

Evidence review of gambling related harms: review protocol

Summary

- This work has been commissioned to provide an independent review of existing research in this area to establish what is known, where there are clear gaps in the evidence base, and to provide national and local policy makers with the best available evidence to identify policies and interventions which will best prevent and reduce gambling related harms.
- Public Health England (PHE) are concurrently also undertaking a review of the evidence of gambling related harm in England and therefore this complementary NIHR commissioned review will focus on the evidence for interventions to address gambling related harm.
- The aim is to identify, appraise and synthesise existing research evidence regarding the effectiveness and cost-effectiveness of interventions to reduce gambling-related harms.
- We propose to conduct the review in three stages to ensure that we are adding to rather than duplicating existing work, and to ensure the outputs, including the conceptual framework, and related complex systems modelling, will be of practical value to stakeholders, including policy makers, research commissioners and individuals and communities affected by gambling related harm.
- The first stage will involve the production of a conceptual framework based on an initial survey of existing models/typologies which will be presented to stakeholders at the first workshop and used to structure a mapping review. This review will involve a review of reviews, supplemented by stakeholder consultation, which will be used to identify and clarify gaps in the evidence, and key research questions where a review of primary research (and potentially grey literature if published evidence not identified) would be of value. In Stage 2, further focused evidence identification and synthesis in priority areas will be conducted, as agreed with the PHR Programme team. Finally, the evidence based framework and associated evidence reviews will be used to co-produce additional outputs with stakeholders including developing a complex system model showing where interventions can impact on gambling related harm at a system level. The details of outputs for the second and third stages will be determined after Stage 1 is complete and in consultation with the PHR Programme team.
- The project is anticipated to take 9-12 months in total. A report of interim findings, including the mapping review will be produced in Sept 2019 and the final deadline agreed at that point depending on scope of additional primary evidence to be identified and synthesised. The final report and all associated outputs will be delivered by the end of March 2020 at the latest.

Definitions:

To ensure consistency with the current definitions used by policy makers, this review will use the definitions developed and published by an Expert Panel of the Responsible Gambling Strategy Board (RGSB) for the Gambling Commission, in their review on gambling related harm (1):

Gambling: “According to The Gambling Act 2005, gambling is any kind of betting, gaming or playing lotteries. Gaming means taking part in games of chance for a prize (where the prize is money or money’s worth), betting involves making a bet on the outcome of sports, races, events or whether or not something is true, whose outcomes may or may not involve elements of skill but whose outcomes are uncertain and lotteries (typically) involve a payment to participate in an event in which prizes are allocated on the basis of chance (Gambling Act, 2005).”

Gambling-related harm: “gambling-related harms are the adverse impacts from gambling on the health and wellbeing of individuals, families, communities and society”.

Background

Gambling related harms have increasingly been seen as a public health issue in the UK leading to the production of policy documents proposing public health strategies to reduce harms at both national and local levels in England, Wales and Scotland(2-5). The Department of Health and Social Care (DHSC) and Department of Culture, Media and Sport (DCMS) determined that a review of the relevant evidence was needed to establish what is known, where there are clear gaps in the evidence base, and to provide national and local policy makers with the best available evidence to identify policies and interventions which will best prevent and reduce gambling related harms. An assessment by PHE also determined that there was an urgent need for a comprehensive independently undertaken review of the evidence on gambling related harm and its impact. As a result PHE is undertaking a review of the evidence on gambling-related harms and the PHR review team funded by NIHR has been asked to produce an evidence review that can be used to inform both research commissioners and policy makers on the effectiveness and cost-effectiveness of policies and interventions to reduce gambling related harms.

Aim and objectives

The overall aim of this review is to identify, appraise and synthesise existing research evidence in relation to interventions to reduce gambling related harm. Specific objectives in line with the project brief will be:

- To develop a conceptual framework which will be used to map the UK and international evidence base related to the effectiveness and cost effectiveness of policies and interventions to reduce gambling related harms.
- To undertake a mapping review, based on identification of existing review level evidence, which supplemented by stakeholder consultation, will be used to identify and clarify gaps in the evidence, and key research questions related to effectiveness and cost-effectiveness of interventions.
- To undertake further more focused systematic reviews of primary research (and potentially grey literature if published evidence not identified) where this would be of value, for example to ensure coverage of recent UK-specific evidence or evidence related to specific types of intervention.
- To use a complex systems modelling approach, in collaboration with stakeholders and topic experts, to explore the potential impacts of the interventions identified, both intended and unintended, on the extent, distribution and nature of gambling related harms.
- To co-produce with stakeholders an evidence briefing and outputs for both practitioner and community audiences, as well as a report for the NIHR journals library.

