

The yin and yang of medical writing in China

Karen L Woolley¹, Ping Sun²

¹ProScribe Medical Communications (China), Shanghai, China

²Institute of Scientific and Technical Information of China, Beijing, People's Republic of China

Correspondence to:

Karen Woolley
ProScribe Medical
Communications
c/ProScribe Medical
Communications (China)
Pudong
200120 Shanghai
China
kw@proscribe.com.au

Abstract

China is becoming a superpower in many areas, including the global medical literature. In this article, we describe medical writing in China, with a focus on efforts to enhance the yin (quality) and yang (quantity) of publications. Quality encompasses integrity, so we also highlight how China, like many other countries around the world, is striving to enhance publication integrity. Finally, we explain how professional medical writers (whether working on publications from non-industry or industry research) can enhance the yin and yang of publications from China. Writers who have appropriate experience and cultural sensitivity will find such work challenging but rewarding.

Keywords: Medical writing, Medical writer, China, Journal, Ethics, Integrity

'...China needs to learn more about the world, and the world also needs to learn more about China.'

Xi Jinping, China's Communist Party General Secretary

15 November 2012¹

Consistent with the theme expressed by China's leader, medical writers in China need to learn more about medical writing around the world and medical writers around the world need to learn more about medical writing in China. This special edition of *Medical Writing* should serve this theme well.

In Chinese philosophy, yin and yang represent the opposite sides of everything – their positions keep changing, but balancing yin and yang is essential for maintaining vitality and vigour. The yin and yang forces can be applied to the world of medical writing (Figure 1).

The yang: quantity of publications from China

Only when all contribute their firewood can they build up a strong fire.

–Chinese proverb

In Chinese philosophy, the yang force can be associated with speed, focus, and aggression. The yang force may symbolise the remarkably strong and rapid increase in the quantity of publications from China. The dragon's fire is burning brightly! Based on the number of MEDLINE-listed publications, China has already passed England (Figure 2) and is expected to overtake the US in a few years.

The globalisation of medical research, coupled with strong incentives to publish internationally, have helped position China as a superpower in the international medical literature. Publications from China will be increasingly relevant to healthcare professionals and patients who live well beyond China's borders. Because of the regrettable increase in the prevalence of Western lifestyle diseases in China, an increasing number of publications from China will contribute to global understanding and management of many chronic diseases.

Understandably, the world's interest in China's research is intensifying. This interest and the desire of Chinese researchers to collaborate with researchers around the world have led to a marked increase in the number of internationally co-authored publications (Figure 3). These international collaborations bring many benefits, including the development of personal relationships (*guanxi*), a fundamental element of Chinese culture. For Chinese authors, internationally co-authored publications can enhance *guanxi*.

A focus on the quantity of publications is understandable, but also of concern. As in other countries, the 'publish or perish' mantra has put intense

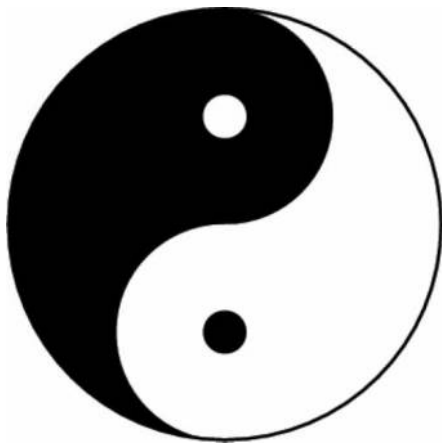


Figure 1: The symbol for the yin (dark side with white dot) and yang (white side with dark dot). The yin force may be seen as symbolic of publication quality and the yang force symbolic of publication quantity. The yin and yang forces should be in balance. China is striving to ensure that the quality of its publications is as impressive as the quantity.

pressure on Chinese researchers.² The pressure in China, however, may be more intense than in other regions of the world because a large part of a Chinese researcher’s salary is insecure, with the fixed base rate of pay often lower than the variable performance-related rate of pay.³ Chinese researchers must produce many papers year after year to avoid drastic reductions in their income.³ Furthermore, promotions in China are typically linked to publication output and the number of publications in which the researcher is the first or

corresponding author.^{3,4} Compared with authors from Europe, significantly more authors from Asia, including China, believe that their performance assessment is strongly influenced by the number of publications, as well as the number of authors on these publications.⁴ The need to reform the performance appraisal system in China has been recognised,⁵ but the yang force remains strong and continues to drive publication quantity.

