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# Editorial

# Electronic cigarettes: scarce data and divergent legislations. The need for evidence-based health policies and research funding

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In the last semester, e-cigarettes were the subject of editorials in *The Lancet*, *BMJ* and *JAMA*; of special issues in several scientific journals and the cover story of a number of periodicals for the general public including the *Harvard Public Health Magazine*. Definitively a hot topic, with drastically opposing views: on one side, the supporters (including Public Health England) claim that 'e-cigarettes are around 95% less harmful than tobacco' and welcome e-cigarettes as a pathway to the reduction or cessation of tobacco use. On the other side, the opponents (including World Health Organization) warn on the presence of carcinogens into cartridges and a potential role as a gateway to regular cigarettes, especially among the teens.

There is universal consensus, however, that current evidence is scarce and long-term data on e-cigarette safety and efficacy are urgently needed. The published evidence is limited to two randomized trials, two single-arm small trials and seven observational studies. These studies mostly included smokers of both tobacco and e-cigarettes followed for ≤12 months, used various assessment methods and reported controversial findings. Moreover, only one direct comparison between e-cigarettes and tobacco smokers is yet available.[1]

Now the question becomes more complicated. Despite the consensus on the lack of evidence, and despite the universal agreement on the need to follow an evidence-based approach in health policy,[2] supporters and opponents both advocate actions: whereas the former suggest promoting e-cigarettes for smokers willing to quit and classifying e-cigarettes under different standards than regular cigarettes; the latter request to consider e-cigarettes as medicines, restrict their sale or advertizing and stop their use indoors in public and workplaces.

Several national or regional administrations moved beyond. As of July 2014, 44 US States had planned or enacted 74 regulations addressing e-cigarettes, electronic smoking devices or vapor products. Overall, regulations ranged from sale ban (e.g. Oregon), sale to minors ban (e.g. California), use prohibited comprehensively in indoor public places (e.g. New York), use prohibited in limited venues, use by minors prohibited, licensure restrictions, marketing and advertizing restrictions, marketing and advertizing to minors restrictions, packaging requirements and taxation.[3] A similarly varying scenario can be found across European nations, with a peak in Italy, where the legislation on e-cigarette taxation and use in public places turned over three times within 6 months and was recently judged illegitimate by the Italian Constitutional Court.[4] Everywhere, and somewhat ironically given the attention from administrators, e-cigarettes lack regulation of manufacture, enforcement of sanitary conditions, guidelines in handling pharmaceutical-grade ingredients and a complete listing of constituents.

The above context elicits some obvious reflections. First, the presence of dissimilar and fluctuating approaches is likely to create confusion in the population and healthcare professionals and to decrease the trust and adherence in regulations. Second, an excessive regulation could marginalize e-cigarettes in favor of conventional cigarettes, while deficient regulation might contribute to the expansion of the e-cigarette market, potentially renormalizing smoking habits and negating years of intense anti-tobacco campaigning. Some extra caution is thus required by governments in issuing policies on electronic smoking, and once a strategy is decided, this should be maintained until a solid confuting evidence is available.[4]

Once we have recommended health policy makers to follow an evidence-based approach, stand back and wait for robust results before adopting a formal public health stance, we should also make any effort to address the uncertainty on long-term efficacy and safety of e-cigarettes as soon as possible.[5] However, here we have another peculiarity of the e-cigarette case: most e-cigarette manufacturers—including large tobacco companies—have shown little interest in conducting or supporting studies, and although a few projects were funded, no specific call or dedicated funding on e-cigarettes were provided by institutional sponsors such as the US National Institute of Health, the European Union or the WHO, as opposed to what happened for other important public health issues such as addiction, alcohol abuse or obesity. Independent public health researchers are hard at work, but after 8 years from e-cigarette launch on the market, we still have scarce, preliminary evidence. If it is true that the e-cigarettes are a priority of the public health agenda, and if really we want some robust evidence within a reasonable amount of time, it is definitively time for funding sources to significantly increase their support to the research on electronic smoking.

The e-cigarette issue has been defined 'a moral quandary', characterized by the scarcity of funding, huge economic

interests, large and emotional coverage from media, which is reflected in rather incautious behaviors of some administration and researchers. In such a storm, public health professionals should remain stick to their pillars: health policy must be evidence based and high-quality independent research requires funding.

## Supplementary data

Supplementary data are available at *EURPUB* online.

*Conflicts of interest*: None declared.

## References

(full list of references is available in Supplementary Material)

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