Difficulties and Suggestions for Medical English Translation: Insights from Experience

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Abstract

In specialized translation, particularly in areas involving languages for special purposes (LSPs), acquiring expertise is crucial and requires a deep understanding of the specific field, known as domain knowledge. Medical translation holds significant importance in the field of translation, given the extensive volume of texts requiring translation. As a result, this domain commands a substantial portion of the market. The insights shared here stem from our teaching experience and aim to outline practical objectives and helpful tools in the context of medical translation. These reflections serve as a guide for the training of individuals aspiring to become proficient medical translators.

1. Introduction

Translation is now recognized as more than just the act of transferring literary content between languages. The theoretical aspects of translation have undergone significant development, particularly in the nineteenth century, leading to a substantial presence in academic research. Translation has become a prominent discipline, extending beyond linguistics and literary studies to encompass various fields, including religious, political, social, and applied sciences. These diverse areas have all drawn upon the insights and contributions of translation studies. Within this expansive domain, numerous studies have explored various aspects of medical translation, highlighting its importance, challenges, and best practices, for the reason that medical translation plays a pivotal role in ensuring effective communication within the healthcare service, bridging linguistic and cultural gaps between healthcare providers and patients, as well as among healthcare professionals globally.

The study aims to identify various challenges and barriers in medical translation, such as linguistic complexities, cultural differences, time constraints, resource limitations, and the risk of miscommunication or mistranslation. Understanding these challenges is essential for developing strategies to enhance the quality and effectiveness of medical translation services. The study also assesses the quality and accuracy of medical translation in different contexts, evaluating factors such as terminology consistency, linguistic fluency, cultural appropriateness, and comprehension by target audiences.

Overall, the study on medical translation contributes to our understanding of its impact on healthcare delivery, patient care, and health outcomes, while also informing best practices, policy development, and professional standards in this specialized field.

2. Literature review

2.1. General aspect of translation

The term "translation" in English originates from the Latin word "translatio," derived from "transferre," where "trans" signifies "through" and "across," and "ferre" means "to carry" and "to bring." Etymologically, "translation" denotes the act of "carrying across" and "bringing across" (Kasparek, 1983). Beyond the Latin root "translation," the Greek term "metapherein," the German word "Ubersetzung," and even the French word "traducteur" all convey notions of movement, disruption, and displacement. Therefore, "translation" extends beyond being solely an interlingual process; it encompasses a broader set of questions, constituting a comprehensive field (Niranjana, 1992).

Examining the concept of translation can be enlightening, starting with the basic dictionary definitions and progressing to the interpretations put forth by scholars and theorists in the field. According to the Oxford English Dictionary, the verb *"to translate"* encompasses several meanings : (1) The act of transferring content from one language to another, (2) The alteration of a word from one language to another while preserving its meaning or undergoing a transformation, (3) The act of explaining in alternative words or rephrasing.

Similarly, the term *"translate"* is defined as follows: (1) The act of changing or transferring from one person, place, or state to another, (2) The process of making changes from one language to another and the resultant product of this activity. It is noteworthy that various English language dictionaries generally provide definitions that revolve around these central ideas, offering broad and descriptive interpretations of the term

"t*ranslation*."

At first glance, it may seem straightforward for anyone to provide a comprehensive definition of the term "*translation*." Over time, numerous definitions have been formulated, and although diverse, they generally converge on two key concepts. The initial concept of translation involves the replacement or "*reproduction*" of the same meaning from one language to another. The second concept revolves around "*interpretation*", which entails explaining or interpreting the same meaning from one language to another.

Under the first definition of translation (replacement and reproduction), scholars have articulated the following perspectives. Catford (1967) defines translation as the replacement of textual material in one source language (SL) with equivalent textual material in another language, known as the Target Language (TL). Newmark (1981) characterizes translation as a craft involving the attempt to replace a written message or statement with the same message or statement in another language. Brislin (1976) broadly defines translation as the transfer of thoughts and ideas from one language (source) to another language (target), irrespective of whether the languages are in written or oral form.

Translations are further categorized into types: (1) "*Free translation*" refers to a translation that captures the general meaning and intention of the original but doesn't closely adhere to the grammar, style, or organization. (2) A "*literal translation*", on the other hand, approximates a word-for-word representation of the original text.

The concept of "*interpretation*" can be approached from two perspectives. The first angle involves interpreting as the art of rephrasing spoken content from one language to another. In this process, the interpreter listens to a speaker in one language, grasps the essence of the message, and then conveys their understanding using the tools of the target language. It is emphasized that effective interpretation requires a thorough understanding of the subject matter being conveyed.

