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# Model-based appraisal of the comparative impact of Minimum Unit Pricing and taxation policies in Wales: Final report Summary



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Title: Model-based appraisal of the comparative impact of Minimum Unit Pricing and taxation policies in Wales: Final report Summary

Authors: Colin Angus, John Holmes, Alan Brennan & Petra Meier  
Sheffield Alcohol Research Group  
School of Health & Related Research  
University of Sheffield

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University  
Of  
Sheffield.

Views expressed in this report are those of the researcher and not necessarily those of the Welsh Government

For further information please contact:

Janine Hale

Social Research and Information Division

Welsh Government

Cathays Park

Cardiff

CF10 3NQ

Tel: 0300 025 6539

Email: [janine.hale@gov.wales](mailto:janine.hale@gov.wales)

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## Glossary

Acronym/Key word	Definition
Moderate drinkers	People drinking within the current UK drinking guidelines of 14 units per week
Hazardous drinkers	People exceeding the UK guidelines, but drinking less than 50 units per week for men, or 35 for women
Harmful drinkers	People drinking over 50 units a week for men or 35 for women
Welsh Index of Multiple Deprivation (WIMD)	A small area-level composite measure of socioeconomic deprivation accounting for local levels of income, employment, health, education, access to services, community safety, physical environment and housing.
On-trade	Locations where alcohol is sold for consumption on the premises, e.g. pubs and restaurants
Off-trade	Locations where alcohol is sold for consumption off the premises, e.g. shops and supermarkets
Alcohol-related health conditions	Health conditions from which alcohol consumption increases (or decreases) the risk of death and/or hospital admission <sup>1</sup>
Alcohol-attributable outcomes	Outcomes (e.g. deaths) which would not have occurred in the absence of alcohol consumption, i.e. those which are directly attributable to alcohol

<sup>1</sup> Note that this definition is not the same as the Office for National Statistics definition of 'Alcohol-Related deaths' which has recently been revised.<sup>60</sup>

# Executive Summary

## Main Conclusions

Estimates from an updated version of the Welsh adaptation of the Sheffield Alcohol Policy Model suggest:

1. A minimum unit price set at between 35 and 70p would be effective in reducing alcohol consumption among hazardous and, particularly, harmful drinkers. These consumption reductions would lead to reductions in alcohol-related mortality and hospitalisations. Higher levels of MUP lead to greater reductions in consumption and harm.
2. Moderate drinkers would experience only small impacts on their alcohol consumption and spending following the introduction of a minimum unit price. This is because they tend to buy alcohol which would be subject to little or no increase in price under the policy. Higher levels of MUP have larger impacts on the consumption of moderate drinkers.
3. The greatest impact of a minimum unit price would be on the most deprived harmful drinkers. Deprived drinkers consuming at moderate levels would be more affected than other moderate drinkers, but the overall impact on their alcohol consumption and spending remains small.
4. Large alcohol tax increases would be required to achieve the same effects as a 50p minimum unit price. Specifically:
  - a. A 33% tax increase would achieve the same reduction in **alcohol consumption** among **hazardous and harmful drinkers**;
  - b. A 48% tax increase would achieve the same reduction in **alcohol consumption** among **harmful drinkers**;
  - c. A 34% tax increase would achieve the same reduction in **alcohol-attributable deaths** among **hazardous and harmful drinkers**;
  - d. A 47% tax increase would achieve the same reduction in **alcohol-attributable deaths** among **harmful drinkers**.
5. The effects of the above tax increases would be distributed differently across the population compared to a 50p minimum unit price. The above tax increases all lead to larger reductions in alcohol consumption and larger increases in alcohol spending among moderate drinkers and *less* deprived drinkers. For *more* deprived drinkers, the above tax increases still lead to larger increases in alcohol spending but lead to smaller reductions in this group's alcohol consumption.
6. This pattern of consumption changes means reductions in alcohol-related harm are less concentrated in deprived groups than would be the case under a 50p minimum unit price. Therefore, the reduction in alcohol-attributable health inequalities will be smaller for the above tax increases than for a 50p minimum unit price.

