



STUDY PROTOCOL

REVISÉD Development of a Health Impact Assessment

Implementation Model: Enhancing Intersectoral Approaches in Tackling Health Inequalities- A Mixed Methods Study

Protocol

[version 3; peer review: 2 approved, 1 approved with reservations]

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V3 First published: 20 Mar 2024, 7:14
<https://doi.org/10.12688/hrbopenres.13873.1>
 Second version: 24 Dec 2024, 7:14
<https://doi.org/10.12688/hrbopenres.13873.2>
 Latest published: 06 Feb 2025, 7:14
<https://doi.org/10.12688/hrbopenres.13873.3>

Abstract

Public health research presents compelling evidence that health is socially determined. To address structural inequalities and inequities in health, public policies require intersectoral development and implementation. Health Impact Assessment (HIA) is an established approach for analysing potentially detrimental health impacts of policies, programmes, and projects, as well as potentially positive impacts and opportunities. National public health policy, *Healthy Ireland* (2013–2025), endorses an intersectoral whole-of-system approach to ensure that health is a central part of all relevant policy areas. HIA is endorsed in this policy as one way to drive this agenda. Synergising with this policy commitment for HIA, the all-island Institute of Public Health Ireland produced revised HIA guidance in 2021. Two HIAs will be carried out as part of this project, including one at a local policy level, addressing the Cork City Development Plan (2022–2028), and the second HIA at a national policy level, addressing the Irish Government’s Climate Action Plan (2024). The updated HIA guidance will be used in the conduct of these HIAs. This research project involves a co-creation of a Health Impact Assessment Implementation Model by employing an action research approach

Open Peer Review

Approval Status

	1	2	3
version 3 (revision) 06 Feb 2025		 view	 view
version 2 (revision) 24 Dec 2024	 view	↑	
version 1 20 Mar 2024	 view	 view	

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Any reports and responses or comments on the

with implementation science frameworks to the conduct of the two HIAs. Therefore, the process of doing the HIAs will form the basis for the research study. In order to enhance meaningful community involvement in HIA in Ireland, the project will co-create a Community Engagement Toolkit for HIA. This Model will strengthen researcher, policy actor, practitioner, community, and voluntary sector capacity to collaboratively develop and implement intersectoral and equitable policy responses to major population health issues.

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article can be found at the end of the article.

Keywords

Health Impact Assessment, action research, implementation science, city planning, climate action

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Author roles: **O'Mullane M:** Conceptualization, Data Curation, Formal Analysis, Funding Acquisition, Investigation, Methodology, Project Administration, Resources, Supervision, Validation, Visualization, Writing – Original Draft Preparation, Writing – Review & Editing; **Kenny T:** Data Curation, Formal Analysis, Investigation, Methodology, Project Administration, Visualization; **Nash K:** Formal Analysis, Methodology, Project Administration; **McHugh SM:** Conceptualization, Formal Analysis, Methodology; **Kavanagh P:** Conceptualization, Writing – Review & Editing; **Smith K:** Conceptualization; **Archibong U:** Conceptualization, Methodology

Competing interests: No competing interests were disclosed.

Grant information: This work was supported by the Health Research Board [EIA-2022-001].

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How to cite this article: O'Mullane M, Kenny T, Nash K *et al.* **Development of a Health Impact Assessment Implementation Model: Enhancing Intersectoral Approaches in Tackling Health Inequalities- A Mixed Methods Study Protocol [version 3; peer review: 2 approved, 1 approved with reservations]** HRB Open Research 2025, 7:14 <https://doi.org/10.12688/hrbopenres.13873.3>

First published: 20 Mar 2024, 7:14 <https://doi.org/10.12688/hrbopenres.13873.1>

REVISED Amendments from Version 2

Only change to the previous V 2 is that I'm adding an author to the protocol. No changes to the V 2 manuscript submitted in Nov 2024. Thank you.

Any further responses from the reviewers can be found at the end of the article

Introduction

Public health research has shown that our health and wellbeing are affected by the circumstances into which we are born, grow, live, work and age. These wider social, economic, political and environmental circumstances are a greater determinant of health status than individual factors and behaviours (CSDH, 2008). Health inequalities, which are a result of systemic inequities across these wider determinants of health on population groups, require intersectoral action from beyond health sector contexts (Marmot, 2017; Solar *et al.*, 2023). In an Irish context, published by the government Department (Ministry) of Health, the *Healthy Ireland* national survey (2019) reaffirmed that people living in deprived areas are more likely to suffer from health conditions compared to those in wealthier areas (DOH, 2019). Those who are employed and higher educated are more likely to report 'good or very good' health (DOH, 2023; Duffy *et al.*, 2022).

The impact of the COVID-19 pandemic in Ireland was experienced more negatively by marginalised communities in society (EAPN, 2020). Clearly, what is needed is a tangible way for all policy sectors to work collaboratively in improving population health and tackling health inequalities.

