Discrepancies in reported *versus* measured nicotine content of e-cigarette refill liquids across nine European countries before and after the implementation of the EU Tobacco Products Directive

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Close monitoring of the nicotine concentration of e-cigarette refills in the EU is necessary, as discrepancies exist between the actual nicotine content in the vial as compared to that stated on the label, even after the implementation of the TPD http://bit.ly/33kqMbZ

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To the Editor:

In recent years, the e-cigarette market across European countries has grown extensively [1, 2], as 15% of Europeans report having tried e-cigarettes, representing a 7.0% increase since 2012 [3]. E-cigarettes are regulated across the 28 European Union (EU) member states [4] under Article 20 of the Tobacco Products Directive (TPD), a legislative document which aims to regulate the internal European market and to harmonise the safety and quality of e-cigarette products through design specifications, including, but not limited to the volume of the refill container, nicotine content and the existence of child-resistant refill containers, among other parameters. In order for e-cigarette refill vials to be placed onto the market under the TPD, e-cigarettes must deliver nicotine doses at consistent levels under normal conditions of use (Art20;3f); must not contain >20 $mg \cdot mL^{-1}$ nicotine (Art20;3b); and only ingredients of high purity are to be used in the manufacture of the nicotine-containing liquid (Art20;3d) [4]. Research performed before the TPD was implemented indicated that there were wide inconsistencies between the labelled and the actual nicotine concentration of the products, with production impurities commonly noted [5–9].