## Research aims

This report was commissioned in June 2017 by the Welsh Government. It uses newly available datasets to update our previously published analyses of the potential impact on the population and population subgroups of different levels of minimum unit pricing (MUP) for alcohol in Wales. In particular, newly available data on alcohol consumption, from the 2016-17 National Survey for Wales, is included. The report also includes new analyses of the increases in alcohol taxation required to achieve the same effects on key outcomes as a 50p minimum unit price. Finally, it examines how the effects of minimum unit pricing and tax increases are differently distributed across key population subgroups.

## Summary of model findings

### Baseline alcohol consumption, related harm and purchasing in Wales

M1. 20% of the Welsh adult population are abstainers, 58% are moderate drinkers, 19% are hazardous drinkers and 3% are harmful drinkers. The 22% of the population who are hazardous or harmful drinkers consume 75% of all alcohol drunk by the Welsh population. The 3% who are harmful drinkers consume 27% of all alcohol consumed by the Welsh population.

M2. Moderate drinkers consume an average of 211 units of alcohol per year compared to 1,236 for hazardous drinkers and 3,924 for harmful drinkers. Moderate drinkers spend an average of £276 per year on this alcohol compared to £1,209 for hazardous drinkers and £2,882 for harmful drinkers.

M3. The abstention rate is higher in the most deprived quintile of the Welsh population (26.7%) than in the least deprived quintile (13.9%). However, average annual consumption among drinkers is higher in the least and second-least deprived quintiles (648 and 649 units per year respectively) than the most deprived quintiles (546 units per year).

M4. The population buys 37% of its alcohol for less than 50p per unit and 15% for less than 40p per unit. Heavier drinkers are more likely to buy alcohol sold below these thresholds. Moderate, hazardous and harmful drinkers respectively buy 22%, 36% and 46% of their alcohol for less than 50p per unit and 9%, 14% and 19% of their alcohol for less than 40p per unit.

M5. Alcohol sold for less than 50p per unit is largely sold in the off-trade. Only 2% of on-trade alcohol is sold for less than 50p per unit compared to 47% of off-trade alcohol. Comparing across off-trade beverage types, 62% of beer, 73% of cider, 32% of wine and 60% of spirits are sold for less than 50p per unit. Also in the off-trade, 19% of all alcohol, 34% of beer, 56% of cider, 8% of wine and 19% of spirits are sold for less than 40p per unit.

M6. There are an estimated 777 alcohol-attributable deaths per year in Wales and 35,637 alcohol-attributable hospital admissions. Liver disease and cancers account for the greatest proportion of alcohol-attributable deaths. Hypertension and mental or behavioural disorders due to alcohol account for the greatest proportion of alcohol-attributable hospital admissions.

M7. Alcohol-attributable deaths and hospital admissions are concentrated in hazardous and, particularly, harmful drinkers and particularly harmful drinkers who are more deprived. Among the most deprived quintile, 5.0% of all deaths are attributable to alcohol compared to 3.2% for the next most deprived quintile and 2.2% for the least deprived.

M9. There are an estimated 88,908 crimes attributable to alcohol per year. An estimated 42,440 of these are committed by hazardous drinkers compared to 38,057 by moderate drinkers and 8,411 by harmful drinkers.

### **Modelled effects of minimum unit pricing on alcohol consumption, spending and revenue**

M10. Introducing a 50p MUP in Wales would be associated with an estimated 3.6% fall in consumption, equivalent to 22.0 units per drinker per year. Estimated reductions in consumption for other levels of MUP range from 0.8% (4.9 units per drinker per year) for a 35p MUP to 10.7% (65.4 units per drinker per year) for a 70p MUP. For the remainder of this executive summary, we focus on a 50p MUP, as this has been the example level used and the focus of much of the policy debate. Full results for other MUP levels can be found in the main report and, in general, policy effects are larger for higher minimum prices.

