Linnéuniversitetet
Kalmar Växjö

Translating medicine from English to Swedish

A translation study of a text about diabetes

Författare: Sofie Påhlsson
Handledare: Magnus Levin
Examinator: Ibolya Maricic
Termin: VT-13
Ämne: Engelska
Nivå: Avancerad
Kurskod: 4EN31E

Abstract

This study focuses on the difficulties encountered and the translation strategies used to translate a text about diabetes. The model used to classify the chosen translation procedures was created by Jean-Paul Vinay and Jean Darbelnet. Firstly, the study was narrowed down to include medical terms which were names for diseases, conditions or medical events in the body such as a *heart attack*. Secondly, focus was put on studying how and why the procedure called adaptation was used to make the text more interesting and understandable to the target reader from a more general perspective.

The primary conclusions are that the most used translation strategy was direct translation and the most used procedure was literal translation. Most terms in English had a Swedish equivalent but in several cases the influence of the English language on Swedish medical language was quite apparent. Moreover, the use of the procedure adaptation on the text from a more general perspective mostly concerned omissions of excessively detailed information about diabetes in the US and cultural aspects such as when the process of diagnosing diabetes in Sweden differs from the American process. Finally, the study emphasizes the importance for a translator to not only rely on dictionaries but also use parallel texts in order to understand a certain concept and find proper terms in the target language was quite apparent in this study.

Keywords: Translation, translating medical terms, translating medical terminology,

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1. Introduction

Everyone has health problems at one point or another in their life. People become sick all over the world every day. The severity of their conditions may vary, and some viruses or types of diseases are more common in some places; malaria is, for example, not something people normally catch in Sweden. For the most part however, our bodies work the same way, no matter where we were born and doctors are treating and researching cancer, migraine, diabetes etc. all around the globe. Thus, making medical information available to people with different native languages is important to make it possible for doctors and scientists to understand each other. It is perhaps even more important for people in general who are affected by a particular disease, or maybe have a loved one who is, to make it possible for them to educate themselves on the condition in question. Many times this job lands on a translator. This thesis will focus on the translation strategies used and the problems encountered while translating a text about diabetes called *Diabetes Overview* from English to Swedish. There were several interesting aspects to analyze in the present study. The following example is taken from the very first part of the text and illustrates several different procedures a translator can choose to use.

1)	Almost everyone knows someone who has diabetes. An estimated 23.6 million people in the United States –7.8 percent of the population– have diabetes, a serious, lifelong condition (p.1).	Nästan alla känner någon som har diabetes. Uppskattningsvis har 470 000 svenskar och 23,6 miljoner amerikaner, vilket motsvarar 3–4% av Sveriges befolkning och 7,8 % av USA:s befolkning, denna allvarliga livslånga sjukdom.

In example 1) several different translation procedures are represented. Most of the sentence has been translated literally but an adaptation has also been made where facts about the number of people in Sweden afflicted by diabetes has been added. The reason for this is that the text will most likely be more interesting to the intended target reader (henceforth TR), if they are presented not only with statistics about the number of diabetics in the US, but also in their own country.

1.1 Aim and Scope

The aim of this thesis is to analyze the difficulties encountered and the translation strategies used when translating the text *Diabetes Overview* and adapting it to the Swedish market. The analysis will focus mainly on medical terminology and cultural adaptation. It was narrowed down to cover the following aspects:

- names of conditions, diseases and medical events.
- cultural adaptations necessary to make the target text (henceforth TT) accessible to the TR.

2. Method and material

The basis for this thesis is the translation I have done of the text *Diabetes Overview*, written by the US Department of Health and Human Services. The source text (henceforth ST) is 15 pages long but the last two pages containing contact information and a box called *Points to remember* have been excluded, save the very last sentences of the primary text. The ST is written for the general public, which means that the authors aim to inform the reader about the disease in an easily understandable way. The purpose of the TT is the same. The ST has been translated with the intention that the TT should be published on a website of an organization devoted to informing people about diabetes. The TR thus might not know anything about diabetes or specific medical terminology beforehand.

I have focused primarily on a quantitative method in this thesis; statistics are presented on the usage of a certain translation strategy and procedure to translate medical terms meeting the criteria set forth in the aim and scope. While translating the text I made notes about the chosen procedures and the difficulties I encountered. When the translation was done, all medical terms were identified and the translation classified using a model created by Vinay and Darbelnet (presented in section 3.3). This was sometimes difficult since some of the terms often seem to fit into more than one category. The confusion was mostly over whether the translation should be classified as literal translation or a borrowing, literal translation or a transposition or a modulation or a transposition. For example, should *prediabetes* be considered a borrowing since *fördiabetes* might be considered to sound more like a common Swedish expression in everyday language? Or does the fact that the term diabetes is Latin and the prefix *pre-*, which is used in Swedish as well according to Lindskog (2008:154, 494), originally

comes from Latin *prae-* make it a literal translation? In the end it was considered a literal translation in the present study.

A qualitative method is also applied to this study; in addition to collecting statistics on the translation strategies and procedures used, focus has also been put on explaining *why* a certain procedure was used in a particular case.

During the process of translating the text I used several different dictionaries and encyclopedias as well as parallel texts on diabetes in Swedish. The parallel texts were for the most part written by hospitals, county councils, patient organizations or Sjukvårdsupplysningen [www], which is the nationwide telehealth service in Sweden.

It turned out in the translation process that the text was not as recent as it initially appeared to be. Since it is doubtful that someone would commission a translation of a text on this subject that is this old in real life, the US Department of Health and Human Services still uses the texts to inform the general public about diabetes, and I would have to make extensive changes to the TT if I were to make it current, I decided to translate the ST as if it had just been written. (This is discussed further in Section 4.2)

3 Theoretical background

This chapter will present some background information on the characteristics of medical language, recommended strategies for translators of medical texts and common difficulties with translating medical language. Information will also be presented about the model used to classify the procedures used when translating *Diabetes Overview*, and guidelines on how to handle acronyms and abbreviations.

3.1 Translating medicine

According to the Britannica Online Encyclopedia [www], medicine is 'the practice concerned with the maintenance of health and the prevention, alleviation or cure of disease'. Different fields, such as medicine, economics etc. have a technical language, which is made up of a set of terms (i.e. terminology) used to express matters that are specific to that field. Languages like this are generally called *special purpose languages* and even though they are used in a special field they also often overlap with everyday language. Latin was *the* language of science up until the 19th century according to Herget and Alegre (2009). This has influenced medical terminology greatly in all

European languages. In fact, scientific medical terms often have the same Greek or Latin roots (Herget and Alegre 2009). According to Fogelberg and Petersson (2011:18) the language used in the field of medicine in Sweden has traditionally been Latin but since the late 20th century it has also been greatly influenced by English. Moreover, Fogelberg and Petersson define three different types of medical language. First, there is the scientific medical language that is used by professionals in the field, e.g. in scientific articles. Secondly, there is an everyday medical language that is used when doctors are communicating with patients and lastly, there is the medical language used when medical staff is communicating in between themselves as they are working (Fogelberg & Petersson 2011:18–22). Herget and Alegre present similar classifications of medical language by defining four situations with different communication partners:

1. Professional—professional. This is when a doctor communicates with another doctor for example.
2. Professional— semi-professional. This is when a doctor is for example communicating with a medical student.
3. Professional— non-professional. This is when a doctor is speaking to a patient.
4. Non-professional—non-professional. This refers to when patients are communicating with each other or a journalist (who does not have medical training) writes an article that is supposed to be read by the general public (Herget & Alegre 2009).

Scientific medical language should be precise, unambiguous and uniform standard should be followed. General medical language should be clear and precise and at the same time easy enough for a patient and their family to understand. Herget and Alegre (2009), Fogelberg and Petersson (2011:22–23, 42–45) and Korning Zethsen (2004:125–142) state that if a doctor uses scientific language when talking to patients, they might not understand what is said since some words mean different things to a doctor than they do in everyday language. The words *positive* and *negative* are two such words for example, claim Fogelberg and Petersson 2011:23). What they refer to is that if a test comes back positive, to the doctor this means that the patient has a particular disease or infection. A patient might however associate this with positive news and think that it means that they do not have it if the doctor does not adjust their language to the situation. In the present study, both the ST and TT the texts communicate medical information to a non-professional. In a case like this the translator must know the difference between different types of medical language in the TL and make sure they

use the right term for the context (Herget & Alegre 2009 Fogelberg & Petersson (2011:22–23) and Korning Zethsen (2004:125–142).