When interpretation is considered as a form of translation, it takes two forms: (1) Translation is the interpretation of communication in a second language while maintaining the same meaning as the original communication in the first language. (2) Translation involves interpreting a text and producing an equivalent text, referred to as the "translation," that communicates the same meaning in another language. The original text is termed the "*source text*," the language to be translated into is the "*target language*," and the final product is sometimes called the "*target text*."

The term "interpretation" is also applied to oral or sign language. It involves facilitating communication between speakers who use different languages, either simultaneously or consecutively. In the English language, "interpretation" is often preferred over "interpreting" to describe this activity, preventing confusion with other meanings of the word. Unlike some languages that lack a clear distinction between written and live-communication translators, English sometimes uses "translation" as a synonym for "interpreting."

In essence, whether in written or oral languages, the core meaning of translation or interpretation is to convey one meaning from the source language to the target language. This aligns with the etymological origin of the word "translation," derived from the Latin "translation," meaning "carrying across" or "bringing across" (Kasparek, 1983). In the Western world, the connection between translation and the narrative of the Tower of Babel from the Book of Genesis persisted for centuries. According to the biblical account, after the great flood, the descendants of Noah chose to settle in the land of Shinar and committed a significant sin. Instead of establishing a society aligned with God's will, they defied Him by attempting to construct a tower that could reach Heaven. However, God thwarted their plan by introducing linguistic diversity, causing them to speak different languages and rendering them unable to comprehend each other. Consequently, God scattered them across the earth. Following this event, the proliferation of languages led to a quest for effective communication, giving rise to the practice of translation (Benabdelali, 2006).

As translation studies emerged and research in the field expanded, there was a shift away from the Babel narrative, and scholars began seeking specific dates and figures to delineate periods in the history of translation. Scholars note that the roots of translation can be traced back to the Romans. Eric Jacobson asserts that translation is a Roman invention, highlighting that Cicero and Horace in the first century BC were the earliest theorists to distinguish between word-for-word and sense-for-sense translation. Another pivotal period in the development of translation was associated with St. Jerome in the fourth century CE. His approach to translating the Greek Septuagint Bible into Latin significantly influenced later translations of the scriptures (Munday, 2001). Subsequently, the translation of the Bible became a subject of extensive debate among Western translation theorists for over a thousand years.

Presently, translation research is undergoing a shift towards greater automation. The advent of the Internet, coupled with advancements in communication technology and digital materials, has intensified cultural interactions between nations. This shift has prompted translators to adapt to these changes and employ practical techniques that enhance translation efficiency. Additionally, there is a growing interest in the realm of cinematographic translation, leading to the emergence of audiovisual translation. This technique, also known as screen translation, focuses on translating various forms of TV content, including films, series, and documentaries. It heavily relies on computers and translation software programs and encompasses two primary methods:

dubbing and subtitling. Undoubtedly, audiovisual translation represents a significant milestone in the evolution of the translation field.

In summary, the history of translation in the West is highly intricate. From its inception, translation has been a subject of considerable debate among theorists. Each theorist approaches it through the lens of their own ideology and academic discipline, contributing to the evolving nature of its history.

2.2. "English for Specific purposes" Translation

The role of translation in technology and science is undeniable. The demand for translation has surged significantly due to the growing need to disseminate information in the techno-scientific domain.

English serves as the instructional language for various sciences and technologies and stands out uniquely among global languages due to its frequent incorporation of loanwords from other languages. Arabic, for instance, has contributed numerous terms not only to general English but also to specialized fields such as medicine and pharmacology. Examples include words like "alcohol", "alkali", "alembic", "naphtha", "tartar", "alchemy", and "elixir". Latin and Greek have also played a significant role in shaping English, particularly in the realm of medical terminology, given their widespread use. Additionally, languages like French and German have made substantial contributions to English, highlighting the multifaceted nature of the language. English can be characterized not as an independent language but as a compilation of intersecting languages. Intriguingly, many words have reached English indirectly, passing through multiple languages before becoming part of the English lexicon.

Serjeantson (1935) highlights that certain words have entered the English language not directly from their source language but through an intermediary language. For example, many early Italian loans reached English through French, while words from the East made their way through Latin, often having passed through Greek before reaching Latin. These words traversed vast distances, moving westward from Asia to Europe, across Europe from east to west, and around the Mediterranean, crossing nations and generations.

