

**Clinicians should be aware that increasingly diverse sources of alcohol are available to patients and potential hazards add to already serious levels of disease**

## Illegally produced alcohol

Is increasingly available in the UK and will add to alcohol's already substantial threat to public health

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On New Year's Eve 2011, the UK Local Government Association warned about the risks from illegally produced alcohol, reporting that trading standards officers had seized substantial quantities of products containing high levels of dangerous contaminants such as methanol, chloroform, and propan-2-ol.<sup>1</sup> In 2011 five Lithuanian men died in a fire in a lock-up garage in Lincolnshire, United Kingdom, when their alcohol producing equipment exploded. Three lorry loads of spirits falsely labelled as Smirnoff were found nearby.<sup>2</sup> The scale and nature of illegal alcohol production and sale are impossible to ascertain with certainty, but the UK customs authorities believe the problem is increasing and, in association with the UK Border Agency, have recently updated their strategy to tackle it.<sup>3</sup>

Spirits have long been produced illegally in the British Isles. Examples include poitín in Ireland and peat reek in Scotland. However, since the expansion of the European Union in 2004, concern has focused on a range of legal and illegal products associated, although not exclusively, with eastern Europe. These fall into four broad categories.<sup>4</sup>

The first category is counterfeit alcohol that is designed to look like a commercial product. Seizure of these products by police has increased fivefold in the UK in the past two years.<sup>5</sup> Many are similar in composition to the products they imitate, and the major risk to health probably comes from excessive consumption of ethanol because of the cheap price. It is impossible to tell without testing, however, which of these products contain other potentially toxic contaminants.

The second category comprises homemade spirits, which are widely produced in many parts of Europe and are often tolerated by the authorities if they are not sold commercially.



**Sachet of illegally produced alcohol**

These products are varied and include samogon (Russia), slivovica (Slovakia), pálinka (Hungary), and rakia (Bulgaria and Turkey). Their composition, and hence toxicity, depends on what they are produced from and how carefully controlled the distillation process is. Their methanol content is of concern. Methanol is found in spirits that are produced from fruit. After consumption it is broken down by the same enzymes that metabolise alcohol into formaldehyde and formic acid. Formic acid has toxic effects on many organs, particularly the optic nerve. Although it is present in legally produced fruit spirits, these are subject to control. Illegally produced fruit spirits are not controlled and methanol levels can greatly exceed recommended limits, especially when the enzyme pectinase has been used to increase juice yield. Although the toxic effects of methanol are reduced because ethanol contained in the product competes for the metabolic pathways, and although most methanol will be excreted in urine, cases of poisoning do occur. Of potentially greater concern is the presence of aliphatic alcohols derived from the waxy surface of fruits, which may be related to high rates of cirrhosis in some regions.<sup>6</sup>

A third category comprises a wide variety of industrial chemicals, which are inadvertently consumed—for example, when methanol is passed off as ethanol—or consumed with full knowledge of what is being drunk, often because it is easily available. The widespread consumption of ether in Northern Ireland in the 19th century is an example of this practice.<sup>7</sup>

Finally, the fourth category comprises so called surrogate (or non-beverage) alcohols, which are widely available in pharmacies and kiosks in many parts of the former Soviet Union,<sup>8</sup> and are not officially considered to be drinks (even if they are widely known to be drunk).<sup>8</sup> These include aftershave products and medicinal tinctures that contain high concentrations of pure ethanol, typically 70-95% ethanol by volume.<sup>9</sup> It is legal to stock and purchase these goods, and because they are not subject to alcohol excise duties they are a cheap source of alcohol.<sup>10</sup> They pose a particular risk of acute alcohol poisoning and sudden death from a cardiac event, probably through the toxic effects of ethanol.<sup>11</sup> They can be bought in shops that serve eastern European communities in the UK.

In addition, a new range of low cost alcohol products has recently entered the informal market in the former Soviet Union, in which alcohol is sold in plastic sachets. These do not yet seem to be available in the UK in amounts that pose a public health hazard.

Illegal alcohol is often produced and supplied within the domain of organised crime, and although such products have profound consequences for public health, the public health community has so far been reluctant to engage directly with organised crime.<sup>12</sup> The experiences of multiagency drug action teams could provide useful lessons about collaboration with law enforcement agencies.

Clinicians should be aware that increasingly diverse sources of alcohol are available to patients and that the potential hazards associated with them can add to the already serious level of disease associated with the consumption of legitimate alcoholic drinks in the UK.

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