

## Submission to the Maryland State Legislature on the 'Employment Standards - Seating for Employees (Right to Sit Act of 2022)'

Date: Jan 21, 2022

I am delighted to provide a written submission in support of the submission of the 'Right to Sit Act of 2022' that will establish requirements for employers to provide seating for employees where they are able, and establishing enforcement mechanisms.

To put my comments below in context, I am the President and Senior Scientist at the Institute for Work & Health, which is a non-government, not-for-profit research organisation in Ontario, Canada. I also hold academic appointments at the University of Toronto, and at Monash University in Australia. I have published more than 200 peer-reviewed publications in the area of work and health over the course of my career.

Prolonged standing – where a worker has to stand for prolonged periods of time without opportunities to sit – remains one of the most easily modifiable workplace hazards in North America, and the impacts of prolonged standing are various including primarily back pain, musculoskeletal conditions, varicose veins and increased risk of cardiovascular events [1-4]. It is important to note, that it is only in the workplace where prolonged standing occurs (that is standing for a number of hours without opportunities to sit). Epidemiological surveillance studies have observed that most voluntary standing bouts tend to last for 30 minutes or less [5].

In many of the jobs where prolonged standing is common, there is no productivity-related reason why standing should occur. Rather, the need to stand in these jobs has more to do with the need to be seen by the public as being attentive, interested and polite. As such, providing employees with opportunities to sit, will not negatively impact the workplace financially, and will potentially be of health benefit to the employees within the workplace.

I led a study, published in 2018 in the American Journal of Epidemiology, that examined the relationship between prolonged standing and new cardiovascular events, among a representative sample of more than 7,000 workers in Ontario, followed over a 12-year period [6]. In this study we observed that people who primarily stand on the job are twice as likely to develop heart disease as people who primarily sit. This was the case even after taking into account a wide range of factors, including personal factors (including age, gender, education levels, ethnicity, immigrant status and marital status), health (e.g., diabetes, arthritis, hypertension, mood and anxiety disorders) and the type of work being performed (e.g., physical demands, shift schedule). In fact, the incidence of heart disease among those respondents who stood a lot at work (6.6 per cent) was similar to the incidence of heart disease among workers who smoked on a daily basis (5.8 per cent) or those who were obese (6.9 per cent). This suggests that programs to reduce prolonged standing at work are warranted, just as are programs that target smoking and/or unhealthy dietary habits.

There are important strengths of our study that are worth noting in assessing the quality of the evidence it provides. First, the sample covered a variety of industries and occupations, and the survey had a very high response rate. Second, due to our ability to link the survey responses to administrative healthcare data in Ontario, we were able to both remove people who had a cardiovascular event before we assessed their occupation standing requirements, and identify

people who had a cardiovascular event after we assessed their occupation standing requirements. That is, in our sample, no one had heart disease when the occupational exposure was assessed, and all events included in the analysis happened in the future. This temporal sequence is a core requirement of causal relationships between measures. Third, we used occupational title and an independent assessment of standing in occupation to assign whether a person stood, sat or moved in their occupation. So in this sense, the assessment of the exposure (standing at work) was independent of other things that might have influenced the outcome (e.g. negative disposition toward the work environment, which might influence future risk of cardiovascular disease and make someone more likely to overestimate how much they have to stand at work). Finally, we could also adjust our models for a wide range of variables that might be related to standing at work, and to heart disease. As such, we are confident we have been able to isolate the relationship between occupational standing and cardiovascular disease.

Taking into account the above, I believe the proposed legislation has the potential to make important impacts to the health of American workers. While prolonged standing is not the only risk factors for cardiovascular conditions, or other health outcomes such as musculoskeletal conditions and back pain, it is an exposure that is easily modifiable, and an exposure to which many workers in North American are exposed. Legislation to require workplaces to provide seating where possible for workers who have to stand will likely lead to health benefits for these workers, and no undue financial or productivity impacts on employers.

Should you have further questions regarding this submission I would be happy to answer them.

Sincerely,

kt S=

Peter Smith, PhD MPH President and Senior Scientist Institute for Work & Health Email: psmith@iwh.on.ca Phone: 416-927-2027 ext. 2226

## References

- 1. Antle DM, Vezina N, Messing K, Cote JN. Development of discomfort and vascular and muscular changes during a prolonged standing task *Occupational Ergonomics* 2013;**11**:21-33.
- Messing K, Fortin M, Rail G, Randoin M. Standing still: Why North American workers are not insisting on seats despite known health benefits *International Journal of Health Services* 2005;**35**:745-763.
- 3. Messing K, Stock S, Cote J, Tissot F. 2014 William P. Yant award lecture. Is sitting worse than static standing? How a gender analysis can move us toward understanding determinants and effects of occupational standing and walking *Journal of Occupational and Environmental Hygiene* 2015;**12**:D11-D17.
- Krause N, Lynch JW, Kaplan GA, Cohen RD, Salonen R, Salonen JT. Standing at work and progression of carotid atherosclerosis *Scandinavian Journal of Work, Environment & Health* 2000;**26**:227-236.
- Hamer M, Stamatakis E. The descriptive epidemiology of standing activity during free-living in 5412 middle-aged adults: the 1970 British Cohort Study *Journal of Epidemiology and Community Health* 2020;**74**:757 -- 760.
- Smith P, Ma H, Gilbert-Ouimet M, Glazier RH, Mustard C. The relationship between occupational standing and sitting and incident heart disease over a 12-year period in Ontario, Canada American Journal of Epidemiology 2018;187:27-33.