

Problems and solutions in the health of older adults

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Alvin Ip is a 4th year medical student at UBC. He is a UBC Wesbrook Scholar and holds a Bachelor of Kinesiology degree. Alvin served as Co-Editor-in-Chief of the UBC Medical Journal from 2012-2014 and is currently a Staff Writer. He has published articles on physician leadership, Traditional Chinese Medicine, and the health of older adults to complement the theme of each journal issue. Alvin has also conducted research in Physical Medicine and Rehabilitation (PM&R) and in medical education. He received the CAPM&R Medical Student Research Award in 2013 and 2014 and has published five papers.

There is no doubt that the Canadian population is aging. As a health policy paper from Doctors of BC points out, older adults currently make up the fastest-growing age group in Canada.¹ As of July 2015, nearly one in six Canadians (16.1%) is 65 years or older, surpassing the number of children aged 0 to 14 years for the first time.² The number of older adults in the population will continue to grow in the coming years, and according to projections from Statistics Canada, those 65 years and older will reach around 24% of the BC population by 2031.³

The aging of the Canadian population is an important consideration because it presents a significant challenge to health care professionals both now and in the future. Health services are disproportionately required by older individuals. A strong positive correlation has been demonstrated between health spending per capita and age. Average health spending per capita approximately doubles in every subsequent 10-year age group in the final one-third of life.^{4,5} Of the total BC government expenditures for people 65 years and older, 61.1% are for hospital costs, 21.4% are for physicians, 11.7% are for other institutions, 5.4% are for drugs, and 0.4% are for other health care professionals.⁵ Older adults face unique health problems and issues. As doctors of tomorrow, medical students must learn and prepare for the current and

future health needs of our aging Canadian population.

Dr. Kenneth Madden, MD, MSc, FRCPC was interviewed on the increasingly important topic of health in the elderly, including the unique health challenges that older adults face and potential interventions to overcome them.⁶ Dr. Madden is an Associate Professor of Geriatric Medicine at the University of British Columbia and the Editor-in-Chief of the Canadian Geriatrics Journal.⁷ He is Division Head of Geriatric Medicine at Vancouver General Hospital and holds peer-reviewed grants from the Canadian Institutes of Health Research, the Heart and Stroke Foundation of Canada, and the Canadian Diabetes Association.^{7*}

With your experience and expertise, what do you believe are the three greatest problems that undermine the health of elderly individuals?

Most people erroneously think that specific disease processes (such as heart failure) or mobility issues are the biggest predictors of poor health in older adults. But surprisingly, numerous quantitative sociology studies have shown that the complexity of an older adult's social network is the biggest predictor of mortality, morbidity, and the ability to live independently.⁸ The second biggest factor would be cognitive dysfunction, likely

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through the indirect effects it has on the first issue. The third biggest issue affecting older adults is frailty, defined as the inability to maintain one's level of function due to co-morbid illness and loss of muscle due to age-related sarcopenia.

What kinds of interventions or solutions are there available for social isolation?

Social isolation is a complex multifactorial problem. Multidisciplinary interventions to improve mobility and level of function can help maintain independence and allow older adults to maintain their social network. Community supports can try to replace lost social supports, although this is an imperfect solution. Hopefully, the use of newer information technology resources, such as home monitoring

and social networking services, can help improve these community interventions.

What kinds of interventions or solutions are there available for cognitive dysfunction?

This is the biggest unsolved problem in the care of older adults. Non-pharmacological interventions, such as exercise and education, seem to prevent Alzheimer's disease in observational studies, but intervention trials have shown mixed results. We have several agents to help with cognition (i.e. acetylcholinesterase inhibitors and N-methyl-D-aspartate receptor antagonists), but these primarily address symptoms, not the underlying neurodegenerative processes at work. Since the number of older adults with dementia is increasing at a rapid pace, a coordinated international research effort to find better dementia treatments is vital to the future health care of older adults. Although this has not yet occurred at a government level, the major drug companies have all entered into an agreement to share data into possible treatments for Alzheimer's disease.

What interventions or solutions are there for frailty?

There have been many examinations of pharmacological agents, mostly involving anabolic hormones (such as testosterone or growth hormone), that have either shown no efficacy in frailty or have developed issues with complications. The main treatments for frailty currently

consist of strength training and dietary modifications, such as increased protein intake.

As a Geriatric Medicine specialist, how do you approach these problems in your patients?

The core of treating older adults is the comprehensive geriatric assessment. This involves addressing how medical, neurological, neurocognitive, psychiatric, and rehabilitation issues overlap. The geriatric assessment, in combination with an assessment by a multidisciplinary (occupational therapy, physical therapy, nutrition, nursing) team, allows us to address complex frail older adults with multidisciplinary problems.

As a clinician-scientist, what problems in the health of the elderly have you conducted research about?

My laboratory has examined the effect of exercise interventions in older adults with Type 2 diabetes, the ability of different forms of exercise to impact arterial stiffness in subjects at high cardiometabolic risk, and the impact of sedentary behaviours on cardiometabolic risk factors.⁷ We have also examined the impact of age and diabetes on postprandial cardiovascular responses and the cardiovascular responses to orthostatic stress.^{7*}

Author commentary

As present and future health care professionals, we are tasked with the mission and responsibility to respond to the health needs of our communities. As the prevalence of older adults continues to rise in Canada, it is important for medical students, physicians, and other health care professionals to be better informed on the topic in order to effectively care for the health of older adults in our communities.

The comprehensive geriatric assessment and multidisciplinary team approach enables health care professionals to identify and address the complex health issues of older adults. Dr. Madden revealed three significant issues that undermine the health of older adults, which include

social isolation, cognitive dysfunction, and frailty. It is very encouraging to know that the problem of social isolation is being tackled by multidisciplinary interventions in the community and may improve with newer technological advances. Moreover, it is reassuring to learn that there is ongoing research being conducted to address cognitive dysfunction. It will be important for the health care professions to continue working together to explore and address the health challenges facing older adults in order to meet the needs of our aging Canadian population.

*This statement was adapted from OMICS International.

disclosures

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