In Sweden, we have seen an increasing tendency of general terms being replaced by scientific terms according to Fogelberg & Petersson (2011). They give five possible explanations for this. 1. Latin terms are more precise whereas the general Swedish terms are more ambiguous. 2. People tend to euphemize concepts that are frightening or unpleasant and by saying *polio* instead of *barnförlamning* (‘child paralysis’) or *obduktion* (‘autopsy’) instead of *liköppning* (‘corpse opening’), the term becomes more neutral. 3. The Latin terms are more usable internationally and are almost always used unchanged in English. 4. The Latin terms are easier to use to make compounds. For example, replacing *sockersjuka* (‘sugar disease’) with diabetes makes creating compounds such as *åldersdiabetes* (‘old age diabetes’) and the creation of words such as *diabetiker* (‘diabetic’ (noun)) much easier. 5. Since new scientific discoveries make the field of medicine change so fast, there is need for terms where there are lexical gaps in Swedish everyday language (Fogelberg & Petersson 2011:38, 43). Some cases where scientific terms have been transferred into everyday Swedish language are listed in example 2) below.

2)

Scientific term	**The old everyday term**
Anemi	Bleksot
Diabetes	Sockersjuka
Cancer	Kräfta
Dysenteri	Rödsot

(Fogelberg & Petersson. 2011:38, 43, 46–47)

Newmark (1979:1405–1407) and Nord (2006:29–41) agrees with Herget & Alegre (2009) that it is important that translators thoroughly analyses the TR and the context in which the TT should be published, to determine what language and what vocabulary they should use. According to Newmark ‘[i]n medicine, but not in all translation, the translator’s object is to elicit equivalent effect–that is, to attempt to produce the same cognitive and to a lesser extent emotive impression on his reader as, to the best of his imagination, the writer of the original produced on his own (average) reader’ (Newmark 1979:1405–1407).

There are several difficulties with translating medical texts according to Newmark (1979–1405–1407). The plethora of synonyms might for example make it difficult to determine which terms to use, and factual textual accuracy is especially important in

medical texts. Often there are not only one scientific and one everyday term but there might be several synonyms in both types of language. Since words concerning pathology often come from Greek and words concerning anatomy come from Latin, there might be several names for the same condition in the scientific context, depending on how it is used. For example, there are at least 25 linguistic synonyms for the term *brecellosis* in English, according to Newmark (1979:1405–1407). Furthermore a translator must beware of false friends since there might often be slight but still significant differences in meaning in words that apparently mean the same. For example, terms like *chronic bronchitis* and *peptic ulcer* have different meaning depending on whether someone is writing in English, German or French. The importance of translators being aware of this and keeping this in mind when translating Latin terms is also strongly emphasized by Korning Zethsen (2004:125–142).

According to Newmark (Newmark 1979:1405–1407) translators of medical texts should not only put faith in bilingual special purpose dictionaries but also consult two to three monolingual special purpose dictionaries in both the SL and TL when they try to find an equivalent item in the TL. Williams (1996:275–299) agrees with Newmark's views on bilingual dictionaries but considers his suggested approach time consuming. Instead he suggests that when translating medical texts, the translator should make use of both dictionaries and parallel texts. He bases his opinion on his own study of the reference needs of translators. The study showed that using only three dictionaries to try to locate equivalent items in the TL for medical terminology resulted in 51% of the needed items being found. When three parallel texts were used instead, 71% of the items were found, which is a 20 % increase. When the two methods were combined equivalent items were found in 85–90 % of the cases. Parallel texts are according to Williams, also especially helpful since they highlight on stylistic aspects and collocations in a way that dictionaries normally do not do.

In conclusion, several scholars stress the importance of identifying the purpose of the TT and the intended TR. When translating medical language this will have great impact on the choice of terms since there might often be a difference to what e.g. a disease is called in everyday language compared to scientific medical language. In the process of locating equivalent terms several scholars also stress the importance of not only relying on dictionaries but also consulting parallel texts. The next section will deal with guidelines for how a translator should handle abbreviations and acronyms.

3.2 Acronyms and abbreviations

According to Ingo (2007:121–123) acronyms like *WWF* (the World Wide Fund) or the *U.N.* (the United Nations) and abbreviations such as *vs* (versus), are aspects that are especially difficult for translators. The difficulty lies in the fact that these seldom appear in regular dictionaries and most of the time it is not possible to derive from the letter combinations what they might refer to[1]. Aspects like these require that the translator has good insight into the target culture. Ingo furthermore suggests that the translator should always use the existing abbreviation/acronym if there is one in the TL, to avoid confusion. For example, when translating *the U.N.* into Swedish, they should write *FN* and not borrow *the U.N.* If there is no existing equivalent abbreviation or acronym, Ingo suggests that translators should borrow the abbreviation/acronym from the SL. Perhaps they might also need to clarify what the abbreviation/acronym stands for by spelling it out for or add some other explanation.

Kaspowicz (2010) claims that medical language is filled with acronyms and abbreviations. She furthermore states that acronyms are often borrowed, or borrowed and adapted, from English into other languages when it comes to the field of medicine and uses *AIDS* as a way of illustrating this. She agrees with Ingo on the preferred strategy is when it comes to translating such cases: an abbreviation/acronym should be replaced with the equivalent one in the TL, if there is one. Moreover, Kaspowicz claims that the translator must always try to make an informed decision about what a disease is called and if there is an existing abbreviation/acronym already in the TL, by reading medical texts in the TL. In other words, she suggests not only the use of dictionaries but also the use of parallel texts.

The next section will deal with the model of translation strategies and procedures designed by Vinay and Darbelnet (1995) used to classify terms in the present study.

3.3 Translation strategies

In the late 1950's Jean-Paul Vinay and Jean Darbelnet (1995) did a comparative analysis of the English and French languages. They set up a model of *translation strategie*s, divided into *procedures* that describe what happens in the translation process. They grouped three procedures in a category called *direct translation strategies* and four procedures in a category called *oblique translation strategies*. The procedures placed in each group will be presented in detail below, but in general the terms direct

[1] The internet has, however, made this less difficult for translators.

translation strategies means that the translator is able to make a literal translation or something very close to a literal translation. Oblique translation strategies means that a literal translation is not possible, and thus the procedures placed in this category involves making bigger changes to make the text work in the TL (Vinay & Darbelnet 1995:31, Munday 2001:5).

3.3.1 Direct translation strategies

This group contains three procedures: *borrowing*, *calque* and *literal translation*.

3.3.1.1 Borrowing

When there is a lexical gap in the TL, the word can be transferred directly from the SL into the TL. This is called borrowing (Munday 2001:56). Vinay and Darbelnet (1995:32) also suggest that by borrowing foreign words the translator can bring "the flavor of the SL culture" into the TT (Vinay & Darbelnet 1995:32). *Latent autoimmune diabetes of the adult, LADA* for short, is the name of a type of diabetes that has been borrowed from English into Swedish.

3.3.1.2 Calque

A calque is a kind of borrowing where the structure or an expression is transferred from the SL to the TL using literal translation. The expressions then often become completely integrated into the TL, and if there is a semantic change to it with time, as there often is when it comes to calques (and borrowings), they might become false friends. *Compliments of the season* is a calque of the French expression *Complements de la Saison*. *Les quatre grands* is a calque of the English expression *the four great powers*. *Trädkramare* is a calque of the English word *tree hugger* (Munday 2001:56, Vinay & Darbelnet 1995:32-33, Stålhammar [www]).

3.3.1.3 Literal translation

Making a literal translation of a text means that you replace word-for-word the words in the ST with words in the TL that are equivalent in meaning (Vinay & Darbelnet 1995:34). Defining meaning has been attempted by several people according to Munday (2001). Nida and Newmark are two scholars that have attempted the feat. However, the meaning of equivalence is always subjective and depending on the person doing the analysis, what is considered equivalent or not will be different (Munday 2001:37–46).

