

Terminological variation in health policy translation

Introduction

Translation of public health policy documents represents a critical yet largely underexplored research area. This chapter offers a corpus-based study of the translation of specialised public health terms, focusing on the translation of health financial risk concepts and terms in public health policy resources drafted by authoritative international health agencies like the World Health Organisation (WHO). The study of the translation, variation and assimilation of health risk terms is embedded within corpus translation studies, as a highly dynamic area of applied translation research. The translation phenomenon investigated is terminological variation in the Chinese translations of health policy materials.

In this study, terminological variation refers to the use of morphologically similar expressions by Chinese translators to introduce new concepts of the financial risk management of healthcare to the Chinese language and the developing health care management system of the country. The corpus analysis shows that terminology variants which have been experimented in health care policy translation are not always linguistic synonyms in the Chinese language. They exhibit distinct collocation patterns in Chinese official materials and mainstream media. While some terminologies appear more often in highly specialised resources such as Chinese scientific publications, others are more accessible expressions widely seen in Chinese newspapers and the media. The reading of translated health care policy materials using discipline-specific terminologies may lead to different interpretation of the key messages in the original English documents. Using highly specialised expressions can also reduce the accessibility and effective understanding of translated policy resources. The viability, suitability, and accessibility of using domain-specific versus more general terminologies provides the focus of this corpus-based study of terminological variation in Chinese healthcare translations.

The wide existence of terminological variation in healthcare policy translations reflects the largely developing nature of Chinese health care management knowledge system. The establishment of a consistent and efficient terminology system played an instrumental role in the development of modern scientific research in China at the turn of the 20th century. In earlier cross-cultural and cross-lingual interaction, terminological variations were created by translators in an effort to bridge the conceptual and the cultural gap between the source and the target languages and more importantly, the distinct scientific knowledge systems. In fact, the co-existence of different translation terminologies or the terminological variability of scientific translation is not unique in Chinese scientific translations but widely existent in translations in other languages as well.

An important factor of the social selection of particular translations among coexistent translation possibilities is the dissemination and social acceptance of the translations by the target audience. In earlier times without digital media, the dissemination of translations was restricted to a small number of social elites. The limited access of the general public to printed materials in China had an important impact on the wide social circulation of Chinese scientific translations. However, significant changes in the social dissemination of specialised

translations have taken place in recent decades, as a result of technological advances in information science, natural language processing and recently, machine translation.

The proliferation of variant translations remains a widely-existent phenomenon in scientific translation amidst the growing globalisation. The variability of translation reflects the dynamics of the conceptual and linguistic alignment between the source and target knowledge systems. The availability of large-scale digital resources and multilingual corpus mining technologies has greatly facilitated the systematic empirical corpus analysis of variant translations using bilingual databases. This study will explore new data-driven models of the assessment of the viability, suitability and accessibility of using domain-specific terminologies in Chinese healthcare policy translations aided by quantitative corpus data analyses of Chinese research publications and media resources.

The integration of research methodologies from corpus translation studies and textual data mining and retrieval can help researchers to develop empirical instruments to investigate the selection and social dissemination of specific types of translation variations. The integrated methodologies to be developed in this chapter helped to advance current understanding of the impact of terminological variation on the development of new knowledge for healthcare financial risk management in mainland China. The corpus findings suggested that the social diffusion and assimilation of specialised translations in the Chinese society can be enhanced significantly by selecting and using terminological variations which are high-frequency expressions in the Chinese language.

The selection and purposeful use of terminological variations of greater social accessibility helps to align global health research with local healthcare knowledge and practice, which is seen as a critical step in the adaptation and implementation of global healthcare policies in national contexts, in this case, mainland China. The use of corpus materials and corpus methodologies can effectively detect subtle yet important differences in variant translations of key healthcare financial risk management concepts. The integration of corpus translation research methods with digital data mining can help to monitor and analyse the growth of new healthcare knowledge in the target in which healthcare translation and its wide social dissemination play an increasingly important role.

Translation of healthcare management policies

Latest statistics show that three quarters of the world's population are non-native English speakers (Neeley, 2012). Translation entails the transfer of information across languages and cultures. It plays a critical role in the dissemination of health care knowledge and relevant international policies. This study offers an empirical linguistic analysis of Chinese translations of global health care resources developed by authoritative international health agencies like the World Health Organisation (WHO).

