

Australian Journal of DementiaCare Research Focus

This section aims to provide a channel of two-way communication between researchers and practitioners in the expanding field of social, psychological and nursing research in dementia care, including all aspects of nursing and care practice, communication and the environment.

The Research Focus section of the *Australian Journal of Dementia Care* aims to keep readers up to date with the fast expanding field of social, psychological and nursing research in dementia care. By this we mean every aspect of person-to-person communication, nursing and care practice and organisation, and the influence of all aspects of the environment. The aim is to provide a channel of two-way communication between researchers and practitioners, to ensure that research findings influence practice and that practitioners' concerns are fed into the research agenda. We would like to hear from you, specifically with:

- notice of the publication (recent or imminent) of peer reviewed papers with practical relevance to dementia care;
- research reports available for interested readers;
- requests or offers for sharing information and experience in particular fields of interest.

The global prevalence of dementia is escalating, along with the increasing ageing population, especially in low- and middle-income countries (Prince *et al* 2015). Over the next 30 years there will be significantly increased pressure on health care facilities and providers, aged care residential organisations, communities and care givers to provide appropriate care to people living with dementia (Xu *et al* 2017; Keogh-Brown *et al* 2016).

However, it is estimated that about 40% of risk factors for dementia are potentially modifiable and, if addressed at a population level, could reduce the prevalence of dementia (Livingston *et al* 2020). If societies are in any way able to stem the tide of the increasing prevalence of dementia, there is an urgent need to improve education on dementia care and prevention for health care providers and the general population (Wang *et al* 2019).

In recognition of this urgent need, the Wicking Dementia Research and Education Centre (the Wicking Centre) at the University of Tasmania has realised its goal of developing effective, high-quality e-health interventions to build knowledge in dementia as well as capacity for risk reduction through production of two massive open online courses (MOOCs) *Understanding Dementia* and *Preventing Dementia* (Wicking Dementia Research and Education Centre at the University of Tasmania 2019a, b). By the beginning of 2020, over 350,000 people world-wide had

UTAS MOOC makes its mark in China

Mark Carter, James Vickers and Zara Quail share their learnings about working internationally to adapt and launch a version of the Wicking Dementia Research and Education Centre's popular massive open online course (MOOC), *Preventing Dementia*, in China



enrolled in these free courses, with an overall completion rate of 39%, amongst the highest of all MOOCs internationally.

In 2017, a substantial proportion of the *Preventing Dementia* MOOC was translated into Mandarin and promoted to families in Beijing, China in partnership with Care Visions China, a subsidiary of the UK-based Care Visions Group and a wholly foreign-owned home care service providing services to people living with dementia.

The two organisations initially began collaborating

when Care Visions approached the Wicking Centre to endorse its training and education program on the delivery of therapeutic interventions for people living with dementia as an international standard. This engagement led to an ongoing working relationship between the two organisations which included academic expert advice and the subsequent delivery of the MOOC in China.

Dementia in China

China has the largest number of ageing people globally (United Nations 2017). The

current number of people over the age 60 in China will more than double by 2050 when the over-60 population will account for 35.1% (478.9 million) of the overall Chinese population (United Nations 2017). Of those over 60, it is predicted that 66 million will require daily care and assistance (World Health Organization 2015), of whom 35.98 million will be living with dementia (Wang *et al* 2019).

However, there is still significant lack of dementia awareness and education for both health care providers and communities in China (World Health Organization and Alzheimer's Disease International 2012; Zhang *et al* 2017). This in turn contributes to the ongoing issue of stigma around dementia (Chen *et al* 2014; Chen *et al* 2017).

The aim of offering the *Preventing Dementia* MOOC in China was to increase health literacy around dementia and enable families caring for those living with dementia to implement lifestyle modification to reduce their personal dementia risk. ▶

Adapting and promoting

The *Preventing Dementia* MOOC is offered in four modules over about eight hours, covering dementia as a disease, prevalence, non-modifiable and modifiable risk factors and the evidence to support health and brain maintenance through lifestyle interventions at an individual and population level (Wicking Dementia Research and Education Centre at the University of Tasmania 2019a).