Risk of bias and conflicts of interests: To ensure that the review is informed by, and useful to, all stakeholders who have an interest in the evidence base for gambling related harm we will need to include evidence both funded and undertaken by diverse stakeholders. These may include: representatives of the gambling industry, policymakers, topic experts and researchers, practitioners, organisations, communities and individuals with experience of gambling activities and gambling related harm, as well as the wider public. It is important to explicitly recognise that this is a public health issue on which many stakeholders are likely to have strong personal, community or organisational interests in policy decisions and much of the available evidence may be generated to address specific interests. Although we will not exclude stakeholders or specific evidence sources on the basis of these interests, we will ask individuals who participate directly in the review process to declare their interests and we will highlight the source of evidence, identifying where there is a significant risk of bias.

It has been shown that conventional quality appraisal may not be sufficient to identify bias related to industry funding. We will therefore, where relevant and feasible, document the funding source and specifically check study protocols for any evidence of outcome switching or selective reporting bias for example.

Project plan

We are proposing three related work packages: development of an initial conceptual framework and a mapping review of the current evidence base, additional systematic reviews where gaps in existing reviews are identified, plus the co-production of a complex systems map with stakeholders.

Work package 1: A conceptual framework will be generated based on existing generic frameworks and a scoping of review level gambling related literature. This will be presented to stakeholders at the first workshop to ensure it is appropriate in scope and boundaries to inform policy development. The framework will be used to structure a mapping review which will then be conducted, initially based on searches for review level evidence of gambling-related interventions to identify relevant international and UK specific evidence.

Work package 2: Further reviews will be conducted to identify and synthesis relevant international and UK specific evidence in priority areas where the mapping review identified key gaps.

Work package 3: A complex systems model, based on the conceptual framework and the completed evidence reviews, will be developed, in collaboration with topic experts and policy, practice and lay advisors, to identify and explore the relationships between risk factors, behaviours, harms and potential policy options.

Proposed outputs:

1. **A report for the NIHR Journals Library** – this will conform to the standard NIHR requirements for content and formatting.
2. **An “Evidence Briefing” document** – potentially with versions tailored for different audiences eg national and local policy makers, practitioners, clinicians and lay audiences
3. **Peer reviewed journal articles** – these may include the conceptual framework/mapping review, reviews of specific interventions/intervention types and the results of the complex systems modelling.

Proposed methodological approach

During initial scoping we have identified numerous recent reviews and associated typologies and frameworks. They include comprehensive typologies for classifying and exploring gambling behaviours, risk factors associated with both gambling behaviour and related harms and for different types of harm, as well as for different levels of intervention and different targets for interventions to reduce harm. Frameworks have largely used a socio-ecological (ie “public health”) approach, classifying both risk factors for harms and the resultant harms by level ie individual, family, workplace, community or

wider society. Interventions can be broadly classified as primary (reducing supply of, or demand for, gambling related activities in specific communities or population groups or in general), secondary (reducing gambling in individuals identified as at increased risk of harm) or tertiary (interventions to mitigate the harms caused by gambling). ie treatment of mental health conditions, support to reduce financial, employment or relationship harms.

We propose to use the existing comprehensive reviews to inform our own conceptual framework (see Appendix 1). This will then be used to structure the mapping review.

Evidence mapping review - Initial inclusion criteria:

- Relevant systematic literature reviews published since 2012 (date of first comprehensive international evidence review in this field (6))
- UK intervention studies from 1999-2019, specifically identified from within systematic reviews published from 2012-2019
- If required, grey literature in the form of relevant UK reports or policy documents published since 2012

The review will be limited to evidence published in English as initial consultation suggests that this is unlikely to exclude significant evidence which is not included in the English language literature, in each primary or secondary sources.

Addressing inequalities in gambling related harm

We will set up a coding system that ensures that all the PROGRESS-Plus dimensions of inequality are considered during the data extraction and analysis stages. Dimensions that are widely recognised in the current literature as associated with an increased risk of harm are: age and gender (eg children and young men); place (eg neighbourhoods with high concentration of gambling venues/betting shops) occupation (eg specific populations employed in gambling venues); ethnicity (and race, culture and language); religion (eg if gambling proscribed or stigmatised); socio-economic status (particularly through exposure to adverse circumstances, adverse childhood events, financial difficulties etc); education.