M11. Consumption reductions under a 50p MUP are estimated to be largest among harmful drinkers (6.8%, 268.7 units per drinker per year) and hazardous drinkers (3.0%, 37.4 units per drinker per year). The smallest effects would be seen among moderate drinkers (1.1%, 2.4 units per drinker per year).

M12. Consumption reductions under a 50p MUP are also estimated to be largest among the most deprived quintile of drinkers (12.6%, 68.7 units per drinker per year) with a reduced effect among the next most deprived quintile (4.1%, 23.9 units per drinker per year) and small effects among the least deprived quintile (0.3%, 1.9 units per drinker per year).

M13. Of the total reduction in units consumed under a 50p MUP, 52% would occur among harmful drinkers, 40% among hazardous drinkers and 8% among moderate drinkers. Drinkers from the most deprived quintile would account for 50% of the reduction in units consumed; however, approximately two-thirds of this would be among harmful drinkers in this quintile.

M14. Following these consumption changes, spending on alcohol is estimated to increase by 1.4% or £8 per drinker per year under a 50p MUP. The largest spending increases would be seen among harmful drinkers (1.7%, £48 per drinker per year) with smaller increases seen for hazardous drinkers (1.5%, £18 per drinker per year) and moderate drinkers (1.1%, £3 per drinker per year).

M15. Those in the most deprived quintile are estimated to reduce their spending on alcohol by 1.5% or £7 per drinker per year, following the above consumption changes. Drinkers in other deprivation quintiles are estimated to increase their spending by between £9 and £13 per drinker per year.

M16. Annual revenue to the exchequer from alcohol duties and VAT in Wales is estimated to fall by 0.4% or £1.9m following the introduction of a 50p MUP. Total annual revenue to retailers from alcohol sales is estimated to increase by 9.9% or £16.8m in the off-trade and 0.2% or £1m in the on-trade.

### **Modelled effects of minimum unit pricing on alcohol-related harm**

M17. A 50p MUP is estimated to lead to 66 or 8.5% fewer alcohol-attributable deaths per year and 1,281 or 3.6% fewer alcohol-attributable hospital admissions per year.

M18. Of the total reduction in deaths arising from a 50p MUP, an estimated 69% occur among harmful drinkers, 57% occur among the most deprived quintile and 45% occur among harmful

drinkers in the most deprived quintile. The equivalent figures for reductions in alcohol-attributable hospital admissions are 44%, 49% and 24%; suggesting reductions in hospital admissions remain concentrated in the highest risk groups but are somewhat more widely distributed across the population.

M19. Each year, there are currently an estimated 46.4 more alcohol-attributable deaths per 100,000 drinkers in the most deprived quintile in Wales than the least deprived. The above pattern of mortality reductions under a 50p MUP reduces this inequality gap by an estimated 26% to 34.2 extra deaths per 100,000 drinkers per year.

M20. A 50p MUP is estimated to lead to 2.4% or 2,093 fewer alcohol-attributable crimes per year. The largest reduction is seen in crimes committed by hazardous drinkers at 3.0% or 1,277 fewer crimes per year, compared to 1.7% or 657 fewer crimes per year for moderate drinkers and 1.9% or 159 fewer crimes per year for harmful drinkers.

M21. The number of working days lost to alcohol-attributable workplace absences is estimated to fall by 1.9% or 9,808 days per year under a 50p MUP. The largest reduction is seen in days absent for hazardous drinkers at 2.7% or 6,138 fewer days absent per year, compared to 1.2% or 2,621 fewer days absent per year for moderate drinkers and 1.6% or 1,049 fewer days absent per year for harmful drinkers.