The yin: quality of publications from China

It is simple to open a shop; another thing to keep it open.

–Chinese proverb

In Chinese philosophy, the yin force balances the yang; whereas the yang may be seen as fast, focused, and aggressive, the yin may be seen as slower, more diffuse, and passive. The yin force can symbolise the journey being taken to enhance the quality of publications from China. This journey is taking time, requires effort from many sectors, and optimal progress will rely on co-operation, not force. Although the rapid increase in publication quantity has put China on the world stage, the quality of its publications may determine how long China stays there. Enhancing the quantity of China’s publications may have been the first and relatively simple step forward, but enhancing the

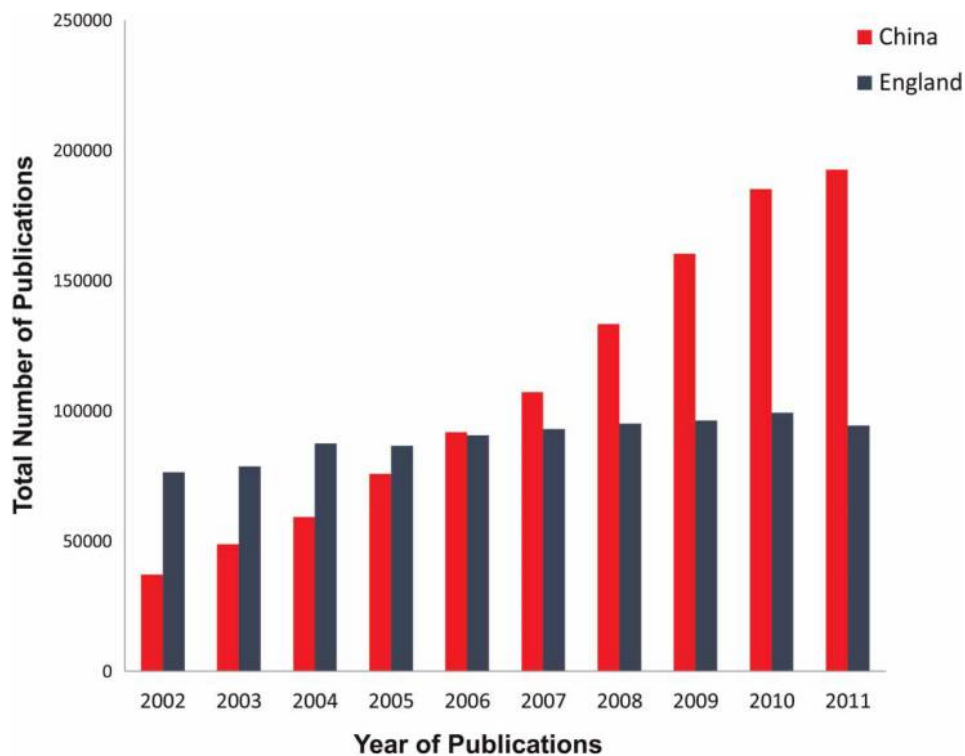


Figure 2: Number of publications from China and England, based on the number of publications listed in MEDLINE.