Health care management represents a pressing social and research issue in a large part of the world. Yet the linguistic translation and social interpretation of international health care management policies and guidelines represents an underexplored area of research. How global health care policy resources were translated to different languages and adapted and implemented to improve local health care practices has been studied to a limited extent. This study offers a contrastive linguistic analysis of original health care policy development

guidelines from the WHO and their translations to Mandarin Chinese, the official language of mainland China.¹ It became evident in the contrastive linguistic analysis that the original English materials were translated by different Chinese translators, as terminological variation was widely existent in the Chinese translations. The contrastive linguistic analysis investigated the validity of the semantic links and associations, correctly or problematically established by the Chinese translators between the original English materials and the Chinese target texts.

The linguistic analysis showed that in many cases, an English term was mapped onto different Chinese expressions. These were defined as variant translations in the current study. The wide existence of translation variation suggests that semantic ambivalence remains a critical issue in the Chinese translation of international health care policy development guidelines. To further explore the validity or the lack of it in Chinese health care translation, large databases of original Chinese publications were used to examine the use of these terminological variants in original Chinese publications and media resources.

The linguistic analysis focused on the differences between variant translations in original Chinese research and media publications. This drew upon the use of quantitative scientific publications and printed media materials in the target language over a wide time frame. In this study, the use of the Chinese Knowledge Sources Integrated Network, also known as CNKI facilitated and enabled the statistical analysis and modelling of the distribution of variant translations or linguistic synonyms in China as early as the 1910s until the present day

It was found that in spite of the global significance of health policy materials produced by international health agencies, important local linguistic variants coexist with translated terms introduced from international health documents. This widely existent localisation tendency associated with translation has important implications. First, socially and culturally rooted expressions tend to be much better represented than translated terms in the scientific and media publications in the target language, particularly over a relatively long timespan. For example, the term ‘risk factor’ – introduced from international health materials – has been used to a very limited extent when compared to conceptually linked expressions such as ‘dangerous factor’ and ‘dangerous element’ as culturally rooted and linguistically conventionalised expressions. These expressions are often used and treated as variant translations to the more exact translation of ‘risk factor’ in Chinese scientific and media publications

The empirical data analysis shows that linguistic variants tend to have distinct collocation or word co-occurrence patterns that reflect their specific and subtle use in the target social, cultural and textual contexts. As a result, different groups of readers may unconsciously interpret these expressions in different and contrasting manners. Without consideration of this important fact that is of particular relevance for specialised translation, an indiscriminative use of linguistic terms by language workers may well misguide the reading of highly specialised source texts by the target audience.

Secondly, translation studies, especially many current translation quality assessment has rarely touched upon the issue of the uptake of translated concepts and terms in the target language and cultural environment. This has overlooked the important fact that translation is first and foremost a cross-lingual communication tool. The current study intends to move away from an overemphasis on linguistic equivalence to the close observation and analysis of the behaviour of variant translations (i.e. different translation possibilities) of specialised health expressions

in naturally occurring textual contexts as afforded by the large number of scientific and media publications by native Chinese speakers and users.

Without an in-depth study of the uptake of translated health terms and expressions in the target language, knowledge and communication system, it would be difficult to understand and assess the levels of the social impact and the relevancy of global health research and policy making in specific national contexts. The present study explored this issue from a quantitative cross-lingual perspective, which was enabled by the availability of large-scale national publication data sets and the statistical indicators built upon these published data sets.

This study took full advantage of large-scale international and national publication databases including policy materials, academic research and media reporting to investigate the complex process which underlines the translation, diffusion and local variation of health financial risk concepts from English to Chinese. The design of this empirical study represents a methodological innovation in health document translation. It filled in a research gap of the study of the pathways of the dissemination of health concepts in international health policy materials via translation; and more importantly, their social impact on different societies and societal sectors, for example academia and the media.

This innovative study shed new light on the complex process of the translation, dissemination and local selection and variation of health knowledge by using digital bilingual and monolingual Chinese corpora. The outcomes illustrates the influence of global health research on national academic research. More importantly, the corpus analysis identified and highlighted some existing factors such as the lack of effective translation techniques which have limited the impact of international health research on the public understanding and uptake of health financial risks in the national contexts.

The insights to be gained will help advance our understanding of the complexity of the process of translation and adaptation of health risk concepts. The empirical data analysis revealed national health knowledge systems, in this case the PRC which grow in parallel to international health research by authoritative agencies such as the WHO. This was evidenced in the higher level of use of culturally loaded linguistic variations when compared with health terms and expressions introduced and translated from international health policy making materials.

