

Can promotion of lower alcohol products help reduce alcohol consumption?

A rapid literature review

Summary

- **What are the public health benefits of lower alcohol products?**

Lowering the alcohol content of drinks offers health benefits for drinkers and at a population level, policies that promote the production and consumption of lower alcohol products have the potential to contribute to reductions in alcohol-related harms.

- **Is market demand for lower alcohol products related to *substitution* (replacement of a stronger product in the same category) or *addition* (such products add to or increase the number of situations in which alcohol is consumed)?**

Evidence for a substitution effect following the introduction of lower alcohol products to the market is lacking. Public health advocates have concerns that their introduction may primarily be additive and encourage drinkers to increase the number of situations in which alcohol is consumed. The impact of Finnish alcohol policy demonstrates that substitution is more likely to take place if the availability of strong alcoholic beverages is restricted alongside increases in the availability of lower alcohol products.

- **Can consumers be encouraged to switch from higher to lower alcohol products?**

Few published studies have examined drinker's perceptions and acceptance of lower alcohol products. Although experimental studies have shown that beer drinkers find it hard to discriminate between regular and low strength beers, in 'real world' settings, persuading consumers to switch to lower alcohol products is unlikely to be straightforward.

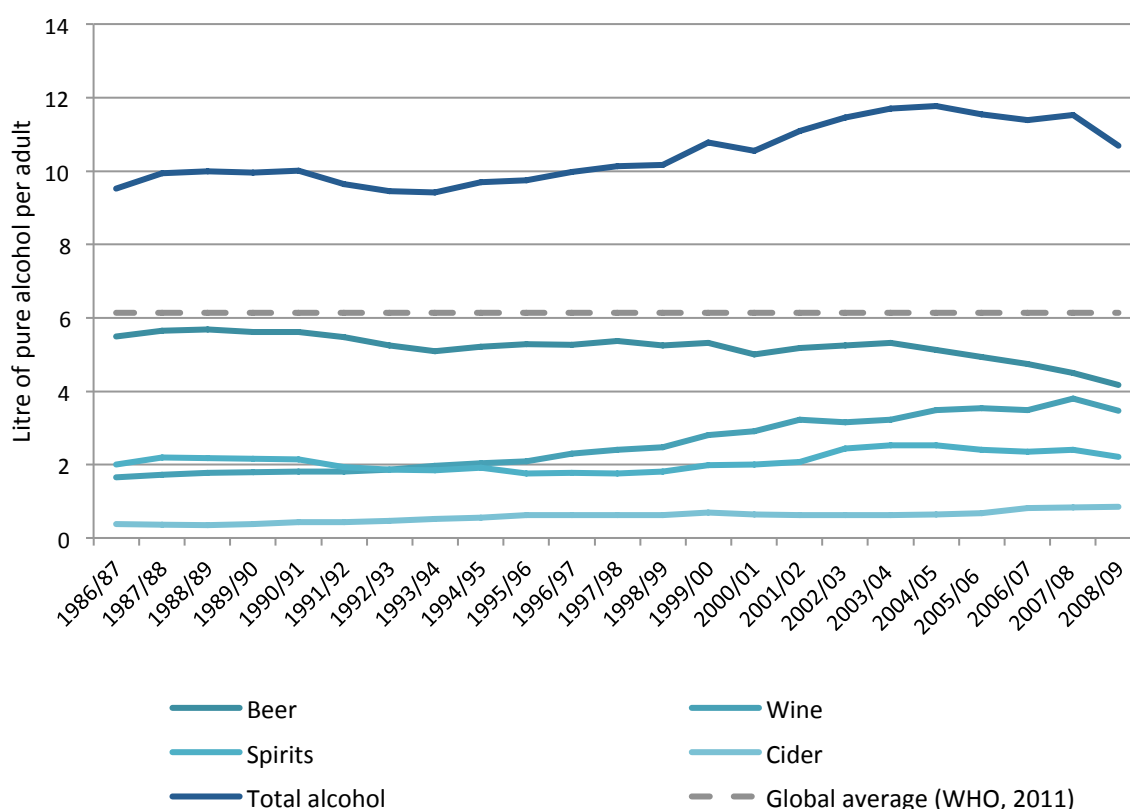
- **How can alcohol policy developments encourage the production and consumption of lower alcohol products?**

The consensus within the international public health community is towards the use of taxation policies as a means of incentivising the production and consumption of lower alcohol products. In the UK, legislation was introduced last year to provide a new duty on beer to encourage the production and consumption of low strength beers. However, from a public health perspective, substitution is more likely to take place if the availability of strong alcoholic beverages is restricted alongside increases in the availability of lower alcohol products. In addition, government action on a single product category limits the effect that such policy developments may have on population level harms.