The underlying sociological mechanisms by which these characteristics generate inequality may be complex even for an individual factor. For example, overall gambling-related harm may be greater in cultures where gambling is more common, but harm to those who gamble may be greater in cultures where gambling is strongly stigmatised (as well as the direct impact of felt or enacted stigma, it is harder for individuals to admit to problems or seek help).

These inequalities and associated harms are also intersecting (eg for younger unemployed men living in poorer areas).

Stakeholder involvement and engagement

We will elicit input from our Public Health PPI Panel and advisors listed above during all stages of the review. We are recruiting additional patient and public advisors with specific experience of harmful gambling to input to this review, including family members of those who have experienced gambling addiction, and are approaching voluntary and community groups who have expertise and experience in the area of gambling.

We will seek topic expert guidance in regard to identifying key questions and gaps, and available evidence by sharing the results of initial mapping and asking them to identify any additional evidence within the review scope not identified by the initial searches. Our PPI advisors will be involved throughout the process, drawing on their knowledge and experiences to help with understanding where gaps in knowledge exist, and in regard to interpretation of the evidence. We plan to involve stakeholders in production of the study outputs to enhance relevance and usability. We will seek assistance from PPI members for example in regard to Plain English wording and presentation of outputs for lay audiences, and seek their involvement in the production of materials.

We intend to engage stakeholders via means such as production of accessible evidence summaries for a variety of audiences, using social media to publicise key messages from the research, and via producing a webcast providing a multi-media summary of the evidence.

Literature search and screening

For the systematic reviews there will be two search iterations to identify relevant evidence for the review. The first iteration, (database search) will search databases across multiple disciplines. The search will comprise subject headings and free-text terms and will be developed on MEDLINE then adapted for the other databases.

We will search the following databases:

- MEDLINE/ EMBASE
- Web of Science (Science Citation Index and Social Science Citation Index)
- Applied Social Sciences Index and Abstracts (ASSIA)
- International Bibliography of Social Sciences (IBSS)
- PsycINFO
- Social Policy and Practice (includes grey literature)

The initial search will be restricted to papers in English and from 2012-current.

The second search iteration will include the following search methods:

- Scrutiny of reference lists
- Scrutiny of recent policy documents for relevant, peer reviewed evidence.
- Citation searching of included and highly relevant evidence
- Web search for any relevant UK grey literature

Search results will be downloaded to a reference management system (EndNote) and screened against the inclusion criteria by one reviewer, with a 10% sample screened by a second reviewer. Uncertainties will be resolved by discussion among the review team.

Data extraction and quality appraisal

For the mapping review we will consider overall issues of quality based on study design and other expected sources of significant bias. For systematic reviews of specific interventions where undertaken in Stage 2, we will extract and tabulate key data from the included papers. For these reviews, data extraction will be performed by one reviewer, with a 10% sample checked for accuracy and consistency. Quality assessment will be performed by one reviewer, with a 10% sample checked for accuracy and consistency.

Methods of synthesis

We will provide a narrative synthesis structured around the research questions. Additional forms of analysis and synthesis will depend on the characteristics of the evidence identified. We will seek to characterise key features of the literature including strengths, limitations and gaps. Assessment of the overall quality based on study design, and relevance of evidence based on population and context/setting will form part of the narrative synthesis. We will identify where there are certainties and uncertainties in the evidence, and where there are gaps requiring future primary research.

Complex Systems Model development

In order to ensure that this review does not simply replicate previous reviews and can produce products that are directly useful to decision-makers, we propose explicitly acknowledging the complexity of the interactions between interventions that may reduce gambling related harms and the complex system representing the contextual and implementation factors that can influence their impacts (both intended and unintended). We will use workshops with experts and stakeholders to generate a complex systems model that can be used both to explore the impact of proposed policies

and interventions on gambling related harms and facilitate the development of comprehensive, systems level strategies.

We will build on the completed reviews, including the findings generated by the PHE review, , in consultation with community representatives, topic experts, practitioners and policy-makers and use relevant evidence from comprehensive reviews and previously developed typologies. These have variously covered risk factors (7), harms (1, 6, 8-12) and interventions (6, 10-12) and there are a number of relevant reports of surveys of attitudes and self-reported gambling behaviour.(13-18)

Appendix 1 provides the rationale for a complex systems mapping approach to framework development.

Registration and outputs

We will make the mapping review protocol available via the PHR programme website and our own website; individual systematic reviews of primary studies will also be registered with PROSPERO as appropriate.

