonyms and Abbreviations

An abundance of synonyms and abbreviations is typical of medical language (e.g. Kuryshko 2001: 23–24, 102). This presents a number of challenges related to the selection of synonyms and their placement in a particular order in the entry. We have used the following criteria when solving these issues:

- understandability (patients and interpreters should understand as many terms as possible)
- frequency (frequently used terms are typically more comprehensible and easier to remember)
- simplicity and shortness (simple and short terms are easier to remember)
- diversity (to serve the reference function, the dictionary should also contain terms lying outside the interpreter's active word stock).

However, these criteria may contradict each other. For example, abbreviated forms are shorter and in principle should be easier to remember. In some cases, this works. For instance, the abbreviation V3H (medical ultrasound) is much more frequent in Russian than its full form, *ynbmpa38ykoBoe uccnedoBahue*. In addition, everybody knows this abbreviation. Placing the abbreviation before the full form is therefore quite justified. However, some abbreviations are less well known to patients. For example, the abbreviation $H\Pi BC$ (nonsteroidal anti-inflammatory drugs, NSAIDs) is quite rare, despite the fact that NSAIDs themselves are probably familiar to everyone. In this case, the full form should be placed first. These examples demonstrate that prioritisation of the general guiding principles is different in each individual case. To verify their decisions, dictionary makers should consult domain experts and representatives of the target groups.

9 Technical Implementation

The dictionary will be published both as a database accessible over the web and as a printable dictionary in pdf format. The electronic version enables efficient searches as well as some useful dynamic features. For example, it is possible to switch some data (e.g. cross-references, administrative data, and domain labels) on and off depending on the intended use. The printable version, in turn, can be used even in situations where the use of electronic devices is not allowed or the Internet connection is poor.

The dictionary has been compiled using a tailored version of the in-house dictionary writing system MyTerMS (see Kudashev & Kudasheva 2006). MyTerMS is a web interface to the underlying lexicographic database. MyTerMS has been used in several dictionary projects and serves as a terminology management system for terminological projects at Tampere University and the University of Helsinki, Finland.

MyTerMS performs all basic operations that can be expected from dictionary management software, such as adding, editing, searching, browsing, printing, and deleting entries. It also automates many operations. For example, while adding a number of entries belonging to the same domain, it is possible to prefill the domain field instead of selecting it manually every time. MyTerMS also helps ensure the integrity of the data, for example, by preventing duplicate entries and automatically managing cross-references. In addition, it ensures the correctness of the input by performing a compliance check before saving the data. MyTerMS also automatically generates the Russian-Finnish index.

The entries are segmented into data fields, and the articles are formed "on the fly" with the help of scripts and cascading style sheets. The layout of the entries is as close to the final as possible except for the presence of some administrative data, which is visually separated from the final data with colour. Administrative data as well as cross-references can be switched on and off by ticking the corresponding checkboxes.

One of the strengths of MyTerMS is its advanced search. Users can perform even very complex searches by using wildcards and regular expressions and combining multiple search conditions. This helps extract data almost by any criteria or their combination. Figure 8 demonstrates the main window of the programme. The green frame is the control panel with various control buttons and options. The two lists on the left are the termlist and the hitlist. The largest frame is the entry frame. Letter rangers in the top left corner allow the length of the termlist to be limited for faster refreshing. In the same corner, there is also a 'quick search' pane facilitating navigation through the termlist and the hitlist. The user only needs to type the initial letters of the term for which they are searching.

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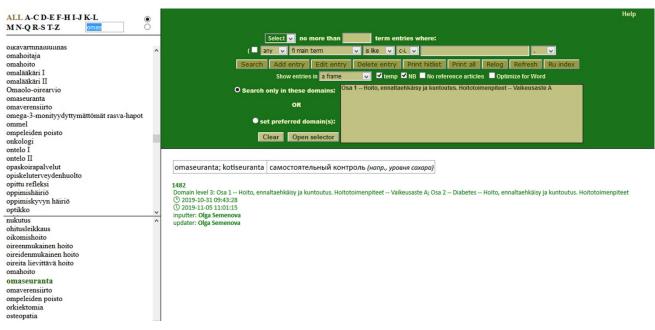


Figure 8: The Main Window of the MyTerMS Dictionary Writing System.

Entries are added and edited with the help of an HTML form (see Figure 9). The form allows up to seven synonyms to be added for each language. Additional sections for the synonyms open on demand. The programme allows adding inline formatting (e.g. bolded font, italics, upper and lower indexes). However, plain text copies of the corresponding fields are also saved to ensure correct and fast searches. Most labels related to grammar and usage are predefined, but users can also provide additional free-form notes related to these categories.

