

Medical Translation: A Retrospective Study on the Quality of Medical Translation Produced by Translators With and Without a Medical Background

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Abstract

During the last century, the volume of investigations and scientific knowledge in the field of medicine has grown exponentially. At the same time, the exchange of information among medical professionals has increased to enormous amounts, becoming a fundamental aspect of the development of medical science. However, this exchange would not be possible if people were not speaking the same language. We can see that English is becoming a main language of science in the world scientific arena, as a vast majority of publications and reports are done in this particular language. Yet, some linguistic barriers to effective communication still exist. Medical translation is a highly specialized field, dealing both with translation of medical-related written information and with interpreting of medical events. Healthcare interpreting is of particular interest because of its role in establishing communication bridges between healthcare practitioners and their non-native language patients. This report elucidates the role of medical translation and interpreting in modern society and in promoting medical and related sciences. We also bring out preliminary results on a new study in the field of medical translation, in which we compare medical translators with and without a medical background and the types of mistakes they tend to make more often when translating medical documents. According to the preliminary statistics, translators with a linguistic background are more prone to terminological and logical mistakes, while translators with a medical background are more prone to grammatical and stylistic mistakes. With an increase in years of experience, this difference becomes insignificant, and translators start to make fewer mistakes overall.

Introduction

For the last centuries, we have seen a burst of development and innovation in the field of medicine. New information arises everyday on diseases, therapy and patient management. And this new information has to be transformed into other languages and cultures to ensure its global use. The field of medical translation and interpreting serves this purpose. Medical interpreting plays a vital role in the exchange of oral information at medical meetings, conferences, workshops or even at the hospital unit between doctor and patient (so-called healthcare interpreting). Medical translation deals with all variety of medical documentation, from scientific articles to patient information leaflets for drugs or marketing materials for medical devices. These documents vary significantly in terms of style and terminology, but they have one thing in common: the price of a mistake during translation is enormously high and equals the health and life of a patient.

What kind of professionals are involved in medical translation? We can divide all translators and interpreters working with medical information into two big groups. The first group is comprised of professionals with a linguistic background specialized in the translation/interpreting of medical content. They acquired such specialization with specific training or just with practice, frequently dealing with medical documents/events. The second group consists of professionals with a medical background. This could be medical/nursing school, or an education in biomedicine or pharmaceutical science. Such professionals usually have a good command in their native language and one or two foreign languages, which they learn at university or at different language courses. Some of them, but not all receive dedicated training on the translation of medical documents, which is included on the curriculum in many medical and pharmaceutical schools. Very few professionals from this group obtain additional education in translation and linguistics, and this is usually offered in a truncated curriculum. Medical translators/interpreters with a medical or relevant degree are not common within the translation industry, especially in Western Europe and the US, as the cost of obtaining a medical education and going into the medical profession is extremely high in those countries. However, in Russia and Eastern Europe (e.g. Poland, Hungary) there are some translators of this kind in the market. The reason for this is that specialized medical translators are in high demand in these countries, and the moderate income level of medical professionals forces them to find an additional part-time or even full-time translation job. These two groups of medical translators/interpreters have some significant differences in product quality when they work with medical information.

In our study, we reviewed test samples from medical translators with and without a medical background and assessed the differences in the types of mistakes they are prone to make while translating medical documents.

Methodology

Our study has a retrospective design and consists of two phases. In phase 1 we evaluated test translations from freelance medical translators. Translation was performed from English into Russian on medical text. This assessment was performed by two independent reviewers in a blinded fashion. Every sample was assessed for stylistic, grammatical and spelling mistakes, adequate translation of source terms and medical concepts. We also assessed the formatting and layout of the target text. After this assessment, the blinding was broken and results were matched with CVs from the translators who performed those tests. Statistical analysis was performed by an independent expert in social studies and statistics.

Primary information processing was performed with statistical grouping. The sample was divided into 3 cohorts: translators with a linguistic background (L), translators with a medical background (MD), and translators with a combined medical and linguistic background (MDL). Every subject was assessed by 2 endpoints: number of stylistic (St) and grammatical (Gr) mistakes and number of terminological (Tm) and logical (Lg) mistakes.