In this thesis, an equivalent term will be considered to be something that is either exactly or at least extremely similar in meaning to the terms used in the ST in the particular context they are used. Meaning will be considered to be what is commonly called *referential* or *connotative meaning*. This refers to the term someone would find if they would look up the term in a dictionary (Munday 2001:38, Yule 1996:114). Thus since 'Norstedts Professionell' suggests both *hjärtattack* and *hjärtinfarkt* for *heart attack*, using either could be considered doing a literal translation.

Vinay and Darbelnet (1995:34) are of the opinion that when the SL and the TL belong to the same language family, e.g. Swedish and Danish or Swedish and English, this is the best and most common procedure for translators to use. Example 3) below illustrates a literal translation.

3)	Almost everyone knows someone who has diabetes (p.1).	Nästan alla känner någon som har diabetes.

3.3.2 Oblique translation strategies

In this category Vinay and Darbelnet placed four procedures: *transposition*, *modulation*, *equivalence* and *adaptation*. Equivalence is not used to classify any terms in the present study and therefore not defined below.

3.3.2.1 Transposition

This process involves changing one part of speech for another without changing the meaning of the message. A common transposition is the changing of the word class: a verb may, for example, be changed into a noun as in 4) below (Vinay & Darbelnet 1995:36, Munday 2001:57). According to Ingo (2007:70), the process may involve using well established expressions in the TL, but if there is not one already, the translator may create a new expression.

4)	As soon as she *got up* (Vinay & Darbelnet 1995:36).	Des son *lever* (Vinay & Darbelnet 1995:36).

3.3.2.2 Modulation

When a literal translation or transposition would not work, a translator may choose to change the point of view which will also mean that the semantics change. This procedure is called modulation. Examples of this are changing space for time, a part of something into a whole or changing symbols, which would mean changing an English

metaphor to an existing (or new) Swedish one that is similar but slightly different at the same time (Vinay & Darbelnet 1995:36-37, Munday 2001:57–58). Ingo (2007:152) presents translating *He entered the highway* with *Han körde ut på motorvägen* as an example of a modulation.

3.3.2.3 Adaptation

Vinay and Darbelnet (1995:39–40) refer to adaptation as 'the extreme limit of translation'. Adaptation involves changing a situation into another to be able to transfer the intended message when the cultural reference does not exist in the target culture (Vinay & Darbelnet 1995:39–40, Ingo 2007:153, Munday 20012:58). In the original source Vinay and Darbelnet do not specify how translators can go about making an adaptation but several scholars give similar explanations of how it can be done. One example of adaptation is to replace the word *tea* with the Swedish word for *coffee* when translating a text from English into Swedish where people are drinking tea since Swedes are more likely to drink coffee than tea (Ingo 1991:183–185). Other ways of adapting a text might be to change the spelling of certain words or simply omit word or parts of the text (Klingberg 1986:11–12). An adaptation can also be when information is added in the form of an explanation to make the information easier to understand for the TR (Ingo 2011:127). The purpose of adaptation is described by Rask (2008:9) as a way of making the reader feel at home with the text. Indeed, Vinay and Darbelnet (1995:39–40) claim that the choice of not adapting a text will often cause the TT readers feel that even though they cannot put the finger on what it is, there is something about the text that does not feel right.

4 Analysis

This chapter will cover the analysis of the translation procedures used to translate names of diseases, syndromes, conditions and medical events such as *stroke* or *heart attack*. Information will also be presented about how the text was adapted using Vinay and Darbelnet's procedure adaptation, to create an equivalent effect on the TR as the ST did on its reader, as Newmark (1979:1405–1407) suggests a translation should.

4.1 Medical terminology

The online edition of the Oxford English Dictionary [www] (henceforth OED) describes terminology as 'the system of terms belonging to any science or subject'. Thus, terms

are part of the special purpose language of medicine and can be considered medical terminology. Since it is sometimes difficult to draw the line between conditions and events such as *strokes*, *heart attacks* and *cardiovascular events* and some of these events were more challenging to translate than names of diseases, they have been included as well. Terms in parts of the text that have been omitted to adapt the content of the text to the TR (which will be analyzed in Section 4.2) have not been included in the analysis of medical terminology since the adaptation did not have anything to do with the actual terms.

There are 88 unique terms in the ST that meet the criteria set forth in the aim and scope. Since different strategies were used at different times each occurrence of a term has been recorded and classified. This means that 282 items were included in the present study. As shown in Figure 1, direct translation strategies were used to translate the vast majority of all terms included in the analysis; 225 terms (79 %) were translated using direct translation strategies, 47 terms (17 %) were translated using oblique translation strategies and 12 terms (4 %) were translated using mixed strategies. The terms placed in the category mixed strategies are cases where more than one procedure was used or none of the procedures in Vinay and Darbelnet's model could be used to classify them. Disregarding which translation strategy a procedure belongs to, the most frequently used procedure over all was literal translation.

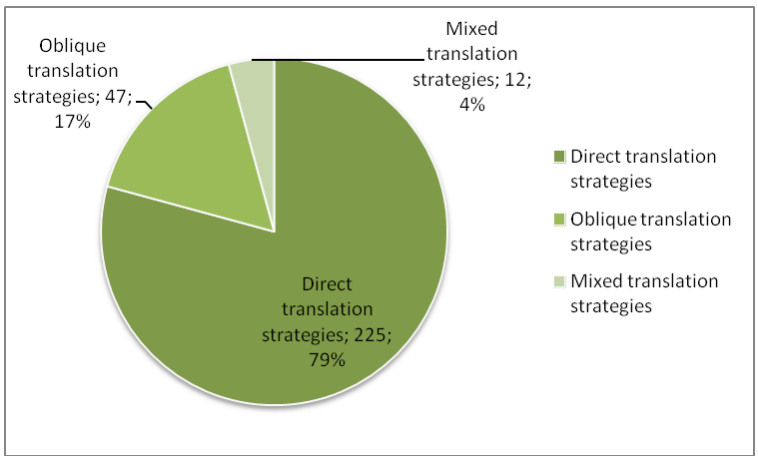

Figure 1. The distribution of tranlsation strategies in the present study

As shown in Figure 2 below, it was used to translate 75 % of all items included in the present study. Thus the statistics supports Vinay and Dalbernet's claim that it is the best and most used procedure when translating between languages belonging to the same language family, as stated in section 3.3.3.3. The following sections will deal with each procedure belonging to each translation strategy.

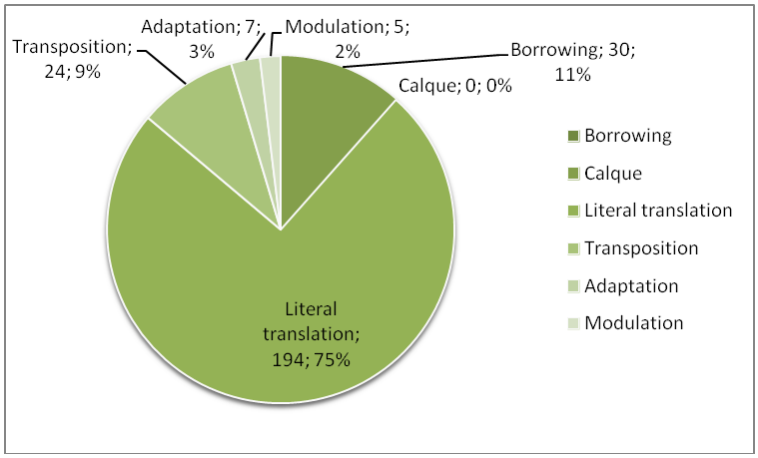

Figure 2. The distribution of translation procedures used in the translation process

4.1.1 Direct translation strategies

Figure 3 shows the distribution of the procedures borrowing, calque and literal translation. The most common procedure used in this category was literal translation (87 %). 13 % of the terms were borrowed and no terms have been classified as a claque even though some are close to fit the criteria. In cases where terms could have been classified as calques but were not, the reason for this is often that I have not been able to find facts supporting that the term has entered the Swedish language from English. This means that the term might have been coined in another language and is thus a calque in both English and Swedish. Another reason why some words were not classified as calques was that the etymology of the words used in the ST and TT was not English or Swedish to begin with. This will be discussed in more detail further on in the analysis.

