

SUMMARY (English)

Smoking is the leading cause of premature mortality and morbidity globally (WHO, 2018). Within the Czech Republic (CR) tobacco consumption ranks among the highest in the world, and tobacco control measures rank among the poorest globally (Joossens and Raw, 2014; American Cancer Society, 2018). Smoking related chronic diseases and the loss of active part of life are an enormous and growing burden on the Czech system. There is urgency to invest in efforts that will control and decrease the demand for tobacco products (OECD, 2017). Experiences and lessons learned in tobacco control (TC) by other countries, such as Canada, may provide valuable insight to help guide Czech decision makers in identifying policy *best buys* moving forward.

The basic research carried out as part of this PhD project focuses specifically on a comparison of TC in Canada and the CR. It also includes: 1) a national cross-sectional survey of all organizations involved in TC to describe capacity and involvement in TC measures outlined by the WHO Framework Convention on Tobacco Control (FCTC) (Fraser *et al.* 2019); 2) a prospective cohort study which describes the results of intensive smoking cessation treatment offered by Centers for Tobacco Dependent (CTD) (Králiková *et al.* 2014); 3) a cross sectional survey of patients (N=203) in the national lung transplant program to describe the prevalence of smoking post lung transplantation and prior to inclusion on the transplant waiting list (Zmeškal *et al.* 2015); and 4) a keyword search of clinical practice guidelines (N=91) from 20 medical professional societies to determine whether tobacco dependence treatment recommendations were included (Zvolská *et al.* 2017).

Our findings provide evidence that many of the organizations involved in TC activities are under resourced, lack core chronic disease prevention skills and face many barriers to moving the tobacco control agenda forward (Fraser *et al.* 2019). CTD across the CR offer intensive treatment which was found to be highly effective (Králiková *et al.* 2014). Among patients who used pharmacotherapy as part of treatment, the 12-month abstinence rate was 43.4 % (N=2470) compared to 15.9 % (N=573) among those who did not (Králiková *et al.* 2014). CTD were underutilized and many physicians did not routinely refer patients. We also found that among those

who are critically ill, smoking resumption may be an under-recognized risk, particularly among patients with chronic obstructive pulmonary disease (COPD). We found that 15.1% (95% CI 0.078 to 0.269) of all lung transplant recipients had urinary cotinine levels corresponding to active smoking; and a further 3.8% (95% CI 0.007 to 0.116) had borderline results. Compared to patients with other diagnoses, patients with COPD were 35 times more likely to resume smoking post-transplantation (95% CI 1.92 to 637.37, p-value 0.016). More rigorous screening, as well as support and treatment to stop smoking among critically ill patients are needed (Zmeškal et al, 2015).

Further to this, clinical practice guidelines (CPG) do not adequately address tobacco use (Zvolská *et al.* 2017). Nearly one third of CPG (27.7%) related to cardiovascular and respiratory diseases, as well as cancer, made no mention of smoking. Only 13.8% of CPG included a section on tobacco dependence, referenced tobacco dependence treatment guidelines or mentioned specialized treatment centres where smokers can be referred. This represents a major gap in translation of research findings into clinical practice.

Our findings provide empirical evidence that there are major gaps relating to treatment of tobacco dependence, as well as tobacco control more generally within the CR. To change this should become a priority.