Proposed outputs:

- Report for the NIHR PHR programme (subsequent publication in the NIHR Journal Library)
- Peer-reviewed journal article(s)
- Evidence briefing for decision-makers
- Summary materials for public audiences

Appendix 2 provides a Gantt chart for the review stages and milestones

Appendix 1: Rationale for a complex systems approach to understanding the potential impact of interventions to reduce gambling related harm

Rationale for applying a complex systems approach to informing public health decision making

There is an extensive literature and associated critique on the use of complex systems approaches to understanding and addressing public health concerns. (19, 20)

System mapping and modelling approaches have been widely used in fields ranging from obesity and diet related studies to the prevention of war (21-24). There is increasing understanding of where such methods are appropriate and of most value (25) for understanding and evaluating the potential impact of public health policy interventions.

Case studies of applications of these approaches to illustrate their practical value are still needed. However, the cumulative evidence to date suggests that not only may a complex systems approach generate useful insights to inform decision making, but that use of simpler, linear logical models and conceptual frameworks to model causal pathways between interventions and outcomes risk producing misleading results if effects are operating on several aspects of a complex system.

Application of a complex systems approach to reducing gambling related harm

The most recently updated framework which employ a public health approach to gambling related harm is the GREO framework based on an international evidence review (with over 700 references which includes many recent systematic reviews of gambling research) and published in November 2018.(26) Whilst representing a comprehensive and up to date review of the evidence base for factors related to gambling and associated harms, the framework specifically omits any discussion of the pathways that link factors to harm in order to urge “researchers, decision makers and others to think about the complexity of harmful gambling and to pursue new, theory-driven research”.

However generating a conceptual map of the complex system that generates gambling related harm would be consistent with the argument that whilst health effects with commercial and social determinants including gambling are complex (27), this should be an argument for attempting to understand those complexities rather than for inaction.(27, 28)

Given the limitations of simpler logic models (that generally assume that contextual, mediating and moderating factors are stable and pathways linear and uni-directional), the existing evidence reviews reinforce the view that gambling harms need to be understood as occurring within a complex system.

Influences on gambling related harm demonstrate a number of the characteristics generally associated with a complex system. Whilst Figure 1 represent a generic public health framework for identifying preventive interventions, Figure 2 shows some of the potentially complex system level interactions between contextual factors, supply and demand for gambling activity and the resultant harms. Existing research evidence on these determinants of gambling related harm suggests in fact a complex adaptive system in which effects may be unpredictable, unintended and dependent on a large range of contextual factors, with bi-directional relationships between contextual factors, gambling environment and gambling behaviours and harms rather than linear causal pathways. Major mediators of these complex relationships are likely to include population knowledge of risks and social

attitudes to gambling (13-15, 29-33) and diverse contextual and multi-level risk factors (7, 34) in relation to both determining gambling behaviour and gambling related harms. (8, 9, 35, 36).

Examples of the potential need for a systems level analysis of gambling-related harms.

Example of complex interactions between factors – gambling losses and financial harm

Whilst there is clearly a relationship between gambling behaviour and financial harms (including loss of money or possessions, excessive debt, and theft/crime more generally), analysis of survey data suggests that most “problem gamblers” do not report financial problems.(36, 37) It is also likely that most of the financial harm related to gambling is related to levels not widely considered to be “problem gambling”,(38) but may be the result of individuals who, intentionally or not, either lose more than they can easily afford or lose money that they would otherwise spend in ways which have a greater positive impact on personal, family or community health and wellbeing. Whilst there are numerous plausible causal pathways between gambling, financial losses and harm, there are many other individual and contextual factors that interact and which will mitigate or exacerbate those harms.

[It is worth noting that at a population level there does appear to be a relationship between the extent of gambling and harm, suggest a “dose-response” relationship that enables population level harm to be predicted from overall gambling activity. (35) There is a parallel with the evidence that trends in obesity and BMI are closely associated with type 2 diabetes in populations, whilst for an individual, BMI is a relatively poor predictor of diabetes risk and this is largely because of the other major risk factors, particularly abdominal obesity, that will vary significantly between individuals with similar BMI.]

