UK National Screening Committee

Screening for alcohol misuse in adults

An evidence map to outline the volume and type of evidence related to population screening programmes for alcohol misuse for the UK National Screening Committee

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The UK National Screening Committee secretariat is hosted by Public Health England.

About the UK National Screening Committee (UK NSC)

The UK NSC advises ministers and the NHS in the 4 UK countries about all aspects of population screening and supports implementation of screening programmes. Conditions are reviewed against evidence review criteria according to the UK NSC's evidence review process.

Read a complete list of UK NSC recommendations.

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Contents

Summary

This document discusses the findings of the evidence map on screening average risk/whole populations for alcohol misuse in adults. It does not overlap with current UK NICE guidance.

Evidence maps are a way of scanning published literature to look at the volume and type of evidence in relation to a specific topic. They inform whether the evidence is sufficient to commission a more sustained analysis on the topic under consideration.

Based on the findings of this evidence map, no further work on screening average risk/whole populations for alcohol misuse should be commissioned at the present time.

The UK National Screening Committee (UK NSC) will return to screening average risk/whole populations for alcohol misuse in 3-years' time.

Introduction and approach

Background & Objectives

The UK National Screening Committee (UK NSC) external reviews (also known as evidence summaries or evidence reviews) are developed in keeping with the UK NSC evidence review process to ensure that each topic is addressed in the most appropriate and proportionate manner. Further information on the evidence review process can be accessed online.

Screening for alcohol misuse in average risk/whole populations is a topic currently due for an update external review.

Alcohol misuse is linked to increased risk of more than 60 medical conditions including high blood pressure, heart disease, stroke, liver disease, cancer and mental health problems in both men and women [1]. It is also the biggest risk factor for death, ill-health and disability among people aged 15 to 49 years in the UK, and the fifth biggest risk factor across all ages [1].

In England in 2018/19, there were 1.26 million hospital admissions related to alcohol consumption, 8% higher than 2017/8 [2]. Of those admissions in 2018/19, 62% were male [2].

The risk of all-cause mortality has been estimated as 3 times higher in alcohol-dependent people compared to the general population [3]. The alcohol-related mortality rate in England in 2018 was 46.5/100,000, equivalent to 24,720 deaths [3].

Current approach to identifying people misusing alcohol

There is longstanding National Institute for Health and Care Excellence (NICE) guidance about how to prevent adverse outcomes from alcohol misuse in the general population and primary care settings focussing on alcohol licensing, taxation, availability, education, assessment and intervention [4,5,6]. NICE guidance recommends that staff working in services provided and funded by the NHS who care for people who potentially misuse alcohol should be competent to identify harmful drinking and alcohol dependence [4]. Further NICE guidance covers interventions in secondary and further education to prevent and reduce alcohol use among children and young people aged 11 to 18. It also covers people aged 11 to 25 years with special educational needs or disabilities in full-time education [6].

In primary care in people over the age of 16, NICE guidance recommends the use of an assessment tool to determine whether someone is misusing alcohol. Depending on the

outcome of the assessment the person may be offered brief structured advice or motivational interviewing and enhancement-therapy aiming to explore the reasons why a person behaves the way they do and identifying reasons why changing behaviour would be a positive step [4]. This is often referred to as screening and brief alcohol interventions (SBI) and is typically initiated in a health care setting when the main purpose of the appointment is something other than help with drinking [7].

Different services have implemented NICE guidance [4] in different ways. One common approach is for attendance at an appointment to trigger an alcohol assessment where staff ask people about alcohol consumption. This could be during new patient registrations in primary care, general health checks, or specific disease clinics (e.g. hypertension, diabetes, sexual health) and at accident and emergency departments [7]. This typically involves asking a relatively small number of standardised questions about alcohol consumption (e.g. quantity, frequency and intensity of use) and any associated effects, using a validated questionnaire. This type of screening based on current NICE, NHS and Department of Health (DH) guidance is not a systematic population screening programme but rather an opportunistic approach used for the prevention of alcohol misuse implemented by individual health systems for people attending different types of health services.