Introduction

Per capita alcohol consumption in the UK

Revenue receipts from alcohol duties show that per capita consumption of alcohol has increased in the UK over the last 20 years, reaching a peak of 11.8 litres of pure alcohol per year in 2004/05 (Figure 1; HM Revenue & Customs 2010). Although consumption has declined in recent years, levels of abstinence have also increased. Consequently, how much of the decline is actually related to drinkers consuming less alcohol and how much to an increasing proportion of the population not drinking at all remains unclear (Bellis et al., 2009). Regardless, per capita consumption across the UK remains almost twice the global average (6.1 litres per capita consumption; WHO, 2011). Clearance data (based on sales taxes) shows a sustained increase in the consumption of wine and cider over the past 20 years and a steady decline in beer consumption (Figure 1; HM Revenue & Customs 2010). A recent study (Hughes et al., 2011) showed that among UK females on a night out, spirits accounted for over half of all grams of alcohol consumed. Alongside these changes in drinking preference, there has been a shift in the buying and consuming of alcohol in pubs and restaurants to buying in off-licenses and supermarkets for consumption at home (Institute of Alcohol Studies, 2010).



Source: HM Revenue & Customs (2010)

Figure 1. Alcohol consumption based on clearances per adult aged 16 and over in the UK

Can promotion of lower alcohol products help reduce alcohol consumption?

Patterns of harm by product type

Studies of the risks associated with different alcohol beverage types suggest that higher concentration beverages carry greater risks. In a US study, consumption patterns were shown to be strong predictors of beverage preference, with preference for beer associated with frequent drinking, preference for beer and spirits with heavy single occasion drinking and preference for wine associated with consuming smaller quantities (Gruenewald et al., 2000). A study of moderate

drinkers in Denmark found that participants who reported a preference for beer tended to have an increased risk of becoming heavy and excessive drinkers compared to participants who reported a preference for wine (Jensen et al., 2002). Analysis of a national Australian survey (Stockwell et al., 2008) found that in terms of their contribution to risky alcohol consumption, regular strength beer (5% ABV) made the largest overall contribution (making up at least a third of risky consumption), spirits less than a third, wine around a quarter, with other beverages making up the remainder. Low- and mid-strength beers were less likely to have been consumed on risky drinking days. Other studies have linked beer consumption with drink driving (Mann et al., 2006), and beer and spirit consumption with violence (Chavira et al., 2011; Zimmerman & Benson, 2007; Rossow, 2001). However, these results should be interpreted with caution as beverage specific risks may be due to cultural differences, contextual effects or may be caused by beverage specific alcohol policies (Giesbrecht et al., 2012).

“It may be hypothesized that a specific type of beverage is a proxy for a combination of life-style, drinking patterns, drinking contexts, and access to alcohol, which, combined with high intakes of ethanol, contribute to increased risk.”

Giesbrecht et al. (2012: 83)

Supply and demand for lower alcohol products

Can promotion of lower alcohol products help reduce alcohol consumption?

Although not a new product category, in response to consumers becoming more health conscious and increasing consumer demand for ‘healthier’ products (ICAP, 2007), alcohol producers and retailers have sought to expand their lower alcohol product ranges in recent years. Lower alcohol content alternatives to common brands of beer, lager and cider have been available for some time and new products continue to be introduced to the market. Many alcohol producers also provide alcohol free ($\leq 0.5\%$ ABV) and non-alcoholic (0% ABV) beers, lagers and ciders. The production of lower alcohol products is constrained by

Box 1. Wine labelling and the true alcohol content of wines

EU regulations allow wines sold in the UK to be labelled with an ABV within 0.5% of the actual alcoholic strength (Food Standards Agency, 2011). Based on a recent study by the American Association of Wine Economists (Alston et al., 2011), on average, the true alcohol content on wine labels is understated by about 0.39% for Old World wines and about 0.45% for New World wines. Systematic errors in the alcohol content of wine, therefore, may limit the public health impact of strategies that encourage the production of wines with lower alcohol content.