HIA is a process that encompasses a set of tools to identify best possible outcomes related to categories of objectives needed to strengthen the promotion of health and health equity. HIA is "a process which systematically judges the potential, and sometimes unintended, effects of a project, programme, plan, policy, or strategy on the health of a population and the distribution of those effects within the population" (Winkler *et al.*, 2021: 3). The WHO Gothenberg Consensus paper (1999) identified four core values of HIA, which continue to underpin the process to this day, namely, democracy, equity, ethical use of evidence and sustainable development. HIA is conceptually underpinned by the wider determinants of health (Solar & Irwin, 2010). It is through the examination of this aforementioned 'distribution of effects' across identified population groups, and collection of data within HIA, that health equity can be improved, and health inequalities tackled. HIA is an established approach for implementing Health in All Policies (Bekker, 2007; DoH, 2013; Green *et al.*, 2021b; Pypers *et al.*, 2021) in order to tackle health inequalities (Douglas & Scott-Samuel, 2001). It can strengthen the Health in All Policies approach to strengthening the co-benefits across health, economic and environmental improvements (Greer *et al.*, 2024). HIA, as well as providing formal evidence of potential health-related outcomes across sectors, has been shown to broaden the set of issues under scrutiny, the types of decisions

assessed, and the range of actors involved (Green *et al.*, 2021a). Lynch *et al.* (2023) advocate for governmental support of HIA as a way to implement Health in All Policies and improve health equity across policy domains.

Despite continued HIA practice and policy for more than two decades, (O'Mullane, 2013; Rogerson *et al.*, 2020), HIA implementation- the doing or practice of HIA- remains ad hoc in many jurisdictions. HIA practice and policy in Ireland has been stopping and starting since its initial and strongest policy endorsement to date, in the public health policy *Quality and Fairness: A Health System for you*, published by the then Department (government ministry) of Health and Children (DOH&C) (2001). HIA has been criticised over the years, predominantly for adding to the work burden of statutory stakeholders (Linjalone *et al.*, 2018), becoming a tick-the-box exercise, and not aligning the informational pathway from the HIA with the relevant respective policies, projects or programmes. In Ireland, research found it often did not have impact beyond the health sector because of poor intersectoral collaborations (O'Mullane, 2015). This finding concurs with a review of HIA progress in Ireland, which concluded that an implementation gap exists in relation to surmounting cultural and professional boundaries and acceptance of a joint intersectoral approach (Gillespie & McIlldoon, 2009). Other challenges for implementing HIA identified in the review include time, capacity, and resource limitations; issues regarding roles and responsibilities; and the impression of policy stakeholders is that HIA is a complicated process. These challenges are deemed surmountable (Gillespie & McIlldoon, 2009) by way of adopting a triadic approach to enhancing HIA implementation in Ireland by a) improving the HIA implementation process; b) providing HIA capacity-building; c) garnering political will and leadership. HIA-IM will develop a HIA implementation model addressing points a and c; it will also indirectly inform the Institute of Public Health HIA programme of capacity-building (b) (IPH, 2020).

The premise of the project is to explore the doing or implementation of two HIAs with a view to developing a HIA implementation model that includes strategies to overcome barriers in the doing of HIA as identified in the two HIAs. We chose to use two implementation science (IS) frameworks (NPT and CFIR) in developing this HIA implementation model because of the value those IS frameworks bring to this field of research. NPT focuses more on the process of implementing whereas CFIR focuses more on the determinant hindering and enabling factors affecting the implementation or doing of HIA. Both frameworks complement one another in creating data to build the HIA implementation model, given their differing emphasis on process (NPT) and factors affecting or determining the implementation or doing of HIA (CFIR).

The rationale for choosing the action research design approach, is to ensure the creation of the implementation model is underpinned by an iterative development of the implementation model, involves learning, reflection and action in the HIA approach of those involved in the HIA Steering Groups.

This multifocal approach to enhancing Health in All Policies through HIA implementation has been demonstrated in other countries, including Wales (Green *et al.*, 2020), Scotland (Douglas *et al.*, 2020), Australia (Delany *et al.*, 2014), and France (Jabot *et al.*, 2020). What can be observed also over the past two decades is the enactment of innovative and creative ways of implementing HIA, in local and/ or national policy development, adopted across in many countries across the globe (O'Mullane, 2013).

Current public health policies on the island of Ireland produced by the respective Departments (Ministries) of Health, namely *Healthy Ireland* (2013–2025) (DoH, 2013) and *Making Life Better* (2013–2023) (DHSSPS, 2013) endorse HIA as a way to facilitate this intersectoral, Health in All Policies, whole-of-government way of working for population health. In line with this endorsement, the all-island Institute of Public Health Ireland, published new HIA guidance in 2021 (Pyper *et al.*, 2021), as part of a reinvigorated policy support for HIA across the island. Also, efforts in recent years in Ireland have sought to counter siloed ways of working for health and well-being. The *Healthy Ireland Strategic Action Plan 2021–2025* (DOH, 2021) was launched in 2021, including the Sláintecare Healthy Communities Programme which puts in place a legal structure for local authorities to work in an intersectoral way with community agencies and health services for health and wellbeing improvement. This action plan aims to address health inequality in Ireland through an intersectoral Health in All Policies approach. *Healthy Ireland* recognises the relevance and importance of HIA in operationalising this intersectoral response. However, the *Healthy Ireland* action plan does not address the challenges of HIA implementation (Gillespie & McIlldoon, 2009; Kearns & Pursell, 2011) including the issue of how the approach could tangibly facilitate intersectoral action in tackling health inequalities. HIA-IM seeks to address these challenges through the co-creation of the HIA implementation model.