Previous review on screening for alcohol misuse

The UK NSC currently recommends against a formal systematic population screening programme for alcohol misuse. The Committee based this recommendation on the previous UK NSC external review published in 2017 carried out by Solutions for Public Health. The review found that the UK NSC criteria for a formal average risk/whole population screening programme were not met in a number of areas relating to the test and long-term effectiveness in reducing mortality, morbidity or social harm. This was because the performance of questionnaire based screening tools in the whole population appears limited, there was no independent reference standard to confirm screen positive results and suitable cut offs for subgroups of the adult population had not been found. In addition, the long term effectiveness of screening average risk/whole populations in reducing morbidity and mortality was still lacking.

However, the UK NSC noted that alcohol misuse causes serious health problems in the UK, and a range of interventions were in place in primary care to identify alcohol misuse and address its consequences. From the evidence found by the 2017 review it was not clear what benefits would be added to this approach if a whole population screening programme were implemented.

Aims of the evidence map

Evidence maps are rapid evidence products which aim to gauge the volume and type of evidence relating to a specific topic.

This evidence map has been developed to assess whether a more sustained review on screening for alcohol misuse should be commissioned in 2021 and to evaluate the volume and type of evidence on key issues related to screening for alcohol misuse.

This evidence map concerns population screening for alcohol misuse and the findings only relate to the issue of systematic population screening of adults for alcohol misuse against the UK NSC criteria. It does not include studies reporting the identification of alcohol misuse through the opportunistic testing initiated by local health systems covered by NICE guidance or recommendations on testing for alcohol misuse issued by the Department of Health.

The aim was to address the following question:

1. Is there evidence that demonstrates the long-term effectiveness of a population screening programme to improve morbidity and mortality, reduce social harm and influence behaviour change?
    a. Sub question — Is there evidence that a population screening programme (followed by an intervention or not) increases people's knowledge about the risks of alcohol consumption and enables them to make decisions about their own drinking behaviour?

The findings of this evidence map will provide the basis for discussion to support decision making on whether there is sufficient evidence to justify commissioning a more sustained review of the evidence on alcohol misuse in 2021. The aim of this document is to present the information necessary for the UK NSC to decide this.

Search methods and results

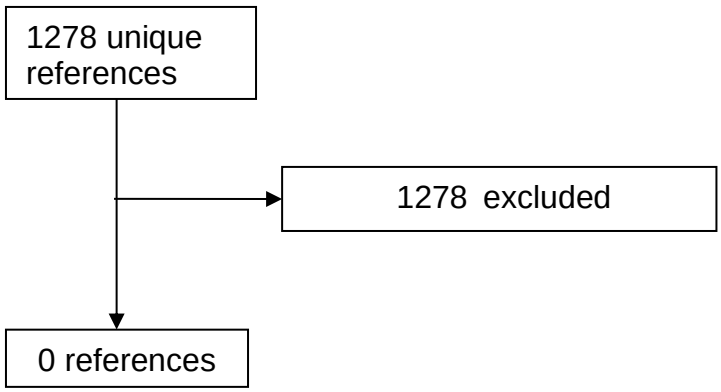
The searches were conducted on 13 May on 4 databases: Medline, Embase, PsycINFO and the Cochrane Library. The search period was restricted to December 2015 to May 2021. The cut-off date of December 2015 was informed by the end date of the search carried out for the previous review.

The detailed search strategies, including exclusion and inclusion criteria are available in Appendix 1. The search returned a total of 1278 unique references which were initially sifted by an information scientist for potential relevance. One reviewer assessed 59 titles and abstracts for further appraisal and possible inclusion in the evidence map. No references met the inclusion criteria for this evidence map. The reasons for excluding studies included, the study was not in English, it was an ineligible study type or the study was based on an opportunistic or convenience sample of the population of interest.

As there were no included studies no abstract reporting tables were completed.

A flow diagram summarising the number of studies included and excluded is presented in figure 1.

Figure 1: Summary of included and excluded publications



Summary of findings

Question: 1. Is there evidence that demonstrates the long-term effectiveness of a population screening programme to improve morbidity and mortality, reduce social harm and influence behaviour change?

Sub question: Is there evidence that a population screening programme (followed by an intervention or not) increases people's knowledge about the risks of alcohol consumption and enables them to make decisions about their own drinking behaviour?