Certainly, English, like any other language, serves native speakers across diverse disciplines. What is noteworthy, however, is its extensive utility for non-native speakers, given its international status. English is employed in various fields such as sciences, commerce, trade, and communication among different nations worldwide (Talgeri, 2004). English manifests in three forms: First Language (L1), Second Language (SL), and Foreign Language (FL). For learners of English as an SL and FL, there are two primary implementations: English for General Purposes (EGP) and English for Specific Purposes (ESP). EGP encompasses a broad spectrum of language applicable for various purposes without pinpointing specific needs or target audiences (Abdullah, 2005). On the other hand, ESP focuses on a more confined use of language tailored to the specific requirements of particular groups of learners, such as English for medical studies, English for technicians, English for airline employees, English for agricultural learners, and so forth.

In recent decades, English for Specific Purposes (ESP) has emerged as a prominent field and has gained international recognition as the language for instructing science and technology. The prevalence of learning English for specific purposes has noticeably increased in recent years within the broader context of English language education. Undoubtedly, it has become a significant undertaking in today's highly automated world.

Medical English, a specialized branch of ESP, is crafted to fulfill the specific requirements of medical studies and professions. The essential need for ESP learners in the medical field, irrespective of their native language being Arabic, Swahili, Hindi, or any other, is a robust understanding of the medical lexicon, which serves as the universally accepted international terminology in the discipline and profession (Khan, 1986).

2.3. Medical translation in the historical facets:

Medicine occupies a unique and significant role as it concerns itself with human beings— their personality, their physical body, and their life. This is likely the rationale behind the longstanding existence of medical translation, placing it among the earliest domains of translation. Reflecting on the historical significance of medical translation, Van Hoof expressed the following sentiments:

Just like religious translation, medical translation is likely one of the earliest forms of translation activity, given that the well-being of both the soul and the body has consistently been a central focus of human preoccupations. The oldest documented compilation in this regard is believed to be the Corpus Hippocraticum, a collection of teachings by Hippocrates assembled in the 2nd century BCE by Greek physicians from Alexandria.

The 19th and 20th centuries witnessed significant advancements in medical science and technology, leading to the proliferation of specialized medical literature. Medical translation became increasingly important for disseminating these new discoveries and treatments to diverse linguistic communities around the world.

In the modern era of globalization, medical translation plays a crucial role in facilitating international collaboration in medical research, clinical trials, and healthcare delivery. Translations of medical journals, textbooks, drug labels, and patient education materials ensure that medical information is accessible to healthcare professionals and patients worldwide.

This historical trend is observed across various cultures, spanning Asia, the Arab countries, and Europe. The distinctive nature of medical translation is underscored by the reverence it evokes, given the profound significance of health concerns. Consequently, the question of who is qualified to perform medical translations generates varying opinions due to the unique and crucial nature of this field.

The substantial historical background and contemporary relevance of medical translation, coupled with the enduring fascination that medicine holds in diverse cultures, serve as compelling motivators for aspiring translators. Therefore, the question arises: "Why is it pertinent to delve into this subject?" The significance of medical translation has consistently been prominent in the translation domain, given the extensive translation of numerous texts. Consequently, this field commands a substantial portion of the market.

In brief, throughout history, medical translation has served as a bridge between cultures, enabling the exchange of medical knowledge, practices, and innovations across linguistic and geographical boundaries. Today, it continues to play a vital role in ensuring the accessibility, accuracy, and effectiveness of healthcare services in an increasingly interconnected world.

2.4. Medical English translation

Among the diverse English for Specific Purposes courses and syllabi, Medical English typically employs academically oriented approaches to enhance various language skills essential for students' active engagement in fundamental health science courses. This approach aids the transition from basic English proficiency to academic English, equipping students with the confidence to navigate health science materials effectively. These methods are designed to concentrate on specific strategies tailored for students and translators with a medical focus. Additionally, dictionaries incorporated into some of these methods play a role in expanding students' vocabulary and preparing them for translation exercises.

Medical terminology constitutes a distinct language employed by healthcare professionals, posing a challenge in both medical translation and the instruction of medical English to students in the medical field. It is crucial to undertake measures to acquaint students and translators with Greek and Latin terms, as familiarity with these terminologies enhances translation proficiency. Drawing from my teaching experience in medical translation, I have encountered numerous challenges. Therefore, the research objective is to examine these issues with the aim of identifying suitable solutions.

Instructing English for Specific Purposes (ESP) courses poses a formidable challenge for both English teachers, whether it be a second or foreign language. Additionally, teaching or learning medical terminology presents a significant hurdle for both educators and students in the medical field.