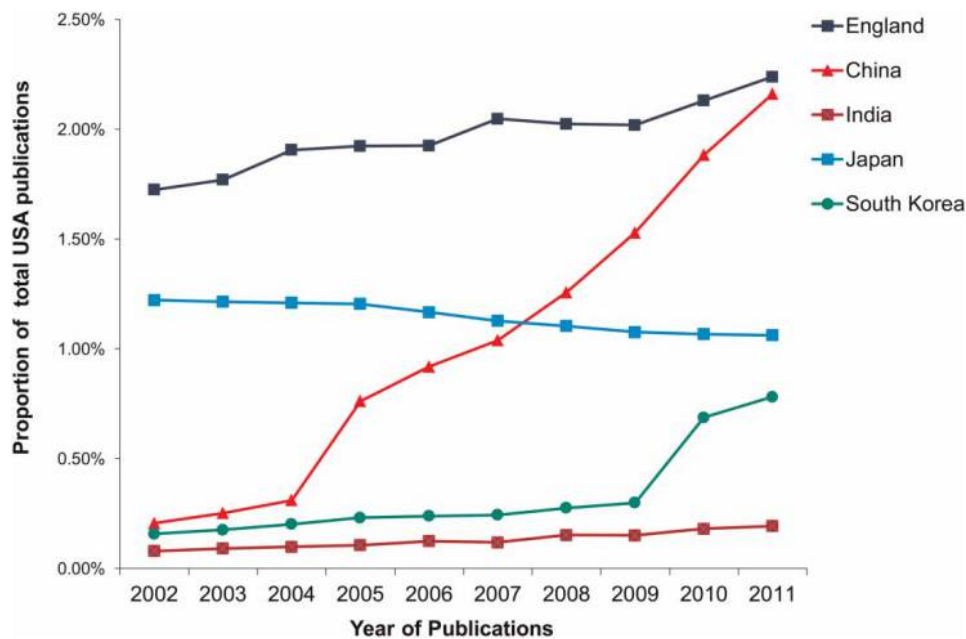


Figure 3: Proportion of publications listed in MEDLINE that were co-authored with an author from the US. During the last decade, co-authorship with authors from China has increased rapidly. In contrast, co-authorship with authors from India continues to remain very low (figure courtesy of ProScribe Medical Communications).

quality of its publications is the next important – and challenging – step.

Research on the quality of China's publications provides reasons for both hope and concern. For example, compared with a number of European countries, more publications from China appear in leading oncology journals (Figure 4).⁶ Medical writing workshops in China have stressed the importance of meeting international best-practice reporting standards.^{7,8} Nevertheless, recent studies on the quality of reporting in manuscripts^{9,10} and abstracts,^{11–13} relative to CONSORT and CONSORT for Abstracts, respectively, demonstrate many deficiencies. Even high-impact journals in China, which specifically endorse CONSORT, publish studies that don't meet CONSORT standards.¹⁴ Notably, a CONSORT for traditional Chinese medicine has been in development since 2007.¹⁵ Given the poor state of reporting traditional Chinese medicine research,¹⁶ finalisation of this CONSORT Extension Statement is clearly needed.

In response to concerns about the quality of Chinese publications and journals, the Chinese government has developed an innovative programme to reward high-quality journals. A new 90 million RMB yuan (\approx 11 million Euro) program, 'Enhancing the International Influence of Science & Technology Journals Program', was launched on 29 November 2012. The programme, co-sponsored by the China Association for Science and Technology and the Chinese Ministry of

Finance, will give financial rewards to journals that enhance their quality, influence, and international competitiveness. In the programme's first round, 35 English-language journals from China will each receive between 500 000 and 2 million RMB yuan (\approx 61 000–240 000 Euro) per year for 3 years.

Beyond concerns about publication quality in China, publication ethics are also a concern. Of course, these issues are not unique to China. Medical writing workshops in China,^{6,7} as well as free and culturally appropriate social media tools (e.g. <http://www.youtube.com/watch?v=AQdzWDxKajg>) have stressed the importance of ethical practices, but more needs to be done.