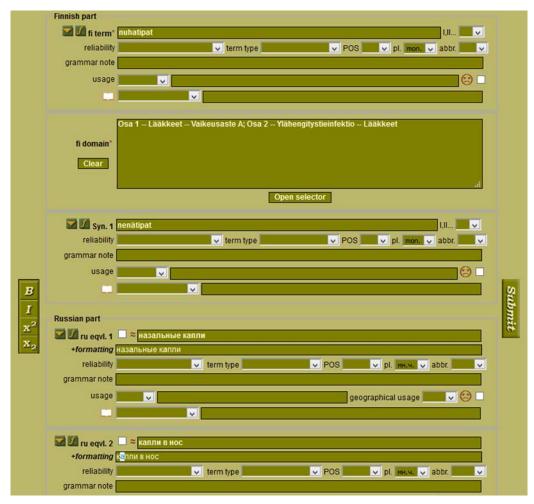


Figure 9: HTML Form for Adding and Editing Entries.

10 Conclusion

The compilation of a thematic dictionary for healthcare interpreters turned out to be a very interesting yet challenging task. Some information needs and those related to data retrieval differ even among the main target groups of the dictionary and in different situations when using the dictionary. The combination of the pedagogical and the reference functions creates some tension, too. Additional target groups (such as patients, medical doctors with immigrant background, etc.) would have aggravated the situation further. In the current project, lexicographic contradictions were also complicated by external factors, such as the tight timetable and limited budget. However, under the circumstances, we are satisfied with the first version of the dictionary. At the same time, we plan to develop the dictionary further in several directions.

While the number of terms that should be learned by heart (about 2,000) approaches the optimal level, the disease-specific part of the dictionary is undeniably modest. Our next goal is to cover about 100 of the most common diseases, which corresponds to approximately 10,000–12,000 terms. The diseases will be selected on the basis of official healthcare statistics. According to the Pareto principle (also known as the 80/20 rule), we expect to reach a reasonable saturation point when the dictionary covers the top 80% of reasons for visiting a doctor. A potential problem here is that the classes represented in the statistics are often "too big" and include multiple undifferentiated diseases.

During the healthcare interpretation course organised at Tampere University, we noticed that the students' knowledge of medical terms, most of which are nouns, is insufficient. To use the terms correctly in the context, students also need to master verbs and collocations. We plan to enrich our dictionary with usage examples. In the electronic version, these could be switched on and off depending on the intended use of the dictionary.

Our dictionary is already dynamic and customisable to some extent. However, the degree of customisation can be further increased. Our ultimate goal is a multipurpose medical dictionary aimed at multiple target groups, in which the contents could be customised according to the target group and intended usage. However, this requires a more profound study of the users' perspectives and a great deal of lexicographic and software engineering.

11 References

- Alexeeva, L.M. & Mišlanova, S.L. (2002). *Medicinskij diskurs: teoretičeskie osnovy i principy analiza*. Perm': Izdatel'stvo Permskogo universiteta. [= Medical Discourse: Theoretical Basis and Principles of Analysis].
- Bergenholtz, H. & Tarp, S. (1995). Manual of Specialised Lexicography: The Preparation of Specialised Dictionaries. Amsterdam/Philadelphia: Benjamins.
- Denisov, I. N. &. Ševtšenko, Ju. L. (eds.) (2010). Spravotšnik-putevoditel praktikujuštšego vratša. 2000 boleznei ot A do Ja. 2-je izd. Moscow: GEOTAR-Media. [= The Doctor's Handbook: "2000 Diseases from A to Z"].
- Denisov, I.N., Ševtšenko, Ju.L., Kulakov, V.I. & Haitov, R.M. (eds.) (2002). Klinitšeskije rekomendatsii dlja praktikujuštših vratšei, osnovannyje na dokazatelnoi meditsine. Moscow: GEOTAR-MED. [= Evidence-Based Medicine Guidelines].
- Flores, G., Abreu, M., Barone, C.P., Bachur, R. & Lin, H. (2012). Errors of Medical Interpretation and their Potential Clinical Consequences: A Comparison of Professional versus Ad Hoc versus no Interpreters. In Annals of Emergency Medicine, 60(5), pp. 545-553.
- Fuertes-Olivera, P.A. & Arribas-Baño, A. (2008). Pedagogical Specialised Lexicography: The Representation of Meaning in English and Spanish Business Dictionaries. Amsterdam/Philadelphia: Benjamins.
- Gagarina, Je.Ju. (2015). Freim "on-line-konsultatsija" v meditsinskih Internet-forumah. In *Vestnik MGOU*. Serija: Lingvistika. № 4, pp. 39-43. [= "Online Consultation" Frame on the Medical Internet Forums].
- Gotti, M. (2018). LSP as Specialised Genres. In J. Humbley, G. Budin & Ch. Laurén (eds.) Language for Special Purposes: An International Handbook. Berlin: De Gruyter, pp. 3-25.
- Grinjov-Grinevitš, S.V. (2009). Vvedenije v terminografiju: Kak prosto i legko sostavit slovar. Utšebnoje posobije. Izd. 3je, dop. Moscow: LIBROKOM. [= Introduction to Terminography].
- Hale, S.B. (2007). Community Interpreting. Basingstoke: Palgrave Macmillan.
- *Käypä hoito -suositukset potilaalle*. Accessed at: https://www.kaypahoito.fi/potilaalle [09/05/2020]. [= Evidence-based Guidelines for Patients].
- Kolesnikov, L.L. (ed.) (2003). *Terminologia Anatomica* = Meždunarodnaja anatomitšeskaja terminologija (S ofits. spiskom rus. ekvivalentov). RANK Ros. anat. nomenklatur. komis. Minzdrava RF, Moscow: Meditsina.
- Koskinen, K., Vuori, J. & Leminen, A.-K. (2018). Johdanto. In K. Koskinen, J. Vuori & A.-K. Leminen (eds.) *Asioimistulkkaus. Monikielisen yhteiskunnan arkea*. Tampere: Vastapaino, pp. 7-28. [= Community Interpreting].
- Kromann, H.-P., Riiber, T. & Rosbach, P. (1991). Principles of Bilingual Lexicography. In F.J. Hausmann et al. (eds.) Wörterbücher: ein internationales Handbuch zur Lexikographie: an international encyclopedia of lexicography: encyclopédie internationale de lexicographie. Teilbd 3. Berlin: de Gruyter, pp. 2711-2728.
- Kudashev, I. & Kudasheva, I. (2006) Software Demo: The Terminographic Processor MyTerMS. In G.-M. de Schryver (ed.) DWS 2006: Proceedings of the Fourth International Workshop on Dictionary Writing Systems, Turin, Italy, 5 September 2006 (Pre-EURALEX 2006). Pretoria: (SF)² Press, pp. 35-40.
- Kudashev, I. (2007). *Proektirovanie perevodčeskih slovarej special'noj leksiki*. Helsinki: Yliopistopaino. [= Designing LSP Dictionaries for Translators].
- Kuryshko, G.F. (2001). Javlenije sinonimii v professionalnoi leksike (na materiale nemetskoi i russkoi meditsinskoi terminologii). Moscow: Narodnyi utšitel. [= Synonymy in Professional Vocabularies (Case: Russian and German Medical Terminology)].
- Lehtonen, J., Lehtovirta, J. & Mäkelä-Bengs, P. (2013). *THL-toimenpideluokitus*. Terveyden ja hyvinvoinnin laitos. [= Finnish Classification of Surgical Procedures].

