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Smoke-free policy and child health

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On March 24, 2004, Ireland became the first country in the world to implement legislation prohibiting tobacco smoking in workplaces and enclosed public places. The political process leading up to the legislation was long, with opposition from stakeholders with a range of vested interests, particularly the tobacco industry.[1] Despite predictions otherwise, the legislation achieved high levels of compliance from the outset, has proved extremely popular, and established a global role model that many countries have now adopted. The primary purpose of smoke-free legislation is to prevent harm from passive smoke exposure to workers, but smoke-free legislation was expected to achieve far more than this, by improving air quality and reducing health risks for the many people who use, rather than work in, protected areas. However, few people expected the magnitude of the ensuing health benefits to be quite so large. Among adults, smoke-free legislation has led to reductions in hospital admissions and mortality from cardiovascular and respiratory diseases by as much as 15–30%[2] and, as summarised in a new systematic review and meta-analysis by Timor Faber and colleagues[3] in this issue of *The Lancet Public Health*, more modest but still clinically important reductions in the incidence of preterm births and admission to hospital with asthma exacerbations and respiratory infections in children. These benefits more than vindicate the efforts of the many individuals and organisations who have advocated for smoke-free legislation around the world. They also point to the potentially much greater health gains that could be achieved by eradicating tobacco smoke exposure in areas currently exempt from smoke-free legislation, which in different countries include prisons, mental health institutions, hotel rooms, and nursing homes, and in some of which—such as prisons[4]—levels of exposure can be very high. However, the biggest source of involuntary exposure to tobacco smoke, particularly for children, is smoking by parents and other carers and household members in the home.

One of the arguments advanced against comprehensive smoke-free legislation, articulated even by the then UK Health Minister in evidence to the House of Commons Select Committee on Health in 2005,[5] was that prohibiting smoking in pubs, bars, and restaurants would displace smoking into the home, and hence increase exposure of (and harm to) children and other household members. In fact, in the UK the opposite happened: exposure of both children and non-smoking adults fell after smoke-free legislation was introduced.[6] Smoking in the home remains a substantial problem, however, such that in 2015, in England, 36% of non-smoking children aged 4–15 years had detectable amounts of cotinine in saliva, showing some degree of tobacco smoke exposure, of which parental smoking was the largest source.[7] Cotinine concentrations were highest in children from the most disadvantaged families,[7] reflecting the high prevalence of smoking among their parents and their social networks.

The way to prevent this exposure is for all parents and others who have contact with children to stop smoking, but the practical reality is that, despite best efforts to date, smoking remains common among young adults, and quitting is difficult. Unfortunately, there are few—if any—other effective options. Smokers who care for children can be advised to keep their homes smoke-free by smoking only outdoors and well away from doors or windows, but not all carers are able to do this. We have reported the results of a trial[8] in which caregivers (typically mothers) who smoke were randomly assigned to receive either a (usual care) resource pack including contact details for a local National Health Service (NHS) Stop Smoking Service or a package involving specialist advice on maintaining a smoke-free home, including the use of nicotine replacement therapy to enable temporary abstinence from smoking. The intervention achieved a substantial improvement in indoor air quality, reducing fine particulate matter ($PM_{2.5}$) concentrations in the home by around 35%, and stimulated more quit attempts than did usual care. However, the reduction in salivary cotinine concentrations achieved in the children the study aimed to protect was modest, suggesting that substantial exposure was still occurring.[8]

Preventing exposure of children to tobacco smoke in the home therefore requires redoubling of efforts to drive down the prevalence of smoking, particularly among young adults, through comprehensive implementation of the WHO MPOWER policies.[9] Health services have a particularly important role to play in this effort, by ensuring that carers who smoke—many of whom are disadvantaged and likely to be in regular

contact with health and social care services—are identified and provided with intensive support to quit smoking as a routine component of those contacts, and followed up to maximise success rates. Although the objective of these interventions should be complete cessation of tobacco and nicotine use, they should also embrace the potential of reduced-harm alternatives to tobacco such as electronic cigarettes, which, although not risk-free, represent a lower threat to adult and child health than does conventional tobacco.[10] However for the 70% or more of countries yet to implement smoke-free legislation, the greatest priority is to follow Ireland's lead, go smoke-free, and reap the major benefits to public health that will surely follow.

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