Example of feedback loops – risk factors that are exacerbated by gambling harm eg social isolation

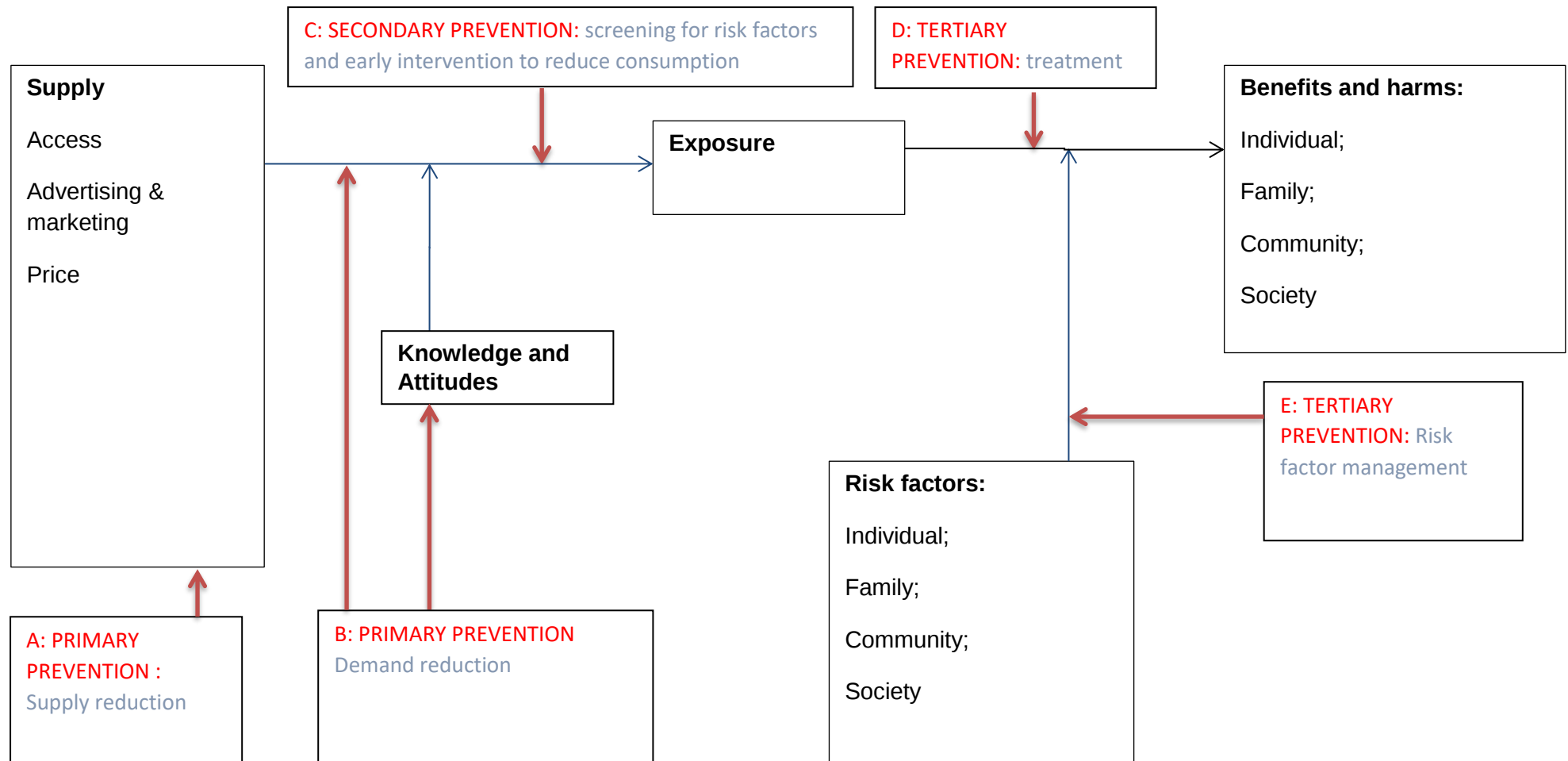
Since many of the risk factors for gambling-related harms are exacerbated by gambling activities there is potential for negative (or positive) feedback. For example gambling losses may lead to loss of employment, relationships and housing, as well as financial difficulties and poor mental health. Subsequently homelessness, debt, lack of supportive relationships etc may then lead to exacerbation of harmful gambling. These relationships might be more effectively mitigated by interventions which addressed the risk factor rather than the gambling behaviour per se. These could include debt management, housing and employment support, relationship counselling etc.