The content includes videos of specialists, academics, care providers and people living with dementia, online articles, discussion forums and quizzes. About 154,000 participants world-wide have registered for the *Preventing Dementia* MOOC since 2016, with an average completion rate of 43% across course offerings.

The English-language version was adapted and translated for a Chinese audience through liaison between the Care Visions team and the MOOC production team at the Wicking Centre. The main elements that were translated were the transcripts. The collaborative effort involved teams across the learning management platform, marketing, legal, public relations and research domains. Translated modules were produced by a Chinese academic at the Wicking Centre. This helped to ensure consistency of the message across the two languages and cultures. Chinese video channels were created for the MOOC videos as well as participant feedback processes integrated into the MOOC.

A joint marketing plan covering China and Australia was implemented which included media interviews, radio and traditional media channels. Care Visions used its far-reaching social media channels, such as WeChat, Weibo, Youku and Vimeo, in China to further promote the launch of the MOOC to over 160,000 people there for five weeks pre-launch.

The Chinese *Preventing Dementia* MOOC was also highlighted as part of



James Vickers, Director of the Wicking Dementia Research and Education Centre (back row, centre) and Care Visions founder Mike Reid (back row, centre right) with the Care Visions China team at the Preventing Dementia MOOC launch in Beijing, China

promotional activities at the Alzheimer's Disease International conference in Kyoto, Japan two weeks before the MOOC launch in China. The official *Preventing Dementia* MOOC launch was also presented as part of a symposium in June 2017 in Beijing. Of the 80 attendees at the symposium, 90% registered for the MOOC at the event. High-level attendees included representatives from four embassies, trade groups from Australia, UK, Holland and China, as well as Beijing government health officials and industry leaders.

Launch and uptake

Users registered through Care Visions' China website, which then took them through to the University of Tasmania's website for consent and data protection and in turn, linked them to the Wicking Centre's Learning Management System to access the *Preventing Dementia* MOOC.

In China, 373 people registered for the Chinese version which was made available in two periods in 2017 and 2018. The overall completion rate was 24.7%, compared to the 53% completion rate of the 2018 English version. These are still all relatively high completion rates for a MOOC, with the typical completion rate globally being of the order of 5-15% (Goldberg *et al* 2015). We think this may be indicative of the eagerness of the participants to learn more about this disease and how to mitigate its effects,

likely as participants may have experience of family members with dementia for whom they are providing daily care. The 2017 and 2018 MOOCs have also generated further interest in a country-wide rollout in China during 2021/2022 by organisations and care providers.

Interestingly, despite the accessibility of the online version, over 50 organisations and 100 families inquired about having the course content delivered in a face-to-face learning environment.

The *Preventing Dementia* MOOC receives thousands of reviews on public ratings sites such as Class Central, and is currently listed as the 14th most highly-rated MOOC internationally, as well as number two in 'Diseases and Disorders Courses' (Class Central 2020).

Barriers and challenges

When delivering online education between different systems in different countries, a number of technological issues can arise. In China, there were some problems with access to the MOOC content, particularly videos, due to the firewall in China and a numbers-based email system which filters out non-number-based emails. During the testing phase solutions to email verification and IP address issues were implemented to enable access to the Learning Management System from China. However, due to other technological barriers and issues, some interactive aspects could not be

implemented within the Chinese version of the MOOC, which meant it was not a complete translation of the 2018 English-language version of the course.

Moderation of the discussion forums for the Chinese MOOC required a Chinese respondent specifically dedicated to the course. This role was fulfilled by a Mandarin-speaking academic member of the Wicking Centre who had helped develop the current English MOOC version and was fluent in the Mandarin translation of the course and its context.

As the course progressed, we found that many participants from China communicated in English rather than in Mandarin, indicating that take-up of, and progression through, the MOOC was likely to be largely by people with additional English language capacity.

