

PREVENTION RESEARCH

2023

HANDBOOK

NOV 14-15

THE ROYAL SOCIETY OF EDINBURGH



WELCOME

Welcome to Edinburgh, and to the first ever Prevention Research Conference!

The UK Prevention Research Partnership (UKPRP) Community of Practice (CoP) is an active learning network for UKPRP Networks and Consortia. We are building a legacy of collaboration and outputs in areas of shared interest and challenges to facilitate improved prevention research, policy and practice. The programme contains research findings and research practice from the UKPRP funded consortia and the wider prevention research community.

We hope that enjoy keynote speeches from two well renowned experts, Professor Sandro Galea and Alison Cox, and the conversation panel with the UKPRP consortia directors. There are three symposia, nine workshops, thirty-five oral presentations and twenty-five innovative gallery style posters over the two days. We have purposely factored in a lot of time for networking as this is the first time many colleagues will have met in person. Please enjoy your tea, coffee and lunch breaks to take the chance to meet and discuss each other's work and future plans, and possibly develop collaborations.

It is a very exciting time for the UKPRP CoP, we plan in phase two to become a Prevention Research network, widening out membership to everyone in the prevention research space. We will bring together colleagues from across the prevention research community and develop effective ways of working to capture evidence and learning about how to deliver successfully in large interdisciplinary prevention research groups. Whilst there are many different topics within the prevention of non-communicable disease research community, we all face common challenges. Our innovative 'Special Interest Groups' will discuss and produce outputs in areas of shared interest/challenge. Taken together, all of the outputs of the CoP will act as a legacy body of knowledge, tools and guidance for prevention research projects going forward. Our vision is that these outputs will improve the efficiency and effectiveness of future prevention research in all these areas, and potentially enhance the competitiveness of prevention research bids in broader funding calls.

On behalf of the organising committee, we are delighted to be hosting the first Prevention Research conference here at the wonderful Royal Society of Edinburgh, and hope that you have an intellectually stimulating time here in Scotland's Capital city.



Professor Ruth Dundas
Co-Principal Investigator of the
UKPRP Community of Practice
MatCHNet Network
University of Glasgow



Professor Niamh Fitzgerald
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ACKNOWLEDGEMENTS

Many thanks to all the following for their hard work in delivering the first Prevention Research Conference.

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Co-ordinator: [Jack G. Martin](#), University of Stirling

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KEYNOTE SPEAKERS



Professor Sandro Galea,
MD, MPH, DrPH, dean and Robert A. Knox Professor
at Boston University School of Public Health

Lecture Theatre & Upper Gallery,
Tuesday 14th November, 11:00-12:00

Sandro Galea, a physician, epidemiologist, and author, is dean and Robert A. Knox Professor at Boston University School of Public Health. He previously held academic and leadership positions at Columbia University, the University of Michigan, and the New York Academy of Medicine. He has published extensively in the peer-reviewed literature and is a regular contributor to a range of public media, about the social causes of health, mental health, and the consequences of trauma. He has been listed as one of the most widely cited scholars in the social sciences. He serves as chair of the Boston Board of Health, is past chair of the board of the Association of Schools and Programs of Public Health and past president of the Society for Epidemiologic Research and of the Interdisciplinary Association for Population Health Science. He is an elected member of the National Academy of Medicine. Galea has received several lifetime achievement awards. Galea holds a medical degree from the University of Toronto, graduate degrees from Harvard University and Columbia University, and an honorary doctorate from the University of Glasgow.

Alison Cox,
Policy and Advocacy Director
at the Non-Communicable Disease Alliance

Lecture Theatre & Upper Gallery,
Wednesday 15th November, 14:30-15:30

Alison Cox is Policy and Advocacy Director at the Non-Communicable Disease Alliance where she is responsible for strategy development and delivery across the organisation's policy impact goals of NCD Prevention, Care and Financing. Alison has previously led policy and advocacy programmes for other global public health alliances: the Framework Convention Alliance (now the Global Alliance for Tobacco Control) and the Global Climate and Health Alliance. Alison also spent eight years as Cancer Research UK's Prevention Director where she delivered campaigns to put tobacco into plain standardised packaging, and restrict junk food advertising to children, and building their Cancer Policy Research Centre.



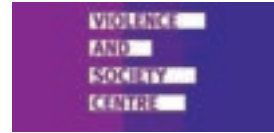
PANEL MEMBERS: IN CONVERSATION WITH...



Professor Linda Bauld
Bruce and John Usher
Professor of Public Health,
University of Edinburgh



Professor Gene Feder
Professor of Primary Care
University of Bristol



Professor Tim Hobbs
Chief Executive
Dartington Service Design Lab



Professor Ruth Hunter
Professor of Public
& Planetary Health
Queen's University Belfast



Professor Petra Meier
Professor of Public Health
University of Glasgow



Professor John Wright
Director of Research
Bradford Institute for Health Research



CONFERENCE ABSTRACTS

SESSION A: Oral presentations

Lecture Theatre

Environment, pollution, and second-hand smoke:

Capturing the health and well-being impact of climate change: a Health Impact Assessment in Wales

Nerys Edmonds¹, Kathryn Ashton¹, Sumina Azam¹

¹Public Health Wales

Abstract: Climate change is one of the biggest threats to global health in the 21st century and is likely to impact on health through a range of factors (societal, economic or environmental). The need to take action on climate and nature emergencies in order to protect population health and well-being and prevent negative impacts are becoming more urgent.

Public Health Wales carried out a comprehensive mixed-method Health Impact Assessment (HIA) of climate change in Wales. HIA is a systematic process which considers the impact of a policy, plan or project on the health and well-being of a population. It appraised the potential impacts of climate change on health and inequalities in Wales. This involved participatory workshops, engagement with a range of stakeholders, systematic literature reviews and case studies.

The HIA findings indicate significant potential impacts across the determinants of health and mental well-being. For example, air quality, flooding, economic productivity, working conditions, access to services and community resilience. Impacts were identified across population groups, settings, and areas including urban and rural contexts, outdoor workers, children and young people, older people, schools, hospitals and workplaces. These findings have been beneficial to inform decision-makers to prepare for climate change plans and policies using a preventative evidence-informed approach. The work has demonstrated the value of HIA for significant, complex policies by mobilising a range of evidence through a transparent process, resulting in action and transferrable learning for others.

Validity, Reliability and Acceptability of Wearable Sensors to Monitor Personal Exposure to Air Pollution and Pollen Substances: A Systematic Review

Wako Golicha Wako¹, Ruth Jepson¹, Tom Clemens¹, Scott Ogletree¹

Abstract: Heavy consumption of fossil fuel energy, deforestation, intense agricultural activities and urbanization have detrimental impacts on quality of the environment in which we live. They have contributed to change in ecosystem and climate leading to significant morbidity and mortality from both communicable and non-communicable diseases. Particularly, deterioration in air quality a result of human activities pose significant threat to public health worldwide. Air pollution primarily affects cardiovascular and respiratory health, and as a result increases the risk of diseases such as cerebrovascular diseases, ischemic heart diseases, chronic respiratory disease and cancer of lung. Anthropogenic climate change has also shown to increase annual amount of pollen released, lengthen duration of pollen seasons and possibly strengthen allergenicity of pollen substances. Poor air quality resulting from increased release of air pollutants and pollens compromises quality of life for patients with chronic allergenic respiratory conditions such as asthma. Accurate measurement of personal exposure to these health hazards is vital. However, most often they are measured at population/ecological level which may not accurately reflect individual level exposure status. Fortunately, advance in a sensor technology resulted in increased availability and affordability of wearable sensor devices able to measure personal exposure to these factors though comprehensive understanding of accuracy and acceptability of these devices are lacking. Therefore, this systematic review will report validity and reliability of these devices and extent of their acceptability to people to generate personal air pollution and pollen exposure data for research and regulatory purposes.

A city collaboratory model to translating evidence into action: pollution and the Bradford clean air zone

Sally Jones¹, Maria Bryant², Teumzghi Mebrahtu³, Tiffany Yang, Gill Santorelli, Shahid Islam, John Wright, on behalf of the BiB Breathes co-applicant group.

¹Bradford Metropolitan District Council, ²University of York, ³Bradford Teaching Hospitals NHS Foundation Trust

Abstract: Background: Pollution is a major public health threat. Bradford, UK was identified as having illegal levels of pollution and directed to implement a charging clean air zone (CAZ). Born in Bradford (BiB), a birth cohort study embedded in the city, worked with the local council to generate and embed evidence into the development of the CAZ and is evaluating its impact. Methods: A City Collaboratory was established to provide an environment for public, scientists, the council, policy leaders and practitioners to work

together. A multi-stage cycle of prioritization, co-production, modelling and policy analysis was used to develop CAZ plans, informed by epidemiological analysis. Bespoke qualitative and quantitative research was conducted with seldom heard communities to explore acceptability and potential unanticipated consequences, and with stakeholders to identify barriers to implementation. Results: BiB research demonstrated links between pollution and children's health, and a greater burden in more deprived communities. Modelling revealed that a CAZ charging non-compliant buses, lorries, vans and taxis would reduce pollution to legal limits. 70% of survey respondents were supportive of the CAZ but communities identified concerns about financial impacts for low income groups, including taxi drivers. Mitigation strategies including grants and exemptions aimed to reduce financial impact on low-income groups. Stakeholders identified political tensions and misinformation as challenges to implementation. The CAZ went live on the 26th September 2022. Conclusions: We demonstrate how evidence was embedded into the Bradford CAZ development. The impact of the CAZ on health and economic outcomes will be assessed three years post-implementation.

Use of nicotine replacement therapy to reduce children's exposure to second-hand smoke in the home: a qualitative pilot study involving local community pharmacies

Rebecca Howell¹, Rachel O'Donnell¹, Stephen McBurney², Giovanna Di Tano², Aileen Boags², Neneh Rowa-Dewar³, Ruaraidh Dobson¹

¹ISMH, University of Stirling, ²NHS Lothian, ³University of Edinburgh

Abstract: Background: In Scotland, most second-hand smoke exposure now occurs in low-income households, where housing constraints and sole parenting often make it harder to create a smoke-free home. This study explored the feasibility of providing smokers with a free 12-week supply of nicotine replacement therapy through local community pharmacies to reduce smoking indoors. Methods: Twenty-five parents/caregivers who smoked in the home and cared for children at least weekly were recruited via Facebook during the COVID-19 pandemic. Air quality (PM2.5) was monitored in participant homes for seven days before their first pharmacy visit and 12 weeks later. Qualitative interviews (N=14) explored views/experiences of using nicotine replacement therapy in this way. Results: Three participants reported smoking outdoors only, one of whom subsequently quit smoking. Six participants reduced cigarette consumption by 50% in the home, four reported no (sustained) reduction and one reported increased smoking indoors. Self-reported outcomes were not always consistent with PM2.5 readings. Participants' experiences of accessing nicotine replacement therapy through community pharmacies varied. Some suggested ongoing support to use nicotine

replacement products could better assist behavioural change, and that access could be streamlined by posting products to the home. Several suggested that focusing on changing home smoking behaviours using nicotine replacement therapy might facilitate a future quit attempt. Conclusion: Access to free nicotine replacement therapy for temporary use indoors may support some smokers to reduce children's exposure to second-hand smoke. Our findings confirm the need to modify the intervention before undertaking a definitive trial to assess the effectiveness of this approach.