'Development of a Health Impact Assessment Implementation Model: Enhancing Intersectoral Approaches in Tackling Health Inequalities' (acronym: HIA-IM) is funded by the Health Research Board (HRB) under the Emerging Investigator Award (EIA), 2023 to 2026. Dr Monica O'Mullane holds this award as Principal Investigator, with team members involved in the project from across University College Cork (UCC), the Institute of Public Health Ireland, Cork Environmental Forum (CEF), the Environmental Protection Agency (EPA), Cork City Council, the Health Services Executive (HSE), Public Health Wales, Ben Cave Associates Insight, University of Galway, University of Bradford, University of New South Wales, Trinity College Dublin and University of Strathclyde. The HIA-IM Public Involvement Consultation Group includes members from Cork Environmental Forum, Cork Healthy Cities, Global Action Plan, Coalition 2030, Coast Watch Ireland, Global Health Ireland, Independent Living Group and Social Justice Ireland. The project is co-hosted in University College Cork between the School of Public Health and the Institute for Social Science in the 21st Century (ISS21).

Study aims and objectives

The aim of the project is to critically explore the process of developing a Health Impact Assessment implementation model that will enhance researcher, policy actor, practitioner, community, and voluntary sector capacity to collaboratively develop and implement intersectoral and equitable policy responses to major population health issues.

The project involves doing two HIAs as part of the research study, one at a local policy level, addressing the Cork City Development Plan (2022–2028) (HIA 1), and the second HIA at a national policy level, addressing the Irish Government's Climate Action Plan (2024) (HIA 2). Simultaneously, the process of doing the HIAs will form the basis for the research study using an action research approach integrating implementation science theoretical frameworks. Research participants included in the study are the members of each of the two HIA Steering Groups (Group A), as well as individuals within key organisations involved in the HIAs with capacity to use and embed the practice HIA within existing structures (Group B). For the HIA Steering Groups, members are recruited from community organisations, health services, statutory environmental organisations, local authorities and the research/academic community. The goal is that by drawing learning from participants' lived experience and reflections across Groups A and B, we can connect evidence, policy, and practice in a co-created manner to directly inform the iterative building of the contextualised HIA implementation model. This model will be developed in a way to practically inform the conduct of HIA in practice through the roll out of the HIA implementation programme, led by the Institute of Public Health Ireland, as well as enhancing capacities and confidence of individuals in doing HIAs going forward. A key component of the HIA implementation model will be the creation of a Community Engagement Toolkit to facilitate meaningful community engagement, specific to the conduct of HIAs. Although the focus of the project is on HIA as one approach for implementing intersectoral action for improved population health, the exploratory nature of the work will reveal insight and nuances in the perceptions of the approach, in using the IPH guidance, and problematising HIA as a suitable approach for creating Health in All Policies within an Irish context.

Using revised Irish HIA guidance (Pyper *et al.*, 2021), this mixed methods research study will employ action research approach integrated with implementation science theory to iteratively develop a contextualised HIA Implementation model, that will lead to implementing intersectoral and equitable policy responses in the future. HIA-IM will address five research objectives across four work packages which align with national public health policy priorities for population health in Ireland (DHSSPS, 2013; DoH, 2013), with Northern Ireland (DHSSPS, 2013), and internationally (WHO, 2013). Through these objectives, HIA-IM will address the HIA implementation gap, as outlined in research on HIA implementation (Gillespie & McIlldoon, 2009) and national policy (DoH, 2013; DOH, 2021).

The five research objectives, outlined below, align with four work streams. The four work streams are described in the methods section:

Research objective 1: Conduct two HIAs on (i) the Cork City Development Plan 2022–2028; (ii) the Government Climate Action Plan 2024

Research objective 2: Apply an action research cycle during the conduct of the two HIAs;

Research objective 3: Identify factors that influence the process of HIA implementation with a hybrid implementation science framework drawing from the Consolidated Framework for Implementation Research (CFIR) and Normalisation Process Theory (NPT);

Research objective 4: Produce a Community Engagement Toolkit in order to optimise community participation in HIA in Ireland

Research objective 5: Develop a contextualised contemporary Irish HIA implementation model iteratively by integrating and triangulating data from across the project.

Study design

This research study will use multiple implementation science frameworks (Damschroder *et al.*, 2022; Finch *et al.*, 2018) within an action research approach (Bradbury, 2022) to co-produce in an iterative way a contextualised Health Impact Assessment implementation model with key partners. HIA implementation is optimised when relevant stakeholders contribute evidence and insight (den Broeder *et al.*, 2017). HIA implementation with meaningful community engagement is integral to its sustainability as a public health response for tackling health inequalities, as has been evidenced in previous research (Green *et al.*, 2021a). Using a community-centered and co-design approach, the first Community Engagement Toolkit for HIA in Ireland will be co-created with key partners. This Toolkit will be a practical resource to be used in carrying out participatory HIAs in Ireland, complementing the use of any HIA guidance. In using the HIA approach, the research study is founded on improving health equity for population groups who will be affected by the implementation of the policy under study, which in the case of HIA-IM, includes local urban policy and national climate action policy. The equity lens allows us to consider the health impacts of policies under study. The rationale, approach and timing of this research study is designed to inform the roll-out of the HIA implementation programme led by the Institute of Public Health, synergising with key national population health priorities and policy implementation going forward. Quantitative and qualitative methods will be employed underpinned by co-design and co-production approaches. A scoping review of factors influencing HIA implementation will be carried out in order to create research evidence that informs contextualised responses to create intersectoral policy for population health.