European regulations; for example, European Commission (EC) wine regulations apply to winemaking and labelling provisions (Food Standards Agency, 2011; Box 1), for example, they specify the minimum and maximum alcoholic strengths for a product to be labelled as wine, and EC regulations had previously restricted the use of experimental techniques to reduce the alcohol content of wine (e.g. by reverse osmosis or spinning cone technologies). Alongside these technical and marketing challenges in the production and sale of reduced alcohol wine and wines with naturally lower alcohol content, over the last decade, the alcohol content of wine has been rising significantly around the world. Research suggests that the rising alcohol content of wine is primarily man made rather than driven by climate change (Alston et al., 2011).

Alcohol consumers primarily choose drinks based on availability, cost, taste, mood and occasion, rather than alcohol content (ICAP, 2007) and market demand for products with a lower alcohol content may be related to: (i) *substitution*, that is the substitution or replacement of a stronger product in the same category; or (ii) *addition*, whereby lower alcohol products add to or increase the number of situations in which alcohol is consumed. Although profit and improved health are possible outcomes of lowering the alcohol content of drinks (Anderson et al., 2011), there are concerns that the promotion of products with a lower alcohol content may primarily be additive, leading consumers to drink in higher quantities to compensate for decreased alcohol content. In a study of the effects of

“Our analysis... suggests that in many places the rise in alcohol content of wine is a nuisance consequence of choices made [by winemakers] in response to evolving [consumer] demand for wine having more intense, riper flavours.”

Alston et al. (2011: 19)

Can promotion of lower alcohol products help reduce alcohol consumption?

introducing a new low strength beer to the Norwegian market, Skog (1988) found some evidence for substitution; however the increase in the low strength beer market was small.

Experimental studies have shown that beer drinkers find it hard to discriminate between regular and low strength beer (McLaughlin, 1988; Segal & Stockwell, 2009). A study that compared drinking behaviour at US college student parties during which free unmarked lower alcohol alternatives were provided alongside free high strength beers found that the students consumed similar quantities and that consumers of the lower alcohol products had significantly lower Blood Alcohol Content (BAC) levels (Geller et al., 1991). A recent study by Segal and Stockwell (2009) replicated these findings, showing that an unmarked low strength beer was highly acceptable among young male beer drinkers. However, in a beer discrimination study, McLaughlin (1988) noted that young male beer drinkers placed a greater importance on refreshment and alcoholic effect than taste, implying that the task of persuading them to switch to lower strength beers did not appear promising.

Few published studies are available on consumer perception of other lower alcohol content products, however, in relation to wine, the research that is available suggests that consumer perception and acceptance of the quality of reduced alcohol wines based on thermal distillation techniques have generally been unfavourable (Schmidtke et al., 2011).

“The results of [the ‘Living with Alcohol’ programme] present a strong argument for the efficacy of combining alcohol taxes with comprehensive programs and services designed to reduce the harms from alcohol... Without the support of a price increase, programmes and services for reducing alcohol related harms may have limited benefits for reducing harms.”

Chikritzhs et al. (2005: 1635)

incentives have been shown to encourage the production and consumption of lower alcohol products. In the 1980s, states and territories introduced reduced tax rates for low strength beer (<3% ABV) which were translated into lower retail prices (Stockwell & Crosbie, 2001). Sales of low strength beers increased significantly and now make up around 20% of the total Australian beer

Promoting the production and consumption of lower alcohol content products

Public health strategies to promote the consumption of lower alcohol beers, wines and spirits have generally focused on the value of taxation policies to provide price incentives for lower alcohol products. Other strategies have included governments working directly with the alcohol industry and the implementation of restrictions on the sale of higher strength products.

Taxation policies

In Australia, clear tax

“With the right incentives and with effective promotions young beer drinking males might be encouraged to consume [low strength beers] more often.”

Segal & Stockwell (2009: 186)

Can promotion of lower alcohol products help reduce alcohol consumption?

market (National Preventative Health Taskforce, 2008). As part of the Northern Territory's 'Living with Alcohol' programme, a levy (5 cents per standard drink) was imposed on drinks with more than 3% ABV (Stockwell & Crosbie, 2001); evaluation of the programme found that the levy had contributed to a reduction in hazardous drinking, related injuries and deaths (Chikritzhs et al., 2005).