SESSION A: Symposium

Upper gallery

Managing commercial interactions in prevention research: views, experiences & ways forward

This symposium will explore the management of commercial interactions within prevention research. The management of commercial interactions within prevention research is receiving increased attention, particularly in light of emerging evidence on the impact such interactions may have on the outcomes of research, public health policy, and, ultimately, public health. The aim of the session is to highlight debates around management of interests, highlight ongoing research examining the topic, and explore how the issues are currently being addressed by UKPRP-funded consortia and networks. Overall this symposium, comprising of four presentations, will support in-depth discussion of an understudied topic that can be challenging to navigate as researchers. Through exploration of a recent case study involving two major alcohol companies, Mitchell et al. will examine current norms, policies and views regarding industry in-kind contributions to unhealthy commodity research. Next, Carters-White et al. will examine UKPRP consortia researchers' views on the development of management of interest policies across UKPRP-funded consortia. Following this, Fitzgerald will reflect on how various organisations involved in prevention work manage the interactions they have with commercial entities, as awareness of the commercial determinants of health grows. The fourth and final presentation, by Maani et al., will make the case for broadening notions of conflicts of interest beyond individual research projects, and individual researchers. The symposium will conclude with a 15-minute Q&A session, to

encourage broad reflections on ways forward for managing the issue within prevention research.

Alcohol industry involvement in research: exploring current norms and policies around in-kind contributions using a recent case study

Presenting Author: Gemma Mitchell, University Of Stirling

Background: There is a growing body of evidence that unhealthy commodity industries, such as alcohol, tobacco and gambling, use a 'playbook' of activities to prevent the implementation of evidence-based policies that conflict with commercial interests. One such activity is involvement in science, including alcohol industry involvement in prevention science. Although alcohol industry-funded research groups appear to have reduced in number, the industry may fund research in other ways, including via in-kind contributions. Aims: To examine current norms, policies, and views regarding industry in-kind contributions to unhealthy commodity research, through exploration of a recent case study involving two major alcohol companies. Methods: Semi-structured interviews with authors, journal editors, collaborators of the research team, and other relevant experts will be conducted (n~15-20). Desk-based investigations include comprehensive analysis of journal declaration of interest policies and other available written correspondence, and detailed examination of the research papers, including qualitative analysis of declarations over time. Results: We will provide a detailed timeline of the case study and explore how and why these events took place. Views of various stakeholders involved will be explored, including on the potential impact of industry funding on science, particularly through in-kind contributions. A theory of change will be developed, to map out pathways to impact (positive or negative) of the arrangement in this case and points of intervention to maximise transparency or benefit public health. Conclusions: We will identify what changes to policy or intervention(s) could minimise risks for public health for any similar arrangements in future.

UKPRP researcher views on the management of commercial interactions

Presenting Author: Lauren Carters-White, University Of Stirling

Background: Commercial actors seek engagement with academic researchers for diverse reasons including reputational benefits, early access to novel findings, and influence on scientific agendas. Research funders and universities encourage partnerships with commercial actors generally, but not all partnerships are beneficial or worthwhile. Public health researchers who collaborate with unhealthy commodity industries can experience long-term reputational damage. In wider prevention research, where commercial actors form part of the systems influencing health (housing, transport, food), there can be a legitimate case for collaboration, but judging when and how to collaborate can be tricky. Aim: This study seeks to examine researcher experiences of interactions with commercial sector bodies, and the application and development of related governance processes. Methods: In-depth one to one interviews will be conducted with prevention researchers in UKPRP-funded groups and institutions (n=x to date) alongside analysis of relevant policy documents. Results: The study is ongoing. Preliminary findings suggest that only one UKPRP consortium has a comprehensive policy in place to manage commercial interactions; such interactions occur elsewhere, sometimes without clear guiding protocols.. Preliminary findings suggest that discussions surrounding the management these commercial interactions do not occur regularly across UKPRP consortia, however there is desire from researchers to address this. Discussion: The findings from this study will add to current knowledge about when, why and how governance processes should be developed for the management of commercial interactions in prevention research.

Increasing understanding related to conflicts of interest: Evidence in action

Presenting Author: Nason Maani, University Of Edinburgh

Researchers are broadly aware of the need to disclose conflicts of interest, and there have increasing trends of disclosure in relation to conflicts of interest in academic research. However, how such conflicts are defined, and the level at which they are considered, remains limited. As evidence on the commercial determinants of health grows, there is an increasing understanding of wider biasing effects of commercial funding on research agendas, the conduct of research, and its influence in wider policy discourse.

There is increasingly a need to examine structural conflicts of interest, and the differences between transparency on perceived conflicts (in research design, conduct, reporting and dissemination), and independence from such conflicts. In order to broaden understanding on these issues, there is a need to learn from emerging scholarship on the commercial determinants of health, including through case studies of wider/less common instances of conflicts of interest, and the rise of proposed tools to better address conflicts of interest in research and policy-making. Building on work conducted with GHPU Global Health Policy colleagues at the University of Edinburgh on developing workshops on conflicts of interest for colleagues in UN agencies, and using real world examples, this presentation will make the case for broadening notions of conflicts of interest beyond individual research projects, and individual researchers.

Experiences from diverse recent processes to develop policies on managing commercial interactions

Presenting Author: Niamh Fitzgerald, University Of Stirling

Introduction: As awareness of commercial determinants of health grows, many institutions with a prevention remit have sought to ensure that any interactions they have with commercial organisations are compatible with that remit. Charities, research organisations and public bodies have sought to develop policies on commercial interactions, especially those involving unhealthy commodity industries (e.g. tobacco, alcohol, gambling, arms, fossil fuels). The development of such policies is often contentious and has received relatively little research attention. Aim: To reflect on recent processes in diverse organisations (research consortium, research societies, health charities/bodies) that have sought to develop policies on the management of interactions with commercial sector organisations. Methods: Personal reflection on the challenges and discussions arising as diverse organisations have sought to implement policies to address unhealthy commodity industry engagement in science and civil society, informed by written material. Findings: There are common arguments and lessons that emerge in these processes across diverse organisations. Conflicting arguments typically arise around transparency, bias, personal and institutional reputations, processes and priorities. Emerging lessons

include: the limitations of a 'conflict of interest' lens and language; the importance of emphasising support rather than judgement; focusing discussions at institutional/organisational level, not individual; the advantages and disadvantages of focusing on a narrow set of industries; and keeping aims realistic, e.g. norm-setting, at least as much as rule-setting. Discussion: efforts to develop policies on the management of commercial interactions and conflicts of interest, especially for unhealthy commodity industries, could benefit from learning from previous processes.

SESSION A: Workshop

Scott room

Engaging communities with prevention research:

Engaging communities with research for prevention, not cure

Ellen Stewart¹, Shahid Islam², Carol Porteous³

¹University of Strathclyde, ²Bradford Teaching Hospitals NHS Foundation Trust, ³University of Edinburgh

Much guidance and best practice for involving patients and the public with health research has developed in, or been influenced by, the particular context of medical research. This is a field where research often has at least two distinctive characteristics regarding potential for engagement: the promise of engaging with efforts to find a 'cure', and the presence of communities of people who identify as affected by the health condition under investigation.

Public health research, especially public health research that is explicitly focused on the prevention of ill-health, offers a different set of challenges. These might include, but are not limited to: a population wide focus, a focus on stigmatised behaviours and communities, and an orientation towards upstream solutions which might take decades to impact on key health outcomes, such as life expectancy. Nonetheless, engaging communities with health research is imperative both practically (driven by attention from funders), politically (driven by demands from affected communities) and ethically (driven by a normative sense that research should be conducted in this way).

This interactive workshop will bring together researchers and involved community members from across and beyond the UKPRP Consortia and Networks to reflect on their journeys in engaging communities with research for prevention not cure. Engagement leads and community participants from two UKPRP Consortia will share learning from their own engagement journeys, and there will be opportunities to co-create priorities for future engagement approaches in this area.

SESSION B: Oral Presentations

Lecture Theatre

Policy impact on health:

Modelling the impact of potential licence schemes to regulate tobacco sales and the retail environment in Scotland

Roberto Valiente¹, Helena Tunstall¹, Amanda Y. Kong², Luke B. Wilson³, Duncan Gillespie³, Colin Angus³, Alan Brennan¹, Niamh K. Shortt¹, Jamie Pearce¹

¹University of Edinburgh, ²University of Oklahoma Health Sciences Center,

³University of Sheffield

Objective: Many jurisdictions worldwide introduced retailer-licensing fees to regulate tobacco sales. This study estimates the impact of implementing different tobacco licence schemes in Scotland. Methods: We estimated tobacco gross profits in 179 convenience stores in Scotland using electronic point-of-sale data from 16 weeks during 2019 to 2022. Using this data, we defined three licence schemes based on universal, volumetric and urban-rural fees. For each scheme we defined a maximum rate as the point at which 50% of retailers would no longer make a profit on tobacco sales and modelled the impact of 10 incremental levels. We assessed the impacts of each scheme and rate-level on retailer's profits and the proportion of retailers that may cease selling tobacco, comparing stores by neighbourhood deprivation and urban/rural status. Fee revenues generated from each scheme and rate-level were approximated. Results: Convenience store's tobacco gross profits averaged £15,859/year. Profits were 2.29 and 1.59 times higher among retailers in urban and high-deprived areas. The implementation of volumetric fees narrowed these differences between the

area types, especially when considering highest rate-levels. Universal schemes progressively increased such differences as rate-levels increased. Urban/rural fees narrowed differences by urban/rural status, but amplified them by deprivation. Volumetric fees resulted in fewer retailers stopping tobacco sales and higher fee revenues at all rate-levels. Conclusion: Fee schemes had different effects on retailers' profits across area types. Financial impacts increased proportionally with rate-levels. Universal and urban-rural fees had greater impacts on rural and/or less deprived areas, where profits are lower, compared to volumetric fees.

Holding us back: advocacy in practice for a coherent policy approach to tobacco, alcohol and foods high in fats, salt or sugar.