Teachers face difficulties in effectively conveying the meanings embedded in ambiguous lexemes, especially those originating from foreign languages like Greek and Latin. Conversely, learners often feel intimidated by lengthy and complex terms, finding it challenging to articulate, spell, and comprehend unfamiliar expressions. This research paper delves into the obstacles encountered by medical students in grasping medical terminology and proposes strategies to assist learners. These strategies include the breakdown of terms, identification of word components, removal of affixation (both pre- and post-), and the memorization of eponyms (terms named after individuals).

3. Some difficulties in medical translation
3.1. Terminology

Medical terminology often finds its roots in Greek and Latin, highlighting the historical evolution of the field. Ancient Greek and Roman physicians primarily communicated in their local languages. During the medieval period, Latin became the international language of communication among physicians, persisting as the dominant language in medicine until the 18th century. While efforts were made to simplify texts in later years, Latin continued to serve as the standard language for the professional elite.

Given that not all potential translators possess knowledge of Greek and Latin, it is beneficial to outline steps to acquaint students with these terms. To enhance understanding, breaking down words into prefixes and suffixes can be a valuable initial approach, aiding in a clearer grasp of the medical processes being discussed. Consistent practice will establish this as a routine for individuals without specialized expertise. Furthermore, incorporating parallel texts, client documentation, and utilizing newly available documentary resources (Lee-Jahnke) is crucial for acquiring and expanding specialist vocabularies.

Medical translation relies on particular cognitive knowledge focused primarily on information. It requires special attention when there is an intersection of two or more fields, as the terms involved may carry distinct meanings, posing challenges for the translator in grasping the text accurately. This area, though challenging to delineate, presents an intriguing avenue for research in translation studies. Numerous surveys have explored this topic, emphasizing its complexity and the need for nuanced understanding. (Jammal 1990).

Every profession or field possesses its own specialized language, commonly referred to as jargon, facilitating efficient communication among members of the same discipline. In the realm of medicine and health

sciences, practitioners use their distinct jargon or language. Medical terminology, serving as a specialized language, is employed by learners, specialists, and experts in the fields of medicine and health sciences. It is considered one of the most challenging languages among various specialized fields. The medical language incorporates complex and lengthy terms that can be challenging to pronounce, spell, remember, and comprehend, such as "*amonasehydrocharideoymphaeoid*," "*encephalomyeoneuropathy*," "*dermatomucosomyositis*," etc. According to Kenneth and Chuntana Methold (1975), "medical writing heavily relies on a specialized vocabulary. Many of these words resist useful translation or clear definition. Understanding medical writing often requires approaching it from various angles to uncover the underlying ideas in lengthy words and complex terms."

Additionally, medical terminology introduces unfamiliar and peculiar words, such as those containing triple (o) like "*hysterosaplingooophorectomy*," "*oooomycete*" and others starting with double (o) as seen in "*oophoritis*". Moreover, the grammatical structures within the medical context differ; for instance, the formation of plurals deviates from conventional English. Many nouns do not follow the typical "-s" or "-es" pluralization but undergo changes in vowels or the final part of the words, as illustrated by examples like "*vertebra - vertebrae*", "*atrium – atria*", "*phenomenon -phenomena*", "*spermatozoon – spermatozoa*", "*alveolus -alveoli*", "*bronchus – bronchi*", "*fungus – fungi*" and so on.

It's crucial to clarify the concept of medical terminology. The term "medical" functions as an adjective, referring to aspects, contexts, or settings related to medicine. The term "*terminology*" is comprised of three components: "term-" meaning word, "-in-" indicating inside (linked by "-o-"), and "-logy" representing a branch of study. Consequently, these terms collectively denote a branch of science dedicated to the study or understanding of what is concealed within medical words. Various techniques, strategies, and approaches exist to unravel the meanings of medical terms and grasp the concepts embedded in these intricate lexemes. The subsequent discussion will delve into the primary strategies and approaches essential for learning and teaching medical terminology.

Examples:
a) Gastroenterology:
Gastro (gastro-) = stomach
-entero- (entero-) = intestine
-logy (logy) = study of
So, "Gastroenterology" refers to the study of the stomach and intestines
b) Electromyography:
Electr(o)- = electricity
-myo- = muscle
-graphy = writing or recording
So, "Electromyography" refers to the recording of electrical activity in muscles.
c) Electrocardiography
Electr(o)- = electricity
-cardio- = heart
-graphy = writing or recording
So, "Electrocardiography" refers to the recording of the electrical activity of the heart.
d) Dermatomyositis:
Dermat(o)- = skin
-myo- = muscle
-itis = inflammation
So, "Dermatomyositis" refers to an inflammatory condition affecting the skin and muscles.