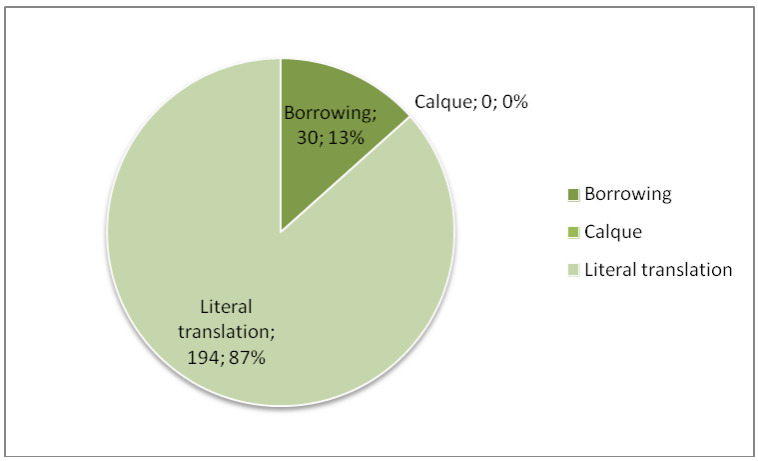

Figure 3. The distribution of procedures used in the present study belonging to the category direct translation strategies

The following subchapters will present information on some of the interesting items translated using direct translation strategies. Motivations are also given as to why they

have been classified as one type of procedure. As presented in Section 3.1 Alegre and Herget (2009), Fogelberg and Peterson (2011:22–23), Korning Zethsen (2004:125–142) and Newmark (1979:1405–1407), all stress the importance of making sure that the everyday term and not the scientific term is used when translating this type of text. Information will therefore also be presented about the kind of research that was done to make sure the proper term for the context was used.

4.1.1.1 Literal translation

By using the dictionary 'Norstedts Professionell', and checking the website for Sjukvårdsupplysningen and similar websites I managed to identify most of the equivalent terms that were literally translated. The Greek and Latin roots made finding the equivalent name for a disease, condition or medical event quite easy even if they were not listed in any of the dictionaries at hand. There were no instances where the Latin term had different meanings in English and Swedish as Korning Zethsen (2004:125–142) suggests there often is. When using parallel texts I always made sure that they were written for the general public. The text on websites for Sjukvårdsupplysningen, Vårdguiden [www], on websites run by patient organizations and in articles from non-scientific medical newspapers and magazines were all written for the general public and therefore they were the sources for the vast majority of parallel texts. As Newmark (1979:1405–1407), Herget and Alegre (2009) state usually is the case, the most difficult thing was to decide which of all the synonyms to use and on occasion to find out if there was an everyday term or if the scientific term was also the everyday term. In several cases where I could not decide on which synonym to use after consulting parallel texts, Google was a helpful tool in finding the most used term. The rest of this chapter will present information on some of the more common terms in the text that were literally translated and some of the terms that required some more research.

The most common terms are names for different types of *diabetes*. *Diabetes* is called *diabetes* in Swedish as well nowadays, but as Fogelberg and Petersson (2011:42–47) state, it used to be called *sockersjuka* in everyday language. Unless I wanted to avoid repetition or it was part of a compound, *diabetes* was always translated literally. The two most common forms of *diabetes* are called *type 1 diabetes* and *type 2 diabetes* in English. In Swedish there are two ways of referring to each type. *Type 1 diabetes* is called either *diabetes typ 1* or *typ 1-diabetes*. *Type 2 diabetes* is called either *diabetes typ 2* or *typ 2-diabetes*. The only difference here is the word order. When deciding on

which term to use I visited the pages of different patient organizations and also the website for Sjukvårdsupplysningen since neither of these names was in any of the dictionaries at hand. Sjukvårdsupplysningen uses both versions interchangeably but writes *typ 1-diabetes* and *type 2-diabetes* more in the texts and use the other forms in the headlines. Perhaps they do this because *typ 1-diabetes* and *typ 2-diabetes* are easier to say. Since a Google search rendered far more hits for both *typ 1-diabetes* and *typ 2-diabetes* than the other versions, they were used consistently throughout the text.

Moreover, 'Norstedts Professionell' suggests only *immunsystem* for *immune system*. 'Medicinsk terminologi' (Lindskog 2008) does not list either *immunsystem* or *immunförsvar* but *immunförsvar* is used to explain several other aspects in the dictionary. The dictionary Nationalencyklopedin [www] writes *immunsystem* but Sjukvårdsupplysningen writes *immunförsvaret.* This means that there are two seemingly equivalent terms in Swedish: *immunsytem* and *immunförsvar*. A search on the website for Vårdguiden renders 8 hits for *immunsystemet* and 88 for *immunförsvaret*. A Google search rendered 294 000 hits for *immunsystemet* and 388 000 hits for *immunförsvaret*. The search was done using definite forms to exclude hits that were not in Swedish. To be sure that these terms were equivalent I conferred with a medical doctor who explained that she would say that *immunförsvaret* is made up of an *immunsystem*. Based on this explanation and the hits on Google, I decided to use *immunförsvaret* (cf. the guidelines by Herget and Alegre (2009), Newmark (1979:1405–1407) and Korning Zethsen (2004:125–142).

Some terms that were classified as literal translations could at first glance look as if they fit the criteria for another procedure better. One example of this is *Huntington's chorea*, which was translated as *Huntingtons sjukdom*. According to The Movement Disorder Society (Hu, Shu-Leong & Leong, Henry G.) the word *chorea* derives from the Greek word for *dance* and indeed, 'Norstedts Professionell' suggests *danssjuka* and *chorea* as the equivalent terms in Swedish. Thus, *Huntingtons danssjuka* could be considered a literal translation. However, this name only renders just over 200 hits on Google and since I am familiar with the disease, this did not seem like an adequate translation. According to the National Institute of Neurological Disorders and Stroke (Anonymous 3) which is part of the American National Institutes of Health, *Huntington's chorea* is an old name for the disorder; nowadays it is normally called *Huntington's disease*. This means that the ST authors have been using an old fashioned term. The fact that the national patient organization in Sweden is called 'Riksförbundet

Huntingtons sjukdom' [www], Nationalencyklopedin has it listed as *Huntingtons sjukdom*, and that the phrase renders 150 000 hits on Google supports the conclusion that *Huntingtons sjukdom* is the equivalent name for *Huntingtons chorea* in everyday Swedish. It is also supported by the fact that the national patient organization for the neurologically disabled (Neurologiskt handikappades riksförbund [www]) has it listed under *diagnos och symptom* ('diagnoses and symptoms') as *Huntingtons sjukdom*. The reason *Huntingtons sjukdom* has been considered as a literal translation of *Huntington's chorea* is that it is only in combination with each other that the meaning of the words becomes clear, *Huntington's* and *chorea* could mean other things when they are not used together, as could *Huntingtons* and *sjukdom* and *Huntington's* and *disease.* As a combination, however they can only refer to one condition. Therefore, we must look at these words as one unit and not two separate ones. Then it becomes clear that *Huntingtons sjukdom* has the exact same meaning as *Huntingtons chorea* in the context that it is used, which is the definition of a term that is equivalent in meaning in the present study. Furthermore, *Huntingtons sjukdom* is a word-for-word translation of *Huntington's disease*, the more common name for the disease.

4.1.1.2 Borrowing

The borrowings in this text are made up of the following terms.

Latent Auto Immune Diabetes in Adults	Maturity onset diabetes in youth
LADA	MODY
IFG	NDM
IGT	Stroke
Leprechaunism	

LADA is the acronym for *latent auto immune diabetes in adults*, *MODY* for *maturity onset diabetes in youth* and *NDM* for *neonatal diabetes mellitus*. Judging by the information from Sjukvårdsupplysningen and several other websites, the acronyms *LADA* and *MODY* are more common ways of referring to these types of diabetes and the full name is only used initially to present the disease. Since the website for Sjukvårdsupplysningen probably is the first place most Swedes turn to educate themselves on diseases, and it is run collectively by the Swedish county councils, who are responsible for health care in each Swedish region, I think this supports borrowing these terms in the TT. Transferring the acronym when there is a lexical gap in Swedish is also in accordance with the guidelines Ingo (2011:121–123) and Kaspowicz (2010) propose. Furthermore, these borrowings make the influence Fogelberg and Petersson (2011:18) suggest English has on Swedish medical language quite apparent.