Aalaa Jawad¹, Hazel Cheeseman¹, Kat Jenner², ³Katherine Severi

¹Action on Smoking and Health, ²Obesity Health Alliance, ³Institute of Alcohol Studies

Tobacco, alcohol and foods high in fats, salt or sugar (HFSS) have a vast and avoidable impact on the individual, communities, the health service, and the economy. Harms are not experienced equally across society and people from the lowest socio-economic groups are more likely to be impacted. A historically siloed policy approach to these products has limited progress in prevention, with many policies, e.g. product calorie labelling, being introduced in one policy area (HFSS foods) rather than more coherently (e.g. expanding to alcohol calorie labelling). This has compounded limited progress, particularly in alcohol policy, and regression in promised obesity policies in the UK, in large due to industry lobbying. There is strong public support for more effective measures; public opinion data from the national ASH YouGov Smokefree Survey 2022 found 67% of people supported levies across all policy areas and 70% supported protecting health policy from industry influence. The Smokefree Action Coalition, Alcohol Health Alliance, and Obesity Health Alliance all work to promote evidence-based policies that tackle the harm from their respective risk factors, representing over 350 local and national organisations. In a novel collaborative approach, funded by Cancer Research UK, they're exploring political barriers and opportunities to implementing coherent policies. The development of a joint advocacy strategy

and framework for action includes tested framing and narrative to discuss the commercial determinants of health and a coherent prevention policy approach to these harmful products.

How to create healthier places: a multi-disciplinary qualitative study exploring the complex system of urban development decision-making

Anna Le Gouais¹

¹University of Bristol

Changes to the urban environment can influence mental, physical and planetary health. This includes walking and cycling infrastructure, green spaces and quality and affordability of homes. Many factors and types of stakeholders can influence the complex system of urban development decision-making and health may not be prioritised. We aimed to understand this complex system and identify possible leverage points for interventions to support creation of healthier environments. Researchers from diverse disciplines collaboratively conducted 123 semi-structured interviews with multi-sectoral stakeholders to understand health considerations within urban development. Participants were professionals spanning urban and transport planning, property development, finance, sustainability and public health, as well as elected representatives. Purposive sampling targeted individuals with expertise and/or influence in urban development decision-making in England. Interview topics included: actors, institutions and networks; perceptions of why healthy places are not delivered; use of evidence in decision-making processes, including health economic valuation; community involvement; and legal considerations. Analysis stages involved deductive and inductive coding, production of discipline-specific summaries, and thematic analysis.

Three themes were developed: ‘competing priorities’ (trade-offs for national government, local government, private sector property developers); ‘getting around the ‘rules’’ (limited policies and legislation to ensure healthy development and meaningful public involvement); and ‘justifying a focus on health’ (need for clarity and consensus on what makes development ‘healthy’). A systems perspective was taken, adapting a socio-ecological model, to identify

potential leverage points spanning individual motivations, organisational priorities and structural factors. Interventions are required at multiple levels for system change, such as targeting demand, processes and policies.

Capturing the health and well-being impact of a free trade agreement: the common and progressive transpacific partnership agreement (CPTPP)

Kathryn Ashton¹, Liz Green¹, Courtney McNamara², Leah Silva¹, Michael Fletcher¹, Louisa Petchey¹, Margaret Douglas³

¹Public Health Wales, ²Newcastle University, ³University of Edinburgh

As a result of 'Brexit', the UK now has the ability to negotiate its own trade agreements for the first time in over 40 years. This includes the proposal to join the the Common and Progressive Transpacific Partnership Agreement (CPTPP). In 2022-23, Public Health Wales undertook a mixed-method Health Impact Assessment (HIA) to assess the potential impact of the CPTPP on the health, well-being and inequalities of the Welsh population. It is only the second ever HIA carried out on a free trade agreement (FTA) globally. A literature review on the potential impact of the CPTPP on health was conducted. Qualitative interviews with cross-sectoral representation such as the environment were undertaken alongside the development of a community health profile.

The HIA identified significant potential impacts across the determinants of health, for example employment and health care, including impacts across vulnerable population groups, such as those on low incomes. Investor state dispute settlement mechanisms (ISDS), economic uncertainty and loss of regulatory alignment were identified as pathways for health impacts.

The findings have been beneficial in informing policy and decision-makers to prepare for the implementation of the CPTPP and take action to prevent negative impact, using an evidence-informed approach, and advocate for Welsh interests. This work has demonstrated the value of a HIA approach to FTAs by mobilising a range of evidence through a transparent process, resulting in transferrable learning for others.

SESSION B: Symposium

Upper gallery

Text analytics in prevention research from a violence, health & society project

Many routinely collected datasets of use in research on non-communicable disease and health inequalities contain narrative text detailing the specific details and social context of subjects. The Violence, Health and Society Consortium (VISION) aims to reduce the violence that harms health by improving the measurement and analysis of data on violence. VISION is using several textual datasets, and is developing methods to extract information from them. Information recorded in text may be an adjunct to detailed structured data, as is the case in police records, or may be the only record of domestic violence, as in mental health records. In some cases, such as social media, the text may be the victim's own description.

In order to extract this information for use in research, we need to deal with the complexity of natural language. For example, we need to distinguish text in which violence is affirmed from text in which it is negated; differentiate victims from perpetrators; decide whether events are past or current; and deal with the many ambiguous words used to describe violence.

In this symposium we examine the practical issues we have faced in developing such applications, including governance, conceptual, and evaluation challenges. We describe steps that we are taking to overcome these challenges, the methods that we are developing, and provide results.

Development of an application to extract and categorise mentions of domestic violence from mental healthcare records

Presenting Author: Angus Roberts, King's College London

Experiences of domestic violence are reported more frequently by mental health service users, and victims of violence are at a greater risk of mental health disorders. Electronic health records (EHRs) are an important source of information about healthcare, and its social context, and are increasingly used as

the basis of cohort and other observational studies. Occurrences of violence are not routinely recorded as structured data in EHRs, but are however frequently recorded in the unstructured, free text portion of the record. In order to study the associations between violence and mental health in the EHR, we therefore need to extract this violence related information from the text, and to represent it as structured information for analysis. We have developed a natural language processing application to extract mentions of physical, sexual and domestic violence from EHR text, as well as the patient role as victim or perpetrator. The application has been put into routine use over CRIS, a research dataset that covers all secondary mental health care provision in four South London boroughs. We are currently updating the application to include information on emotional and financial abuse, threats, and whether violence is past or current. We will discuss the high level processes used to develop the application, including how we defined violence constructs for extraction and the human labelling of example data for application development and evaluation. We will consider the costs and benefits of such an application.

Ascertaining reported experiences of domestic violence in routine mental healthcare records and resulting distributions of reports by diagnosis

Presenting Author: Ava Mason, University College London

Background: Applying recently developed NLP algorithms, we sought to describe the distribution of experienced violence by demographic and diagnostic groups.

Methods: We ascertained violence from 60021 patient records receiving care from a large UK mental healthcare provider (2007 to 2022). We focused on recorded mentions and/or threats of physical, domestic, or sexual victimisation. Descriptive and adjusted logistic regression analyses were conducted to investigate variation by age, gender, ethnic group, and diagnostic category (ICD-10 F chapter subheadings).

Results: Patients with a mood disorder (1.42, 1.35-1.50), personality disorder (4.66, 4.17-5.22), schizophrenia spectrum disorder (3.19, 3.00-3.40) or PTSD (4.21, 3.62-4.91) had a significantly increased likelihood of recorded experienced violence compared to those with other mental health diagnoses. Patients who

were not White (1.73 (1.65-1.82) for Black and 1.22 (1.12-1.32) for Asian groups) had significantly higher likelihood of experienced violence, while males were significantly less likely (0.64, 0.62-0.65).

Conclusions: The observed distributions highlight serious mental illness, personality disorder and mood disorder as risk groups, as well as higher risk in non-White ethnic groups and in women.

Leveraging social media data to analyse users' experiences of violence & their emotional responses

Presenting Author: Lifang Li, King's College London

Social media serves as a significant conduit for the sharing of experiences, feelings, and attitudes. By monitoring violence-related content on social media, researchers and practitioners can gain insights into social media users' emotional responses to violent behaviour, understand victims' needs in accessing services, and refine existing prevention and intervention strategies. In this paper, we present the results from two social media text analytics studies. In the first study, we examined the occurrence of physical, sexual, emotional, domestic, and intimate partner violence during the COVID pandemic. In the second, we characterised users' attitudes towards cyberbullying on Weibo, analysing how users' gender and verification status correlated with their perspectives on cyberbullying. Our findings suggest that using Reddit data can identify various violent experiences of users with promising precision and is helpful in understanding experiences of violence during the pandemic, and the way in which this changed through the course of the pandemic. Using Weibo data, we found that there were significantly more anger related words in pro-cyberbullying posts than in anti-cyberbullying posts. Among posts supporting cyberbullying, posts by verified female users contained more anger related words than for other users. In conclusion, social media presents a promising avenue to deepen our understanding of social media users' experiences of violence and their emotional responses to this violence. Additionally, it could be instrumental in aiding social media platforms and social service providers in recognising and responding to such behaviour.

SESSION B: Workshop

Scott room

Impact planning (and evaluation):

Realising and recording impacts for the public's health: Embracing opportunities and responding to challenges within UKPRP research

Daniel Black¹, John Coggon¹, Elly King², Kersten England³

¹University of Bristol, ²University of Liverpool, ³Bradford City Council

The UKPRP was established with a vision “to generate new insights into actionable, sustainable and cost-effective ways of preventing NCDs that will improve population health and reduce health inequalities in the UK.” To realise their vision, the funders looked to achieving methods of co-production with wide-ranging stakeholders. This gives rise to commonalities and to distinctions in practices and approaches across UKPRP projects, both in relation to how real-world change might be effected, and how it can be recorded. The Impact Theme within the UKPRP Community of Practice (CoP) has examined how UKPRP projects have approached impact, with a particular view to questions such as whether and how impact is distinctly understood, and what sorts of challenges there are in achieving and/or evidencing impact within the projects.

This workshop has two key aims and is split into two parts. First, we share and engage critically with the question of what it means to achieve impact within the UKPRP research agenda.

Secondly, we invite a participative dialogue with all members of the session, chaired by John Coggon, sharing experiences and responding to discussions regarding opportunities and challenges faced in practice; from questions of problematisation when seeking to address complex real-world challenges, to identifying and engaging with different sorts of stakeholders—including those with competing political priorities, or commercial interests—and underlying research operationalisation issues regarding distinct disciplinary approaches and understandings within the research community.