The current study developed a novel and problem-focused approach to compare linguistic synonyms underlying health concepts. First of all, bilingual publication databases were used to identify conceptually linked expressions of an inputted keyword identified in the WHO Chinese translations. This was based on statistical algorithms that have been widely used in machine translation which identify and extract word pairs based on their distribution patterns in the English source and Chinese target texts. Next, despite their different collocation patterns, these conceptually linked expressions were examined closely to find out the underlying concept to label this particular group of terms and words.

As a result of this search and grouping method, linguistic expressions of specialised health concepts within the same conceptual cluster include both well-established local expressions and newly introduced translated terms which compete for visibility and importance in a largely developing scientific discourse and health knowledge body in the target language and cultural system. Health expressions labelled under the same conceptual cluster showed different patterns of dissemination in Chinese academic publication and media resources, and within

each sector across the time. This finding suggests that the translation of public health documents is highly sensitive, as the choice of words may well have an impact on the reach of the international health documents translated, and the acceptance by the target readership.

The results of the cross-sectoral data analysis yielded valuable and much needed insights into the (lack) of interaction between different social sectors in the generation and dissemination of public health knowledge. It pointed to the limit of current health translation which underscore the policy development and dissemination of international health agencies like the WHO.

Corpus collocation analysis of terminological variants in health policy translations

The textual analysis starts with the identification and retrieval of conceptual clusters of health financial risks. Conceptual clusters contain a variety of linguistic expressions or synonyms that may well serve as variant translations in the target language context. It should be noted that the definition of ‘synonym’ in this study differs from the dictionary meaning. In original languages, for example, English or Chinese, synonyms are words which may largely replace each other in the textual context given their semantic similarity. In the present study which focuses on the selective use of linguistic expressions in the target language for translation purposes, a group of words are extracted, highlighted and labelled as synonyms when they tend to be used to translate certain source language words.

These ‘translation synonyms’ are identified based on their observed association with certain source text expressions, instead of their semantic similarity or proximity in the target language. For example, the corpus analysis of the health translations shows Chinese words meaning ‘dangerous elements’; ‘dangerous factors’ and ‘risk factor’ are constantly deployed by different translators to interpret the original English text. These linguistic expressions are certainly not seen as synonyms in the Chinese language but they are extracted and grouped under the conceptual cluster ‘risk factor’ in the current study, as they function as variant translations in the parallel corpus constructed with WHO health risk translation.

A parallel corpus of the WHO 2000 Annual Report and its Chinese full text translation was first constructed (WHO Chinese version, 2000b). The parallel corpus contained sentence by sentence alignment between the source and the target texts. The alignment was a laborious, time-consuming but highly rewarding process. In the bilingual text alignment, very interesting and revealing cross-lingual matching patterns began to emerge. It was found that a number of Chinese translations of health financial risk terms exhibited varying levels of semantic variation and alteration of the original English expressions (Al-Amer et al., 2015; Chen & Ng, 1989).

After the construction of the parallel English-Chinese corpus, a full-text search of the word ‘risk’ was conducted in the original WHO 2000 English report (WHO, 2000a). This initial search quickly extracted a very large number of risk-related expressions and terms. However, not all of these terms were relevant for health translation analysis, particularly for the study of variant translations in the current study. A focus was put on the retrieval of English risk expressions which had given rise to a variety of translation options seen as variant translations in this study. Such linguistic variations can form or point to a shared conceptual cluster of health risk highlighted for investigation in this study. The identification of such conceptual

clusters of health financial risks requires in-depth contrastive linguistic analysis of both the original English source text and its Mandarin Chinese version.

In the manual screening process in which the researcher went through a very large number of sentence pairs in English and Chinese to identify variant translations, instances of mere mistranslations were discarded or marked with an asterisk *, as they were not seen as relevant for this study. With a clear intent to develop new analytical approaches to the study of specialised translation, this study investigates health translation particularly the widely-existent phenomenon of variant translation in specialised health translation that underscores the alignment process or interaction between two distinct linguistic, cultural and knowledge systems, i.e. the international health knowledge system and the local Chinese health knowledge system at the turn of the 20th century. Translation has long played an instrumental role in disseminating scientific knowledge and bridging the gap between cultures and societies. This is fully illustrated in this study that offers an empirical analysis of the development of health financial risk concepts and terms in modern Chinese

In the parallel corpus analysis, English source expressions were extracted from the large search result list when it was found that the conceptual complexity of such terms had given rise to variant translations in modern Chinese. Variant Chinese translations were then identified in the Chinese half of the parallel corpus and were grouped within conceptual clusters labelled with the original English expressions or technical terms. These conceptually associated Chinese linguistic expressions or variant translations or translation synonyms – established on the basis of their strong links with a shared English source term in the parallel English Chinese translation database – were then analysed with large-scale Chinese scientific research and printed media databases, that is the CNKI database. This was to observe and study the use of these expressions in the Chinese cultural and language context; and to ascertain and assess the links developed by translators between the source text expression and the variant translations. Again, the focus of the linguistic analysis was on a social and culturally contextualised exploration of the development of health financial risk terms in modern Chinese, instead of passing on a subjective judgement between good or bad translations.