It was extremely difficult to find parallel texts for the diabetes type *neonatal diabetes mellitus/NDM*. The term could not be found on Sjukvårdsupplysningen's website or on any other health sites or on the sites run by patient organizations. Furthermore it could not be found in Nationalencyklopedin or in 'Norstedts Medicine' either. Eventually I found *neonatal diabetes mellitus* mentioned in an article (Anonymous 1) on the website for Diabetolognytt [www], which is a scientific magazine about diabetes and *neonatal diabetes* in a Swedish-Finish mini-dictionary of words concerning diabetes compiled by Margaretha Terner for Språkrådet (Terner). To clarify what it is called, I tried to find experts on the subject who could help. After being referred to several different doctors, I finally managed to get in contact with a pediatrician at Södersjukhuset in Stockholm who confirmed that *neonatal diabetes* was the proper term in Swedish. She did not use *mellitus* in her e-mail but another doctor from Linköping University whom I later also contacted wrote *neonatal diabetes (mellitus)* suggesting it could be used but did not have to be. I decided to write *neonatal diabetes mellitus* since it made it more clear what the acronym *NDM* stands for (cf. guidelines by Ingo (2011) and Kaspowicz (2010)). Moreover, *diabetes mellitus* is the full scientific name for the disease in both English and Swedish, but in most of the texts I have read that are written for the general public, in both English and Swedish, the full name is rarely used. The reason why I decided to borrow the acronym and not use *neonatal diabetes (mellitus)* is also that Swedes who want to research the disease will have to turn to texts in other languages since there practically is no information available about it in Swedish. If they read English texts, they will undoubtedly come across the acronym. If they would have read the TT they would already be familiar with the acronym and perhaps be less confused when reading the English texts.

Since all the words in the phrase *neonatal diabetes mellitus* are used separately in other medical terms the full name has not been classified as a borrowing but a literal translation. The acronym has been classified as a borrowing. It could be argued that *neonatal diabetes mellitus* could be classified as borrowing as well if you look at the whole name as one unit, as I argued earlier that you often have to do in this context, since the name is not used much in Swedish but quite extensively in English. It could also be argued that it is a fixed expression transferred to Swedish by literal translation and thus is a calque. However since *neo-* is a Greek prefix, *natal* is Latin and *diabetes* is Latin and Greek and not English (Lindskog 2008:154, 421, 424), I decided against this

as well. Regardless of how the phrase is looked at, as one unit or word-for-word, I consider this case to be a literal translation.

Another term that was difficult to find an equivalent word for in Swedish that ended up being borrowed was *leprechaunism*. It was not in dictionaries or on any of the sites mentioned above in connection to *NDM*. A Google search only rendered one hit in Swedish that seemed somewhat reliable – a Bachelor's thesis from Uppsala University. Eventually, I stumbled upon the term in an article from *Läkartidningen* (Groop 1998:5154). Since the article is about diabetes and the term is used in the same context together with *Rabson Mendenhall syndrome* like it is in the ST, borrowing the term seemed justified.

4.1.2 Oblique translation strategies

This section will deal with the terms translated using oblique translation strategies. Figure 4 shows the distribution of the terms translated using transposition, modulation, adaptation and equivalence.

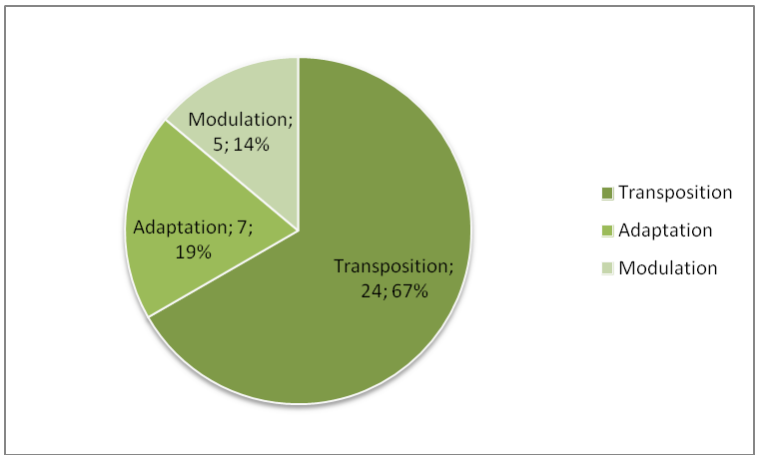

Figure 4. The distribution of procedures used in the present study belonging to the oblique translation strategies category.

One important note is that the ST is immensely repetitious. The authors state many things at least twice and sometimes they repeat the name of a condition or disease two or three times in the same sentence and then begin the next sentence by using the term again. To avoid repetition, these terms were replaced on several occasions by the Swedish equivalents to phrases such as *the disease*, *this form/type*, etc. Therefore, a great deal of the cases classified as oblique translations are possible to translate using direct translation strategies but were not, to avoid repetition.

4.1.2.1 Transposition

Transposition is defined as a procedure where you change the semantics without changing the sense, as is shown in Figure 2, it is the most used procedure among the oblique translation strategies: in 67% of the cases. Examples 5) and 6) below are two of the typical transpositions in the present translation.

5)	*CVD* is the main killer of people with type 2 diabetes (p.14).	*Hjärt- och kärlsjukdomar* är den allra vanligaste dödsorsaken för de med typ 2-diabets.

CVD is the acronym for *cardiovascular disease* which translates literally into Swedish as *hjärt-kärlsjukdom.* Since some Google searches rendered 31 900 hits for *hjärtkärlsjukdom*, 127 000 hits for *hjärt-kärlsjukdom* and 261 000 hits for *hjärt- och kärlsjukdom*, the latter phrase was used in the TT. There is no acronym for this disease in Swedish and writing the full term sounded more idiomatically correct than borrowing the acronym, as Ingo (2011:121–123) and Kaspowicz (2010) suggest.

6)	About 3 to 8 percent of pregnant women in the United States develop gestational diabetes. As with type 2 diabetes, *gestational diabetes* occurs more often in some ethnic groups and among women with a family history of diabetes. Gestational diabetes is caused by the hormones of pregnancy or a shortage of insulin (p.3).	I Sverige får ungefär 2–3% av alla gravida kvinnor graviditetsdiabetes. Precis som vid typ 2-diabetes förekommer *denna form* oftare hos vissa etniska grupper än andra. Risken är också större att man får graviditetsdiabetes om någon annan i familjen haft det. Graviditetsdiabetes orsakas antingen av graviditetshormoner eller av brist på insulin.

6) and similar cases make up most of the transpositions. In this case, *gestational diabetes* has been translated as *denna form* ('this form'). Semantically, the translation looks very different, but in the context it means exactly the same. The reason behind this choice, as well as most of the transpositions overall, was to avoid repetition.

4.1.2.2 *Modulation*

There are only five translations classified as modulations in the present study. These five modulations are all similar to the two cases shown in examples 7) and 8). Some of the modulations were optional and some were necessary.

7)	This category includes pancreatitis, *infection*, and cancer *of the pancreas* (p.5).	Härtill hör bukspottkörtelinflammation samt *infektioner* och cancer *i bukspottskörteln*.

In 7) *infection of the pancreas* has been considered as one term even though *and cancer* splits the phrase. This example is however also applicable to *cancer of the pancreas* but considering the length of this thesis only one of the terms will be discussed. *I* is the

Swedish equivalent of the preposition *in*. The fact that English and Swedish use different prepositions changes the perspective and thus makes this item a modulation. The reason that the phrase in question was used in Swedish is that *infektion i bukspottskörteln* rendered 2 230 hits on Google, whereas similar ones such as *bukspottskörtelinfektion*/*er* or the more literal translation *infektioner av bukspottskörteln* does not even render a handful of hits. No references to any *infections of the pancreas* were made in 'Norstedts Medicine', 'Medicinsk Teminologi' (Lindskog 2008), or an anatomy book (Anonymous 6).