After completing the *Preventing Dementia* MOOC, participants are offered a certificate. However, in the case of the Chinese MOOC, the completion certificate had to be recognised within China's health and care industry and delivered by a local organisation, instead of by the global e-health intervention platform. The participation certificates were offered by Care Visions as the Chinese intermediary.

Funding and support

As part of the collaborative partnership between Care Visions and the Wicking Centre, Care Visions funded marketing, promotion, content hosting and certification for all MOOC-related activities in China. The cost to Care Visions was about \$A18,000 for the seven-week process from pre-marketing to certification.

There was significant industry involvement from the Australian Chamber of Commerce in venue and event marketing. The e-learning platform, technical infrastructure and support, translation and discussion forum moderation were all

provided by the Wicking Centre.

Part of the initial MOOC project in China was to identify the possible future funding streams or potential avenues for market access. The need for sustainable funding was highlighted in the initial Chinese MOOC delivery in order to achieve the levels of participation and completion needed for countries such as the US and UK, which have the largest Chinese populations outside of China. There are plans to launch the *Understanding Dementia* and *Preventing Dementia* MOOCs more widely in 2022.

Future MOOC plans

The Wicking Centre is now developing a complete Mandarin translation of the *Preventing Dementia* MOOC.

The *Preventing Dementia* MOOC is now also a key behaviour change tool used for the Island Study Linking Ageing and Neurodegenerative Disease (ISLAND) Project, an online program that is targeted as a broad community- and public-health initiative to help develop self-efficacy in dementia risk management (Wicking Dementia Research and Education Centre at the University of Tasmania 2020). The ISLAND Project is being developed and implemented initially in Tasmania with a target of one tenth of the population over the age of 50.

Plans are also developing to establish a version of this unique MOOC program in languages other than English and make the *Understanding Dementia* and *Preventing Dementia* MOOCs available more widely.

The COVID-19 pandemic has led to greater community uptake of internet-based educational initiatives, and recognition of the value of online learning. However historically, there has been a degree of reluctance on behalf of Chinese students and authorities to acknowledge the value of online education. The MOOC approach, addressing critical health issues that

confront an ageing China, may help to broaden knowledge of dementia risk and individual capacity to modify such risk.

Conclusion

The *Preventing Dementia* MOOC is an e-health intervention that provides practical education on dementia as a disease, non-modifiable and modifiable risk factors and the evidence around lifestyle modification for prevention of cognitive decline (Wicking Dementia Research and Education Centre at the University of Tasmania 2019a).

The course has the potential to both impact lifestyle and health choices of individuals as well as effect societal thinking of dementia as a disease, rather than an expected normal part of ageing.

The development of scalable and accessible online e-health interventions for dementia is an essential educational advancement if there is any hope of impacting escalating dementia prevalence in countries such as China.

Factors to consider in implementing efficient MOOC delivery should include country-specific system support for technological access and forum moderation personnel with the relevant knowledge, cultural considerations and language. Content developed for online delivery can also potentially be delivered in a communal group setting or adapted for face-to-face lectures to promote social interaction and community awareness.

Accessible educational resources such as MOOCs have the potential to reach large populations in both urban and rural areas with adequate access to the internet on any device. By harnessing the power of such technological reach, educational resources such as the *Preventing Dementia* MOOC have the potential to educate people at an individual, community and population level.

Further research is needed to understand the precise influence this level of education can have to reduce dementia

risk-related health factors and behaviours, but every effort is required at an educational, policy, and strategic population level to reduce the prevalence of dementia and improve the resources available to care for those people living with dementia. ■

Acknowledgments

The Wicking Dementia Research and Education Centre MOOC program is supported by the JO and JR Wicking Trust (Equity Trustees).