One of the strongest proponents of ethical publication practices is the Chinese government, which supports various initiatives. In 2006, after a number of international scandals, the Chinese Ministry of Science and Technology (MOST) issued a decree describing how to handle misconduct in government-funded research.⁵ In 2007, MOST established the Office of Research Integrity and established an inter-agency Joint Committee for promoting research integrity.⁵ The Joint Committee issued a seminal policy paper on publication ethics (*Opinions on Strengthening Research Integrity of our Country*), and there have been numerous ethics workshops led by organisations such as MOST, the Ministry of Education, the Chinese Academy of Sciences, and the China Association for Science and Technology.⁵ China has also participated in

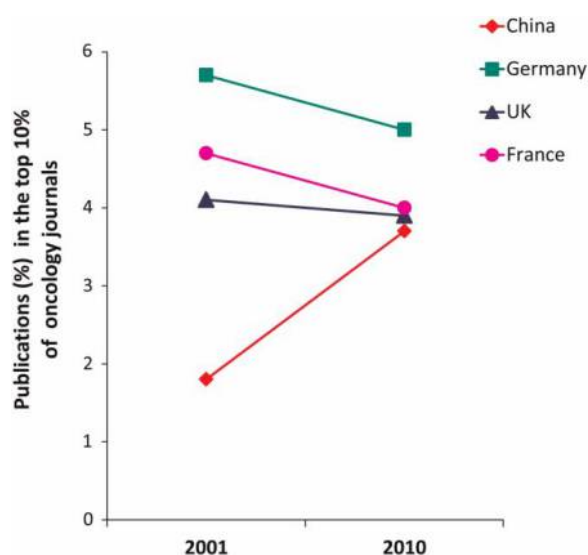


Figure 4: Percentage of publications from each country published in the top 10% of international oncology journals. During the last decade, publications from China in these leading journals have increased. In contrast, publications from the UK, Germany, and France appear to have decreased or stabilised.⁶

international efforts to establish ethical standards, with representatives from China involved in the recently released policy from a global network of scientific academies (IAC/IAP) and in the forthcoming 3rd World Conference on Research Integrity. The yin force is intensifying in China and must be sustained; enhancing publication practices and quality will enhance China's international reputation and contributions to the medical literature.

Balancing yin and yang: how professional medical writers can help China

To talk much and arrive nowhere is the same as climbing a tree to catch a fish.

–Chinese proverb

Professional medical writers are well positioned to help China balance the yin and yang of publications. Although discussion forums, policy statements, academic reform, and educational initiatives can help China, it is unrealistic to expect these actions to cause immediate changes to current practices. In contrast, when Chinese authors work with professional medical writers, it is realistic to expect rapid and noticeable changes ... with the very next publication. Professional medical writers follow ethical publication practices and disclose their involvement and funding sources; these behaviours distinguish them from ghostwriters.^{17,18} Chinese authors who are tempted to use ghostwriting services increase their risk of publication misconduct

and may bring dishonour to themselves, their superiors, their institution, and their country, causing great shame and loss of face (reputation).¹⁹ Notably, professional writers who train Chinese authors must not only ensure that ethical and best-reporting practices are followed,²⁰ but these writers must also be trained in cultural sensitivity.¹⁹ Ideally, especially given China's desire to contribute at an international level and the pressures to publish in English-language journals, trainers should be professional medical writers with many years of international medical writing experience, be native speakers of English, and have a track record of working successfully with Chinese authors.

Enhancing publication quantity (yang)

With respect to enhancing the quantity of publications, professional medical writers can help ensure that research that should be reported is reported. Although China is producing many publications, non-publication can still be an issue, as it is around the world.²¹ Failing to publish important research results retards scientific progress and is unethical. Also, patients in China may be less likely to participate in research if they think the results will not be published as quickly or as completely as they should. The results from all industry-sponsored clinical trials in China should be submitted for publication in compliance with the Joint Position Statement from the International Federation of Pharmaceutical and Manufacturers Associations, of which China's R&D Pharmaceutical Association Committee is a member.