Example of an adaptive system – industry and consumer responses to regulation or enforcement

Both the gambling industry and individual gamblers will change behaviour in response to interventions or policy changes, which may make the system effects of introducing changes unpredictable. For example, the LGA report suggests that the impact of the change in the maximum stake for a FOBT in April 2019 cannot be predicted. (4) Those currently sustaining losses may (or may not) adopt different activities so they can continue to play for high stakes. Any supply-side interventions such as regulation of specific gambling provision or specific advertising/sponsorship are likely to lead to changes in the strategies the gambling industry needs to adopt to maximise profit. (39, 40) This has implications for both the design and evaluation of interventions that may need to be monitored for both intended and unintended consequences

Figure 1: Draft scope for generic public health conceptual framework for strategic approach to prevention

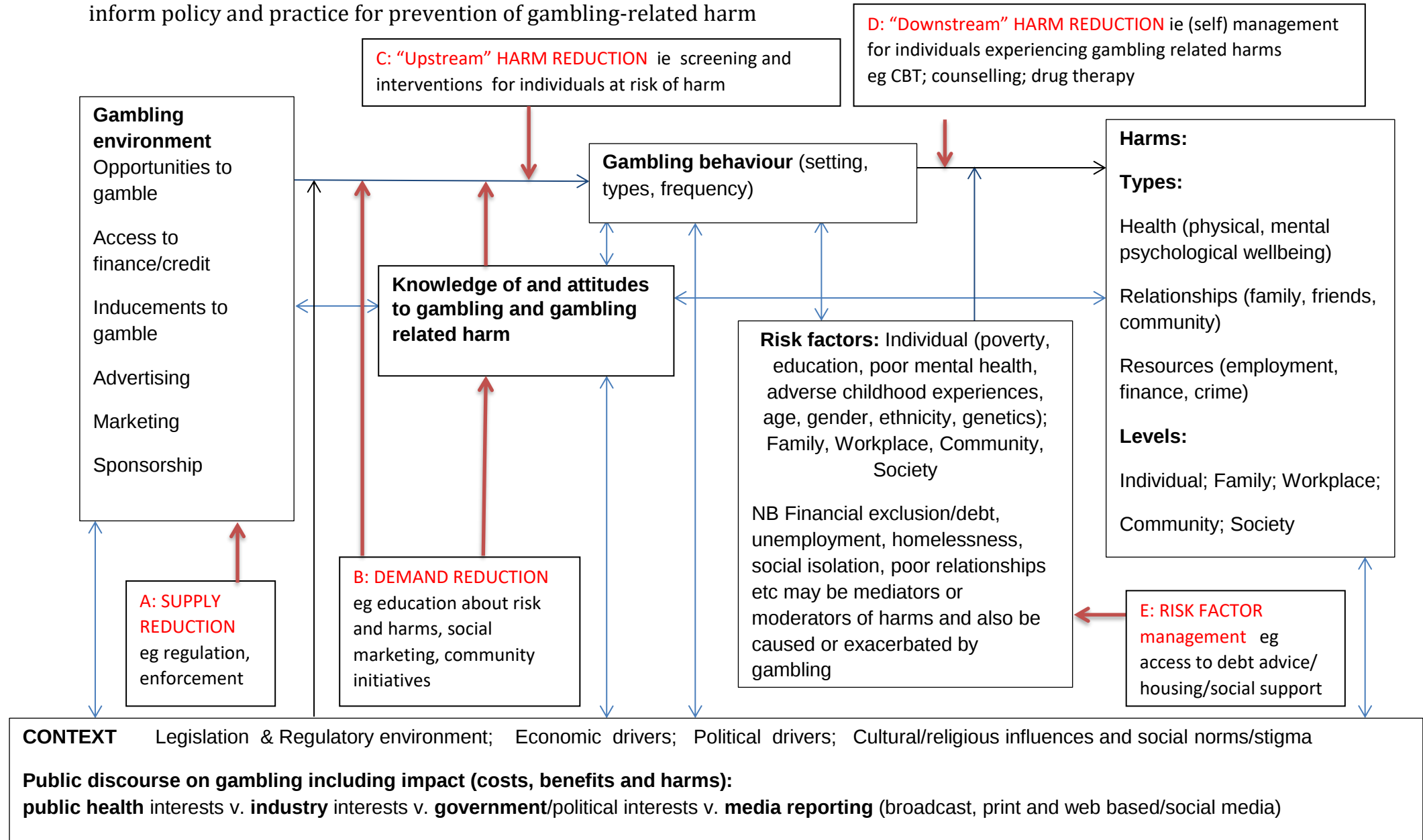
Purpose of framework: to identify and explore relationships between risk factors, behaviours, interventions and outcomes



CONTEXT Legislation & Regulatory environment; Economic drivers; Political drivers; Cultural/religious influences and social norms

Figure 2. Draft scope for conceptual framework for “gambling-related harms” (with complex system characteristics)

Purpose of framework: to identify and explore the relationships between risk factors, behaviours and harms in order to inform policy and practice for prevention of gambling-related harm