8)	Diabetes is a *disorder of metabolism*— the way the body uses digested food for growth and energy (page 1).	Diabetes är en *ämnesomsättningsjukdom*, dvs. en sjukdom som påverkar kroppens möjligheter att tillgodogöra sig mat för att växa och som bränsle.

Metabolism means *ämnesomsättning* in Swedish. In this modulation the point of view is changed by the removal of the preposition. *Ämnesomsättningssjukdom* would translate literally into English as *metabolism disorder* or *metabolism disease*. None of the all-purpose or special purpose dictionaries listed any reference to a *disorder of metabolism*. Therefore I went to the online edition of Nationalencyklopedin [www] and researched the human metabolism. There I found the term *ämnesomsättningssjukdomar* which was used after a Google search supported its usage by rendering over 26 000 hits for the term and 11 000 hits for its usage in collocation with *diabetes*.

4.1.2.3 Adaptation

Adaptation is defined in section 3.3.2.3 as a procedure that involves omitting parts of text, adding additional clarifying information or switching parts of texts for something more common in the target culture. This chapter will deal with how this procedure was used to translate medical terms. Cultural adaptation of other aspects will be discussed in Section 4.2.

Since all cases where terms have been omitted have been recorded as an adaptation, most of the seven instances of adaptation present in this study are cases where the terms have been omitted to avoid repetition. Example 9) illustrates one of these cases.

9)	Although this form of diabetes usually disappears after the birth of the baby, women who have had gestational diabetes have a 40 to 60 percent chance of developing type 2 diabetes within 5 to 10 years. Maintaining a reasonable body weight and being physically active may	Även om denna typ ofta försvinner efter att barnet fötts, löper dessa kvinnor en 40–60 % procentig risk för att få i typ 2-diabetes inom 5–10 år. Att försöka hålla sig någorlunda normalviktig och se till att man rör på sig ordentligt kan hjälpa till att motverka detta.

help prevent development of *type 2 diabetes* (p. 2).

The reason for the adaptation in this case is that the fact that women who develop *gestational diabetes* are at risk of developing *type 2 diabetes* in a few years is more or less stated twice. There did not seem to be any need for repeating the more or less exact same words again when writing *detta* ('this') would express the same meaning. Looking at the whole sentence, it could be argued that the meaning of *type 2 diabetes* is included in *detta* and that this thus should be considered a transposition. However, since *detta* refers to *the development of type 2 diabetes* and not the term alone, it has been listed as an adaptation.

Example 10) below shows another example of an adaptation. In this case an explanation has been added in everyday language to make the term more easily understood by the TR. *Atherosclerosis* translates as *ateroskleros* and *åderförkalkning* into Swedish according to 'Nordstedts Medicine'. It also says that *subclinical* means that someone has a condition but this condition has not progressed far enough to make any symptoms appear yet. Since *subklinisk åderförkalkning* only renders one hit on Google and *subklinisk ateroskleros* almost 400 hits, and these hits include pages from *Läkartidningen*, *Dagens Medicin* and Linköping University, the latter phrase was chosen to make sure the appropriate term was used for the condition. Thus, in this case factual accuracy had to come before using everyday terms. The explanation of the term *ateroskleros* will help the non-professional reader understand what it means. This is important since several references are made to *åderfökalkning* in other parts of the TT and without this explanation, connections between this part and those parts might not be made.

10)	ACCORD was designed to compare current practice guidelines with more intensive glycemic control in 10,000 individuals with type 2 diabetes, including those at especially high risk for cardiovascular events because of age, evidence of *subclinical atherosclerosis*, or existing clinical CVD (p. 14).	Med ACCORD-studien avsåg man att jämföra nu gällande praxis med intensiv glukoskontrollernade behandling hos 10 000 personer med typ 2- diabetes. Däribland skulle det också finnas de som löper extra stor risk för att ha en kardiovaskulär/tromboembolisk incident pågrund av t ex. ålder, *subklinisk ateroskleros (vard. ateroskleros = åderförkalkning),* eller redan diagnosticerade hjärt- och kärlsjukdom.

4.1.3 Mixed strategies

Terms that do not fit the criteria for any of Vinay and Darbelnet's procedures or where more than one procedure has been used to translate them have been placed in this category. In 11) *stiff man syndrome* has been both borrowed and adapted to make it more gender neutral. John's Hopkins has this condition listed on their website as *stiff person syndrome* (Anonymous 4) and it also renders 184 000 hits worldwide on Google compared to 64 200 for *stiff man syndrome*. This suggests that *stiff man syndrome* is an older, less used term. In Sweden, The National Board of Health and Welfare, which oversees the Swedish health care system, calls the condition *stiff person syndrome* (Nilsson Remahl 2010) and so does the Nationalencyklopedin. Thus, the statistics support replacing *stiff man syndrome* with *stiff person syndrome*. It could be argued that since the terms are completely synonymous, the case could be classified as a borrowing only, but in this case I decided against this.

11)	About one third of people with *stiff man syndrome* develop diabetes (p 5.).	Ungefär en tredjedel av alla som har *stiff person syndrome* får också diabetes.
12)	In other autoimmune diseases, such as *systemic lupus erythematosus*, patients may have anti-insulin receptor antibodies that cause diabetes by interfering with the binding of insulin to body tissues (p.5).	Vid andra autoimmuna sjukdomar som t ex. *SLE (Systemisk Lupus Erythematosus*) kan patienten ha antikroppar mot insulinreceptorerna vilket orsakar diabetes genom att störa bindningen av insulin i kroppsvävnaden.

Towards the end of the text, the disease *systematic lupus erythematosis*, is mentioned. According to the American College of Rheumatology (Ellen Ginzler & Jean Tayar 2013), this disease is normally called simply lupus or SLE in English. Judging by articles on the websites for Sjukvårdsupplysningen, Vårdguiden and the patient organization Reumatikerförbundet (Anonymous 5), the condition is normally referred to as *SLE* in everyday Swedish. However, *systemisk lupus erythematosus* seem to be the full name. *Lupus erymatosus* is Latin and not changed in the Swedish name for the disease. *Systemic* has been literally translated as *systemisk*. The reason the term ended up in this category is that since the guidelines by Newmark (1979:1405–1407), Herget and Alegre (2009) etc. all say that an everyday term should be used instead of a scientific term in a text for non-professionals, I decided to transpose the term and use the acronym but then, make an addition (which counts as an adaptation) within brackets where I spelled out the full name in Swedish. Thus, I used both transposition and adaptation to translate the name of this disease.

4.2 Cultural context adaptations made to adapt the text to the TR

Beaton et al (2000:3186–3191) state that when translating a medical text, in their case a questionnaire, from English to other languages, the translator who focuses on making a linguistically adequate translation only, might not achieve an equivalent effect on the TR (cf. Newmark 1979:1405–1407). They must also take the content into account which for example means that if they approach a task in a different way in the target culture, use different measurements, etc., this should be changed in the TT. For example, in a questionnaire about health problems used in a clinical study, asking whether or not a person has difficulty eating with a fork might make it possible for scientists or doctors to draw certain conclusions about the patient's condition if they live in Europe or North America. However, if the patient lives in Japan or China or any other country where they do not eat with forks this would not have the same significance. If they have difficulties eating with chopsticks however, it might. In other words, not taking into account differences in ways we live and how healthcare systems work when translating this questionnaire could yield misrepresenting results in the clinical study (Beaton et al 2000:3186–3191). If not making cultural adaptations of texts asking people about their health might have great consequences, then not adapting a text informing people about a particular medical issue will most likely have great consequences as well. This chapter will focus on how I applied the procedure adaptation as defined in Section 3.3.2.3 (by omitting, replacing or adding information) on parts of the texts containing statistics, measurements, contact information etc., to create an equivalent effect on the TR as the ST had on its reader.