Medical terminology translation poses several challenges due to its technical complexity, linguistic nuances, and cultural differences. Some of the difficulties encountered in medical terminology translation include:

Specialized Vocabulary: Medical terminology is highly specialized and often consists of complex terms derived from Latin, Greek, or other languages. Translators must have a deep understanding of medical concepts and terminology in both the source and target languages to ensure accurate translation. For example, translating specialized terms like "*myocardial infarction*" (English) – "*nhồi máu cơ tim*" (Vietnames), "*heart attack*" (English) –"*cơn đau tim*" (Vietnamese) requires deep knowledge of medical terminology in both languages (source language – target language) to accurately convey the specific condition of heart muscle damage due to lack of blood supply.

Ambiguity and Polysemy: Medical terms may have multiple meanings or interpretations depending on the context, leading to ambiguity in translation. Translators must carefully consider the context in which a term is used to convey the intended meaning accurately. For instance, the term "*dose*" has multiple meanings in English - medication dosage, radiation dose, or dose of a toxin, leading to ambiguity in translation. Context is crucial in determining the intended meaning and providing an accurate translation.

Linguistic Variation: Medical terminology varies between languages and may lack direct equivalents. Translators must navigate linguistic differences and cultural nuances to find suitable translations that convey the same medical concepts and practices effectively. Medical terms may vary between languages, as seen in the translation of "*appendicitis*" (English) or "*apendicitis*" (Spanish), or "*viêm ruột thừa*" (Vietnamese). Translators must choose equivalents that convey the same medical concept while accounting for linguistic differences. Each language has its own term for "*appendicitis*", illustrating linguistic variation in medical terminology across different linguistic contexts.

Cultural Sensitivity: Medical terminology may contain culturally specific references, metaphors, or idiomatic expressions that may not have direct equivalents in other languages. Translators must be aware of cultural differences and adapt their translations to ensure cultural sensitivity and relevance to the target audience. For example, translating "*brain death*" requires cultural sensitivity as concepts related to death and dying vary among different cultures. For example, in some cultures, the concept of brain death may not align with traditional beliefs about death or the afterlife. Therefore, translators must consider cultural perspectives and sensitivities when conveying the concept of "brain death" in a way that is respectful and understandable within the target cultural context.

Rapid Advances in Medicine: Medicine is a rapidly evolving field, with new terms, treatments, and technologies constantly being developed. Translators must stay updated on the latest medical advancements to accurately translate new terminology and ensure that translations remain current and relevant. For instance, "*CRISPR-Cas9*" is a revolutionary gene-editing technology that has rapidly advanced in the field of molecular biology and genetics. It allows precise modification of DNA sequences and has significant implications for genetic research, disease treatment, and potential gene therapy applications. As a relatively new and rapidly evolving technology, the term "*CRISPR-Cas9*" may pose challenges in translation due to its novelty and the need to keep pace with ongoing developments in the field of genetics and biotechnology.

Legal and Regulatory Requirements: Medical translations are subject to legal and regulatory requirements, particularly in fields such as pharmaceuticals and healthcare documentation. Translators must adhere to industry-specific regulations and standards to ensure compliance and accuracy in translation. For example, the term "*FDA Approval*" refers to the authorization granted by the U.S. Food and Drug Administration (FDA) for the marketing and distribution of a pharmaceutical product, medical device, or other healthcare-related products in the United States. This term is subject to specific legal and regulatory requirements set forth by the FDA to ensure the safety, efficacy, and quality of medical products available to consumers. Translating terms related to regulatory agencies and requirements, such as "*FDA Approval*," requires adherence to legal standards and regulations governing the approval process for medical products in the United States.

Accuracy and Consistency: Medical translation requires a high degree of accuracy and consistency to avoid errors or misunderstandings that could have serious consequences for patient care. Translators must meticulously research and verify terminology to ensure precision and consistency across translations. For instance, the term "*hypertension*" refers to high blood pressure, a common medical condition characterized by elevated blood pressure in the arteries. Ensuring accuracy and consistency in the translation of "*hypertension*" is crucial for maintaining standardized terminology across medical documents, patient education materials, and healthcare communications. Consistency in the translation of terms like "*hypertension*" helps to avoid confusion among healthcare providers and patients, ensuring clear and precise communication regarding the diagnosis, treatment, and management of this condition.

Overall, medical terminology translation presents unique challenges that require specialized knowledge, linguistic expertise, and cultural sensitivity. Overcoming these difficulties requires careful attention to detail, continuous professional development, and collaboration between translators, subject matter experts, and healthcare professionals

3.2. Acronyms

Medical texts are characterized by the presence of numerous acronyms, broadly categorized into two main groups: general and author-specific. General acronyms are commonly encountered in specialized literature (Spranger 1990), while author-specific acronyms can pose challenges for comprehension unless clarified by the author. It is advisable for authors to address these complexities themselves, or if not, to consult with clients and bring attention to potential pitfalls, particularly when the text incorporates author-specific neologisms. When an author adheres to the IMRAD system (Introduction, Materials or Methods, Results, and Discussion) in crafting their article, the content becomes generally more accessible for understanding.

