

BMJ Open Alcohol use and alcohol-related harm in rural and remote communities: protocol for a scoping review

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ABSTRACT

Introduction Alcohol-related harm is a major public health concern and appears to be particularly problematic in rural and remote communities. Evidence from several countries has shown that the prevalence of harmful alcohol use and alcohol-attributable hospitalisations and emergency department visits are higher in rural and remote communities than in urban centres. The extents of this rural–urban disparity in alcohol-related harm as well as the factors that mediate it are poorly understood. The objective of this scoping review is to synthesise the international research on the factors that influence the prevalence or risk of alcohol-related harm in rural and remote communities. This will help to clarify the conceptual landscape of rural and remote alcohol research and identify the gaps in knowledge that need to be addressed.

Methods and analysis This scoping review will access published literature through search strategies developed for Medline, PsycINFO, Embase, CINAHL and Sociological Abstracts. There will be no date, country or language restrictions placed on the search. Title and abstract, followed by full-text screening, will be conducted by two independent reviewers to evaluate all identified articles against a set of prespecified inclusion and exclusion criteria. Data from selected articles will be extracted and compiled into a final manuscript that adheres to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews checklist guidelines.

Ethics and dissemination The results of this review will be helpful in guiding future research on rural and remote alcohol use and alcohol-related harm, which will inform more effective, evidence-based public health strategies to reduce alcohol-related harm in rural and remote communities. The results will be disseminated via field-specific conference presentations and peer-reviewed publication.

INTRODUCTION

Alcohol use is a leading cause of morbidity and mortality worldwide and is associated with harms that arise from both the short-term effects of acute intoxication and the long-term consequences of chronic overuse.^{1 2} Certain populations are particularly burdened by the harms associated with alcohol use and would benefit from tailored public health

Strengths and limitations of this study

- This novel scoping review employs a rigorous protocol that adheres to internationally accepted standards and guidelines.
- The search strategy has no restrictions on study methodology, study population, date, country or language to capture all relevant published literature.
- The international scope of this scoping review makes including a rigorous grey literature search unfeasible.
- This study does not review research that has been done on public health strategies used to reduce alcohol-related harm in rural and remote communities.

and treatment strategies that address the unique, population-specific factors contributing to the burden of harm. Individuals living in rural and remote communities are one such population.^{3–5} Studies from several countries have indicated that the prevalence of binge drinking, alcohol use disorder and alcohol-related hospitalisations is higher in select rural and remote regions than in urban centres.^{3 6–10} As a result, there has been a growing emphasis on improving public health strategies to reduce the harms associated with alcohol use in rural and remote communities. The development of these strategies requires identifying the factors that underly the increased risk of harmful alcohol consumption and alcohol-related harm in rural and remote communities and understanding how these factors can be appropriately addressed.

Some research has been done in this regard; however, there are several shortcomings within the existing literature. Namely, publications emanate from multiple countries with differing social, economic and cultural landscapes, employ heterogeneous definitions of rural, remote and urban, and often focus on specific subpopulations of individuals residing in rural and remote



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communities (eg, adolescents, women, individuals presenting to hospital or emergency department (ED), etc).^{4 9 11-13} There are also conflicting results within the existing body of literature. Indeed, some studies have found that rural communities have a lower, rather than higher, burden of alcohol-related harm than nearby urban populations.¹¹ As a result, the generalisability of each study is somewhat unclear and our knowledge of the factors that modify the risk alcohol-related harm in rural and remote communities is incomplete. Equally unclear is precisely how incomplete the available data is. In the past decade, only two reviews have been done on rural and remote alcohol research.^{4 11} Both studies restrict their literature search to a single country (Australia and the USA, respectively) and only one includes a review protocol in the manuscript. As a result, the development of evidence-based public health strategies to reduce alcohol-related harm in rural and remote communities is limited, and, without a clear sense of what gaps in knowledge need to be addressed, the development of relevant research questions to improve our understanding of rural and remote alcohol use and alcohol-related harm is similarly constrained.

OBJECTIVES AND RATIONALE

The objectives of this scoping review are to (1) synthesise the global literature pertaining to alcohol use and alcohol-related harm in rural and remote communities, (2) define the conceptual landscape and boundaries of international rural and remote alcohol research, and, in turn, (3) clarify the gaps in knowledge that currently exist in the field. The results from this review have the potential to guide the development of public health strategies to reduce alcohol-related harm in rural and remote communities. More importantly, however, identifying the current gaps in knowledge will help to inform the development of future research aimed at improving our understanding of alcohol use and alcohol-related harm in rural and remote communities. Of note, the objective of this review is not to identify or evaluate the efficacy of alcohol harm reduction strategies that have already been implemented.

METHODS AND ANALYSIS

A scoping review approach was chosen because it is an effective method of systematically understanding the nature of a research field, including important concepts, themes and limitations that exist.¹⁴ These features align with the objectives of this study. A systematic review would be inappropriate in this context because the highly specific nature of the research question would result in an inclusion of very few studies and likely fail to effectively identify larger-scale gaps in knowledge present in the field.