- Madžajeva, S.I. (2012). Freimovyi podhod k sistematizatsii terminologitšeskih znani. In *Utšenyje zapiski: elektronnyi* nautšnyi žurnal Kurskogo gosudarstvennogo universiteta, 2(22), pp. 130-137. [= Using Frame Analysis for Systematisation of Terminological Data].
- Maley, J.H. (2018). Hemoptysis or Hematemesis? The Importance of Professional Medical Interpretation: A Teachable Moment. In JAMA Internal Medicine, 178(6), pp. 841-842.
- Mäntynen, A. (2013). Asioimistulkkaus maahanmuuttajien terveyspalveluyksikössä Tampereella. In K. Koskinen (ed.) *Tulkattu Tampere*. Tampere: Tampere University Press, pp. 106-125. [= Community Interpreting at the Healthcare Centre for Immigrants in Tampere].
- Nkwenti-Azeh, B. (2001). User-Specific Terminological Data Retrieval. In S.E. Wright & G. Budin (eds.) Handbook of Terminology Management. Vol. 2. Application-Oriented Terminology Management. Amsterdam/Philadelphia: Benjamins, pp.600-612.
- Ollila, S. (ed.) (2017). *Tulkkaus terveydenhuollossa: Lähtökohtana asiakkaan ymmärrys*. Vaasa: University of Vaasa. [= Interpreting in Healthcare Services].
- Roat, C. E. & Crezee, I. (2015). Healthcare interpreting. In H. Mikkelson & R. Jourdenais (eds.) *The Routledge Handbook* of *Interpreting*. London: Routledge, pp. 236-253.
- *Terveyskirjasto.* Accessed at: https://www.terveyskirjasto.fi/terveyskirjasto/tk.koti [09/05/2020]. [= Descriptions of Diseases].
- Valero-Garcés, C. (2008). Hospital Interpreting Practice in the Classroom and the Workplace. In C. Valero-Garcés & A. Martin (eds) Crossing Borders in Community Interpreting: Definitions and Dilemmas. Amsterdam/Philadelphia: Benjamins, pp. 165-185.
- Varantola, K. (1998). Translators and their Use of Dictionaries. In B.T.S. Atkins (ed.) Using Dictionaries: Studies of Dictionary Use by Language Learners and Translators. Tübingen: Niemeyer, pp. 179-192.
- Veisbergs, A. (2006). Dictionaries and Interpreters. In E. Corino, C. Marello & C. Onesti (eds.) Proceedings of the XII EURALEX International Congress 2006, Turin, 6–9 September 2006. Turin: Turin University, pp. 1219-1224.

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