References

- Chen S, Boyle LL, Conwell Y, Xiao S, Chiu HF (2014) The Challenges of Dementia Care in Rural China. *International Psychogeriatrics* 26(7) 1059-1064.
- Chen Z, Yang X, Song Y, Song B, Zhang Y, Liu J, Wang Q, Yu J (2017) Challenges of Dementia Care in China. *Geriatrics (Basel)* 2(1).
- Class Central (2020) *The Best Online Classes of All Time*. Available at: <http://bit.ly/3eQyGT5> (Accessed 26/11/2020).
- Goldberg LR, Bell E, King C, O'Mara C, McInerney F, Robinson A, Vickers J (2015) Relationship Between Participants' Level Of Education And Engagement In Their Completion of the Understanding Dementia Massive Open Online Course. *BMC Medical Education* 15 60.
- Keogh-Brown MR, Jensen HT, Arrighi HM, Smith RD (2016) The Impact of Alzheimer's Disease on the Chinese Economy. *EBioMedicine* 4 184-190.
- Livingston G, Huntley J, Sommerlad A, Ames D, Ballard C, Banerjee S et al (2020) Dementia Prevention, Intervention, and Care: 2020 Report of the Lancet Commission. *Lancet* 396(10248) 413-446.
- Prince MJ, Wimo A, Guerchet MM, Ali GC, Wu Y-T, Prina M; Alzheimer's Disease International (2015) *World Alzheimer Report 2015 – The Global Impact of Dementia: An Analysis Of Prevalence, Incidence, Cost and Trends*. Available at: <http://bit.ly/3eRCKMg> (Accessed 26/11/2020).
- United Nations, Department of Economic and Social Affairs Population Division (2017) *World Population Ageing 2017* (ST/ESA/SER.A/408). Available at: <https://bit.ly/3s4tCOM> (Accessed 26/11/2020).
- Wang Y-Q, Jia R-X, Liang J-H, Li J, Qian S, Li J-Y, Xu Y. Dementia in China (2015-2050) Estimated Using the 1% Population Sampling Survey in 2015 (2019) *Geriatrics and Gerontology International* 1-5.



■ From left: Mark Carter is Managing Director of Care Visions Home Services in China, Director of Product Development and Service Delivery for Care Visions Healthy Ageing in the UK, Clinical Associate of the University of Tasmania School of Medicine and Associate Fellow of the Australasian College of Health Service Executives; Professor James Vickers is Director of the Wicking Dementia Research and Education Centre, University of Tasmania, and Head of the Tasmanian School of Medicine, University of Tasmania; Dr Zara Quail is Clinical Scientific Research Lead Care Visions Limited, Stirling, Scotland, a qualified medical doctor, clinical editor and medical writer. To follow up on this article, contact Zara Quail at zara.quail@carevisions.co.uk

Wicking Dementia Research and Education Centre at the University of Tasmania (2019a) *Preventing Dementia* MOOC. Available at: <http://bit.ly/2P8tizW> (Accessed 26/11/2020).

Wicking Dementia Research and Education Centre at the University of Tasmania (2019b). *Understanding Dementia* MOOC. Available at: <http://bit.ly/3r6lFr3> (Accessed 26/11/2020)

Wicking Dementia Research and Education Centre at the University of Tasmania. (2020) *The ISLAND Project*. Available at: <https://island.mooc.utas.edu.au/> (Accessed 26/11/2020).

World Health Organization (2015) *China Country Assessment Report on Ageing and Health*. Available at: <https://bit.ly/2Q80HLk> (Accessed 26/11/2020).

World Health Organization and Alzheimer's Disease International (2012) *Dementia: A Public Health Priority*. Available at: <http://bit.ly/30Us9OY> (Accessed 26/11/2020).

Xu J, Wang J, Wimo A, Fratiglioni L, Qiu C (2017) The Economic Burden of Dementia in China, 1990-2030: Implications for Health Policy. *Bulletin of the World Health Organisation* 95(1) 18-26.

Zhang H, Loi SM, Zhou S, Zhao M, Lv X, Wang J, Wang X, Lautenschlager N, Yu X, Wang H (2017) Dementia Literacy Among Community-Dwelling Older Adults in Urban China: A Cross-sectional Study. *Frontiers in Public Health* 5 124.