Appendix 2: Initial Gantt chart - timeline subject to review in Sept 2019. We will hold regular team meetings to monitor progress and will keep the PHR programme team informed of progress at regular intervals. Depending on the scope and scale of reviews required in Stage 2, timelines for Stage 2 and 3 may be revised; we expect the project to take between 9 to 12 months

	Apr 19	May 19	Jun 19	Jul 19	Aug 19	Sept 19	Oct 19	Nov 19	Dec 19	Jan 19	Feb 19	Mar 19
Work Package 1: <i>Mapping review</i>	Stage 1 – mapping review & drafting framework				Stage 2 – focused systematic reviews & developing framework				Stage 3 – production complex systems model and project outputs			
Scoping and protocol development	x											
Evidence identification	x	x										
Conceptual framework development	x	x										
Data extraction/quality assessment		x										
Analysis and report writing		x	x									
Work Package 2: <i>Additional reviews</i>												
Protocol development			x	x								
Evidence identification				x	x	x						
Data extraction/quality assessment					x	x	x					
Analysis and report writing							x	x	x	x		
Work Package 3 – co-production of complex systems model												
Public consultations	x	x						x				
Stakeholder workshops		x			x			x		x		
Delivery of draft report										x		
Completion final report												x
Production of evidence briefings/other outputs												x

References

1. Wardle H, Reith G, Best D, McDaid D, Platt S. Measuring gambling-related harms: a framework for action. 2018.
2. Rogers R, Wardle H, Sharp CA, Dymond S, Davies TJ, Hughes K, et al. Framing a public health approach to gambling harms in Wales: Challenges and opportunities. Bangor: Bangor University. 2019.
3. Gambling: An evidence base review for Doncaster, Doncaster MBC. Doncaster; 2017.
4. Tackling gambling related harm: A whole council approach, Local Government Association. 2018.
5. Faculty of Public Health Gambling Policy Statement, Faculty of Public Health
London: Faculty of Public Health 2018.
6. Williams RJ, West BL, Simpson RI. Prevention of problem gambling: A comprehensive review of the evidence and identified best practices. Ontario Problem Gambling Research Centre and the Ontario Ministry of Health ...; 2012.
7. Dowling N, Merkouris S, Greenwood C, Oldenhof E, Toumbourou J, Youssef G. Early risk and protective factors for problem gambling: A systematic review and meta-analysis of longitudinal studies. *Clinical psychology review*. 2017;51:109-24.
8. Langham E, Thorne H, Browne M, Donaldson P, Rose J, Rockloff M. Understanding gambling related harm: A proposed definition, conceptual framework, and taxonomy of harms. *BMC public health*. 2015;16(1):80.
9. Manthorpe J, Norrie C, Bramley S. Gambling-related harms and social work practice: findings from a scoping review. *Practice*. 2018;30(3):187-202.
10. Kolandai-Matchett K, Bellringer M, Landon J, Mundy-McPherson S, Abbott M, Bailey M. Evaluation of problem gambling interventions and public health services: a review of literature. Report for the Ministry of Health Auckland: Auckland University of Technology, Gambling and Addictions Research Centre. 2015.
11. Ladouceur R, Shaffer P, Blaszczynski A, Shaffer HJ. Responsible gambling: a synthesis of the empirical evidence. *Addiction Research & Theory*. 2017;25(3):225-35.
12. McMahon N, Thomson K, Kaner E, Bambra C. Effects of prevention and harm reduction interventions on gambling behaviours and gambling related harm: An umbrella review. *Addictive behaviors*. 2018.
13. Barnard M; KJKRWHRG, Orford J. . Views and experiences of gambling support services. Briefing paper 3. 2012.
14. Gambling Commission report. Young people and gambling 2017: A research study among 11–16 year olds in Great Britain. Gambling Commission. 2017.
15. Gambling Commission. Gambling participation in 2017: behaviour, awareness and attitudes. Annual Report 2018. 2018.
16. Conolly A, Fuller E, Jones H, Maplethorpe N, Sondaal A, Wardle H. Gambling behaviour in Great Britain in 2015. Evidence from England, Scotland and Wales London: National Centre for Social Research. 2017.
17. Wardle H, Barnard M, Kerr J, Kinsella R, Moody A, Reith G, et al. Debt and problem gambling: Evidence from the Adult Psychiatric Morbidity Survey. *NatCen*; 2012.
18. Wardle H, Sutton R, Philo D, Hussey D, Nass L. Examining Machine Gambling in the British Gambling Prevalence Survey. Great Britain. Gambling Commission; 2013.
19. Rutter H, Savona N, Glonti K, Bibby J, Cummins S, Finegood DT, et al. The need for a complex systems model of evidence for public health. *The Lancet*. 2017;390(10112):2602-4.
20. Salway S, Green J. Towards a critical complex systems approach to public health. *Critical Public Health*. 2017;27(5):523-4.