Translation students should be aware that, at times, paraphrasing is essential to convey in the target language the intended meaning of the source language. In such instances, the paraphrase should acknowledge the acronym employed in the original text. Alternatively, a footnote can be utilized to clarify that the term is a newly coined expression. Interdisciplinary collaboration has proven to be particularly beneficial in addressing such cases.

Translating medical acronyms presents several challenges due to their specialized nature, context dependency, and potential for ambiguity. Some of the difficulties encountered in acronym medical translation include:

Multiple Meanings: Medical acronyms often have multiple meanings depending on the context in which they are used. For example, "*MRI*" can stand for "*Magnetic Resonance Imaging*" in the context of medical imaging, but it can also refer to "*Mandatory Reporting Interval*" in a different context. Translators must accurately determine the intended meaning of the acronym based on the context of the text.

Cultural and Linguistic Differences: Acronyms may not have direct equivalents in other languages or may have different meanings or interpretations. Translators must consider cultural and linguistic differences when translating medical acronyms to ensure that the translated term accurately conveys the intended meaning in the target language. For example, "*ICU*" stands for "*Intensive Care Unit*". In some cultures or languages, the concept of "intensive care" may not have a direct equivalent or may be expressed differently. Additionally, the abbreviation "ICU" may not be universally understood or recognized, particularly in regions where English is not widely spoken or where healthcare systems differ significantly. Translators must carefully consider the cultural and linguistic context when translating "ICU" to ensure that the meaning is accurately conveyed to the target audience. This may involve providing a descriptive translation or explanation of the term to ensure comprehension and avoid confusion.

Abbreviation Variations: Medical acronyms and abbreviations may vary between regions, specialties, or healthcare systems. For example, "*ER*" can stand for "*Emergency Room*" in the United States but may refer to "*Endoplasmic Reticulum*" in a scientific context. Translators must be familiar with the conventions and variations of medical abbreviations in both the source and target languages to provide accurate translations.

Lack of Standardization: While some medical acronyms are widely accepted and standardized, others may be specific to certain medical specialties, institutions, or research studies. Translators may encounter acronyms that are not commonly used or documented, making it challenging to find accurate translations or equivalents. One example of an acronym that may pose challenges in translation due to a lack of standardization is "*CDI*," which can have various meanings depending on the context. Some possible interpretations include: (1) "*Clostridioides difficile Infection*" - This acronym refers to a type of bacterial infection commonly associated with healthcare settings, particularly hospitals. However, there may be variations in the naming and abbreviation of this infection in different healthcare systems or regions.(2) "*Controlled Drug Information*" - In some contexts, "*CDI*" may refer to information related to controlled substances or medications with strict regulatory controls. However, the specific regulations and terminology surrounding controlled drugs may vary between countries. (3) "*Chronic Disease Indicator*"- "*CDI*" could also represent a term related to chronic diseases or conditions, particularly in public health or epidemiological contexts. However, the specific indicators and definitions used to classify chronic diseases may differ between healthcare organizations or research studies. Due to the lack of standardization and the potential for multiple meanings, translating "*CDI*" requires careful consideration of the context in which it is used and may necessitate additional clarification or explanation to ensure accurate understanding by the target audience.

Contextual Understanding: Translating medical acronyms requires a thorough understanding of the medical context in which they are used. Acronyms often derive their meaning from the terms they represent, so translators must understand the underlying medical concepts to accurately translate the acronym and convey its intended meaning in the target language. For example, the acronym "*CAH*" can stand for "*Congenital Adrenal Hyperplasia*" in the medical context. The term "Congenital Adrenal Hyperplasia" refers to a group of genetic disorders affecting the adrenal glands, resulting in hormonal imbalances. However, the acronym "CAH" may not be immediately recognizable to individuals outside the medical field or those not familiar with endocrine disorders. In a different context, "CAH" could also stand for "Children's Aid Society" or "Community Action Hub," among other possibilities, depending on the specific domain or organization. Translators must carefully consider the context in which "CAH" is used to accurately convey its intended meaning to the target audience. This may involve providing additional context or explanation to ensure comprehension, particularly in situations where the acronym may have multiple interpretations or is unfamiliar to the audience.