This scoping review protocol adheres to the method developed by Arksey & O'Malley¹⁵ and built on by Levac *et al*¹⁶ and the Joanna Briggs Institute.¹⁷ This method

employs a six-stage approach involving: (1) identifying the research question, (2) identifying relevant studies, (3) selecting studies, (4) charting the data, (5) collating, summarising and reporting the results and (6) expert consultation. An additional section (7) patient and public involvement, has also been included in accordance with the BMJ patient partnership strategy.

Identifying the research question

For the purposes of this scoping review, two separated but closely related outcomes of interest must be defined: (1) harmful alcohol use and (2) alcohol-related harm. 'Harmful alcohol use' refers to alcohol consumption patterns that are associated with an increased risk of alcohol-related harm, including, but not limited to, binge drinking, drinking above low-risk drinking guidelines and alcohol use disorder.^{1 2 18} 'Alcohol-related harm' refers to the harmful outcomes associated with alcohol use including, but not limited to, alcohol attributable hospitalisations, ED visits and mortality, diseases and disorders entirely attributable to alcohol, drunk driving and alcohol-related interpersonal violence and self-harm. The research question that has been developed for this scoping review is:

What literature exists on the factors that modify the prevalence or risk of either harmful alcohol use or alcohol-related harm in communities defined as rural or remote?

Within this question, 'factors' refers to any exposure variable that has been associated with harmful alcohol use or alcohol-related harm in rural or remote communities, including 'rural' or 'remote' residence itself as an exposure. This captures two types of studies: (1) those that have evaluated how residing in areas defined as rural or remote influences the prevalence or risk of harmful alcohol use or alcohol-related harm relative to residing in areas not defined as rural or remote and (2) those that have investigated how specific exposure variables (eg, distance to nearest care, socioeconomic status, sex, etc) influence the prevalence or risk of harmful alcohol use or alcohol-related harm within communities defined as rural or remote. 'Communities defined as rural or remote' specifies that this review will include studies with any definition of rural or remote.

Identifying relevant studies

In order to identify the published literature relevant to this research question, the following databases will be searched: MEDLINE, PsycINFO, Embase, CINAHL and Sociological Abstracts. Reference lists from included primary research articles and relevant reviews will also be handsearched for additional articles that may have been initially missed. The search strategy will be developed by the authors in MEDLINE and translated for use in the other databases. Relevant search terms will be developed by the authors with the assistance an experienced research librarian and will include a search of both keywords within titles and abstracts and database-specific

subject headings (MeSH, Emtree, CINAHL Headings, etc). Our review will build on the search terms for alcohol consumption that have been developed in previous systematic reviews in this topic area.^{19 20} The search terms from the relevant subject domains, (1) 'rural or remote health' and (2) 'harmful alcohol use' or 'alcohol-related harm', will be combined in the final search strategy. The search strategies developed for this study are available in online supplementary file 1. No date, country or language restrictions were placed on the search.

Date and time stamps for each search will be recorded and included in the final publication. Articles will be uploaded to Covidence systematic review software for study selection.²¹

Selecting studies

Study selection will occur via title and abstract screening followed by full text review using Covidence. Study selection during the title and abstract screening phase will be guided by a set of inclusion and exclusion criteria that are outlined below and have been synthesised into a study eligibility form (online supplementary file 2). Using the study eligibility form, each title and abstract will be independently screened by two reviewers and will be moved forward to full-text screening if either or both reviewers deem it worthy of inclusion. The study eligibility form was created collaboratively by the research team in consultation with the research librarian and was deemed to appropriately describe the inclusion and exclusion criteria of this review, as outlined below. Nonetheless, a preliminary test set of 100 articles will be initially screened to ensure the efficacy of the inclusion and exclusion criteria, a process that has been suggested to reduce error and completion time of the screening process.²² Slight adjustments to inclusion and exclusion criteria will be made if necessary, and all changes will be clearly noted in the final manuscript. During full-text screening, two reviewers will independently evaluate each full text using the study eligibility form. In the scenario of a disagreement, a third independent reviewer will be involved, and a discussion will take place until a consensus is reached. Inter-rater agreement will be calculated for both title and abstract and full text screening phases using Cohen's k statistic.

Studies will be included if they assess:

1. How rural or remote residence, relative to non-rural/remote residence, influences the prevalence or risk of harmful alcohol use or alcohol-related harm.
2. How a specific exposure variable (eg, age, sex, socioeconomic status, ethnicity, etc) influences the prevalence or risk of harmful alcohol use or alcohol-related harm within rural or remote communities.
3. Both.