21. Bagnall A-M, Radley D, Jones R, Gately P, Nobles J, Van Dijk M, et al. Whole systems approaches to obesity and other complex public health challenges: a systematic review. *BMC Public Health*. 2019;19(1).
22. Booth A, Moore G, Flemming K, Garside R, Rollins N, Tunçalp Ö, et al. Taking account of context in systematic reviews and guidelines considering a complexity perspective. *BMJ Global Health*. 2019;4(Suppl 1):e000840.
23. Carey G, Malbon E, Carey N, Joyce A, Crammond B, Carey A. Systems science and systems thinking for public health: a systematic review of the field. *BMJ Open*. 2015;5(12):e009002.
24. Friel S, Pescud M, Malbon E, Lee A, Carter R, Greenfield J, et al. Using systems science to understand the determinants of inequities in healthy eating. *PloS one*. 2017;12(11):e0188872.
25. Petticrew M, Knai C, Thomas J, Rehfuess EA, Noyes J, Gerhardus A, et al. Implications of a complexity perspective for systematic reviews and guideline development in health decision making. *BMJ Global Health*. 2019;4(Suppl 1):e000899.
26. Abbott M, Binde P, Clark L, Hodgins D, Johnson M, Manitowabi D, et al. Conceptual framework of harmful gambling: An international collaboration revised November 2018. *Gambling Research Exchange Ontario (GREO)*; 2018.
27. Knai C, Petticrew M, Mays N, Capewell S, Cassidy R, Cummins S, et al. Systems Thinking as a Framework for Analyzing Commercial Determinants of Health. *The Milbank Quarterly*. 2018;96(3):472-98.
28. Petticrew M, Katikireddi SV, Knai C, Cassidy R, Maani Hessari N, Thomas J, et al. 'Nothing can be done until everything is done': the use of complexity arguments by food, beverage, alcohol and gambling industries. *Journal of Epidemiology and Community Health*. 2017;jech-2017-209710.
29. Canale N, Vieno A, Pastore M, Ghisi M, Griffiths MD. Validation of the 8-item Attitudes Towards Gambling Scale (ATGS-8) in a British population survey. *Addictive Behaviors*. 2016;54:70-4.
30. Miller HE, Thomas SL, Smith KM, Robinson P. Surveillance, responsibility and control: an analysis of government and industry discourses about "problem" and "responsible" gambling. *Addiction Research & Theory*. 2015;24(2):163-76.
31. Orford J. Gambling in Britain: the application of restraint erosion theory. *Addiction*. 2012;107(12):2082-6.
32. Thomas SL, David J, Randle M, Daube M, Senior K. Gambling advocacy: lessons from tobacco, alcohol and junk food. *Australian and New Zealand Journal of Public Health*. 2015;40(3):211-7.
33. Thomas SL, Lewis S, Westberg K. 'You just change the channel if you don't like what you're going to hear': gamblers' attitudes towards, and interactions with, social marketing campaigns. *Health Expectations*. 2012;18(1):124-36.
34. Wardle H, Asbury G, Thurstain-Goodwin M. Mapping risk to gambling problems: a spatial analysis of two regions in England. *Addiction Research & Theory*. 2017;25(6):512-24.
35. Canale N, Vieno A, Griffiths MD. The extent and distribution of gambling-related harms and the prevention paradox in a British population survey. *Journal of behavioral addictions*. 2016;5(2):204-12.
36. Heather Wardle MB, Jane Kerr, Rachel Kinsella,, Alison Moody GRaJO. Debt and problem gambling: Evidence from the Adult Psychiatric Morbidity Survey. 2012.
37. Matt Barnard JK, Rachel Kinsella, Heather Wardle,, Gerda Reith* JO. Managing money, debt and gambling study: an in-depth exploration of the relationship between money and gambling behaviour Briefing Paper 2. *Gambling Commission*; 2012.
38. Markham F, Young M, Doran B. The relationship between player losses and gambling-related harm: evidence from nationally representative cross-sectional surveys in four countries. *Addiction*. 2015;111(2):320-30.
39. Deloitte. The future of the British remote betting and gaming industry: adapting to a changing landscape. 2004.
40. Macey J, Hamari J. eSports, skins and loot boxes: Participants, practices and problematic behaviour associated with emergent forms of gambling. *New Media & Society*. 2018;21(1):20-41.