In October 2011, UK wide legislation was introduced to provide a new duty on beer exceeding 7.5% ABV and to introduce a reduced rate of 50% of the general beer duty for low strength beer (<2.8% ABV; HM Revenue & Customs, 2011). The stated purpose of the measure is "to tackle problem drinking" by encouraging the production and consumption of low strength beer and to give "responsible drinkers a wider choice of products". In recent months, alcohol producers have announced plans to reduce the alcohol content of existing brands and alcohol retailers have reported a rise in sales of lower alcohol products (The Grocer, 2012). For example, both AB InBev and Carlsberg have announced that in 2012 they are reducing the strength of leading lager brands from 5% ABV to 4.8% ABV and Heineken has pledged to reduce the strength of its leading cider brand by 1% from 5.3% ABV by 2013. A review of alcohol taxation by the Treasury (HM Treasury, 2010) considered that regulations on wines and spirits and a lack of consumer demand for lower alcohol alternatives limited the scope for using taxation as a means of encouraging the production of lower alcohol products in these categories.

Restricting the sale of higher alcohol products

A number of lower strength beers (<4.5% ABV) have been introduced onto the US market in the last 30 years and they now constitute around 50% of beer sales (ICAP, 2007). To further encourage consumption of low strength beers, a number of States (including Oklahoma and Utah) only allow the sale of low strength beer (<4% ABV) in supermarkets, petrol stations and convenience stores. In Oklahoma, high strength beers can be sold only in off-licences and in 2003, around 98% of beer sold was <4% ABV (ICAP, 2007).

"Substitution will take place more likely when the availability of strong alcoholic beverages is restricted than when just the availability of light alcoholic beverages is increased. In cases of availability increases, addition is a more likely outcome than substitution."

Österberg (2012: 55)

Examination of the impact of alcohol policies in Sweden and Finland also provide a useful research perspective on the restriction of higher alcohol products. In Sweden, abolition of the sale of medium strength beer in grocery stores in July 1977 was followed by a reduction in overall alcohol consumption and a reduction in alcohol-related harm among young people (Ramstedt, 2002). Conversely, liberalisation of alcohol availability in Finland in 1969, including the introduction of medium strength beers to grocery stores, resulted in significant increases in drinking occasions (Mustonen & Sund, 2002). These effects were additive; increases in certain types of drinking occasions did not result in significant decreases in

Can promotion of lower alcohol products help reduce alcohol consumption?

other types of drinking occasions. Further analysis by Österberg (2012) has also concluded that changes in alcohol consumption were additive after medium strength beer sales began in grocery stores, finding no switch from stronger alcoholic beverages to medium strength beer among drinkers.

More recently, an Australian study (Lesjack, 2009) reported on the effects of a voluntary agreement to sell only low or mid strength beer or spirits and no full strength beer or spirits over the St Patrick's race weekend. Compared to previous years, there appeared to be a reduction in the number of intoxicated people attending the races and a drop in the number of emergency department presentations from the previous year.

Working with the alcohol industry

The Scottish Government and Alcohol Industry Partnership was formed in 2007 as a means of working together to address alcohol misuse and promote responsible drinking in Scotland (The Scottish Government, 2007). As part of the partnership, individual companies agreed to pilot lower alcohol alternatives in the Scottish market and to investigate the promotion of no alcohol alternatives in the retail sector. As part of this initiative, Guinness Mid-Strength® was trialled in selected outlets for three months. However, although consumers appeared to view the product favourably, consumer interest was not sufficient for the product to be considered commercially scalable (The Scottish Government Alcohol Industry Partnership, 2010). However, in January 2012, Diageo announced plans to launch the product in “select off-trade outlets” from February of this year.

Conclusions

Lower alcohol products have been commercially available for many years, and in recent years, producers have sought to extend their ranges due to increasing consumer demand for ‘healthier’ products. Lowering the alcohol content of drinks offers health benefits for drinkers and at a population level, policies that promote the production and consumption of lower alcohol products have the potential to contribute to reductions in alcohol-related harms.

Of primary concern from a public health perspective is that the introduction of lower alcohol products may be primarily additive and increase the number of situations in which alcohol is consumed (for example, low strength beers have been marketed as “the ideal lunchtime pint”). Few published studies have examined drinker's perceptions and acceptance of lower alcohol products. Although experimental studies have shown that beer drinkers find it hard to discriminate between regular and low strength beers, persuading consumers to switch to lower alcohol products is not straightforward, and evidence for a substitution effect following their introduction to the market is lacking.