Action research has been shown to improve the contextualised nature of implementation procedures within organisational

structures, compared to other research methods (Bush *et al.*, 2017). However, little research has been conducted on the use of action research methods with implementation research, specifically in assessing implementation processes and outcomes of policies and policy-informing processes, such as HIA. Action research is applied in order to improve specific practices through critical reflection (*ibid*). It is founded on participation and collaboration of individuals who work through an action research cycle which includes planning, acting, outcome, and reflection, to provide feedback (collected data) in order to introduce improvements to a specific practice. It presents a learning opportunity for data collection of participants' reflections and learnings (McNiff, 2013). Action research is an approach that co-creates research with people, places praxis and reflection as primacy, and is underpinned by social constructivism (Bradbury, 2022). Hence, within this project, the research team adopts a critical sociological lens to allow space for reflections of social and power relationships with any nuanced implementation dynamics arising throughout the research, specifically in the conduct of the HIAs (Ahmed, 2012; Nettleton & Bunton, 1995). The research team, who will participate in the two HIA Working Groups, will consciously embody a reflexive research role within the study in order to capture key reflections with participant observations, aligned in the spirit of meaningful action research (Archibong *et al.*, 2016). Planned time and space for research analysis during data collection will take the form of two research analysis retreats for each HIA. This data will be triangulated with other research data produced within the study to create a holistic picture of HIA in Ireland, informing the resulting implementation model.

Methods

Work stream 1: Action research-led design and implementation of two HIAs using revised national HIA guidance. HIA 1 on the Cork City Development Plan (2022–2028) and HIA 2 and on the Irish Government Climate Action Plan (2024)

Two HIAs are planned within this research project, one on the Cork City Development Plan (2022–2028), one on the national Climate Action Plan (2024). Although containing the words 'plan' in their titles, both are policies, one operating at the local level, one in the national policy arena. The following outlines detail of the two policies, including their purpose, remit, geographic scope and population groups.

Cork City Development Plan (2022–2028)

The Cork City Development Plan (2022–2028) has a remit in creating a strategic spatial land-use policy for the city of Cork. The remit of the Plan is to guide development in the city across nine strategic objectives, including Compact Liveable Growth, Delivering Homes and Communities, Transport and Mobility, Climate and Environment, Green and Blue infrastructure, Open Space and Diversity, Economy and Employment, Heritage, Arts and Culture, Environmental Infrastructure, and Placemaking and Managing Development (CCC, 2022). The geographic scope of the Plan is within the boundary of Cork city. The population of Cork city residents, comprising of 210,000 people (*ibid*).

Climate Action Plan (2024)

The national Climate Action Plan (2024) is the third annual update to Ireland's Climate Action Plan (GoI, 2024). The remit of the annual Plans is to provide a roadmap for taking decisive action to halve Ireland's emissions by 2030 and reach net zero by no later than 2050. This commitment is included in the Climate Action and Low Carbon Development (Amendment) Act 2021. The Climate Action Plan (2024) builds on the previous iteration, published in 2023. It updates measures and actions that are required to deliver the carbon budgets and sectoral emissions ceilings. The geographic scope of the Plan is within the boundary of the Republic of Ireland. The population of Ireland comprises of 5,149,139 people, based on the latest census figures (CSO, 2023).

Task 1.1. Design and conduct a HIA on the Cork City Development Plan, 2022–2028 (HIA 1) and subsequently on the Government Climate Action Plan 2024 (HIA 2), using recently revised national HIA guidance

The HIA Steering Groups, which will be established before each HIA commences, will steer the direction and scope of each HIA and carry out the work. Minutes from the Steering Group meetings, which will record matters arising and decisions made at each stage of the seven HIA stages, will be used as research data.

In summary, the following processes will be implemented using HIA stagiist methodology as outlined in the IPH HIA guidance (Pyper *et al.*, 2021) (orange stream in Figure 1):

1. **Screening:** The screening tool will be applied to the national and local policies, to establish the range and distribution of potential impacts (p. 110).
2. **Scoping:** The governance for the whole assessment process is established at this stage for each HIA. The scoping stage also decides on (based on screening tool output) the determinants of health and the populations to be assessed, as well as the methods by which they will be assessed (p. 40)
3. **Analysis:** This is the most labour-intensive stage of the process. It involves the gathering, generating (when not available) and synthesis of quantitative and qualitative evidence of potential health impacts, the assessment of the distribution of those impacts (including potential impacts on health inequalities) and the work of drawing appropriate and relevant conclusions. The analysis involves an assessment according to guide questions (p. 47) as to the 'likely' and significant' potential impacts, based on evidence. The analysis will draw on relevant sociodemographic data from the Central Statistics Office, including indices of deprivation mapped at small area (District Electoral Division) level - Pobal Maps and on population health data from the Healthy Ireland Outcomes Framework.
4. **Reporting:** The HIA will report * a change to the policy and/or * a conclusion on particular effects, for example, that an effect is likely and significant.
5. **Implementation:** At this stage, direct pathways will be identified by the steering groups for the HIA findings to be used in the two respective policies- City Development Plan and Government Annual Climate Action Plan
6. **Monitoring:** Monitoring will track the actual effects and can be conducted during different phases of the policy. Part 6 of the Technical Guidance (Pyper *et al.*, 2021) provides a tool for developing monitoring measures.
7. **Evaluation:** A process and impact evaluation will be conducted at this stage of the HIA

Task 1.2. Apply an action research cycle concurrent to carrying out HIA 1 and HIA 2 (research objective 2)

As illustrated in Figure 1 (blue stream) a five-stage action research cycle comprising Investigate, Plan, Act, Outcome and Reflect will be applied to the seven HIA stages (Figure 1-orange stream) of HIA 1 and HIA 2. Such continual application of an action research cycle while Task 1.1 is delivered will ensure data from HIA processes are captured. This is a novel approach to researching HIA in practice, and will capture data, which is specific to the Irish process of HIA, thus informing the HIA implementation model.