Professional medical writers can also help China's authors and sponsors prepare robust, international-standard publication plans, which can minimise the risk of non-publication or delayed publication. Research indicates that manuscripts prepared with professional medical writing support are accepted more quickly for publication than manuscripts without support.²² Publication speed can be particularly important in China given the frequency of performance reviews and annual publication targets.³

Enhancing publication quality (yin)

With respect to enhancing the quality of publications, a professional medical writer can help ensure that publications are prepared in accordance with international best practice ethical and reporting standards. Manuscripts prepared with professional medical writing support are more likely to comply with best practice reporting guidelines (e.g. CONSORT) compared with those without support.²³ In China, authors and sponsor staff may

not be familiar with the myriad international reporting guidelines affecting publications. In our experience, authors are often grateful when we alert them to these guidelines and explain how and why they should be used. Authors and sponsor staff are also grateful when we help them navigate their way through the obvious and less obvious elements of Good Publication Practice 2 (GPP2).²⁴ Successful navigation requires detailed knowledge of GPP2, experience with applying GPP2 in China, and cultural sensitivity.

Although not unique to China, issues related to authorship, author payments, financial disclosure, audit trails, secondary publications, encoring, journal choices, and sponsor involvement can lead to disastrous outcomes in China (and beyond) if not handled in an expert and culturally sensitive manner. With the increasing scrutiny and reach of foreign agencies investigating bribery and corruption (e.g. via the US Foreign Corrupt Practices Act or the UK Bribery Act), it would be naive to think that questionable publication practices in China (e.g. paying public officials, including authorship payments to doctors employed at government-funded hospitals) would be exempt from investigation.

Manuscripts prepared with professional medical writing support are also less likely to be retracted for misconduct, including plagiarism.^{25,26} Plagiarism has been a source of concern in China for many years.⁵ Even if unintentional, plagiarism can result in retraction. The risk of plagiarism is higher when first authors come from lower-income countries or from countries with English as a second language.²⁶ The loss of face (*mianzi*) resulting from having an article retracted is devastating for Chinese authors. Anti-plagiarism software may detect plagiarised text, but a professional medical writer can help prevent plagiarism. Writers who can protect authors from losing *mianzi* are highly valued.

By working with professional medical writers, researchers in China will also gain access to informal, but highly relevant, education about publication practices. Practical advice from proven medical writers complements the knowledge that Chinese researchers gain from international exchanges or from working with their counterparts in other countries. China is also striving to attract talented researchers from overseas to help its researchers understand and meet international research and publication expectations. Professional medical writing companies, writing associations, editors, and international publishing groups are providing face-to-face and online education

sessions. A major challenge is for these entities to find creative and cost-effective ways to collaborate with China's leading and emerging researchers to achieve win-win outcomes.

In addition to helping China's researchers, professional medical writers can help editors of Chinese journals. Such assistance is particularly valuable given China's 'Enhancing the International Influence of Science & Technology Journals Program'. Professional medical writers can help encourage authors in China and around the world to consider submitting their manuscripts to China's top-tier English-language journals. They can also ensure that these journals receive high-quality manuscripts, alert editors to cutting-edge international research groups that routinely use their writing services, introduce editors to potential peer-reviewers from their networks, serve on editorial boards (e.g. to review compliance with best-practice reporting guidelines, ethical publication practices, and English-language standards), and, importantly, provide training workshops for editors on how professional medical writers can help editors enhance the quality of their journals while reducing their costs (e.g. how writers can enable editors to spend less time and money spent on copyediting, requesting disclosure information, checking compliance with submission requirements, and peer-review comments).

Choosing a professional medical writer

Enhancing the quantity and quality of publications in China would serve China and the world well. Professional medical writers have a great opportunity and a critical responsibility to contribute to the yin and yang of publications in China. Given the exponential increase in the extent of outsourcing international – and Asian – medical writing projects to writers in Asia,²⁷ authors and sponsors (including procurement staff) must validate the experience, credentials, and cultural sensitivity of the medical writers they choose. As it is currently possible for anyone to offer 'medical writing services' (even those who are unaware of basic guidelines such as CONSORT or GPP2), the onus is on buyers to ensure that writers have the requisite competencies, a proven track record of working ethically with authors from China, and a history of publication success in international journals. Writers should also have strong evidence-based insights as to where the greatest risks are for publication misconduct in China^{25,26} and ensure that their processes take these risks into account. A well