The consensus within the international public health community is towards the use of taxation policies as a means of incentivising the production and consumption of lower

Can promotion of lower alcohol products help reduce alcohol consumption?

alcohol products. In Australia, following the introduction of reduced tax rates, the market for low strength beer increased significantly and in the UK, legislation was introduced last year to provide a new duty on beer to encourage the production and consumption of low strength beers. However, substitution is more likely to take place if the availability of high strength alcoholic beverages is restricted alongside increases in the availability of lower alcohol alternatives. There has been a steady decline in beer consumption in the UK with parallel increases in wine and cider consumption and encouraging production and consumption of lower alcohol products in a single product category is unlikely to maximise effects on population level harms.

Acknowledgement

This rapid review was undertaken to support the Public Health Responsibility Deal Alcohol Network.

Can promotion of lower alcohol products help reduce alcohol consumption?

References

- Alston JM, Fuller K, Lapsley JT, Soleas G, Tumber K. (2011) Splendide Mendax: false label claims about high and rising alcohol content of wine. AAWE Working Paper no. 82. New York, American Association of Wine Economists.
- Anderson P, Bitarello do Amaral-Sabadini M, Baumberg B, Jarl J, Stuckler D. (2011) Communicating alcohol narratives: creating a healthier relationship with alcohol. *Journal of Health Communication*, 16 Suppl 2, 27-36.
- Bellis MA, Hughes K, Cook PA, Morleo M. (2009) Off measure: how we underestimate the amount we drink. London, Alcohol Concern.
- Chavira C, Bazargan-Hejazi S, Lin J, del Pino HE, Bazargan M. (2011) Type of alcohol drink and exposure to violence: an emergency department study. *Journal of Community Health*, 36, 597-604.
- Chikritzhs T, Stockwell T, Pascal R. (2005). The impact of the Northern Territory's Living With Alcohol program, 1992–2002: revisiting the evaluation. *Addiction*, 2005, 100, 1625-1636.
- Food Standards Agency. (2011) A guide to wine law. Retrieved from: www.food.gov.uk/enforcement/sectorrules/winestandards/lawguide. Accessed 15 March 2012.
- Geller ES, Kalsher MJ, Clarke SW. (1991) Beer versus mixed-drink consumption at fraternity parties: a time and place for low-alcohol alternatives. *Journal of Studies on Alcohol*, 52, 197-204.
- Giesbrecht N, Wettlaufer A, Walker E, Ialomiteanu A, Stockwell T. (2012) Beer, wine and distilled spirits in Ontario: a comparison of recent policies, regulations and practices. *Nordic Studies on Alcohol and Drugs*, 29, 79-102.
- Gruenewald PJ, Jonson FW, Millar A, Mitchell PB. (2000) Drinking and driving: explaining beverage-specific risks. *Journal of Studies on Alcohol*, 61, 515–523.
- HM Revenue and Customs. (2010) Alcohol factsheet. Retrieved from: www.uktradeinfo.com/index.cfm?task=factalcohol. Accessed 13 March 2012.
- HM Revenue and Customs. (2011) Duty on high and lower strength beers. Retrieved from: www.hmrc.gov.uk/budget2011/tiin6875.pdf. Accessed 12 March 2012.
- HM Treasury. (2010) Review of alcohol taxation. London, HM Treasury.
- Hughes K, Quigg Z, Bellis MA, van Hasselt N, Calafat A, Kosir M, *et al.* (2011) Drinking behaviours and blood alcohol in four European drinking environments. *BMC Public Health*, 11, 918.

Institute of Alcohol Studies. (2010) Alcohol consumption in the UK. IAS Factsheet. Cambridge, Institute of Alcohol Studies. Retrieved from: www.ias.org.uk/resources/factsheets/consumption-uk.pdf. Accessed 21 March 2012.

ICAP. (2007) Lower alcohol beverages. ICAP Reports 19. Washington DC, International Centre for Alcohol Policies.

Jensen MK, Andersen AT, Sørensen TIA, Becker U, Thorsen T, Grønbaek M. (2002) Alcoholic beverage preference and risk of becoming a heavy drinker. *Epidemiology*, 13, 127–132.

Lesjak M. (2009) A day at the races: does alcohol strength make a difference? *Australian and New Zealand Journal of Public Health*, 33, 395-6.