Data on the implementation of both HIAs will be collected at each of the five action research cycle stages:

1. **Investigate:** Prior HIA stage 1 (Screening), participants' reflections on the planned HIA process will be captured using a World Café forum. World Café is a participatory action research method widely used in organisational change processes, when engaging community and health care stakeholders. It is a conversational process, also termed a self-facilitating focus group, that helps groups to engage in constructive dialogue around critical questions, to build personal relationships, and to foster mutual learning (Löhr *et al.*, 2020). It involves three rounds of conversation groups, recording results in the form of text, sketches, or symbols on paper. Through providing a forum of open informal dialogue and mutual learning, the World Café method tends to motivate participants. In addition to the World Café, data will be collected in the form of the research team's observation notes.
2. **Plan.** HIA steering group participants' perceptions and reflections on conducting the Screening and Scoping of HIA 1 and HIA 2 will be captured using a Stop & Share method (Archibong *et al.*, 2016), an individual-level rapid interview method (20–30 minutes) A set of pre-defined prompts eliciting reflection on conducting the stages will offer an opportunity for participants to reflect individually.
3. **Act:** HIA steering group participants' perceptions and reflections on the Analysis stage of HIA 1 and HIA 2 will be captured by the research team in the form of



Figure 1. Proposed research framework, drawing on the action research cycle employed by Archibong *et al.* (2017).

observation notes and using the Stop & Share method.

4. **Outcome** aligns with the stages 4 (Implementation) and 5 (Reporting) of the HIA process. Participant reflections will be collected using the Stop & Share method between stages 4 and 5. Therefore, this will capture participants’ experiences while writing the HIA report.
5. **Reflect.** A World Café will be conducted in order to capture participants’ collaborative reflections. It will be conducted in the same way as described for the first World Café. This further World Café will capture participants reflections in between the Monitoring and Evaluation stages of HIA 1 and HIA 2 (stages 6 and 7 of the HIA process).

A co-production workshop for data analysis is planned with key stakeholders including the project’s public involvement consultation group and the Institute of Public Health Ireland will take place. In line with action research ethos, this workshop will ensure key stakeholders will engage in the

co-design of data analysis, ensuring that the people envisaged to work with HIA and use the resources of HIA-IM after project completion, will be involved in the research process. Incorporating the outcomes from this co-production of analysis, data will be further refined using the reflexive thematic analytical framework (Braun & Clarke, 2022). Reliability checks will be used in the application of this project’s qualitative research methods (Heikkinen *et al.*, 2012), including the inter-coder reliability measures to ensure the highest possible levels of consistency, validity and transparency in the data analyses.

Work stream 2: Identification of factors that influence the process of HIA implementation, drawing from the Normalisation Process Theory (NPT) and the Consolidated Framework for Implementation Research (CFIR) (research objective 3) (Figure 1, green stream) HIA-IM will use multiple implementation science framework, drawing from the Normalisation Process Theory (NPT) (Finch *et al.*, 2018) and the Consolidated Framework for Implementation Research (CFIR) (Damschroder *et al.*, 2022). Relevant theoretical constructs from both frameworks will be used in

order to analyse the **process** of doing or carrying out a HIA (NPT) and the **determining factors** affecting HIA implementation (CFIR). NPT comprises of four constructs; Coherence- what is the work?, Cognitive Participation- who does the work?, Collective Action- how does the work get done?, Reflexive Monitoring- how is the work understood? NPT in particular seeks to examine the implementation processes of complex interventions such as HIA, understood as deliberately institutionally sanctioned interventions that are formally defined; planned; and intended to lead to a changed outcome (Finch *et al.*, 2018). NPT works to assess the implementation processes of those directly engaged in the intervention (HIA) as well as individuals not directly engaged but knowledgeable of the process (*ibid*). CFIR comprises of five domains; intervention/innovation characteristics, inner and outer setting, the individuals involved, process of implementation. In our research examining the implementation or doing of HIA in practice, the inner and outer settings domains of CFIR will be particularly illustrative in generating data on the wider institutional and policy contexts within which participants are working, enabling us to explore the relevant institutional and policy drivers and levers. CFIR was not developed to only focus on the institutional and policy context within which an intervention or approach such as HIA operates, however, the Outer Setting domain does include policy relevant attributes such as Policies and Laws, Local Conditions, and Local Attitudes that are relevant to the practice of HIA.

HIA 1 and HIA 2 steering group members from Task 1.1 will form Group A for work stream 2. Each HIA Steering Group structure will include 12 participants. Group B will comprise of individuals within key organisations involved in the HIAs with capacity to use and embed the practice HIA within existing structures (Group B). A snowballing technique will be used to identify and recruit Group B participants, estimated between 5 and 10 individuals per HIA (10 to 20 individuals in total).

An explanatory mixed-methods approach in data collection and analysis will be employed to capture implementation processes. Quantitative data will inform qualitative data collection and analysis, integrated sequentially with qualitative data (Figure 1- green stream). The standardised validated NoMAD (Finch *et al.*, 2018) questionnaire, with additional questions from CFIR domains, will be administered to Groups A and B. The NoMAD questionnaire assesses implementation processes from the perspective of professionals involved in the work of implementing complex interventions such as HIA.