There will be no restriction on the type of study methodology used, that is, quantitative observational studies using case-control, retrospective or prospective cohort, or cross-sectional methodological frameworks are all acceptable. Qualitative and mixed-methods studies that focus on harmful alcohol use or alcohol-related harm in

rural communities will also be included. There will be no restriction on the date, language or country of origin of the study. Articles in a language other than English will be translated and interpreted using the language skill available within our research group. If this is insufficient to meet the translation need, translators external to our research group will be sought. Articles that have been translated to English from another language will be clearly identified in the final manuscript. There will be no restriction on the type of study population, that is, study populations that only include specific demographic subgroups (such as adolescents, men, etc) will be eligible for inclusion. Finally, in the context of articles that assess how specific exposure(s) influence the prevalence or risk of harmful alcohol use or alcohol-related harm in rural or remote communities, no restriction will be placed on the type or nature of exposure variable(s) included in the study.

Commentaries will be excluded. Review articles will also be excluded, but their reference lists will be hand-searched for any potentially relevant articles. Similarly, the reference lists of all included primary studies will be handsearched for any relevant articles that were missed during the initial search. Studies that compare rural/remote populations to urban populations will be excluded if they do not specify the definition of rural and/or remote that was used. However, if the study population is exclusively rural or remote and no rural-urban comparison is made, a definition of rural or remote will not be required. Studies will also be excluded if they do not include an outcome that is either harmful alcohol use or alcohol-related harm or if the outcome is a composite outcome of an alcohol use or alcohol-related harm parameter combined with one or more parameter(s) that are not relevant to alcohol use or alcohol-related harm.

Charting the data

After studies have been selected, two independent reviewers will extract data from each study into a pretested Microsoft Excel sheet. Variables to be extracted include, but are not limited to: year of publication, country of publication, journal name, author list, type of study (qualitative, mixed methods, cross-section, cohort, case-control, etc), characteristics of study population (n, age, sex, ethnicity, any other recorded variables), definition of rural and/or remote, exposure variable and measurement, outcome variable (type of harmful alcohol use or alcohol-related harm) and measurement, measure of association (OR, HR, relative risk, etc) including CIs and p values if applicable, and any identified gaps in the literature mentioned in the article. In order to capture all relevant information, additional fields will be added as necessary during the data extraction process. Any discrepancies in extracted data between the two reviewers will be resolved through discussion and mediation with a third independent reviewer.



Collating, summarising and reporting the results

The results of the screening process will be presented using a Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) flow diagram and the final manuscript will adhere to the guidelines of the recently developed PRISMA Extension for Scoping Reviews (PRISMA-ScR) checklist.²³ The final excel sheet derived from the data extraction process will be included as a supplementary file in the final publication. Because this review will include a variety of different types of study design, the final manuscript will be narrative in nature, describing the themes arising in the studies chosen for inclusion. Many different definitions of rural, remote and urban are used in studies of rural alcohol use.⁴¹¹ Therefore, a focus will be put on describing and compiling the different definitions used within the selected studies with the intent of highlighting the most common definitions as well as the range of definitions that are used. The final manuscript will also present a summary of studies that have evaluated rural–urban differences in a quantitative harmful alcohol use or alcohol-related harm outcome and indicate whether the study found the prevalence or risk of the outcome to be higher, lower or equal in rural/remote communities relative to urban centres. Within this analysis, similarities and differences between geographical regions (eg, states, provinces, countries, etc) will be highlighted and discussed. Lastly, there will be a discussion of the gaps in knowledge that were identified either in (1) the discussion section of individual included studies or (2) during our evaluation of the conceptual landscape and limitations of all included studies. Consistent with the iterative nature of scoping reviews, other sections and discussions will be included as necessary based on the themes that arise during the review.

Expert consultation

Throughout the review process, experts in both alcohol epidemiology research and rural and remote health research will be contacted for input and interpretation of the methods, results and final manuscript. The guidance received from these expert consults will be highlighted in the acknowledgements section of the final manuscript.

Patient and public involvement

Patient input will not be directly solicited for this scoping review. The population of interest is all individuals residing in rural or remote communities that have been impacted by harmful alcohol consumption or alcohol-related harm. This population is highly heterogeneous and contains many members with sub-clinical alcohol consumption patterns or outcomes that are only visible in survey data rather than in structured patient–physician settings. It would be difficult to solicit feedback from a sample of individuals that adequately represents this heterogeneous population. In order to mitigate any bias that could arise due to the lack of direct patient input, our scoping review search strategy has been designed to be as inclusive as possible by not having any date,

country, study population or language restrictions on our published literature search, and including a broad range of study methodologies including quantitative, qualitative and mixed-methods research.

ETHICS AND DISSEMINATION

This will be the first review to synthesise all internationally published literature on rural and remote alcohol use and alcohol-related harm. Since the review only makes use of published and publicly available data, no ethics approval is required. The results from this study will be disseminated via publication in a peer-reviewed journal and presentation at relevant rural health, addiction and psychiatry conferences. Our research team is actively investigating alcohol use and alcohol-related harm in rural and remote communities with the goal of improving public health strategies to reduce the burden of alcohol-related harm in these regions. Therefore, the results from this scoping review will be helpful in guiding our research programme as well as other programmes like ours.

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Competing interests None declared.

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