No studies were identified that met the criteria for inclusion for this question. Instead studies typically focussed on how to identify, assess and treat alcohol misuse in different patient groups who access a range of different health and care services as part of an opportunistic approach to testing. There is also a focus on the effectiveness of the intervention rather than the effectiveness of population screening, for example AESOPS was a UK multicentre pragmatic randomised controlled trial (RCT) that explored the clinical and cost effectiveness of minimal intervention versus stepped care in people aged ≥55 years [8]. Participants were either recruited from those attending the GP surgery or targeted from the GP list and proactively contacted (results of these 2 groups were not separately reported). All those with a screening result indicating alcohol misuse were randomised to minimal intervention of a 5 minute structured advice session and tailored results about the consequences associated with the participants level of alcohol consumption or a stepped care intervention consisting of 3 steps where progression between steps was dependant on the response to the previous step. Another RCT called the Proactive expert system intervention to prevent or quit at risk alcohol use trial (PRINT) set up in 2018, reported how they recruited adults for the trial from the general population who visited the Greifswald public authority office for registration, passports and vehicle admission issues [9]. People were randomised to either a control group who were all screened at baseline and follow up or an intervention group who were also screened with participants receiving a brief intervention if their screening result indicated alcohol misuse. This study has not yet reported any mortality or morbidity outcomes.

These studies do not provide any information to answer our key question on the long term effectiveness of a population screening programme in improving morbidity, mortality, reducing social harm and influencing behaviour change.

The most recent update of the systematic review by the United States Preventative Services Task Force (USPSTF) to identify eligible studies about the use of screening to reduce alcohol misuse (search dates October 2017 to August 2018) did not find any studies that explored whether primary care screening for alcohol misuse reduced alcohol use or improved other risky behaviours. There were also no studies identified that

examined if screening and brief interventions reduced morbidity or mortality or led to improvements in health, social and legal outcomes [10].

The inclusion and exclusion criteria are summarised in Appendix 1.

The UK NSC's current position is that there is insufficient evidence to determine the effectiveness of a population screening programme for alcohol misuse in adults.

No studies were identified that met the inclusion criteria for this question. Therefore, there is insufficient new evidence in this key area to justify commissioning an evidence summary.

Conclusions

The findings of this evidence map are unlikely to impact on current recommendations on population screening for alcohol misuse as no new evidence was identified that would change those conclusions.

Recommendations

On the basis of this evidence map, the volume and type of evidence related to systematic population screening for alcohol misuse is currently insufficient to justify further review at this stage and so should be reconsidered in 3 years time.

Appendix 1 — Search strategy for the evidence map

SOURCES SEARCHED: Medline, Embase, PsycINFO and Cochrane Library

DATES OF SEARCH: December 2015 to 12 May 2021

SEARCH STRATEGIES:

# ▲	Embase Search	Results	# ▲	Medline Search	Results
1	(*drinking behavior/ or *alcohol consumption/) and (mass screening/ or screening test/ or screening/)	1083	1	exp Alcohol Drinking/ and Mass Screening/	981
2	(*Alcoholism/ or exp *alcohol abuse/) and (mass screening/ or screening test/ or screening/)	2557	2	Alcoholism/ and Mass Screening/	1292
3	(alcohol* and screen*).ti.	2014	3	(alcohol* and screen*).ti.	1586
4	((drink* and screen*) not water).ti.	329	4	((drink* and screen*) not water).ti.	265
5	(CAGE and (alcohol or drink*)).ti.	115	5	(CAGE and (alcohol or drink*)).ti.	100
6	((AUDIT or AUDIT C or AUDIT PC) and (alcohol or drink*)).ti.	340	6	((AUDIT or AUDIT C or AUDIT PC) and (alcohol or drink*)).ti.	260
7	(FAST and (alcohol or drink*)).ti.	129	7	(FAST and (alcohol or drink*)).ti.	126
8	(paddington alcohol test or (PAT and (alcohol or drink*))).ti.	9	8	(paddington alcohol test or (PAT and (alcohol or drink*))).ti.	8
9	(Michigan alcohol screening test or (MAST and (alcohol or drink*))).ti.	39	9	(Michigan alcohol screening test or (MAST and (alcohol or drink*))).ti.	32
10	((5 shot or 5shot or fiveshot or five shot) and alcohol).tw.	10	10	((5 shot or 5shot or fiveshot or five shot) and alcohol).tw.	10
11	((gamma-glutamyltransferase or GGT or Gamma GT) and alcohol).ti.	129	11	((gamma-glutamyltransferase or GGT or Gamma GT) and alcohol).ti.	101
12	((carbohydrate-deficient transferrin or CDT) and alcohol).ti.	268	12	((carbohydrate-deficient transferrin or CDT) and alcohol).ti.	206
13	((mean corpuscular volume or MCV) and alcohol).ti.	30	13	((mean corpuscular volume or MCV) and alcohol).ti.	25
14	((biochemical indicator* or biochemical marker* or biomarker*) and alcohol*).ti.	893	14	((biochemical indicator* or biochemical marker* or biomarker*) and alcohol*).ti.	572
15	((sassi or sasq) and alcohol*).tw.	42	15	((sassi or sasq) and alcohol*).tw.	26
16	(ASSIST and alcohol*).ti.	48	16	(ASSIST and alcohol*).ti.	37
17	1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 or 14 or 15 or 16	6069	17	1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 or 14 or 15 or 16	4206
18	limit 17 to ((meta analysis or "systematic review") and "reviews (maximizes specificity)")	72	18	limit 17 to ((meta analysis or "systematic review") and "reviews (maximizes specificity)")	57