Once the HIA stage of Scoping is completed, both groups A and B will be asked to complete the questionnaire online. They will be asked again after the HIA analysis stage, and following completion of the HIA. In total the groups will complete the questionnaire three times during the process of the HIA. Normalisation Process Theory (NPT), from which the NoMAD questionnaire is derived, addresses and highlights factors in the HIA process needed for successful implementation and integration of HIA into routine work (normalisation).

Therefore, we administer the NoMAD questionnaire more than once during the HIA process, at the work-intensive points (Scoping, Analysis and Reporting), in order to capture the evolution, if any, of participant's perceptions of factors needed to enhance HIA implementation. Once the HIA process is completed, respondents from groups A and B will be invited to participate in semi-structured interviews. A purposive sample will be chosen, using selection criteria (organizational affiliation, decision-making authority, gender and intersectionalities balance), from those who volunteer for interviews. The interview schedules will incorporate the NPT and CFIR constructs as well as findings from the rounds of NoMAD questionnaire administration. This will allow the research team to elicit perceptions and experience on factors affecting the implementation of HIA from the perspective of individuals in Groups A and B.

Work stream 3- Co-produce a Community Engagement Toolkit in order to optimise community participation in HIA in Ireland (research objective 4)

The aim of this work stream is to capture learning from the HIA Analysis stage (stage 3 of HIA process (Figure 1) using a set of community engagement indicators, building on Frewer *et al.* (2000) criteria for effective public participation. The HIA Analysis stage includes community consultation, to inform the HIA with community knowledge. The goal is to counter potential community disenfranchisement from transformative policy change from going "over their heads," as has been highlighted by Haigh *et al.* (2020: 1).

One of the four values central to HIA is democracy (WHO, 1999). HIA enables a generation and synthesis of quantitative and qualitative evidence, including community knowledge. The *Healthy Ireland Framework 2013–2025* with its *Strategic Action Plan 2021–2025* both highlight the importance of Empowering People and Communities (DOH, 2021; DOH, 2023) through intersectoral responses including HIA. However, HIA processes often lack meaningful community engagement (den Broeder *et al.*, 2017). As Haigh *et al.* (2020) conclude from their study of community engagement in HIA, this is identified as a missed opportunity to achieve benefits of community engagement during the assessment of planning processes that occur as part of HIAs. The Institute of Public Health HIA guidance does not detail how community engagement could occur. HIA practitioners, scholars and advocates such as Green *et al.* (2021c) have demonstrated the importance of the community voice in developing sustainable HIA implementation.

A conceptual framework for community engagement will be built from the relevant theoretical and grey literature review, drawing on criteria for effective public participation for HIA (Frewer *et al.*, 2000) and the published literature on the Health Equity Impact Assessment toolkit (Povall *et al.*, 2013).

The review will draw on literature underpinning the rationale for community participation in HIA, identifying tools and practices that have been used to effectively facilitate communities

in engaging in the HIA process, as well as carrying out their own HIA's. In addition, toolkits that have been developed to enhance community engagement will be included for review. The findings from the literature review will inform the conceptual framework for data collection for the HIAs. This framework will then be applied when involving communities in both HIAs, forming the conceptual content for data collection using the World Café method during the Analysis stage of the HIAs. Based on the findings from the application of the framework, which involves community participation during the Analysis stages of both HIAs, the Community Engagement Toolkit will be created. The Toolkit will be aimed at people who are doing HIAs and want guidance on community engagement, as well as guidance for community groups on engaging in HIAs. Data for work stream 3 will be drawn from work streams 1 and 2 of community representatives on the HIA Steering Groups, as well as part of the Analysis stage of the HIA.

Work stream 4: Iterative development of a contextualised, contemporary, Irish HIA implementation model by integrating and triangulating qualitative and quantitative data from all work streams (research objective 5)

Identified limitations in the literature will be addressed in HIA-IM including a scoping review of factors affecting HIA implementation, with a view to informing the development of the HIA implementation model. This scoping review will inform the integration of data from all work streams as well as the main output from the research study, the HIA implementation model. Contributions from the Public Involvement in the research study is crucial to the development of the HIA implementation model. This work stream 4 involves four Public Involvement events with the HIA-IM Public Involvement Consultation Group, in the first three years of the project, in order to gather contributions to inform the development of the model. In the fourth and final year of the project, a Public Forum event will be held in order to include further contributions from the public to the model, beyond the Consultation Group. This will ensure the model is both informed by scientific evidence together with contributions from the Public Involvement process.

Upon completion of both HIA 1 and HIA 2, data will be synthesised and analysed in order to iteratively build the contextualised Irish HIA implementation model. The research study will do this through a process that documents the implementation process in the conduct of two HIAs. Work stream 4 will consolidate the findings on impact and effectiveness of HIA 1 and HIA 2 (Task 1.1), themes emerging from Task 1.2, findings from work stream 2, findings from the creation of the Community Engagement Toolkit (work stream 3) and four PPI events (work stream 4) in order to produce the contextualised HIA implementation model.

Integration of data occurs at three stages in HIA-IM. The model will be produced iteratively as findings from HIA 1 will be integrated with findings from HIA 2 creating the report on the application of the action research cycle to HIA implementation.

Integration will take place at the interpretation stage of the study, to triangulate findings. Specifically, triangulation will be carried out during the iterative and continual synthesis and integration stages, where a convergence coding matrix will be developed to display findings emerging from all work streams.