M22. The discounted total reduction in societal costs of alcohol over 20 years arising from these reductions in alcohol-attributable harm is £783m or a reduction in total costs of 4.7%. This is comprised of a 4.6% or £91m reduction in direct healthcare costs, a 7.5% or £490m reduction in losses of Quality Adjusted Life Years (QALYs), a 2.5% or £188m reduction in the direct and QALY-related costs of crime and a 2.1% or £14m reduction in costs associated with workplace absences.

### **Comparing the modelled effects of minimum unit pricing and alcohol taxation increases**

M23. A 50p MUP is estimated to lead to hazardous and harmful drinkers consuming an average of 73 fewer units per drinker per year. An estimated 33% increase in alcohol taxes would be required to achieve the same effect. Tax increases of 34%, 47% and 48% respectively would be required to achieve the same effects as a 50p MUP on consumption among harmful drinkers only, alcohol-attributable deaths among hazardous and harmful drinkers, and alcohol-attributable deaths among harmful drinkers only.

M24. The above alcohol tax increases are estimated to have larger impacts on alcohol consumption among moderate drinkers than a 50p MUP. A 50p MUP is estimated to reduce consumption among moderate drinkers by 1.1% whereas tax increases of 33%, 34%, 46% and 47% are estimated to reduce consumption among moderate drinkers by 3.1%, 3.2%, 4.5% and 4.6% respectively. However, the absolute size of these consumption reductions remains small at between 7 and 10 units per drinker per year compared to 2 units per drinker per year for a 50p MUP.

M25. In contrast, the above tax increases are estimated to have smaller impacts on alcohol consumption among the most deprived drinkers than a 50p MUP. A 50p MUP is estimated to reduce consumption among the most deprived drinkers by 12.6% whereas tax increases of 33%, 34%, 46% and 47% are estimated to reduce consumption among moderate drinkers by 6.9%, 7.1%, 9.8% and 10.2% respectively. The absolute size of these consumption reductions



ranges between 37 and 56 units per drinker per year compared to 69 units per drinker per year for a 50p MUP.

M26. The above alcohol tax increases are estimated to lead to larger increases in alcohol spending across all drinker groups, after consumption changes, than a 50p MUP. Estimated increases in spending under a 50p MUP range between 1.1% or £3 and 1.7% or £48. For the tax increases, estimated changes in spending range between increases of 5.7% or £16 and increases of 10.5% or £303. The same is true across all deprivation groups, with MUP estimated to change spending by between a decrease of 1.5% or £7 and an increases of 1.9% or £13, compared to increases of between 4.8% or £21 and 9.6% or £72<sup>†</sup>.

M27. The above alcohol tax increases are estimated to lead to an increase in revenue to the exchequer of between 21.0% or £101m and 29.8% or £144m per year. This compares to a decrease in revenue of 0.4% or £1.9m under a 50p MUP.

M28. The impact on revenue to off-trade retailers is estimated to range between decreases of 10.5% or £18m and decreases of 15.4% or £26m. This compares to increases of 9.9% or £17m under a 50p MUP. For on-trade retailers, the estimated impact of the tax changes on revenue ranges between decreases of 2.2% or £11m and decreases of 3.2% or £16m. This compares to increases of 0.2% or £1m under a 50p MUP.

M29. Reductions in alcohol-attributable mortality and hospital admissions arising from the above tax increases would still be concentrated among the most deprived and harmful drinkers but to a lesser extent than under a 50p MUP. This reflects the pattern of consumption reductions described above. As a result, the inequality gap in alcohol-attributable mortality between the most and least deprived group would fall from 46.4 extra deaths per 100,000 drinkers in the most deprived group per year at baseline to 34.2 extra deaths under a 50p MUP but would only fall to between 39.3 and 41.5 extra deaths under the tax increases. This suggests alcohol-attributable health inequalities would fall by a greater amount under a 50p MUP than the above tax changes.

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<sup>†</sup> Note that the largest (or smallest) relative spending change may not be in the same group as the largest (or smallest) absolute spending change.