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“An Analysis of E-Scooter Related Trauma”

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**The Public Health Medicine Environment and Health Group (PHMEHG) are Consultants in Public Health Medicine, who provide a national medical service in environment and health.*

Dear Sir,

We read with interest the work of Grace et al. reporting on e-scooter related injuries in a Dublin-based hospital over a one year period (October 2019 - November 2020)¹. The authors reported e-scooter trauma resulted in high rates of orthopaedic injuries, frequently requiring surgical intervention. They noted too that e-scooter use is likely to grow with potential consequences for road safety and the health system.

Since the publication of the report by Grace *et al.* the Irish Government has published a proposed amendment to the Road Traffic Offences Act 1961. The Road Traffic and Roads Bill 2021 will clarify the legal status of e-scooters and proposes that users will be subject to the same laws as apply to cyclists e.g. allowed on cycle lanes but prohibited on footpaths and motorways, and mandatory helmet use for those <18 years but not for adults. It is anticipated that this legislation could pave the way for operators of shared rental-schemes in Ireland.

E-scooters have been proposed to have environmental and associated health benefits e.g. as ‘last mile’ transport solutions in congested cities^{2,3}. Following engagement with an urban local authority, we have worked to provide an accessible overview of the potential public health implications of e-scooters – considering both potential benefits and limitations, in addition to providing a series of recommendations.

The evidence on e-scooter impacts on health and the environment is mixed, with some quite tangible negative health impacts at a personal and health system level, but some potential benefits to overall community health e.g. reduced air and noise pollution when used to replace cars^{2,4}. If used to replace more active forms of transport, such as walking and cycling, e-scooter use represents a lost public health opportunity.

As highlighted by Grace et al, e-Scooter accidents can result in serious injuries^{1,3}; including head injuries and complex orthopaedic injuries; affecting both users and pedestrians and are costly for the health system. Furthermore, while there is a perception that e-Scooters are 'green' due to lack of noise pollution and a lack of tailpipe emissions, the environmental impact of e-scooters depend on multiple factors, such as the mode of transport displaced, e-scooter lifespan, and whether rented as part of a shared scheme or privately owned^{2,4}. For example, if replacing car journeys, the local air and noise pollution and overall global warming potential are lessened, however, if replacing walking, cycling, or some forms of public transport, these effects are increased⁴.

In conclusion, evaluating the benefits and limitations of e-scooter use from a Public Health perspective is a nuanced area, which includes, but is not limited to, injuries and injury prevention. We have made a series of recommendations, which can be found on our dedicated HSE webpages (<https://www.hse.ie/eng/services/list/5/publichealth/publichealthdepts/env/phmeg-position-paper-escooters.pdf>). Key among these is that further research is necessary to determine the potential benefits and limitations of e-scooter use in an Irish context, and that in any new legalisation, helmet wearing should be mandatory for all users.

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