Mann R, Zalcman R, Asbridge M, Suurvali B, Giesbrecht N. (2006) Drinking-driving fatalities and consumption of beer, wine and spirits. *Drug and Alcohol Review*, 25, 321-5.

McLaughlin K. (1988) An investigation of the ability of young male and female social drinkers to discriminate between regular, calorie reduced and low alcohol beer. *British Journal of Addiction*, 83, 183-187.

Mustonen H, Sund R. (2002) Changes in the characteristics of drinking occasions resulting from liberalization of alcohol availability: a reanalysis of the 1968 and 1969 Finnish panel survey data. In: Room R, ed. *The effects of Nordic alcohol policies: what happens to drinking and harm when alcohol controls change?* Helsinki, Nordic Council for Alcohol and Drug Research.

National Preventative Health Taskforce. (2008) Australia: the healthiest country by 2020. Preventing alcohol-related harm in Australia: a window of opportunity. Canberra, Department of Health and Ageing.

Österberg E. (2012) The effects of favouring lower alcohol content beverages: four examples from Finland. *Nordic Studies on Alcohol and Drugs*, 29, 41-56.

Ramstedt M. (2002) The repeal of medium-strength beer in grocery stores in Sweden — the impact on alcohol-related hospitalizations in different age groups. In: Room R, ed. *The effects of Nordic alcohol policies: what happens to drinking and harm when alcohol controls change?* Helsinki, Nordic Council for Alcohol and Drug Research.

Rossow I. (2001) Alcohol and homicide: a cross-cultural comparison of the relationship in 14 European countries. *Addiction*, 91 Suppl 1, S77–92.

Schmidtke LM, Blackman JW, Agboola SO. (2011) Production technologies for reduced alcoholic wines. *Journal of Food Science*, 71, R25-R41.

Segal DS, Stockwell T. (2009) Low alcohol alternatives: a promising strategy for reducing alcohol related harm. *International Journal of Drug Policy*, 20, 183-187

Skog OJ. (1988) The effect of introducing a new light beer in Norway: substitution or addition? *British Journal of Addiction*, 83, 665-668.

Stockwell T, Zhao J, Chikritzhs T, Greenfield T. (2008) What did you drink yesterday? Public health relevance of a recent recall method used in the 2004 Australian National Drug Strategy Household Survey. *Addiction*, 103, 919–928.

Stockwell TR, Crosbie D. (2001) Supply and demand for alcohol in Australia: relationships between industry structures, regulation and the marketplace. *International Journal of Drug Policy*, 12, 139-152.

The Grocer. (2012) AB InBev lowers abv of Stella Artois, Budweiser and Beck's. Retrieved from: www.thegrocer.co.uk/fmcg/drinks/beer-wine-and-spirits/ab-inbev-lowers-abv-of-stella-bud-and-becks/225330.article. Accessed on 12 March 2012.

The Scottish Government. (2007) Partnership agreement between the Scottish Executive and the Alcohol Industry. Retrieved from: [www.scotland.gov.uk/Publications/2007/02/partnership agreement](http://www.scotland.gov.uk/Publications/2007/02/partnership%20agreement). Accessed on 12 March 2012.

The Scottish Government. (2010) The Scottish Government Alcohol Industry Partnership Working together to promote responsible drinking and tackle alcohol related harm. Progress Report for 2009/10. Retrieved from: www.scotland.gov.uk/Topics/Health/health/Alcohol/resources/SGAIP2009-10. Accessed on 12 March 2012.

WHO. (2011) Global status report on alcohol and health. Geneva, World Health Organization.

Zimmerman PR, Benson BL. (2007) Alcohol and rape: an “economics-of-crime” perspective. *International Review of Law and Economics*, 27, 442-473.



AUTHORS: Lisa Jones, Mark A Bellis

North West Public Health Observatory

Centre for Public Health

Research Directorate

Faculty of Health and Applied Social Sciences

Liverpool John Moores University

2nd Floor, Henry Cotton Campus

15-21 Webster Street

Liverpool

L3 2ET

Tel: +44 (0) 151 231 4535

Fax: +44 (0) 151 231 4552

E-mail: nwpho-contact@ljmu.ac.uk

Web: www.nwpho.org.uk

www.cph.org.uk

Published: March 2012

ISBN: 978-1-908929-05-1 (web version)