Corpus collocation analysis of terminological variants of health risk translations

Once extracted the three conceptual clusters of health risks terms, that is risk factor, (health risk) equalisation, and (health financial system/health care security) sustainability, we moved on to retrieve Chinese variant translations of these English source text expressions. In this process, the CNKI database was deployed. The majority of publications in the CNKI database are in original Chinese, but there is a growing number of bilingual journals where Chinese publications are constantly translated to English and added to the database. Another ongoing project is the CNKI Translation Project which coordinates a large number of academics and researchers in China and overseas to contribute to the translation of published Chinese research materials to CNKI. The translation tool of the CNKI database can thus search and extract instances of specialised bilingual terms in the database.

For the current study, we analysed four conceptual clusters of health risks. Each conceptual cluster contains at least two Chinese variant translations as the CNKI translation tool indicated.

These linguistic variations can be seen as translation synonyms to each other, as suggested by their high frequency of occurrence as alternative translations of the English terms input. Their alternative use as translations of original English expressions by different Chinese translators seem to imply that they point to a shared common conceptual cluster that exist in the mind of native Chinese speakers. The dichotomous translation output assessment model of good versus bad translation does not seem to work well here. As a result, we decided to distinguish these linguistic variations based on their different collocation patterns in the CNKI database, and their distinct distribution patterns across disciplines and research fields in China. While the Chinese expression 风险因素 (feng xian yin su, risk factor) appears to be the closest translation, the other two Chinese expressions also reoccur with the English 'risk factor' very often in the CNKI database. Figure 1 shows that the top collocates of the expression 'disease dangerous elements (疾病危险因子)' are 'dangerous factors' (466 – frequency of occurrence); 'cardiovascular diseases' (361); 'coronary heart disease' (219); 'high blood pressure' (214) and 'homocysteinaemia' (212).

Conceptual cluster of 'risk factor' and associated Chinese expressions

1: 危险因子 (dangerous element) 2: 危险因素 (dangerous factor) 3: 风险因素 (risk factor)
The corpus analysis shows that in the CNKI database the top collocates of the expression 'disease dangerous factors (疾病危险因素)' are 'dangerous factors' (6629); 'cardiovascular diseases' (796); 'high blood pressure' (751), 'coronary heart disease' (629) and 'coronary diseases' (594). Figure 5.3 shows that the top collocates of the expression 'disease risk factors (疾病风险因素)' are 'dangerous factors' (303); 'risk factors' (95); 'cardiovascular diseases' (62); 'diabetes' (57) and 'high blood pressure' (53). The collocation patterns clearly show that whereas the first two Chinese linguistic variations are more closely related to 'cardiovascular diseases' and 'high blood pressure', the third Chinese linguistic variation which is the closest Chinese translation of the English source text also include new and emerging risk factors such as 'diabetes'.

Conceptual cluster of '(health risk) Equalisation' and associated Chinese expressions

1: 均衡 (Equalise); 2: 平衡 (balance); 3: 均衡化 (equalisation) The corpus analysis shows different collocation patterns of the three Chinese linguistic variations under the conceptual cluster '(health risk) equalisation'. The closest Chinese translation of the English source text expression is 'Equalisation (均衡化)', but the other two Chinese expressions 'Equalise (均衡)' and 'Balance (平衡)' have been identified by the CNKI database as alternatives to the expression 'Equalisation (均衡化)' as the translation. Figure 4 shows that in the CNKI database the top collocates of the expression 'Equalise (均衡)' are 'load-equalising' (2893); 'economic growth' (2778); 'board game (Chinese chess)' (2528); 'equalise' (2366) and 'game theories' (1870). Figure 5 shows the top collocates of the expression 'balance (平衡)' are 'adsorption' (4359); 'stability' (3564); 'countermeasures' (3545); 'balanced scorecard' (3167); and 'health care' (2266). Figure 6 shows that the top collocates of the expression 'equalisation (均衡化)' are 'image enhancement' (434); 'histogram equalisation' (285); 'image processing' (178); 'equalisation' (155) and 'mandatory education' (100).