SESSION C: Oral presentations

Lecture Theatre

Integration of research & practice:

Integrating health in local plans: an impact evaluation

Emma Bird¹

¹University of the West of England Bristol

The Local Plan is a statutory policy document through which local planning authorities in England seek to shape urban regeneration and other land use management. Research suggests that for planning policy to have a meaningful impact on promoting health and wellbeing and reducing health inequalities, there is a need to better integrate and prioritise health in local plans. As part of the UKPRP-funded TRUUD project, this paper will present the findings from a review of the integration of health in local plans from seven local planning authorities using a co-produced and comparative policy review framework. The paper will also present interim findings from interviews with key stakeholders in local plan development from a local government partner, including planning officers, public health professionals and elected cabinet members. Interviews aim to identify the value and impact of using the comparative policy review framework to strengthen the integration of health in local plan policies, and to explore how the review framework could be translated into accessible guidance for a range of stakeholder audiences, with differing needs and priorities, and applied at the local level.

Bridging the gap from research to practice: the role of a Researcher-in-Residence

Anna Le Gouais¹

¹University of Bristol

Ensuring research is relevant, timely and impactful is important for tackling complex public health challenges, such as creation of healthy environments. The Researcher-in-Residence approach is being used within the TRUUD project ('Tackling the Root causes Upstream of Unhealthy Urban Development') as a way

to bridge between research and practice and support intervention development, implementation and evaluation for healthier place-making.

This presentation describes the approach taken by TRUUD's Researcher-in-Residence in Bristol City Council (Oct 2020 – present). By being embedded within the council's Regeneration team, with close links to Planning Policy and Public Health teams, she is able to understand the complex system of urban development decision-making. This has helped to identify opportunities for co-created interventions involving City Council officers and the wider TRUUD research team.

The Bristol Researcher-in-Residence will describe her role in the three interventions that are underway with Bristol City Council: 1 - Integrating health into the local plan, to support creation of healthier urban planning policies that will guide urban development decisions; 2 - Using health evidence to influence creation of a spatial regeneration framework for a deprived area of Bristol where over a thousand new homes will be built; 3 - Supporting meaningful public involvement in urban development, so the needs and wants of local people are heard.

The Researcher-in-Residence role itself is a complex intervention and helps to provide public health skills and knowledge to urban development practitioners. Reflecting on this role provides insights into its benefits and challenges, including how to extend impact across other contexts.

Influencing urban planning decision-making through demonstrating health impacts of changes to the built environment: a co-designed intervention

Eleanor Eaton¹, Anna Le Gouais²

¹University of Bath, ²University of Bristol

Decisions about the built environment can influence population health and wellbeing. Neighbourhood design, housing, accessibility, air quality, noise, food environments and greenspaces can all affect where and how people live and travel. However, in the complex system of urban development decision-making with many stakeholders and competing priorities health issues can be

overlooked. We aimed to highlight health impacts associated with environmental change to influence decision-making for healthier urban development.

An embedded researcher worked within local government (Oct 2020-present) where regeneration principles were developed for an industrial/warehouse area that will transform into a residential/mixed-use neighbourhood for over 2000 people. We identified opportunities to highlight health impacts of different environmental change scenarios: maximising housing, employment, greenspaces, and a balanced approach. We piloted a health economic evaluation tool: HAUS ('Health Appraisal for Urban Systems') which combines epidemiological evidence with economic valuation. By monetising health impacts into societal costs, the tool allowed practitioners to compare the magnitude of changes. Modelling was conducted for piecemeal development, policy-compliant, spatial regeneration framework, and 'ideal' scenarios. Evidence was shared with stakeholders at key times, and informed a Health Impact Assessment. Semi-structured interviews and field notes were analysed to evaluate the impact of this co-designed intervention.

The evidence focused attention on health issues for the design team and administration, influencing the regeneration approach, although technical and commercial constraints limited impact. It added weight to 'good design' principles where trade-offs risked diluting quality. Health economic costs appeared more challenging to communicate in a local government context compared to health impacts.

Bridging the Implementation Gap: The Role of Public-Private Partnerships in Health Creation through Urban Planning

Caglar Koksall¹, Cecilia Wong¹

¹University of Manchester

In the prevailing market-led urban development system, strategies aimed at promoting health often encounter significant roadblocks due to entrenched interests, conflicting policy objectives, and institutional challenges, despite the mounting evidence and increasing recognition of the correlation between the built environment and health and wellbeing. The rise of private and third sector

governance adds a layer of complexity to this situation but also unfolds potential opportunities that may otherwise remain untapped. Our study explores how public-private networks and contractual agreements within the planning system in England construct what good health is, and how these complex networks negotiate interests and competing objectives to foster conditions conducive to health creation. Our focus is centred on the implementation of a pedestrian-oriented urban development strategy in Manchester. Preliminary findings suggest the need for flexibility and partnerships, effective evaluation and monitoring toolkits, and strong place leadership. Furthermore, the growing technocratic tendencies in the planning system, especially apparent in the delivery of highway and transport projects, can significantly impact transparency, accountability, and the evolving role of planners. While multiple stakeholders with varying interests are involved in the implementation, managing and coordinating these effectively is vital for successful policy realisation on the ground. This research aims to extract lessons from this case for wider application, capturing the political, complex, and risky nature of public policymaking and the implementation gap. By doing so, we aim to provide insights into the challenging dynamics of urban planning that can lead to the creation of healthier cities.

SESSION C: Symposium

Upper gallery

A systems approach in an Unhealthy Urban Development project

Systems approaches help to improve a research team's understanding of how a complex system works. This supports them to identify where interventions can lead to change on a systemic level and reduces the risk of designing ineffective or harmful interventions.

This symposium explores the use of systems thinking in the 'Tackling the Root causes Upstream of Unhealthy Urban Development' (TRUUD) project. TRUUD aims to design interventions that can tackle the causes of unhealthy urban environments. This is important because poor quality urban areas contribute to non-communicable diseases and health inequalities through factors such as cold and damp housing, air pollution and lack of access to greenspace. Urban development is controlled by a wide range of upstream stakeholders, with

decision-making spread over multiple sectors, organisations and processes. A systems approach is therefore needed to examine these processes and understand where change is needed and possible.

The symposium includes three presentations that discuss and demonstrate the systems approach in TRUUD. The first presentation describes and reflects on methods applied in the first phase of the programme to help the large transdisciplinary team understand the system. Using data gathered in this phase, the second presentation describes the development of a system map that demonstrates the core dynamics driving health consideration in urban development decision-making. The third presentation demonstrates how systems thinking can be used to develop a theory of change for an intervention seeking to influence the relationships of power and norms that shape stakeholder's intentions to act on health.

Developing shared understandings about health and urban development systems in a large transdisciplinary team

Presenting Author: Geoff Bates, University of Bath

In the first phase of the 'Tackling the Root causes Upstream of Unhealthy Urban Development' (TRUUD) project, we applied a systems approach to explore, understand, and map urban development. This presentation describes and critically reflects on the methods used to understand this complex system and to provide the evidence base to inform the development of interventions to support healthier urban development.

This work was carried out together by a transdisciplinary team with a range of expertise including economics, law, management, public health, public policy, real estate, and spatial and urban planning. Activities to help develop shared understandings of the system, to identify stakeholders and research participants, and to develop an evidence base, included:

1. An actor mapping exercise that identified over 500 organisations and individuals who could help us understand the system,

2. Literature reviews of key concepts from the perspectives of the different disciplines, which informed the development of research questions,
3. Interviews with 132 stakeholders across public, private and third sectors in a range of roles and organisations in the urban development system. This provided a large and transdisciplinary dataset through which to analyse the system.

This work provided insights to help understand a complex system and to identify interventions to bring about change. Based on our critical reflections, recommendations to support large research teams to take a systems approach included investing significant time for ongoing reflexivity, providing a 'psychologically safe' environment for inclusive and constructive discussion, and addressing uncertainties about research direction and impacts upfront.

Mapping the system influencing the consideration of health in urban development decision-making

Presenting Author: Pablo Newberry, University of Bristol

To create healthier places, it is critical to understand the complexity of urban development decision-making in shaping the urban environment. Phase 1 of 'Tackling the Root causes Upstream of Unhealthy Urban Development' (TRUUD) sought to map and understand the consideration of health in urban development decision-making by conducting and analysing 123 interviews with 132 participants in public, private, and third sector role. Seven researcher sub-teams focused on different stakeholder groups and produced separate summaries of their findings.

This presentation outlines the methods used to construct and synthesise Causal Loop Diagrams (CLDs) from seven sub-team interview summaries, creating a system map that demonstrates the core dynamics driving health consideration in urban development decision-making at a macro-level. It helps illuminate feedback loops and other cause-effect structures that underpin observed behaviours. Furthermore, it highlights the potential influence of interventions on the system and interactions between them. The following key steps are described: (1) constructing and refining seven CLDs from interview summaries;

(2) aggregating the seven CLDs into a single, complex model; (3) simplifying the aggregated CLD through Endogenisation, Encapsulation and Order-Oriented Reduction (EEOR); (4) refining and validating the simplified CLD through a systems workshop with TRUUD researchers and additional asynchronous feedback; and (5) locating interventions and their causal pathways through the system.

Finally, it reflects on collaborative systems mapping to facilitate discussions and stimulate learning across disciplinary boundaries, the limitations of synthesising separate CLDs and reducing complexity, and the ability of the final model to communicate findings and demonstrate the impact of interventions.

Shaping mindset change by linking power and norms – a systems approach to conceptual work

Presenting Author: Krista Bondy, University Of Stirling

Information alone is insufficient to change how people think. This means that information campaigns, tools, guidance etc. are limited in their ability to create change unless they are paired with techniques that shape thinking in other ways. Two significant factors that shape how people think are the norms of acceptable behaviour that exist within a social space, and perceptions of power that surround those norms and those who exhibit them. Thus, if we want to change mindsets, delivering information in forms that trigger perceptions of social acceptability (norms) and enabling power, are much more likely to be effective.

Phase one data from the 'Tackling the Root causes Upstream of Unhealthy Urban Development' (TRUUD) project indicated that while stakeholders across the system generally agree that health is important, it is not important enough to warrant being a priority over other issues such as profit maximization, or government building targets. Thus, a key part of the puzzle in making health a priority is to shift mindsets.

We used systems thinking to map the relationships of power and norms in shaping intention to act on health. This map provides us with: one, a theory of change specific to how and why our interventions are likely to increase intentions to act on health and health inequity; two, a much more complex and thus

realistic representation of the multitude of factors shaping our thinking; three, an explicit and comprehensive indication of how the two key factors of norms and power interact in shaping our thinking.