Consistency and Uniformity: Maintaining consistency and uniformity in the translation of medical acronyms is essential for clear and effective communication. Translators must ensure that the same acronym is translated consistently throughout a document or text to avoid confusion or misinterpretation by readers. While "*MRI*" is widely recognized and standardized in English as the abbreviation for the medical imaging technique "*Magnetic Resonance Imaging*", the challenge arises when translating it into other languages. Different languages may have their own abbreviations or variations for "Magnetic Resonance Imaging," leading to inconsistency and lack of uniformity across translations.For instance: (1) In Spanish, "MRI" may be translated as "IRM" (Imagen por Resonancia Magnética). (2) In French, it may be translated as "IRM" (Imagerie par Résonance Magnétique). (3) In German, it may be translated as "MRT" (Magnetresonanztomographie). The lack of consistency and uniformity in translating "MRI" across different languages can create confusion among

healthcare professionals and patients. Therefore, translators must strive to maintain consistency in translating medical acronyms like "MRI" to ensure clarity and comprehension across linguistic contexts.

Overall, translating medical acronyms requires careful consideration of context, cultural nuances, and linguistic conventions to accurately convey their intended meaning in the target language. Translators must possess a strong background in medical terminology and a keen attention to detail to overcome the challenges associated with acronym medical translation.

3.3. Eponyms

Eponyms, which are proper names assigned to syndromes, illnesses, research-related matters, and devices, typically do not require translation. Medical eponyms are meant to honour individuals who contributed to the field. Van Hoof's typology identifies three distinct categories of eponyms: (1) Those that are identical in both the source language and target language, (2) Those that differ between the source language and target language, (3) Cases where there is no corresponding eponym in either the source language or target language. This might initially seem uncomplicated; however, challenges arise when a syndrome, for instance, is discovered simultaneously in various countries by different individuals, resulting in it being named after multiple discoverers in different locations. It is crucial to make students aware of this phenomenon so that they can document the varied eponyms in use.

These examples demonstrate how medical terminology often incorporates eponyms derived from the names of individuals who made significant contributions to the understanding or identification of specific medical conditions or concepts:

Parkinson's disease: Named after James Parkinson, who first described the symptoms in his essay "An Essay on the Shaking Palsy" in 1817.

Alzheimer's disease: Named after Alois Alzheimer, who identified the first published case in 1906.

Down syndrome: Named after John Langdon Down, who detailed the syndrome in 1866.

Asperger's syndrome: Named after Hans Asperger, who described the condition in 1944.

Crohn's disease: Named after Burrill B. Crohn, who, along with colleagues, first described the disease in 1932.

Apgar score: Named after Virginia Apgar, who developed the scoring system for assessing the health of newborns in 1952.

Translating eponyms requires careful consideration of linguistic and cultural factors to ensure accuracy and consistency across different languages. Additionally, translators may need to provide explanations or contextual information to help convey the significance of the eponym to speakers of other languages.

4. Suggestions for medical English translation

Introducing effective strategies to overcome challenges in medical English translation is imperative for ensuring accurate translation within the healthcare domain. This article delves into practical suggestions derived from experience in the field, aiming to equip translators with the tools and techniques necessary to navigate the complexities of medical translation successfully.

4.1. Proficiency in both source and target languages

Translators can be supported by teachers and advised to develop strong proficiency in both the source language (English) and the target language (the language into which you are translating). This includes mastery of grammar, vocabulary, idiomatic expressions, and technical terminology in both languages to ensure the highest quality standards in medical translation such as linguistic accuracy, terminology consistency, and cultural appropriateness. Proficiency in the source language ensures that translators can accurately comprehend the original medical text, including complex terminology, scientific concepts, and specialized language used by healthcare professionals. And proficiency in the target language enables translators to convey the meaning of the source text accurately and fluently, using appropriate terminology and linguistic conventions specific to the target audience or healthcare context.

Furthermore, proficiency in both languages also enables translators to adapt the translation to the specific context and requirements of the target audience, whether it be healthcare professionals, patients, or regulatory authorities. This includes adjusting the tone, style, and level of formality to suit the intended audience. In other words, with this proficiency, translators can ensure clear and effective communication of medical information across linguistic and cultural boundaries, facilitating accurate understanding and interpretation by all stakeholders involved in healthcare delivery.

4.2. Specialization in medical terminology

Fostering a deep understanding of medical terminology is essential for precise medical translation. Translators should invest time in building a comprehensive glossary of medical terms, including anatomy, physiology, pathology, pharmacology, and medical procedures. It is also essential to stay updated on the latest terminology

related to advancements in medical science, technology, and healthcare practices by subscribing to medical journals, newsletters, and online forums, and attending workshops, seminars, conferences, and webinars related to medical field. Moreover, honing linguistic skills is crucial to accurately convey medical concepts and nuances between languages.