A central feature of the research study will be to ensure that research findings and outcomes are interpreted by the research team, staff of the Institute of Public Health Ireland (IPH), and relevant collaborators during research team, Steering Group and Advisory Panel meetings, and meetings with project collaborators. Contributions at PPI events will facilitate contributions to identify key priorities and recommendations, as well as co-production in data analysis, informing the model. The main outcome from work stream 4 will be the continual development of the HIA implementation model, which will be built iteratively and consistently throughout the project. This model will be populated by data findings from all work streams.

The HIA implementation model will include an explanation of the implementation of HIA at local policy level and national policy level, in order to uncover, enhance understanding and offer a guiding tool and process for doing HIAs in Ireland, at the policy, strategic level.

Results dissemination

As the action research approach is central to the study, results dissemination will be done in an iterative way during the conduct of both HIAs, with ongoing dissemination and learning to be carried out with both of the two HIA Steering Groups. There will be a variety of research dissemination outputs resulting from this research project including peer-reviewed journal articles, policy briefs, research papers, published dataset with the Irish Qualitative Data Archive (IQDA), and conference proceedings as a result of this research project. The translation of evidence to policy impact pathway inherent in the partnership between project team and leading health policy actors on the island of Ireland, namely the Institute of Public Health who are leading on the roll-out of the HIA programme and within the HSE, will influence the implementation of HIA on the island of Ireland. These publications including the Community Engagement Toolkit will be disseminated through the School of Public Health and ISS21 websites, the HIA Public Involvement Consultation Group members, project partners, team members and academic networks. The two HIA reports, and the Community Engagement Toolkit, will be stored on the University College Cork open access repository (CORA). Results will be reported according to the COREQ guidelines as appropriate (Booth *et al.*, 2014). The results of the project may inform action within the public health sector to consider a One Health approach in tackling the polycrisis for all living organisms affected by climate change, environmental health, biodiversity and a circular economy as important factors affecting global health going forward.

Study status

This research is currently underway.

Discussion

This research study is carried out using the expertise and experience of the PI and project team, who have a track record of high-quality research in HIA, implementation science, action research methodologies, environmental sociology, public activism, and Health in All Policies. The way in which the PI and project team have worked together has been collaborative from the start, designing the work programme in an iterative and consensual way before the project commenced and continuously, with key partners. Co-creation and co-production of the HIA on the Cork City Development Plan (2022–2028), of the HIA on the national [Climate Action Plan \(2024\)](#), Community Engagement Toolkit and HIA implementation model is at heart of the study's work programme. Partnership working and co-creation across the research study will enhance understanding of HIA implementation processes and uncover the nuanced experience and power dynamics arising in the conduct of HIA. It will provide a guiding tool with the HIA implementation model to strengthen intersectoral approaches in tackling health inequalities and optimise health equity, as well as contribute to academic literature in the field.

Ethical approval and consent

Ethical approval was sought from the University College Cork, Social Research Ethics Committee (SREC) in May 2023, and secured in June 2023 (Ethics approval number: 2023-091). An ethics amendment was approved by SREC in December 2023, which included detail on the data collection instruments and a description of the Public Involvement process engaged in the project. This study protocol will be sent to SREC in UCC for their information and records. Primary data will be derived from interviews, questionnaires, World cafés, HIA group meeting minutes and researcher reflections. Participant information sheets, consent forms and Conflict of Interest statements were approved during the UCC ethics approval process.

Data availability

No data are associated with this article.

Acknowledgments

Professor Ivan Perry, School of Public Health, UCC, Ms Aoife Dorney of Makemake company for doing the graphic design work for [Figure 1](#).