SESSION C: Workshop

Scott room

Climate change & health

Climate change and its interactions with public health: Developing a research agenda for a brighter future

Megan Cook¹, Ruth Jepson²

¹University Of Stirling, ²University Of Edinburgh

Climate change is the single biggest health threat facing humanity (WHO, 2021). Between 2030 and 2050, the WHO estimate that climate change will cause approximately 250,000 additional deaths per year, from factors such as malnutrition, malaria, diarrhoea and heat stress (WHO, 2021). Additionally, the direct damage costs to health (i.e., excluding costs in health-determining sectors such as agriculture and water and sanitation) from climate change are estimated to be between USD 2-4 billion annually by 2030 (WHO, 2021). While the health and wellbeing of the entire planet is at stake, people living in low- and middle-income countries are disproportionately harmed.

This workshop will bring together presenters from a range of research, policy and third sector organisations with participants to discuss the symbiosis between the environment/climate change and public health. Workshop presenters will work in small groups with participants to consider integrating environmental concerns into prevention research and policymaking on topics such as fast-moving consumer goods (i.e., alcohol, tobacco, unhealthy foods), housing, and town planning. We will first discuss some of the preventive policies, practices, research and interventions which may already be in place. The workshop will then look to identify a research agenda and build collaborations, which in the longer term will deliver prevention focused solutions, population level health policies and improvements to health and the environment.

SESSION D: Oral Presentation

Lecture Theatre

Policy & decision making:

Estimating the impact of the UK Government's proposed change to a strength-based alcohol duty system on health outcomes in England: A modelling study

Damon Morris¹, Colin Angus¹, Duncan Gillespie¹, Abigail K Stevely¹, Robert Pryce¹, Luke Wilson¹, Madeleine Henney¹, Petra S Meier², John Holmes¹, Alan Brennan¹,

¹University of Sheffield, ²University of Glasgow

Background: We aimed to assess the effect of changing alcohol taxation structure to a system where alcohol is taxed according to ethanol content, using a reform of alcohol taxation to be implemented in August 2023 in England.

Methods: We used the Sheffield Tobacco and Alcohol Policy Modelling (STAPM) version 2.2.0 for England to assess the effects of alcohol tax reform relative to no policy change. We modelled policy effects on alcohol consumption, spending, revenues to retailers and government, health outcomes and hospital admissions costs.

Findings: Reform of the alcohol tax system was estimated to result in a small decrease in overall mean alcohol consumption per person per week in 2023 of 0.04 (-0.38%) units (1 UK unit = 8g/10mL ethanol) and 1,292 fewer deaths over 20 years compared to no policy change. The specific impact of draught relief is small. Addressing cider exceptionalism by raising all duty rates for 3.5% - 8.4% ABV alcohol to the rate for wines and spirits would reduce consumption by an additional 1.09 units per week and 20-year deaths by 36,693 compared to the proposed rates.

Interpretation: The reforms better align the UK alcohol tax structure with public health goals; however, in isolation it is unlikely to lead to significant improvements in health outcomes. Uprating duty rates in line with inflation along with raising tax rates for beer and cider within the reformed tax structure to match those for wine and spirits has the potential to prevent thousands of deaths over a 20-year period.

The NOURISHING and MOVING policy index: assessing nutrition and physical activity policy in 30 European countries

Ioana Vlad¹, Jennifer O'Mara¹, Kate Oldridge-Turner¹, Arnfinn Helleve², Giota Mitrou¹, Knut-Inge Klepp², Kate Allen¹.

¹World Cancer Research Fund International, ²Norwegian Institute for Public Health, ³University of Cape Town

Introduction: Nutrition and physical activity policies are key to creating environments where population health and prevention of non-communicable diseases is prioritised. To hold national governments to account on taking action, the NOURISHING and MOVING policy indexes were created to assess nutrition and physical activity policy, respectively, across 30 European countries.

Methods: Nutrition and physical activity policy actions in countries included were identified through a comprehensive scan with a set methodology. The policy actions were benchmarked using evidence-informed, aspirational attributes that assess the quality of policy design.

Results: The NOURISHING policy index shows that most action is being taken across Europe in four areas: nutrition labelling, standards on healthy food in schools, reformulation, and public awareness campaigns on nutrition. Insufficient action is taken to address food affordability and purchase incentives, coherence between food supply chains and health, and creating healthy retail and food service environments. Three policy areas are in most need of design improvements: unhealthy food advertising, nutrition counselling in healthcare, and nutrition education. The MOVING policy index shows that most action across Europe is being taken in physical activity in schools, the workplace, and public communication. Countries are taking least action on structures and surroundings supporting physical activity, and on supporting public and active transport. Most need for improved policy design is seen in physical activity counselling in healthcare.

Conclusions: The indexes show that greater action is needed to improve nutrition and physical activity policy across Europe, and can support policy advocacy to tackle gaps and improve current policies.

The Role of Emotion in Urban Development Decision-Making: Exploring the Perspectives of Decision-Makers

Cat Papastavrou Brooks¹, Anna Le Gouais¹, Judi Kidger¹, Matthew Hickman¹

¹University of Bristol

Background: People's feelings about their neighbourhoods are associated with a range of health outcomes. Despite this, residents' emotions may be undervalued in urban development decision-making. There can be reluctance for professional stakeholders to engage with residents' emotions during design and consultation processes exacerbated by the strength of emotion residents express in these forums.

This study explores how decision-makers understand and respond to residents' emotions in urban development processes.

Methods: Secondary analysis of 132 interviews conducted with influential professionals in urban development decision-making. A new subset of data was created from text previously assigned to relevant codes, and key-word searches. Data were screened for relevance according to inclusion criteria and re-coded inductively. A reflexive thematic analysis approach was followed: codes were synthesised into descriptive domain summaries and interpretations of the data discussed to develop themes.

Results: We developed three themes and one subtheme from the data. Participants reported that they were often unable to identify residents' feelings about their neighbourhoods, as well as the causal pathways by which positive emotions were connected to health outcomes. Decision-makers sought to present residents' emotions in a carefully curated way, or where that was not possible, attempted to marginalise the role of emotion, and exclude residents perceived as 'too emotional'.

Conclusions: Decision-makers need to engage with residents' emotions directly during urban development processes and enhance their theoretical understanding of the mechanisms by which people's feelings about their neighbourhood could impact health. This may involve overcoming class differences between decision-makers and residents from more deprived communities.

Evidence and gap maps as a policy support tool: usable and understandable?

Jennifer Llewellyn¹, Fiona Campbell², Ruth Wong¹, Akvile Stoniute², Duncan Chambers¹

¹University of Sheffield, ²University of Newcastle

Introduction: Evidence and gap maps (EGMs) are an increasingly used tool to support evidence usage in policymaking. By visually displaying the results of a systematic search users can quickly ascertain where evidence exists and crucially where it does not. To our knowledge, this is the first study that attempts to assess the design and functionality of online EGMs.

Methods: We undertook a systematic and targeted search strategy in June 2022 to identify all EGMs created using EPPI-Mapper. A piloted data extraction table was used to record details regarding EGM user experience, formatting and the evidence included. Supporting documentation was also noted.

Results: 96 EGMs were retrieved from the search, and 13 were excluded leaving 83 for analysis. The EGMs mainly concerned interventions (53), in the fields of international development, social care and public health. There was considerable variation in what contextual information was included. Of the 83 analysed omitted important information, such as the publication year (52) and information about evidence quality in the display interface (54). Of these 83 EGMs, accounting for duplicates and version updates, 57 were "unique" maps.

Conclusions: This work highlights the different ways in which EGMs are utilised to present a range of evidence to policymakers. Although different EPPI-Mapper versions were identified as have being used, many maps did not utilise key display features to provide a clear user journey. This raises the argument for a

more standardised utilisation of EPPI features and consideration of the user journey to improve their use in policymaking.

SESSION D: Oral Presentation

Upper gallery

Applied prevention research

“I don’t think it’s just parents”: reflecting on parental insights into healthy lifestyles

Faye Tucker¹, Amanda Spavin², Alison Moore, Judith Lunn¹

¹Lancaster University, ²Lancashire County Council

Children living in the most deprived regions are more than twice as likely as their affluent peers to be obese. One way we can explain the social gradient of health (determined by relative position on the scale of social (dis)advantage) is by identifying the barriers/drivers to health experienced by different groups of people. This study explored understanding and perceptions of (and barriers/drivers to) a healthy lifestyle. This was to investigate how commissioned services can better support residents to enable behaviour change in an area of high social deprivation. We used a qualitative study design with a semi-structured interview schedule. Four focus groups of 5 and 8 parents were conducted in an area of high multiple deprivation in the North West of England. The data was analysed using thematic content analysis. Study participants demonstrated an awareness and understanding of many factors impacting child and family health and health behaviours: healthy eating; exercise; mental health/emotional wellbeing; values; attitudes towards a healthy lifestyle; cooking and budgeting; wider social connections; access to open spaces/local activities; cost/hidden costs; and structural barriers. Using these findings, we reflect on why there was no participation in a commissioned intervention aiming to address childhood obesity in Lancashire. These reflections inform arguments for an alternative model of service commission, relying less on established RCT evidence-base and more on participatory co-design and a place-based approach (working with populations existing knowledge and skills) and is particularly

sensitive to people's own perception of the specific drivers and barriers they experience to behaviour change.

Exploring the Relationship between Green and Blue Space Exposure and Birth Outcomes: An Evidence Gap Map

Selin Akaraci¹, Ruth Hunter¹, Mike Clarke¹

¹ Queen's University Belfast

Over the past decade, many studies have been published of the relationship between green or blue spaces and birth outcomes. There has also been an increasing abundance of reviews of these studies, covering similar topics within a short timeframe, which may result in redundancy, research waste and limited benefit to those trying to use the existing literature. Therefore, it is crucial to justify the need for new reviews and identify gaps that have not been addressed by previous reviews or single studies, so that these can be filled.

We have prepared an evidence gap map to describe existing studies on the effects of green and blue space exposure on birth outcomes for mothers and babies during the prenatal and neonatal period. We searched MEDLINE, EMBASE, PsycInfo, Web of Science, and Maternity & Infant Care databases and identified 11 reviews and 81 single studies for inclusion. The extracted data were presented in tables, and network analysis graphs and Sankey diagrams were used to visually highlight research gaps.

The reviews (published 2014-2022) overlapped significantly in included articles, exposures, and outcomes. However, given the increasing number of single studies (39 published in 2020-23), further reviews are warranted. To fill policy-relevant gaps, future studies and reviews should investigate beneficial types and quantities of green space, and the type of access e.g., visual or physical, with most impact on birth outcomes. Additionally, subgroup analyses might enhance the understanding of specific population characteristics and their associations with green and blue space exposure and birth outcomes.