19	randomised controlled trial/ or single blind procedure/ or double blind procedure/ or crossover procedure/ or (random* or ((singl* or doubl*) adj (blind* or mask*)) or crossover or cross over or factorial* or latin square or assign* or allocat* or volunteer*).ti,ab.	2462070	19	randomized controlled trial.pt.	529509
20	17 and 19	951	20	controlled clinical trial.pt.	94149
21	(conference* or editorial or letter or note or review).pt. or case report.tw.	10733334	21	randomized.ab.	519548
22	17 not 21	3797	22	placebo.ab.	217869
23	18 or 20 or 22	4178	23	clinical trials as topic.sh.	195761
24	(exp animals/ or nonhuman/) not human/	6808898	24	randomly.ab.	357101
25	23 not 24	4022	25	trial.ti.	239743
26	(201512* or 2016* or 2017* or 2018* or 2019* or 2020* or 2021*).dc,dd,yr.	9640646	26	19 or 20 or 21 or 22 or 23 or 24 or 25	1365666
27	25 and 26	1085	27	17 and 26	424
28	limit 27 to english language	1060	28	(comment or editorial or letter or review).pt. or case report.tw.	5007344
			29	17 not 28	3583
			30	18 or 27 or 29	3634
			31	exp animals/ not humans/	4823832
			32	30 not 31	3563
			33	(201512* or 2016* or 2017* or 2018* or 2019* or 2020* or 2021*).ez,ed,yr.	7643085
			34	32 and 33	990
			35	limit 34 to english language	966

# ▲	**PsycINFO Search**	**Results**	# ▲	**Cochrane Search**	**Results**
1	exp "alcohol use disorder"/ and (screening/ or health screening/)	565	1	exp "alcohol use disorder"/ and (screening/ or health screening/)	565
2	(alcohol* and screen*).ti.	932	2	(alcohol* and screen*).ti.	932
3	((drink* and screen*) not water).ti.	174	3	((drink* and screen*) not water).ti.	174
4	(CAGE and (alcohol or drink*)).ti.	69	4	(CAGE and (alcohol or drink*)).ti.	69
5	((AUDIT or AUDIT C or AUDIT PC) and (alcohol or drink*)).ti.	201	5	((AUDIT or AUDIT C or AUDIT PC) and (alcohol or drink*)).ti.	201
6	(FAST and (alcohol or drink*)).ti.	28	6	(FAST and (alcohol or drink*)).ti.	28
7	(paddington alcohol test or (PAT and (alcohol or drink*))).ti.	5	7	(paddington alcohol test or (PAT and (alcohol or drink*))).ti.	5