The ST is filled with statistics about diabetes in the US. There are facts about how many diabetics there are in total, how many people are waiting for a diagnosis, statistics on the distribution of diabetes among different ethnic groups in the country, what types of government agencies, organizations etc., sponsor different projects and so on. Deciding what to do with this was unquestionably the greatest difficulty about translating this text, but not making any changes at all could make the text feel 'foreign' and perhaps uninteresting to the TR. Thus, any decision to make an adaptation of the text was always made with the TR in mind. Depending on how interesting something would likely be to the TR, these cases were either transferred to the text as they were, replaced by something else more closely connected to Swedish society and culture, omitted entirely or adapted, by using complementary additions. Another aspect that

made the decisions more difficult was that it has become quite apparent in hindsight that a text like this would most likely not be translated only to inform Swedes about diabetes. We have skilled doctors and other medical personnel in this country that could very well do that. If someone were to commission a translation of this text, they would have to be interested in transferring the international (i.e. American) perspective to the TT. Therefore, some of the text that was originally omitted was included at a later stage in the process.

Approximately two–thirds of a page of information has not been included in the TT. This information primarily concerns parts of the text where the authors present very detailed information about diabetes in the US. This information would not only be uninteresting to the TR's but some information would not even mean anything to them without quite extensive explanations. Example 13) shows a part of text that has been adapted in such a way that it has been omitted in the TT.

13) The U.S. Department of Health and Human Services estimates that at least 57 million U.S. adults ages 20 or older had prediabetes in 2007 (p. 6).

More general statistics were treated somewhat differently. Some facts were replaced with facts about conditions in Sweden. One of these cases was statistics regarding the number of women being diagnosed with gestational diabetes every year, as seen in 14) below.

14)	About *3 to 8 percent* of pregnant women *in the United States* develop gestational diabetes (p. 3).	I *Sverige* får ungefär *2–3%* av alla gravida kvinnor graviditetsdiabetes.

In one case the TT was adapted by replacing information in the ST concerning volume. The case concerned the blood glucose levels different types of diabetes are diagnosed at. Diagnosing diabetes in both the US and Sweden is usually done by taking a blood test. However, just like Americans use the imperial system to refer to length and weight and we use the metric system, doctors use different systems when diagnosing diabetes. In the US doctors use mg/dL and in Sweden they use mmol/l. In addition to this, there are also different types of blood tests (capillary blood glucose tests and plasma glucose tests) and depending on which test the doctor uses, diabetes is diagnosed at different glucose levels. Since this would most likely cause great confusion to the TR if no cultural adaptation was made, the process of diagnosing diabetes was quite extensively researched and the mg/dL-levels were replaced with corresponding mmol/l levels. This action is moreover suggested by both. Beaton et al. (2000:3186–

3191) and Newmark (1979:1405–1407). 15) is an example of how mg/dL was replaced by mmol/l in the TT.

15)	A blood glucose level of *126 milligrams per deciliter (mg/dL*) or higher after an 8-hour fast. This test is called the fasting blood glucose test (p. 6).	En blodsockernivå på *7 mmol/l* eller högre efter att man varit fastande i åtta timmar betyder att patienten har diabetes.

There are different guidelines in place in different Swedish counties when it comes to at which blood glucose levels someone is diagnosed with *gestational diabetes*. Some counties diagnose women with gestational diabetes at a slightly lower blood glucose level than in other counties. Thus, a woman who is diagnosed with *gestational diabetes* in one county might not have been if she had lived in another county. Deciding on which figures to use for *gestational diabetes* was therefore difficult. There are official guidelines for diagnosing different types of diabetes at 'Landstinget i Östergötland' (Samuelsson & Nordvall, 2011 and Hagve & Schedvin, 2011). For the sake of consistency, the figures in this guide were used to replace any facts about the glucose levels different types of diabetes are diagnosed at throughout the TT.

Furthermore, American doctors check blood glucose levels one, two and three hours after the patient has drunk a glucose drink when they are doing OGTT's (Oral Glucose Tolerance Test). Parallel texts in Swedish however, only refer to *tvåtimmarsvärdet*, ('the two-hour-level'). This indicates that doctors do not check glucose levels three times in Sweden; they only do it once after two hours. Therefore, the figures for what blood glucose levels indicate diabetes at one and three hours after the intake of a glucose drink could not be transferred into Swedish. These parts had to be omitted.

In other cases, where the information in the ST seemed interesting enough to the TR to include, or where it could not be omitted because it was important to the surrounding text but where the TR would likely wonder how the case is in Sweden, information was added to the TT. In some cases I would have liked to add some more Swedish statistics to make the information easier for the TR to take in but unfortunately I could not find any facts that were reliable or recent enough to use. 16) illustrates an adaptation where information has been added in the TT.

16)	Type 1 diabetes accounts for about 5 to 10 percent of diagnosed diabetes in the United States (p. 2).	I USA har 5–10 % av de som har fått diabetesdiagnos typ 1-diabetes. *I Sverige är siffran 10–15%*

Towards the end of the ST several diabetes studies are presented. Most of these studies have scientists and patients participating from all over the world. In all these cases, research was done to see if there were any research centers in Sweden that were part of the study. If there were, information on this was added to the TT. Information about the main websites and telephone numbers of the organizations in the US is included in the ST. The phone numbers have been omitted in the TT but the addresses to the websites have been transferred. This makes it possible for the TR to find information about the studies in general as well as where to turn for more information about them in Swedish. Adding contact information to the research centers in Sweden was considered, but since most do not have websites of their own about the project and all of them are listed on the official websites, it was decided against this. Examples of what kind of additions that were made in cases such as these are shown in 17) and 18).

17)	The main mission of the TEDDY consortium, an international group of clinical centers, is to identify infectious agents, dietary factors, or other environmental factors— including psychosocial events–that trigger type 1 diabetes in those who are genetically susceptible (p. 11).	Forskare från hela världen är involverade i Teddy-studien. *I Sverige, till exempel, deltar Lunds universitet*. Studiens huvudsakliga mål är att identifiera smittämnen, matvanor eller andra miljöfaktorer (inklusive psykosociala faktorer) som triggar igång utvecklingen av typ 1-diabetes hos personer som är genetiskt känsliga för sjukdomen.
18)	Clinical centers are located in the United States, Canada, Europe, and Australia (p. 11).	Forskningscentrum finns i USA, Kanada, Europa och Australien. *I Sverige deltar Skånes universitetssjukhus.*

In sum, this section has focused on explaining how and why certain parts of the text were adapted in order to create the equivalent effect on the TR as the ST had on its reader. Mostly, the text was adapted by either omitting, replacing or adding statistics about diabetes. However, some parts, such as the process of diagnosing diabetes, also had to be adapted since different procedures and measurements are used in Sweden than in the US.

5 Conclusions

The aim of this thesis is to analyze the difficulties I encountered and the translation strategies I used when translating *Diabetes Overview* from English to Swedish. I focused on medical terms that were names for diseases, conditions and medical events. Vinay and Darbelnet's model of translation strategies was used to classify the translation of terms included in the study. Furthermore, the study also focused on cases where the procedure adaptation was used on the text in order to fulfill what Newmark

(1979:1405–1407) defines as the translator's objective; producing a text that has a similar effect on the TR as the ST had on its reader.

I conclude that when translating this text, most terms were translated using direct translation strategies. Literal translation was the most used procedure overall. There were few terms that did not appear in either an all purpose dictionary such as 'Norstedts Professionell' or a special purpose dictionary such as 'Norstedts Medicine' or 'Medicinsk termonologi' (Lindskog 2008), at least to some extent. With 'some extent' I mean that even if the full name of the disease did not appear, then at least one or two of the words making up the name were included, which could later on be used to identify the equivalent Swedish name in parallel texts. Thus, as Williams (1996:275-299) claims to be the case when translating medical texts, dictionaries alone could not be used to determine which term was the correct one to use in this particular context. As he suggests, parallel texts were also needed to fully understand the meaning of the words and which synonym to choose. Google searches were also an important tool when deciding on which synonym to use when there were several to choose from. As Fogelberg and Peterson (2011:18–22) and several other scholars predict there was at times a difference between everyday language and scientific medical language. *Atheriosclerosis* is for example called *arteroscleros* in scientific Swedish language but *åderföralkning* in everyday language. Since the intended TR is a non-professional everyday versions of a term were used to the utmost extent, as suggested by Herget and Alegre (2009), Newmark (1979:1405–1407) and Fogelberg and Peterson (2011:13–25).