Bridging the “divide” between Researcher and Peer Interviewers: Reflections from a participatory research study to design a tailored smoking reduction service for people in recovery from problematic drug and alcohol use

Martine Miller¹, Fiona Dobbie¹, Leon Nobel¹, Linda Bauld¹, Alison McCallum¹, Deborah Robson¹, Brian Pringle¹, Claire Glen², Mark Vance³

¹ University of Edinburgh, ² NHS Lothian, ³ West Lothian Drug and Alcohol Service

Rates of tobacco smoking are significantly higher in people with problematic drug or alcohol (PDA) use than the general population. Smoking plays an important part in people becoming ill and dying young. In Scotland, there are no specialised stop smoking services (NHS SSS) for people in treatment or recovering from PDA, and uptake of existing NHS SSS is low. The DASHES study (Drug and Alcohol users Help to Exit Smoking) seeks to address this gap by developing an intervention to support people recovering from problematic drug or alcohol use to cut down or stop smoking. The intervention is co-developed with service users as expert members of the team, practitioners working in substance misuse services and researchers with experience of designing harm reduction intervention.

To develop the DASHES intervention a mixed method study was conducted, which included a service user survey, delivered in six treatment centres across central Scotland. The survey sought to explore how the service could be delivered, type of support offered and how long for. The survey was administered by the research team and a group of current services users who were trained as Peer Interviewers (PI), contributing to survey design, testing and delivery. Fieldwork took place over a six month period and total of 96 surveys were completed. This presentation will share findings from the PI-led survey as well as reflections on conducting participatory research with individuals with lived experience.

SESSION D: Workshop

Scott room

Participatory group model building

Introduction to participatory and systemic co-design

Ediane Santana de Lima¹, Megan Keenan¹, Katie Potter¹, Nirandeeep Rehill²

¹Dartington Service Design Lab, ²University College London Partners

In recent years, there has been a shift towards approaches that centre the voices of youth and community members in the research and design of initiatives, services and policies. While this is a positive, and much-needed development to ensure interventions are shaped by those who will be impacted by them, it is important to consider potential risks. One such risk is that these efforts may not align with the priorities of local government and system leaders, which could hinder their sustainability. Additionally, co-design efforts may overlook existing academic evidence and rely solely on local understanding of needs, which could limit their impact and result in the trial and implementation of inefficient interventions. Lastly, these designs may not consider broader systemic factors, which could limit their overall effectiveness.

To address these concerns, Kailo has developed a co-design process which will be explored in this interactive workshop. Participants will be introduced to key concepts, tools, principles and frameworks that we hope can be adopted and used as part of co-design efforts in a range of fields related to prevention research and design. In particular, participants will be introduced to participatory group model building - an approach employing qualitative system dynamics methods to work with stakeholders in identifying intervention and leverage points. Participants will be guided through a practically applied scenario to put the methods into practice.

SESSION E: Oral Presentation

Lecture Theatre

Children & young people:

Unveiling Spatial Inequalities in Early Childhood Education & Care Accessibility in Tower Hamlets

Kimon Krenz¹, Deniz Arzuk¹, Natalia Concha-Arango², Laura Vaughan¹, Claire Cameron¹

¹University College London, ²Queen Mary University of London

Despite the concerted efforts by both National and Local Governments to establish systems of support for parents and young children, disparities in access to early childhood education and care (ECEC) services remain a significant issue. This research focuses on the London Borough of Tower Hamlets (TH), where the uneven distribution of ECEC services contributes to enduring societal inequalities. Factors such as service affordability, availability, and proximity play a critical role in this spatial inequity, further accentuated by the financial pressures families face due to increasing living costs and inflation. To address these inequalities, we propose an innovative methodology for mapping and quantifying access to early childcare services, aiming to reveal underlying inequalities and guide the strategic planning of future service distribution in TH. Our approach involves a comprehensive analysis of access to various ECEC services, including nurseries, childminders, and schools, considering key considerations such as service cost, opening hours, and the ratio of available child places to the local population of children. Furthermore, we calculate the walking distance from each residential address to the nearest ECEC service, integrating this data with geodemographic information from the 2021 Census. Our case study on TH provides a nuanced visualization of access disparities for different family types, considering household composition, income, and work patterns. This study offers unique insights into spatial disparities in ECEC service accessibility, providing valuable data for local authorities and urban planners dedicated to the enhancement of ECEC development and planning.

Food Improvement Goals in Schools (FIGS): A focused ethnography with primary school children in Tower Hamlets

Natalia Concha¹, Meredith K.D. Hawking¹, Carol Dezateux¹, Maria Bryant²

¹Queen Mary University of London, ²University of York

Millions of children in the UK face food insecurity with the cost-of-living crisis, particularly in Tower Hamlets, an ethnically diverse, disadvantaged borough with 56% of children experiencing poverty. Free school meals play a key role in mitigating the negative health impacts experienced by these children. Despite being available to all primary school-aged children in Tower Hamlets, not all families take up this offer and more research is needed to understand why and how it might be widening pre-existing health inequalities. The Food Improvement Goals in Schools (FIGS) study is a focused ethnography evaluating school-based food provision within a new Tower Hamlets' School Food Improvement Programme. This initiative aims to improve and increase uptake of free school meals and promote whole school food approaches. FIGS is facilitated by ActEarly, a collaborative programme funded by UKPRP aiming to improve child health through upstream interventions. Drawing on a community health psychology framing informed by a 'systems' view of health, we explore factors influencing decision-making and practices around school food provision and uptake of healthy food in ten primary schools. Through observations, interviews with school and catering staff, parents and significant carers, as well as interactive groups with children using creative methods, we gather qualitative insights to prioritise our council partners' objectives, developing more responsive services to meet local needs. Our study's relevance is heightened by the recent extension of the free school meal offer across London by the Mayor. FIGS, under ActEarly's umbrella, contributes to addressing child health inequalities amidst the cost-of-living crisis.

Understanding the epidemiological evidence of autism spectrum disorder in Children born to Somali families in the UK & the world. A scoping review protocols

Halima Mohamed¹, Megan Clinch¹, Hannah Boyd¹

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Background: Autism Spectrum Disorder (ASD) is a developmental disability commonly present in early childhood. The number of people diagnosed with autism in the UK and worldwide is rising and has become a significant public health concern for different care service providers t immigrant communities. The number of children of Somali background with ASD is reported locally and nationally.

This scoping review is a response to concerns raised by the Somali community in Tower Hamlets regarding the high number of children with confirmed diagnosis of autism, access to care and support given to their caregivers. Through discussion with Tower Hamlets Somali Task Force, the Somali community seeks to understand the causes of the higher autism of Somali children in the UK and globally.

Aim: The primary aim of this scoping review is to establish epidemiological evidence on the prevalence of ASD in Somali children nationally and globally.

Methods: This scoping review will follow the Arksey and O'Malley and the Joanna Briggs Institute (JBI) scoping review guidelines. Data will be extracted globally across regional, national, and international studies from acute care, community, and research-based settings. The scoping research and future research will be co-produced through collaborations between the Somali community, statutory services providers and academics from Queen Mary and other Universities.

Expected outcome: This scoping review will help generate an evidence map on ASD among Somali children in the UK and globally, inform and validate the review findings, build trust between service providers and help researchers identify and prioritize areas for future research.

Adolescent wellbeing & meaningful engagement: lessons from Yorkshire & Humber

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The WHO recently published a call for action on adolescent wellbeing as there is a lack of tailored and well-funded national policies to support it. Although multifaceted, wellbeing in adolescence can be defined as having the support, confidence, and resources to thrive in contexts of secure and healthy relationships, realising their full potential and rights. Studies show that young people are not often included in decision making on matters that affect them including their health, at a time when they start taking more control of their own health and wellbeing. As part of a fellowship, work was carried out to explore adolescent wellbeing and risk and protective factors that support or hinder it. A literature search was undertaken to find relevant research, including grey literature, on adolescent wellbeing in the UK. Simultaneously, a mapping exercise across local authorities and Integrated Care Boards in Yorkshire and Humber took place. The mapping exercise aimed to collate best practice examples around engagement with young people, giving them a voice and including them in decision making. In this presentation, the evidence from the literature review and best practice examples will be outlined alongside recommendations for wellbeing support interventions. A “what good looks like” framework for engagement with young people will also be presented which was developed as a result of the mapping exercise. Conclusions are drawn as to how public health can reduce health inequalities and prevent ill health in adults, by focusing on improving adolescent wellbeing and empowering young people.

SESSION E: Workshop

Upper gallery

What can be done to address the main challenges?

Systems Approaches for Prevention Research

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The UKPRP Systems Theme was formed in response to the increasing prevalence of systems thinking and related theory and practice both within the consortia and more broadly. Over the last few months the Theme has been exploring aspects of systems thinking through seminars and member led round table

discussions, bringing the experiences, problems, and solutions forward for discussion by the group as a whole. For example, balancing working across disciplines and communities with the need for a shared systems language, defining system boundaries in complex social systems, projects having limited knowledge of a system prior to a project starting, and resource constraints on systems work. The aim of the workshop is to continue this discussion. There will be a short presentation reviewing the Theme outputs and key points from the discussions so far, followed by small group and plenary discussions on what can be done to address the main challenges raised by the Theme members so far.

SESSION E: Workshop

Scott room

Interactive & reflective forum for researchers on how to address the issue

Confronting Systemic Racism in Prevention Research

Alexandria Innes¹, David Innes², Elizabeth Such³

¹City, University of London, ²University of Glasgow, ³University of Nottingham

There is a compelling body of evidence which suggests that racism is a systemic issue in many UK institutions, including universities. Universities and research funders are engaged in several initiatives which are attempting to tackle the issue such as mandatory training courses for staff and the requirement for funding applications to include equality, diversity and inclusion statements. Whilst these measures clearly have some value, they do not attempt to tackle the root causes of institutional racism which are complex and multi-layered.

The continued presence of systemic racism poses several different challenges for the prevention research community. These challenges include but are not limited to a) potential bias in data concerning ethnic minority groups, b) the risk that research questions ignore, do not recognise or inadvertently reinforce ethnic inequalities and negative racial stereotypes, c) the risk that unconscious bias is neither identified nor acted upon and d) the lack of diversity within public health research teams. There are also particular challenges associated with communicating the outcomes and benefits of health research to diverse

communities and building trust in relationships between researchers and those who have experienced racial discrimination.

Drawing on questions developed for the VISION consortium's Risk of Bias toolkit this workshop will provide an interactive, reflective forum for researchers from a range of disciplines to share their experiences, deepen reflection, identify best practice, and discuss how the UKPRP community can take a lead in addressing issues of race and ethnicity in future research initiatives.

