

## **STM statement on future of Japanese medical and health funding 2 August 2017**

The International Association of Scientific, Technical and Medical Publishers (STM), considers that the scholarly publication process supports the ongoing advancement of medical knowledge and, importantly, improvements in health outcomes. STM is therefore concerned about the potential harm to the Japanese medical community resulting from recent trends in funding for medical research.

Medical and health professionals in Japan need to both treat health conditions, and create an environment where health outcomes and the ongoing management of chronic disorders can be improved. In order to do this, it is essential that those health professionals have access to the world's international and local medical research literature.

Investment in medical research in Japan is growing at only 1.5% as measured against a global increase of 4.5% (as referenced from research articles published in Web of Science listed journals since 2010). This lower investment is further compounded by growth in research output across all STEM (scientific, technical, engineering and medicine) subjects in Japan of only 0.2% against a similar world average of 4.1%.

There have been several studies showing a decline in Japan's share of published research output, the most recent being published in Nature Index <sup>1</sup>. The 2017 index revealed that Japan's share of high-quality research papers fell by 6% between 2012 and 2016. The rapid growth in China's research output has meant that other leading countries, including the US, have experienced a decline relative to China's increased output. However, Japan's fall in research output can be expressed in absolute terms. Data from Clarivate Analytics' Web of Science (WOS) and Elsevier's Scopus database, also further demonstrate this downward trend. The WOS shows that in 11 of 14 fields, Japan published fewer articles in 2015 than in 2005. The most acute decline was in computer science, where output fell by 37.7% over the 10 year period. Whilst the total number of articles in the Scopus database increased by approximately 80% between 2005 and 2015, Japan's output only grew by 14% and its global share from 7.4% to 4.7%.

Among leading and large research nations, such as Japan, United States, Germany, the United Kingdom, China and South Korea, Japan is the only country showing such a significant decrease. China and South Korea are showing a strong increase in their publication share, both overall and particularly within medicine highlighting a shift within the Asia region.

In this context it is notable that of all the Nobel prize laureates for medicine from Japan, the most recent winner, Professor Yoshinori Ohsumi, has been advocating the need for increase spending on medical and health research, and is developing ways in which medical research can be encouraged. <sup>2,3</sup>

At the same time, the introduction of an 8% consumption tax on online medical research publications from overseas, and an increase in consumption tax from 5-8% for locally published content puts a very challenging burden on university and hospital libraries. STM urges the Japanese government to consider reducing the consumption tax on clinical and research materials or, at the minimum, not to increase the consumption tax in 2017. This would help alleviate the pressure on hospital and university libraries' ability to purchase these essential materials for their medical and health professionals.

With our goal of assisting publishers with the dissemination of the results of research in the fields of science, technology and medicine STM suggests that potential impediments to access medical research for medical and health professionals in Japan be removed or at least reduced. We also urge that assessments are made of the level of funding for medical and health research in Japan. Funding should be increased to at least bring Japanese research output to be in line with the growth in other developed economies.

#### References

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'The Fourth Age of Research', Jonathan Adams, Nature, 497,557-560 30 May 2013
2. <http://www.asahi.com/ajw/articles/AJ201612120041.html>
3. <http://www.asahi.com/articles/ASJDC7JTTJDCUBQU11D.html>  
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