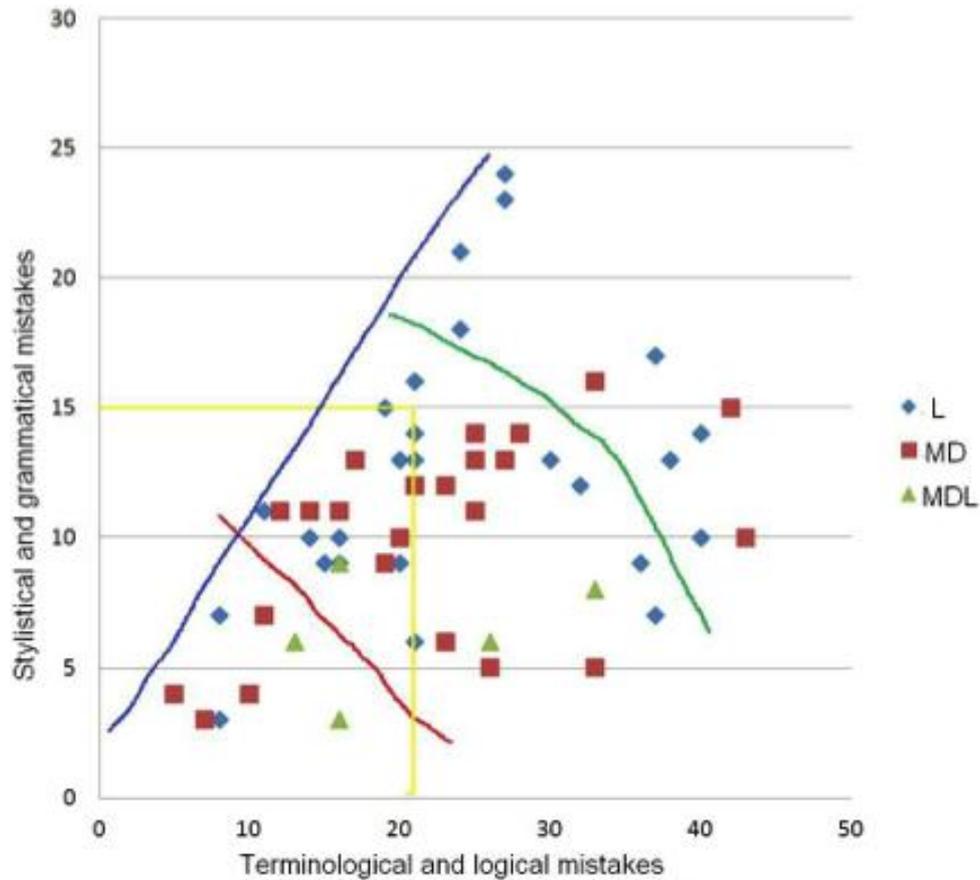
Our initial hypothesis was that medical translation professionals with a linguistic background tend to make more 'terminological' mistakes, while professionals with a medical or relevant background make more 'stylistic' mistakes. With years of experience, the total number of mistakes decreases, and the difference between these two groups becomes insignificant.

For phase 2 we developed a questionnaire for experts in medical translation to evaluate their opinion on training for medical translators/interpreters, the importance of a medical background for translating medical content, and potential problems with medical translation by professionals with and without a medical background.

Results

The study is still ongoing. At this moment, we have enrolled 60 sample translations. Four samples were excluded as non-evaluable. The enrollment plan is 2000 samples to provide statistical power for the study. Test samples were divided into 3 cohorts: translators with a linguistic background (L), translators with a medical background (MD), and translators with a combined medical and linguistic background (MDL). Primary endpoints were (1) number of mistakes per sample, (2) correlation between the number of mistakes and background and/or years of experience, and (3) quality of translation from MDLs. The following mistakes were assessed: terminological (Tm), logical (Lg), stylistic (St) and grammatical (Gr). For statistical analysis, Tm

mistakes were combined with Lg mistakes, while St mistakes were assessed in combination with Gr mistakes. Preliminary results on sample distribution are shown on Figure 1.



According to the preliminary results, we can divide all translation samples into 3 groups: best-performing group (BPG) with the lowest number of mistakes, moderately performing group (MPG) with an acceptable number of mistakes, and poor performing group (PPG) with a high number of mistakes. BPG includes 8 professionals (2 Ls, 4 MDs and 2 MDLs), MPG includes the highest number of samples (37 professionals 18 Ls, 16 MDs and 3 MDLs), and PPG includes 11 professionals (3 MDs and 8 Ls). The method of averages confirms that MDs and MDLs make fewer Tm and Lg mistakes than Ls. MDLs also make fewer St and Gr mistakes than Ls and MDs. Surprisingly, MDs make fewer St and Gr mistakes than

Ls. This result doesn't correspond to the initial hypothesis, but more samples are needed to consider this difference significant. The yellow line in the plot separates the group of translators with a tolerable number of mistakes, and most of those professionals were hired by the translation agencies providing test samples for this research.

Discussion

The majority of mistakes from all three cohorts were done by Ls. Perhaps a better understanding of the source text makes a translator produce better target text in Russian. Working out on Tm and Lg mistakes improves St and Gr mistakes, as we don't see subjects behind the blue line. The number and type of mistakes in L cohort was characterized by significant variability. This could be explained by differences in background, specialization and years of experience. MDs and MDLs make fewer Tm and Lg mistakes than Ls. MDLs also make fewer St and Gr mistakes than Ls and MDs. Surprisingly, MDs make fewer St and Gr mistakes than Ls. This result doesn't correspond to the initial hypothesis, but more samples are needed to consider this difference significant. With these additional samples, we plan to analyze the type of distribution and the density of distribution, and also to reveal any correlation between years of experience and number of mistakes for all 3 cohorts.

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