SESSION F: Oral Presentation

Lecture Theatre

Tobacco & Cannabis:

Cost-of-living/cost of smoking: cooperative learning on NCD health inequalities in deprived communities within the cost-of-living crisis

Lucia D'Ambruoso¹, Sheila Duffy², Effie Marathia¹, Amanda Stephen³, Chris Littlejohn⁴, Karen Watson³

¹University of Aberdeen, ²Action on Smoking and Health, ³Turning Point Scotland, ⁴NHS Grampian

In Scotland, NCDs account for over 80% of all deaths, with 1-in-5 due to alcohol, tobacco, overweight and obesity. Smoking disproportionately affects deprived communities, and there are few interventions tailored to these groups. Scotland has the worst health inequalities in Western Europe and smoking is a significant cause and effect of that inequality. The current cost-of-living crisis is imposing unprecedented impacts on the lives of low-income families, and the picture with regards to smoking is unclear.

Participation of communities in public services is long recognised as enhancing legitimacy and acceptability of decisions, and furthering trust in public institutions. In practice, participation takes many forms, however, and in some cases reproduces the very power asymmetries it seeks to confront. Operational guidance on participation is limited, and the central category of power is drastically under-theorised.

This demonstration project attempts to embed community empowerment within a learning health systems process. Learning is crucial for systems performance, however, operational understanding is lacking. Emerging evidence supports: the development of capabilities to engage iteratively with problems; draw on different forms of knowledge; create common understandings and define appropriate solutions; and creating spaces and providing resources for communities, staff, and managers to find solutions for challenges.

This research will progress cooperative learning on smoking within the cost-of-living crisis, cognisant the social, political, and commercial determinants of health inequalities as an essential perspective and one that informs and benefits people in communities and people working with them.

Public health interventions for alcohol, tobacco & ultra-processed food consumption in lower socioeconomic position groups: A critical umbrella systematic review

Sarah Dance¹, Masha Remskar¹, Katherine Sawyer¹, Netanya Cassidy¹, Sally Adams², Andrew Weyman¹, Charlotte Dack¹

¹University of Bath, ²University of Birmingham

The distribution of the non-communicable disease epidemic, largely attributable to the alcohol, tobacco, and ultra-processed food industries, exhibits notable social inequality. There is growing evidence of the benefits of addressing structural and other situational elements. Yet public health approaches to intervention tend to favour a focus on the individual as the agent of change, e.g. with respect to 'lifestyle' behaviours. As a consequence, they may be at risk of underplaying the wider commercial and social determinants of health.

With a view to determining the effectiveness of contemporary UK public health intervention perspectives and activity, in particular that aimed at socially disadvantaged groups, an umbrella systematic review of reviews is in progress to: 1) identify what interventions are currently used to reduce alcohol, tobacco, and ultra-processed food consumption, 2) explore what public health messages are communicated via these interventions, 3) identify the effectiveness of these

interventions, 4) identify whether and which theories and behaviour change techniques underpin these interventions, and 5) explore the strengths and limitations of the current evidence and implications for translation to policy and practice. Included articles required: a review design of public health interventions for alcohol, tobacco, or ultra-processed food consumption in a lower socioeconomic position population.

6082 articles (following removal of duplicates) were screened at the title/abstract stage for inclusion. 203 articles were then screened at the full-text stage for inclusion. In terms of the social determinants of health model, many interventions targeted 'individual lifestyle factors', and few targeted 'socioeconomic, cultural, and environmental conditions'.

The potential smoke-free dividend for smokers across local areas in England: A cross-sectional analysis

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Background: The money that might be retained in local areas if everyone quit smoking is referred to as the 'smoke-free dividend'. The aim of this study was to produce estimates of the value of the smoke-free dividend across England, and how this relates to average income and the amount that individual smokers spend on tobacco.

Design: Cross-sectional descriptive analysis of tobacco expenditure data from smokers aged over 18 years from the English Smoking Toolkit Study, matched at English local authority level to publicly available income and smoking prevalence data.

Methods: Individual weekly expenditure on tobacco was calculated in terms of the average amount spent on tobacco each week. The total amount spent on tobacco each year in local areas was calculated by multiplying the expected annual expenditure by each smoker by the number of smokers in each local

population. The smoke-free dividend to local areas was estimated as the total expenditure on tobacco minus the tobacco revenue that would have been retained by local retailers.

Results: The total smoke-free dividend in England is estimated to be £10.9 billion each. This total equates to approximately £1,776 per smoker each year. The estimated total dividend is greater in areas with lower average income. At the regional level the dividend per capita was estimated to range from £209 (Southeast) - £320 (Northeast).

Conclusions: The largest potential dividends are in low-income areas where both smoking prevalence and the expenditure on tobacco in relation to available income are largest.

Challenges achieving horizontal coherence across health & public security in the formulation of Uruguay's cannabis regulation

Rachel Barry¹

¹University of Bath

Introduction: In 2013, Uruguay became the first country to regulate the legal production, distribution and sale of recreational cannabis. While key officials have framed Uruguay's landmark legislation as part of the government's strategy to regulate cannabis, tobacco and alcohol, there is limited empirical research exploring the political considerations that influenced its approach.

Methods: Drawing on the concept of policy coherence – the process by which policymakers seek to minimise conflicts and maximise synergies across policy agendas – this study explores the extent to which Uruguay's cannabis regulation was influenced by the promotion of policy coherence within health and across other policy spheres. Government documents, 43 semi-structured interviews and field observations were thematically analysed.

Results: The analysis shows that the pursuit of policy coherence across health issues was relatively limited, and any element of regulatory coherence is likely to be found on the weaker side of coordination. Efforts to promote substantive

policy coherence were shaped by a desire to legitimate cannabis use without creating a commercial driver or structural force that would promote excessive consumption. The findings also reveal that the outcome of Uruguay's cannabis regulation was more directly shaped by broader political considerations, including how to resolve tensions between public security and unhealthy commodity regulation goals.

Conclusions: This study raises important questions about the extent to which Uruguay's cannabis regulation was shaped by the explicit goal of policy coherence, suggesting rather that comparisons with tobacco and alcohol regulation were strategically used to justify the introduction of a legally regulated cannabis market.

SESSION F: Workshop

Upper gallery

Challenges & successes in a systems approach:

Lessons Learnt from Partnership Working in Liverpool

Elly King¹, Roberto Villegas-Diaz¹, Hannah Burnett¹, Wendee Zhang¹

¹University of Liverpool

The UKPRP was set up as a multi-funder initiative to support high quality interdisciplinary research with the potential to drive system-level change to improve population health and reduce health inequalities. Within GroundsWell, we are aiming to evidence the role that urban green and blue spaces play within the systems that they exist. Practical systems working within the Liverpool City Region has resulted in challenges and successes that are likely to exist across all UKPRP funded research consortia.

This workshop is split into two distinct parts. The first part focuses on a discussion between members of GroundsWell on their experiences applying systems working to research. Elly King will discuss the impact systems working has had on communications and engagement, Roberto Villegas-Diaz will discuss the challenges faced with connecting data across different systems, and Hannah Burnett will discuss the relationship building lessons learnt so far. The second

part of the workshop will form an interactive session inviting participants to discuss their challenges and successes in small groups, coming together at the end to highlight the commonalities across and beyond UKPRP consortia in a plenary discussion.

SESSION F: Workshop

Scott room

Team Science

Developing a Reflective 'Team Science' Approach to Inter/Transdisciplinary Research - How 'research on research' might be used to improve practice

Ges Rosenberg¹, Pablo Newberry¹

¹University of Bristol

This workshop will convene stakeholders from across the UKPRP consortia and networks to participate in the Community of Practice 'Reflection-on-Research' Theme. Run as a capstone event, it will provide an opportunity to reflect collectively on the structures and practices that govern our research activities throughout a project life-cycle, from tendering through to delivery of impact. It will be of interest to those who engage in commissioning, planning, managing, and undertaking research.

Using creative engagement methods and tools taken from our 'Team Science Playbook', participants will explore and diagnose research challenges, including those faced when first building a research network; when planning stakeholder-led research; when operationalising inter/transdisciplinary research; and when designing interventions to address the complex, messy public health problems that characterise the UKPRP portfolio.

Research case studies from the UKPRP community will be a starting point for conversations, and the workshop will facilitate and capture knowledge exchange between participants as experiences and viewpoints are surfaced and explored. Time will be devoted to exploring solutions to project challenges as developed within the individual UKPRP consortia and network projects, with learning

framed by evaluating ‘what works’ and ‘what doesn’t work’, alongside the concepts of ‘continual improvement’ and ‘triple-loop learning’.

The two key outcomes from the workshop will be firstly to share learning in the fields of ‘team science’ i.e., what comprises successful approaches to operationalise inter/transdisciplinary research; and secondly to set a marker as to how ‘research on research’ might be used to improve practices and structures in future comparable research.

SESSION G: Oral Presentations

Lecture Theatre

Applying systems perspectives to prevention research:

A participatory systems mapping approach to gain insight into the factors driving unhealthy commodity industry involvement in public health policy formulation in the UK

Amber van den Akker¹, Adam Bertscher¹, Alice Fabbri¹, Anna Gilmore¹, Cecile Knai², Harry Rutter¹

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Unhealthy commodity industries (UCIs) such as tobacco, alcohol, gambling, ultra-processed food and sugar-sweetened beverage industries are known to influence policy-making to advance their interests. One of the demonstrated impacts of this influence is ‘regulatory chill’ - a dilution, delay or abandonment of effective health policy. Nevertheless, multi-stakeholder policy approaches that involve UCIs remain common. This study used a systems approach to explore structural factors driving UCI involvement in public health policy formulation and identify potential leverage points.

We conducted two participatory systems mapping workshops, involving experts from government, academia and civil society in England and Scotland. During the first workshop, ten participants built a systems map of the drivers of UCI involvement in policy formulation. In the second workshop, six participants from the same expert group reviewed and fed back on the map, and identified and prioritised leverage points.

The systems map identifies highly interconnected direct and indirect drivers of UCI involvement in policy formulation. Potential leverage points were identified at various points within this system, including: improving transparency of industry funding of civil society and scientific bodies; developing strongly interconnected NGO activity across unhealthy commodities; funding independent evidence generation; actively countering industry narratives; and putting clear principles of engagement in place within the policy-making process.

The system driving UCI involvement in policy formulation is complex and highly interconnected. Understanding the linkages between these structural drivers and their impacts helps with identifying where action might best be taken to prevent or mitigate involvement that is not beneficial for public health.