4.3. Repeated reading

To attain expertise in medical translation, it is essential to possess advanced reading skills tailored for comprehending medical texts and recognizing the above mentioned potential challenges. To effectively translate a text, a thorough understanding is imperative, especially in the medical field, necessitating repeated readings. Therefore, the following four steps are recommended:

During the initial reading, it is crucial for the translator to assess the macrostructure of the text. This involves gaining a comprehensive understanding of the text as a whole, considering both its general and specific aspects. In this phase, translators aim to analyze the completeness of the text, its context, the identity of the author, the target audience, the timeframe of its creation, and its publication source. Additionally, in terms of formal aspects, translators need to evaluate the length of different paragraphs, the appropriateness of titles and subtitles - especially in simplified texts - and the presence of footnotes, tables, graphs, cross-references, and other elements. Training should also cover elements such as bibliography or reference lists, as clients may request this information at times.

The second reading concentrates on unfamiliar terminology, linking words, and combinations of words or collocations (Delisle et al 1999). During this phase, the translator should have a clear understanding of the text's logic, and they should consider whether the same logical structure should be maintained in the target text. Relevant documentation and comparable texts should be readily available from this point forward.

The third reading aims to examine the microstructure and isotopy of the text, evaluating whether each sentence contributes to a coherent structure for the intended audience and language. Of particular significance is the opening sentence, or incipit, as is common in any form of writing. Translators must then assess whether the logical flow of the text aligns with the organization of paragraphs. This task can be particularly challenging in medical contexts where language structures may vary significantly. In such cases, the translator must take on the role of an author, shaping the text to meet the expectations of readers in the target language.

In fourth reading, the translation is finished, and now it's time for "quality control." This involves a meticulous comparison between the source and target texts, initially conducted by the translator, who should have all relevant documentation readily available. Following that, an expert reader should review the text.

4.4. Access to medical resources

Medical dictionaries and other further information resources should be available to teachers and translators of medical English. In the realm of medical English, access to comprehensive resources such as medical dictionaries is indispensable for both teachers and translators. These specialized tools serve as essential aids in navigating the intricate terminology and nuanced language prevalent in medical texts. Medical dictionaries offer a wealth of information, providing precise definitions, context-specific usage, and explanations of medical jargon, facilitating a more accurate and informed understanding of the subject matter.

Moreover, for educators in the field, having a repository of such resources enhances the quality of instruction by offering valuable reference materials. This, in turn, enables teachers to impart not only linguistic proficiency but also a profound comprehension of medical concepts. The availability of medical dictionaries ensures that instructors can guide students through the intricacies of medical language, fostering a more robust grasp of terminology crucial for effective communication in healthcare settings.

Next, embracing technology can also significantly enhance translation efficiency and accuracy. Utilizing translation software, terminology databases, and online resources can streamline the translation process and ensure consistency across documents.

Additionally, collaborating with subject matter experts and healthcare professionals can provide invaluable insights into medical terminology and context, facilitating more precise translations.

For translators engaged in medical English, these resources act as indispensable companions in ensuring accurate and contextually appropriate translations. The dynamic and rapidly evolving nature of medical language necessitates continuous reference to authoritative sources to maintain precision and relevance. In short, the accessibility of medical dictionaries and other information resources is paramount for both educators and translators in the field of medical English, contributing significantly to linguistic proficiency and precise communication within the domain.

4.5. Continuous professional development

Medical translation is a dynamic field that requires ongoing learning and adaptation. Translators should keep open to feedback, critique, and self-reflection, and be proactive in seeking opportunities such as further

education, training, and certification in medical translation for growth and improvement throughout the career to maintain proficiency in medical translation.

5. Conclusion

Medical translation is crucial in the translation field due to the high volume of texts that need to be translated. Moreover, medical translation is indispensable in the healthcare service, serving as a vital tool for effective communication, patient-centered care, legal compliance, global collaboration, cultural competence, and health equity. Its significance will continue to grow in an increasingly diverse and interconnected healthcare landscape, where linguistic and cultural diversity are integral aspects of patient care and public health initiatives. Consequently, this sector represents a considerable share of the market. Presently, acquiring training in medical translation has become more accessible due to advancements in theoretical understanding, systematic identification of challenges, and enhanced resources for online research and documentation. Consequently, the training process for medical translation has improved, becoming more effective. Acquiring expertise in medical translation requires a combination of education, training, practical experience, and ongoing professional development.

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