8	(Michigan alcohol screening test or (MAST and (alcohol or drink*))).ti.	23	8	(Michigan alcohol screening test or (MAST and (alcohol or drink*))).ti.	23
9	((5 shot or 5shot or fiveshot or five shot) and alcohol).tw.	6	9	((5 shot or 5shot or fiveshot or five shot) and alcohol).tw.	6
10	((gamma-glutamyltransferase or GGT or Gamma GT) and alcohol).ti.	26	10	((gamma-glutamyltransferase or GGT or Gamma GT) and alcohol).ti.	26
11	((carbohydrate-deficient transferrin or CDT) and alcohol).ti.	76	11	((carbohydrate-deficient transferrin or CDT) and alcohol).ti.	76
12	((mean corpuscular volume or MCV) and alcohol).ti.	15	12	((mean corpuscular volume or MCV) and alcohol).ti.	15
13	((biochemical indicator* or biochemical marker* or biomarker*) and alcohol*).ti.	138	13	((biochemical indicator* or biochemical marker* or biomarker*) and alcohol*).ti.	138
14	((sassi or sasq) and alcohol*).tw.	68	14	((sassi or sasq) and alcohol*).tw.	68
15	(ASSIST and alcohol*).ti.	39	15	(ASSIST and alcohol*).ti.	39
16	1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 or 14 or 15	1761	16	1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 or 14 or 15	1761
17	limit 16 to ("reviews (maximizes specificity)" and ("0830 systematic review" or 1200 meta analysis or 1300 metasynthesis))	27			
18	(random* or trial* or controlled stud* or placebo* or ((singl* or doubl* or trebl* or tripl*) and (blind* or mask*)) or cross over or crossover or factorial* or latin square or assign* or allocat* or volunteer*).ti,ab,hw,id. or treatment effectiveness evaluation/ or mental health program evaluation/ or exp experimental design/ or (clinical trial or treatment outcome).md.	555692			
19	16 and 18	323			
20	(comment reply or editorial or letter or "review book" or "review media" or "review software other").dt. or literature review.md. or case report.tw.	504598			
21	16 not 20	1614			
22	17 or 19 or 21	1650			

23	(201512* or 2016* or 2017* or 2018* or 2019* or 2020* or 2021*).up,yr.	1020789			
24	22 and 23	371			
25	limit 24 to english language	323			

Results by database

Database	**Hits**
Cochrane Database of Systematic Reviews	5
Cochrane Central Register of Controlled Trials	249
Embase	1060
Medline	966
NICE Evidence Search	1
PsycINFO	323
Total	**2604**

After the exclusion of duplicates, 1278 references remained.

Inclusions and exclusions

Publications not in the English language, case reports, conference abstracts, trial protocols and comment/editorials/letters were excluded.

Eligibility for inclusion in the map

Question 1: Is there evidence that demonstrates the long-term effectiveness of a population screening programme to improve morbidity and mortality, reduce social harm and influence behaviour change?

Sub-question: Is there evidence that a population screening programme (followed by an intervention or not) increases people's knowledge about the risks of alcohol consumption and enables them to make decisions about their own drinking behaviour?

Population: Adult population (with no previous history of alcohol, substance misuse or mental health issues).

Intervention: Any formal population screening programme in primary care with or without an intervention [The aim of formal population screening programme for alcohol misuse is to identify individuals at risk of alcohol misuse and refer them for intervention to reduce their alcohol use and their risk of harm. This does not include initiatives identifying people who may have an alcohol-use disorder during opportunistic contact with services]

Comparator:

- usual care [Current diagnostic methods (e.g. NICE), other methods nationally and internationally recognised]

- no intervention
- waitlist
- minimal intervention
- intensive intervention

Outcomes:

- alcohol use [self-report and/or biologic measures, including:
  - frequency and/or quantity of alcohol consumed
  - abstinence (use/no use)
  - severity of alcohol use disorder (reported as an index measured by a standardised questionnaire, such as the Short Inventory of Problems, Addiction Severity Index, or the Severity of Dependence Scale)
- alcohol-related mortality (intentional and unintentional)
- alcohol-related morbidity (e.g., mental health symptoms/disorders; alcohol-related liver problems, including fatty liver disease, alcoholic hepatitis, and alcoholic cirrhosis; cancer; cardiovascular disease, such as cardiomyopathy; neuropathy; cognitive impairment; gastritis; gastric ulcers; pancreatitis; anaemia; injuries, assaults, and accidents; visits to emergency department and inpatient stays)
- quality of life
- alcohol-related problems, such as legal problems, social and family relations, employment, and school/educational outcomes
- serious harms at any time point after the screening or intervention began
- stigma, labelling, and/or discrimination

Study design: Peer-reviewed evidence derived from study in randomly selected or consecutively enrolled populations or systematic reviews of these studies

References

Introduction

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Question 1: Screening programme long term effectiveness

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