The disciplinary distributions of these three expressions match the collocation patterns. The ten Chinese subjects or research areas which have produced substantial publications around ‘equalise (均衡)’ are macro-economic management and sustainable growth (24947); finance (14636); economic system reform (14242); maths (8953); corporate economy (8808); telecommunication (8621); education theory and management (8303); investment (7090); agricultural economy (6623) and economic theories and history of economic thoughts (6470). Similar to the collocation patterns of the word ‘equalise (均衡)’, the disciplinary distribution points to the strong relationship of this Chinese linguistic expression with the study of economy and finance in the target language and social context.

The ten Chinese subjects or research areas which have yielded the largest numbers of publications around ‘balance (平衡)’ are electric power industry (25777); architecture and architectural engineering (20525); economic system reform (19502); finance (18705); agricultural economy (18012); macroeconomic management and sustainable growth (17505); corporate economy (17173); environmental science and resources use (17061); industrial economy (16361); chemistry (15285). The disciplinary distribution matches the collocation patterns of the word ‘balance (平衡)’. Compared with the word ‘equalise (均衡)’, the word ‘balance (平衡)’ appears to be more general, as it has occurred not only in economic subject areas but also in electric power industry, architecture, environmental science and chemistry

The top subject or research area which has featured the word ‘equalisation (均衡化)’ is computer software and application (1444) which accounts for almost half of the entire publications having the word ‘equalisation (均衡化)’ as the keyword. The second largest research area in which the word ‘equalisation (均衡化)’ reoccurs is education theory and management (611) – this area accounts for nearly a quarter of the total publications on the topic of ‘equalisation (均衡化)’. The remaining relevant subject fields include secondary education (187); economic system reform (158); macro-economic management and sustainable growth (137); automation technology (124); higher education (96); agricultural economy (95); Chinese and international politics (84) and telecommunication (76). The distribution statistics reveal that apart from the computer science and software engineering, the word ‘equalisation (均衡化)’ has distinctively different distributions in Chinese academic publications from its lemma ‘equalise (均衡)’.

The noun which refers to a changing process as indicated by its suffix ‘-tion’ has a wider and diversified application in Chinese research fields especially in the social sciences such as education, politics, apart from sub-branches of economics. It is worthwhile noticing that despite the word ‘equalisation (均衡化)’ is the closest linguistic translation of the English source expression, matching between the two words across languages entails an important shift in the genre distribution of the Chinese word, which might potentially cause the discipline-based (mis-) understanding of the translation word by specialised and/or general audiences.

Conceptual cluster of ‘Sustainability’ and associated Chinese expressions

1 可持续性 (sustainability) 2 经济活力 (economic dynamics) 3 经济承受能力 (economic affordability)

The corpus analysis revealed different collocation patterns of the three Chinese linguistic variations under the conceptual cluster ‘(financial) sustainability’. The word ‘sustainability’ (可持续性) appears to the nearest translation of the English word. The expressions ‘economic dynamics’ (经济活力) and ‘economic affordability’ (经济承受能力) proved to be, as the CNKI database shows, closely related to the word ‘sustainability’ (可持续性) conceptually, as academics and translators alternate the use of these three words in different textual contexts touching upon the topic of financial sustainability. The corpus analysis showed that the top collocates of the word ‘sustainability’ (可持续性) in the CNKI database which are ‘sustainable development’ (2382); ‘sustainability’ (580); ‘economic growth’ (404); ‘countermeasures’ (372) and ‘circular economy’ (336).

The corpus analysis showed that the top collocates of the word ‘economic dynamics’ (经济活力) are ‘countermeasures’ (572); ‘small and medium sized enterprises’ (SMSE) (530); ‘development’ (413); ‘innovation’ (386) and ‘problems’ (280). The corpus analysis showed that the top collocates of the word ‘economic affordability’ (经济承受能力) are ‘countermeasures’ (39); ‘affordability’ (29); ‘rural areas’ (18); ‘problems’ (17) and ‘social security’ (16). The collocation patterns seem to suggest that the word ‘sustainability’ (可持续性) is strongly associated with the development of new economic models to stimulate economic growth in China. On the other hand, the word ‘economic dynamics’ (经济活力) is closely tied with the internal economic reforms within China in which small and medium sized enterprises (SMSE) and innovation are seen as two key factors and driving forces to inject more dynamics into the national economy. Lastly, the word ‘economic affordability’ (经济承受能力) appears to be linked to social problems in rural China which include among others, the welfare and social security of people living in remote rural areas (Gong et al., 2012; Long et al., 2013; Meng et al., 2015).