Using Doughnut Economics to create a root definition for a thriving city: a soft systems methodology (SSM) approach for Glasgow, 2023

Annika Hjelmkog¹, Petra Meier¹, Jaime Toney¹, Marian Scott¹, John Crawford¹, Cris Hasan¹

¹University of Glasgow

Tackling climate and ecological degradation, in ways that enhance human wellbeing and equity, is one of the largest challenges of the 21st century. The Doughnut Economics framework (Raworth, 2017) conceptualises a possible thriving future for people and planet, which is inspiring action among changemakers around the world. This paper presents applied systems research undertaken in Glasgow as a case study, a city which has made a commitment to becoming a green wellbeing economy and is exploring the use of Doughnut Economics as a pathway to social and ecological wellbeing. Using data from participatory workshops and a soft systems methodological approach, we have co-created a root definition of Glasgow as a 'thriving city'. We discuss the utility of the soft systems methodology for this approach, and share the process and the results of creating a pluralistic root definition that can be used by researchers and policymakers in the transdisciplinary transformation of social-ecological systems. The root definitions accommodate multiple worldviews and perspectives, supporting the action-focussed nature of soft systems

methodology. This approach is also well suited to grounding the iterative, incremental processes that are needed to navigate the complex world of multi-sector policymaking. Our findings are relevant for public health audiences more generally, demonstrating the usefulness of adaptive approaches to the complex, non-linear, problematical situations that are common in a public health context. Building in SSM cycles of learning with stakeholders creates space for reflexive and adaptive monitoring and evaluation, that is well suited to addressing long-term and constantly evolving challenges.

Understanding the social determinants of health as a system

Jonathan Stokes¹, Petra Meier¹

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Despite decades of research on the social determinants, population health outcomes are stalling or deteriorating, and inequalities are increasing. This lack of progress might be partly attributed to the perspective we are using to examine the social determinants of health. These determinants are usually presented as an overwhelming list of almost everything around us – suggesting a need to address everything, everywhere, all at once. Although previous theoretical frameworks have attempted to impose some additional structure, such as separation of ‘structural’ and ‘intermediate’ determinants, the literature also recognises that the interactions and pathways are likely to be much more complex than any of these frameworks currently present. Capturing this complexity is likely to be important. Counter-intuitively it should make the problem more coherent and precise for those seeking to address health inequalities, for example enabling prioritisation of key leverage points. In this paper, we draw on a scoping review of the systems literature and discuss results in terms of advancing understanding of the social determinants of health as a system. We focus on portraying the various levels of aggregation, temporal and spatial dynamics, path dependency, and feedback loops across social determinants. Ultimately, these factors interact to have causal impacts on an individual’s embodied health (which we as researchers once again aggregate to enable examination of population outcomes, such as inequalities). We discuss

how these system conceptualisations might encourage more effective recommendations for policy that achieves systemic change, and highlight remaining research gaps.

Evidence Based System Maps Representations of Health Inequalities Among Local Authorities - a Data Driven Approach

David Alexander Veres¹, Ping Li¹, Andreas Hoehn², Corinna Elsenbroich², Visakan Kadirkamanathan¹

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Socio-economic inequalities are known to drive health inequalities, resulting in a greater burden being placed on healthcare services. With the onset of cost of living crisis, economic inequalities are exacerbated further. As a result, there is an imperative to consider interventions to address economically driven health inequalities. A first step in identifying suitable interventions is the specification of an evidence driven systems map that captures the relationships between economic and public health indicators. To address this, data driven evidence-based methods involving Bayesian Belief Networks (BBNs) are used to help specify systems maps relating local authority (LA) level aggregated economic variables and public health outcomes within the UK. Specific expert driven assumptions can be included in the BBN formalism, in order to avoid unrealistic indicator relationships being identified. To account for the heterogeneity across the local authorities, groups of LAs are formed on the basis of socio-economic conditions, such as deprivation indices. Systems maps are then generated for each group and comparisons between systems maps are made using suitable metrics. The robustness of the generating method is tested through repeated sampling of local authority data, allowing for a threshold statistic to be considered for the selection of the most prominent indicator relationships. Metric comparisons among groups of LAs revealed that relationships between variables differed greatly for the most deprived local authorities. While BBNs offer the possibility of data driven evidence-based systems maps, the incorporation of additional expert knowledge must be considered to overcome limitations surrounding the quality and quantity of data.

SESSION G: Oral Presentation

Upper gallery

Innovative methods:

A synthetic household-level population for Great Britain

Andreas Höhn¹, Kashif Zia¹, Nik Lomax², Alison Heppenstall¹, Corinna Elsenbroich¹, Petra Meier¹

¹University of Glasgow, ²University of Leeds

Background: Synthetic population datasets, representing the individual-level, are widely available for a number of countries including Great Britain (GB). Despite numerous advantages, these datasets are typically not well-suited to reflect household-level information. This paper provides a rationale for the need of a synthetic population reflecting the household-level based on insights of the current cost-of-living crisis. We then discuss methods for creating this dataset and provide examples, related to the current cost-of-living crisis.

Methods: Our household-level synthetic population is based on a variety of sources including census information and survey data. Information on geographical constraints were obtained from the 2021 census for the United Kingdom (UK). Attribute-rich information reflecting the household-level were obtained from Understanding Society Wave K. We create an attribute-rich dataset by combining information from the UK census and Understanding Society, using the Flexible Modelling Framework (FMF). FMF incorporates a spatial microsimulation approach, which is based on simulated annealing.

Results: Results of our internal and external validation processes indicate that the simulated household-level population has captured household-level characteristics well at a small-area resolution. Results of our exploratory analysis show a strong geographical clustering for the studied dimensions food bank use, and problems paying bills. This clustering was strongly associated with health outcomes such as Life Expectancy and Lifespan Variation.

Conclusion: Household-level information in GB can be adequately captured in a synthetic population. Synthetic data sources reflecting the household-level are of

particular importance when modelling complex public health challenges which affect – or are buffered by – household level characteristics.

Using look-alike modelling for data integration in violence research

Estela Capelas Barbosa¹, Niels Blom¹

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Violence as a subject matter has been analysed in silo due to difficulties in accessing data and concerns for the safety of those exposed. While there is some literature on violence and its associations using individual datasets, analyses using combined sources of data are very limited.

Ideally data from the same individuals would enable linkage and a longitudinal understanding of experiences of violence and their (health) impacts. However, in the absence of directly linked data, look-alike profiling may provide an innovative and cost-effective approach to exploring patterns and associations in violence-related research in a multi-sectorial setting.

We approached the problem of data integration and look-alike profiling as a missing data problem. We combined data from the Crime Survey of England and Wales with administrative data from Rape Crisis, focussing on victim-survivors of sexual violence in adulthood. Multiple imputation with chained equations were employed to collate/impute data from different sources.

To test whether this procedure was effective, we compared regressions analyses for the two datasets, using the variables age and sex, which appear in both. Our results show that the effect sizes for the imputed data reflects the results from the dataset used as basis for imputation. The variance is higher, resulting in fewer statistically significant estimates. We extended our testing to an outcome measure, health impact, and also observed similar effect sizes in the fully imputed combined data. Our approach reinforces the possibility to combine administrative with survey datasets using probabilistic look-alike methods to overcome existing barriers to data linkage.

Updated guidance on using natural experiments to evaluate population health

Mhairi Campbell¹, Peter Craig¹

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There has been a substantial increase in the conduct of natural experimental evaluations in the last ten years driven by advances in methodology, greater availability of big datasets, and a rise in demand for evidence about upstream population health interventions amenable to natural experimental evaluation. It is important that researchers, practitioners, commissioners, and users of intervention research are aware of the recent developments. In a project funded by MRC and NIHR, existing MRC guidance has been updated for using natural experiments to evaluate population health interventions.

Guidance was developed from three international workshops and an online consultation with researchers, journal editors, funding representatives, and individuals with experience of using and commissioning natural experimental evaluations. The project team comprised researchers with expertise in natural experimental evaluations. The project had a funder-assigned oversight group and an advisory group of independent experts.

The guidance defines key concepts and provides an overview of recent advances in designing and planning evaluations of natural experiments, including the relevance of a systems perspective, mixed methods, and stakeholder involvement throughout the process. It provides an overview of the strengths, weaknesses, applicability, and limitations of the range of methods now available, identifies issues of infrastructure and data governance, and provides good practice considerations.

This updated and extended guidance provides an integrated guide to the use of natural experimental methods to evaluate population health interventions. The guidance provides a range of tools to support its use and detailed, evidence-informed recommendations for researchers, funders, publishers, and users of evidence.

Using a co-design approach to promote awareness of preconception health in central Scotland

Sinead Currie¹, Hannah Welshman¹, Stephan Dombrowski², Aileen Grant³, Vivien Swanson¹

¹University of Stirling, ²University of New Brunswick, ³Robert Gordon University

Background: The months before pregnancy provide an opportunity to improve health outcomes for the mother and child during pregnancy and after birth (Barker et al., 2018). This important time for health improvement is not well understood or engaged with, particularly in socioeconomically deprived communities of Scotland. Co-designing health behaviour change interventions can make them more accessible and engaging for the audience. The project aimed to develop an accessible resource which raises awareness of preconception health. A co-design approach was taken involving women living in socioeconomically deprived areas of central Scotland.

Methods: Six women who were planning to have a baby or had given birth within the last two years were recruited. They initially took part in a one-on-one telephone conversation with the researcher to build rapport and gather opinions on acceptable methods to introduce the concept of preconception to women. The developed intervention materials were shared with individuals from the co-design group for feedback before the final intervention was produced.

Findings: The PPI group contributed to the development of an awareness raising intervention by influencing the translation of evidence from preconception literature into a deliverable intervention. An example was shifting the focus of the intervention to no longer include online support forums in favour of more structured informative content. This led to the development of an informational preconception health promotion video.

Discussion: This process outlines one example of how co-design can be used to develop interventions which are acceptable to the target population by involving them in the design process.

SESSION G: Workshops

Scott room

Proposed framework for future prioritisation & actions:

A 10-year vision for public health prevention in Scotland

David McColgan¹, Alison Douglas², Jamie Pearce³

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NCD Alliance Scotland are developing a 10-year vision document for public health prevention in Scotland which will take an ambitious approach to reducing harm from NCDs.

The vision will look beyond this Parliament to long term policies that might still require research or work to build public support for the intervention. It will provide a vision for the future of progressive public health policy, providing a framework for future prioritisation and action by the Scottish Government.

The interventions considered in this strategy will primarily focus on the commercial determinants of health and three areas where the evidence of effectiveness and cost-effectiveness is strongest: advertising and marketing, price and promotion, and availability.

Evidence is being gathered through a series of 10 roundtables held with academics, public health experts, and policy professionals, both in the UK and internationally and is being guided by an expert advisory group.

This workshop will be an opportunity to hear about the proposed framework for future prioritisation and actions the Scottish Government should enact to reduce harm from NCDs. The proposed policy interventions including the evidence gathered at 10 roundtables will be presented, and we welcome discussions and input from those attending. This piece of work is due to launch in May 2024.