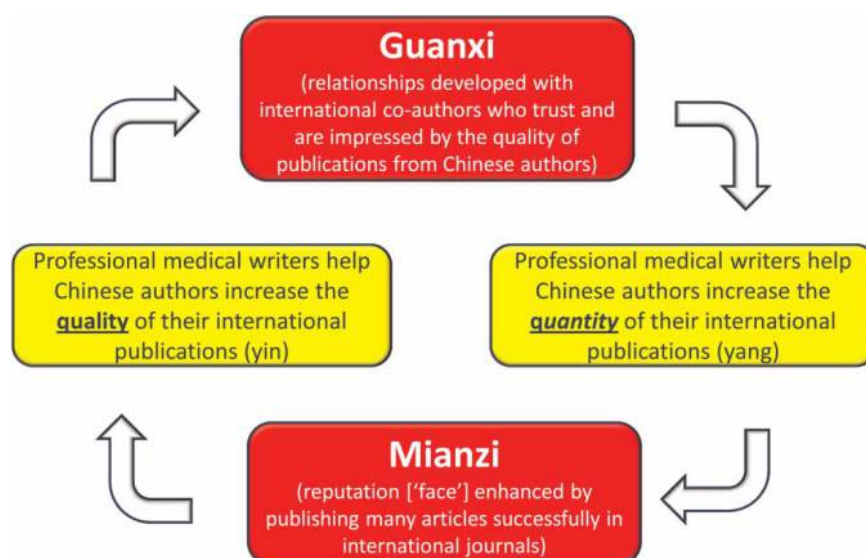


Figure 5: Professional medical writers can help assist Chinese authors in a positive feedback cycle that enhances the authors' *mianzi* and *guanxi*. If authors and sponsors choose the wrong writer (e.g. inexperienced, unethical, or culturally insensitive), the cycle may be broken and authors could lose *mianzi* (e.g. publication retracted for misconduct) and *guanxi* (damaged relations with international researchers) (concept and figure courtesy of ProScribe Medical Communications).

chosen professional medical writer will ensure that authors and sponsors receive the services required and can enhance their *mianzi* and *guanxi* (Figure 5); conversely, a poorly chosen writer can damage reputations, increase costs, delay projects, and cause loss of *mianzi* and *guanxi*.

Conclusion

Great acts are made up of small deeds.

–Lao Tzu (Chinese philosopher 600–531 BC)

Every high-quality publication from China may be seen as a small good deed. Collectively, these small good deeds can culminate in a great act – China becoming one of the leaders in medical research. The focus on publications from China has illuminated intense and increasing needs for medical writing support. Given the challenges regarding non-publication, complying with best-practice reporting guidelines, and following ethical publication practices, Chinese researchers could benefit from professional medical writing assistance. Further, given China's goal of enhancing the quantity and quality of its publications and the initiatives being introduced to achieve this goal, professional medical writers could benefit from assisting China's researchers. Indeed, for appropriately qualified and experienced professional medical writers, China offers many challenging, but rewarding, opportunities.

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Author information

Professor Karen Woolley PhD CMPP (WU Kai-run) is the CEO of ProScribe Medical Communications (www.proscribe.com.au), which has offices in China, Japan, and Australia. She and her team of PhD- or MD-qualified, internationally certified medical writers have worked with authors and sponsors in China for more than 10 years. ProScribe provides medical writing services, training courses, and publication compliance audits. Karen is a professor at two Australian universities and initiated the Global Alliance of Publication Professionals. Karen serves on the Board of Trustees for the International Society for Medical Publication Professionals (ISMPP) and is also the inaugural Chair of ISMPP's Asia-Pacific Advisory Committee.

Dr Sun Ping works at the Institute of Scientific and Technical Information of China and the Secretariat of the Office of Research Integrity, Ministry of Science and Technology of China. He is currently serving on the Planning Committee for the 3rd World Conference on Research Integrity, and collaborates regularly with his colleagues in the Chinese Ministry of Education, Ministry of Health, and China Association for Science and Technology. Dr Sun has interests in the field of research integrity and education, and he maintains a research integrity website (<http://www.sinori.cn>).