The disciplinary distribution patterns of these three words confirmed the findings emerged in the collocation analysis. The top three research areas which have produced the largest publications on ‘sustainability’ are macro-economic management and sustainable growth (3601); economic system reform (3109) and agricultural economy (2077). These are followed by environmental science and resources use (1773); industrial economy (1389); corporate economy (1102); finance (975); architecture and architectural engineering (861); economic theories and history of economic thoughts (661) and resources science (659).

The distribution patterns of the word ‘sustainability’ (可持续性) reveals important findings regarding how the development of new economic models unfolds in China as evidenced in sustained academic publications collected in the CNKI database. Apart from macro-economic management and reform to environmental and resources sciences, the word ‘sustainability’ (可持续性) underscores the multidimensional social and economic transition that China has undergone and continues to push through in the next few decades (Ma et al., 2015c). It can be

expected that the word ‘sustainability’ (可持续性) will develop new dimensions of meaning as it is used in emerging research areas built around sustainability.

The corpus analysis showed that the top two research areas which account for almost half of the total publications on ‘economic dynamics’ (经济活力) are corporate economy (9509) and economic system reform (7729). These areas are followed by industrial economy (3402); agricultural economy (3115); macroeconomic management and sustainable growth (2945); finance (2882); trade economy (1694); Chinese and international politics (1523); higher education (1350) and Chinese Communist Party (1235). The distribution patterns of the word ‘economic dynamics’ (经济活力) indicate that this word is strongly associated with Chinese internal economic reforms and to some extent, its internal political agenda. The use of this word can therefore trigger in the native Chinese speakers’ mind the drastic economic reforms across corporates, the industrial and agricultural sectors, finance and trade in China since the early 1980s (Cao & Birchenall, 2013; Du & Yang, 2014).

Lastly, the top three disciplinary areas that have produced the most academic publications on ‘economic affordability’ are agricultural economy (426); macro-economic management and sustainable growth (228) and investment (180). These areas are followed by a number of research areas which have seen a limited number of research publications discussing the issue: medicine and health guidelines, policies, laws and regulations (106); higher education (90); industrial economy (87); trade economy (84); economic system reform (77); finance and taxation (75) and insurance (62). This finding complements the observation made of the collocation patterns of the word ‘economic affordability’ (经济承受能力). That is, this word is first and foremost linked with social and economic problems in rural China.

Conclusion

The current study offered a useful study of conceptual clusters of linguistic variations in Chinese translations of English health care policy development guidelines, which underscored the development of local research and knowledge bodies and enhanced public awareness and understanding on public health risks. In this study, a number of Chinese variant translations of original English terms in WHO health reports were identified and grouped under a collective conceptual cluster. This analytical approach facilitated the comparison of the distinct distribution of translated terms as opposed to locally rooted expressions, as the two different sets of terms and expressions embody contrastive thinking modes and patterns. The translations used were official Chinese translations of WHO annual reports and key policy documents. The translation materials were publicly available online on the WHO website. In terms of methodologies, this study brought together and integrates quantities and qualitative analysis from corpus linguistics, translation studies, contrastive linguistics (Chinese English) to bear on the study of specialised public health translation. The large corpus analysis of publication trends was viable with the availability of high-quality research databases such as the Chinese Knowledge Resources Integrated Network (CNKI hereafter) in recent years. It enabled the analysis of scientific research and media publication containing key health risk concepts and terms in China since the early 20th century. The empirical analysis demonstrated that high performance linguistic variations were more dynamic and exhibited greater social reach in the representation and advancement of public health knowledge and idea sets. These highly

dynamic linguistic variations played an instrumental role in informing and transforming the native and local health care knowledge system. A greater social and public awareness on these topics can effectively help us to develop global consensus and coordinated actions and policymaking across countries to tackle global health risks. The outcomes of this study have important implications for health care translations. It highlighted the needs to develop new health care translation assessment systems focusing on the cultural and informational effectiveness of health care translation as an important yet underexplored tool to promote public health knowledge and prevent potential health risks among the target communities and populations.

Note 1 The WHO website offers both the original English materials and some selected translations of these materials into its other four official languages, that is Chinese, Spanish, French and Russian at www.who.int/publications/en/