Furthermore, the influence of English on Swedish medical language as Fogelberg & Peterson (2011) claim exists was noticeable in this study. Several types of diabetes have kept their English names in Swedish; *LADA* and *MODY* are the most apparent of these and *prediabetes* and *Neonatal Diabetes Mellitus* are cases where the English influence is less apparent but very probable.

When it comes to the use of adaptation on the text to make it more interesting and understandable to the TR, it was mostly used to omit parts of text containing excessive information about diabetes in the US or adding Swedish statistics to the American figures to create balance. However, as Beaton et al (2000:3186–3191) point out, health care systems and how they choose to tackle different aspects do not look the same in all countries and thus parts of the text describing e.g. the blood glucose levels diabetes is diagnosed at had to be adapted so that it referred to how it works in Sweden. Otherwise the TR would be misinformed and perhaps confused. Here parallel texts on how

diabetes treatment and diagnosing works were very helpful and my appreciation of their value for a translator has increased greatly because of this study. I fully agree with Williams (1996:275–299) that parallel texts are of great importance to a translator of a medical text.

An interesting future project would be to look at other translated texts about diabetes and other diseases as well and using the same method and model, compare the results with the results of this study. It would be interesting to see if the most used procedure when translating medical terms from English to Swedish always is literal translation and to what extent the process of diagnosing a particular condition requires adaptation because the process differs between the health care systems.

List of references

Primary sources

U.S Department of Health and Human Services (2008) *Diabetes Overview* http://diabetes.niddk.nih.gov/dm/pubs/overview/DiabetesOverview_508.pdf Accessed on 11 May 2013.

Secondary sources

Beaton, Dorcas E. Bombardier Claire. Guillemin Francis & Bosi Ferraz Marcos (2000) *Guidelines for the Process of Cross-Cultural Adaptation of Self-Report Measures*. Lippincott Williams & Wilkins, Inc: SPINE Volume 25, Number 24, page: 3186–3191

Fogelberg, Magnus & Petersson, Göran. (2011) *Medicinens språk*. Stockholm: Liber

Heget Katrin & Alegrave Teresa. (2009). *Translation of medical terms*. Translation Journal Volume 13 Number 3

Ingo, Rune (1991) *Från källspråk till målspråk. Introduktion i översättningsvetenskap*. Lund: Studentlitteratur

Ingo, Rune. (2007) *Konsten att översätta*. Lund: Studentlitteratur

Kasprowicz, Malgorzata. (2010) *Handling abbreviations and acronyms in medical translation*. Translation Journal Volume 4 Number 2

Klingberg, Göte. (1986) *Children's books in the hands of the translators*. Lund: Bloms Tryckeri AB

Korning Zethsen, Karen. (2004) *Latin- based terms. True or false friends?* Target 16:1page.125–142

Munday, Jeremy. (2001) *Introducing translation studies*. *Theories and application*. London: Routhledge

Newmark, Peter. (1979) *A layman's view of medical translation*. British Medical Journal. 1 December, 1979. Page:1405–1407

Nord, Christiane. (2006) *Loyalty and fidelity and specialized translation*. Confluências - Revista de Tradução Científica e Técnica. Number 4. Pages: 29–41

Rask Nina (2008) *Analysis of a medical translation – terminology and cultural aspects*. Master thesis. Växjö University.

Vinay, Jean-Paul & Darbelnet, Jean. (1995) *Comparative Stylistics of French and English*. Amsterdam/Philadelphia: John Benjamins Publishing Company

Williams, Ian A (1996) *A translator's reference needs: Dictionaries of parallel texts?* Target 8:2 page: 275–299

Yule, George. (1996). 2nd edition. *The study of language*. Cambridge: Cambridge Univeristy Press

Parallel texts

Anonymous 1. (1996) *Kliniska riktlinjer för vård och behandling av patienter med diabetes mellitus*. Diabetolognytt: http://diabetolognytt.se/aterkommande/nationellt_vardprogram/klin_terapi.html Accessed on 1 March 2013

Anonymous 2. (2010) *Nationella riktlinjer för diabetesvården 2010*. Stockholm. Socialstyrelsen

Anonymous 3. (2013) *Huntington's disease: Hope through research*. National Institute of Neurological Disorders and Stroke. http://www.ninds.nih.gov/disorders/huntington/detail_huntington.htm Accessed on 13 May 2013

Anonymous 4. *Stiff person syndrome*. John's Hopkins Medicine. http://www.hopkinsmedicine.org/neurology_neurosurgery/specialty_areas/neuroimmunology_and_neurological_infections/conditions/stiff_person_syndrome.html Accessed on 23 May 2013

Anonymous 5. *Systemisk lupus erythematosus (SLE)*. Reumatikerförbundet. https://reumatikerforbundet.org/reumatism/diagnoser/systemisk-lupus-erythematosus-sle/ Accessed on 13 May 2013

Ginzler, Ellern & Tayar, Jean. (2013) *Systemic Lupus Erythematosus* http://www.rheumatology.org/practice/clinical/patients/diseases_and_conditions/lupus.asp Accessed on 11 May 2013

Groop, Leif (1998) *Ny diagnostik och klassifikation av diabetes*. Läkartidingen Volym 5 Nr 46 1998 page 5151–5155

Hagve, Camilla & Schedvin, Göran. (2012) *Glukosbelastning instruktion*. Landstinget Östergötland. http://www.lio.se/Verksamheter/DC/Laboratoriemedicin/Provtagningsanvisningar/Glukosbelastning-instruktion/ Accessed on 29 March 2013

Ho, Shu-Leong & Leong, Hery G. *Chorea, Huntington's disease*. The Movement Disorder Society. http://www.movementdisorders.org/disorders/chorea.php Accessed on 13 May 2013

Nilsson Remahl, Ingela (2010) *Stiff person syndrome*. The Board of Health and Welfare (Socialstyrelsen) http://www.socialstyrelsen.se/ovanligadiagnoser/stiffpersonsyndrome Accessed on 11 May 2013

Samuelsson, Ulf & Nordvall, Margareta. (2011) *Diabetes mellitus – klassifikation och diagnostik (Barnkliniken)*. Landstinget i Östergötland. http://www.lio.se/PM-medicinska-o-vardadm/PM-dokument/Barn--och-Kvinnocentrum/Barn--och-ungdomsklinikerna-i-Ostergotland/Lansovergripande-Medicinska-PM/Diabetes-mellitus-klassifikation-och-diagnostik-Barnkliniken/ Acessed on 29 March 2013

Dictionaries, encyclopedias and Internet sites
Anonymous 6. (2009) *Människans anatomi*. Viken: Replik in Sweden AB

Stålhammar, Mall. *Låneord i svenskan*. http://www.ord.se/Spraktips/Engelska-i-svenskan/Engelska-lanord-i-svenskan/ Accessed on 11 June 2013

Encyclopaedia Britannica. http://www.britannica.com/

Diabetesförbundet. www.diabetes.se

Diabetesportalen. http://diabetesportalen.se/

Lindskog, Bengt I (2008) *Medicinsk terminologi*. Stockholm: Nordstedts Akademiska Förlag

Nationalencyklopedin http://www.ne.se

Neurologiskt handikappades riksförbund. http://www.nhr.se Accessed on 13 May 2013

Nordstedts Professionell. http://www.wordfinder.se

Oxford English Dictionary. http://www.oed.com

Riksförbundet Huntingtons sjukdom. http://www.huntington.se/huntington/start.asp Accessed on 13 May 2013

Sjukvårdsupplysningen. http://www.1177.se

Terner, Margareta. *Diabetessanasto – Diabetesordlista.* http://www.sprakradet.se/7469. Accessed on 24 may 2013

Vårdguiden. http://www.vardguiden .se

Personal contact

Peter Bang, Linköping University. 13 May 2013

Martina Persson, Sachsska barnsjukhuset, Södersjukhuset. 10 May 2013

Frida Broström, MD. 1 March 2013