References

- Ahmed S: **On being included: racism and diversity in institutional life**. Durham and London, Duke University Press, 2012.
[Publisher Full Text](#)
- Archibong U, Karodia N, Webhe-Herrera A, *et al.*: **The GENOVATE model for gender equality in transforming research and innovation**. 2017.
[Reference Source](#)
- Archibong UA, O'Mullane M, Kállayová D, *et al.*: **Guided reflection as an organisational learning and data collection tool in a gender equality change management programme**. *International Journal of Organisational Diversity*. 2016; **16**(1): 19–34.
[Publisher Full Text](#)
- Bekker MPM: **The politics of healthy policies: redesigning Health Impact Assessment to integrate health in public policy**. Erasmus University: Rotterdam, Amsterdam, 2007.
[Reference Source](#)
- Booth A, Hannes K, Harden A, *et al.*: **COREQ (Consolidated Criteria for Reporting Qualitative Studies)**. In: MOHER, D., ALTMAN, D., SCHULZ, K., SIMERA, I. & WAGER, E. (eds.) *Guidelines for Reporting Health Research: A User's Manual*. New York, USA: John Wiley & sons, 2014.
[Publisher Full Text](#)
- Bradbury H: **How to do action research for transformations at a time of eco-social crisis**. Cheltenham, England, Edward Elgar, 2022.
[Publisher Full Text](#)
- Braun V, Clarke V: **Thematic analysis: a practical guide**. London, Sage, 2022.
- Bush PL, Pluye P, Loignon C, *et al.*: **Organizational participatory research: a systematic mixed studies review exposing its extra benefits and the key factors associated with them**. *Implement Sci*. 2017; **12**(1): 119.
[PubMed Abstract](#) | [Publisher Full Text](#) | [Free Full Text](#)
- CCC: **Cork City Development Plan (2022-2028)**. Cork City Council, 2022.
[Reference Source](#)
- CSDH: **Closing the gap in a generation: health equity through action on the social determinants of health**. Final Report of the Commission on Social Determinants of Health. Geneva: World Health Organization, 2008.
[Reference Source](#)
- CSO: **Census of population 2022 - Summary results**. Central Statistics Office, Ireland, 2023; Accessed 22.11.2024.
[Reference Source](#)
- Damschroder LJ, Reardon CM, Widerquist MAO, *et al.*: **The updated consolidated framework for implementation research based on user feedback**. *Implement Sci*. 2022; **17**(1): 75.
[PubMed Abstract](#) | [Publisher Full Text](#) | [Free Full Text](#)
- Delany T, Harris P, Williams C, *et al.*: **Health Impact Assessment in New South Wales & health in all policies in South Australia: differences, similarities and connections**. *BMC Public Health*. 2014; **14**: 699.
[PubMed Abstract](#) | [Publisher Full Text](#) | [Free Full Text](#)
- den Broeder L, Uiters E, Ten Have W, *et al.*: **Community participation in Health Impact Assessment. A scoping review of the literature**. *Environ Impact Assess Rev*. 2017; **66**: 33–42.
[Publisher Full Text](#)
- DHSSPS: **Making life better- a whole system strategic framework for public health, 2013-2023**. Belfast: Department of Health, Social Services and Public Safety, 2013.
[Reference Source](#)
- DOH: **Healthy Ireland, a framework for improved health and wellbeing, 2013 – 2025**. Dublin: Department of Health, Ireland, 2013.
[Reference Source](#)
- DOH: **Healthy Ireland- summary report**. Dublin: Government Publications, 2019.
[Reference Source](#)
- DOH: **Healthy Ireland strategic action plan 2021– 2025: building on the first seven years of implementation**. Dublin: Government Publications Office, 2021.
[Reference Source](#)
- DOH: **Healthy Ireland survey report 2023- summary report**. Dublin: Department of Health, Government publications, 2023.
[Reference Source](#)
- DOH&C: **Quality and fairness- a health system for you**. In: *CHILDREN, D. O. H. A.* (ed.). Dublin: DoH&C, 2001.
[Reference Source](#)
- Douglas M, Katikireddi SV, Taulbut M, *et al.*: **Mitigating the wider health effects of COVID-19 pandemic response**. *BMJ*. 2020; **369**: m1557.
[PubMed Abstract](#) | [Publisher Full Text](#) | [Free Full Text](#)
- Douglas M, Scott-Samuel A: **Addressing health inequalities in Health Impact Assessment**. *J Epidemiol Community Health*. 2001; **55**(7): 450–451.
[PubMed Abstract](#) | [Publisher Full Text](#) | [Free Full Text](#)
- Duffy K, Conolly S, Nolan A, *et al.*: **Unequal Chances? Inequalities in mortality**

in Ireland. Dublin, Ireland: The Economic and Social Research Institute (ESRI), 2022.

[Reference Source](#)

EAPN: **Rethinking a more inclusive and equal Ireland for 2020 and beyond.** EAPN Dublin: The European Anti-Poverty Network Ireland, 2020.

[Reference Source](#)

Finch TL, Girling M, May CR, *et al.*: **Improving the normalization of complex interventions: part 2 - validation of the NoMAD instrument for assessing implementation work based on Normalization Process Theory (NPT).** *BMC Med Res Methodol.* 2018; **18**(1): 135.

[PubMed Abstract](#) | [Publisher Full Text](#) | [Free Full Text](#)

Frewer L, Rowe G, Marsh R, *et al.*: **Public participation methods: evolving and operationalising an evaluation framework.** *Annual Report to the Department of Health and Health Safety Executive.* 2000; **55**.

Gillespie N, McIldeon N: **Review of Health Impact Assessment (HIA) for the Institute of Public Health in Ireland.** 2009.

GoI: **Climate Action Plan 2024.** Dublin: Government of Ireland, 2024.

[Reference Source](#)

Green L, Ashton K, Azam S, *et al.*: **Using Health Impact Assessment (HIA) to understand the wider health and well-being implications of policy decisions: the COVID-19 'staying at home and social distancing policy' in Wales.** *BMC Public Health.* 2021a; **21**(1): 1456.

[PubMed Abstract](#) | [Publisher Full Text](#) | [Free Full Text](#)

Green L, Ashton K, Bellis MA, *et al.*: **'Health in all policies'-A key driver for health and well-being in a post-COVID-19 pandemic world.** *Int J Environ Res Public Health.* 2021b; **18**(18): 9468.

[PubMed Abstract](#) | [Publisher Full Text](#) | [Free Full Text](#)

Green L, Ashton K, Edmonds N, *et al.*: **Process, Practice and Progress: a case study of the Health Impact Assessment (HIA) of Brexit in Wales.** *Int J Environ Res Public Health.* 2020; **17**(18): 6652.

[PubMed Abstract](#) | [Publisher Full Text](#) | [Free Full Text](#)

Green L, Ashton K, Fletcher M, *et al.*: **Rising to the triple challenge of brexit, COVID-19 and climate change for health, well-being and equity in Wales.** 2021c.

[Reference Source](#)

Greer SL, Falkenbach M, Figueras J, *et al.*: **Health for all policies: the co-benefits of intersectoral action.** Cambridge University Press & European Observatory on Health Systems and Policies: Cambridge, 2024.

[Reference Source](#)

Haigh F, Fletcher-Lartley S, Jacques K, *et al.*: **The health impacts of transformative infrastructure change: process matters as much as outcomes.** *Environ Impact Assess Rev.* 2020; **85**: 106437.

[Publisher Full Text](#)

Heikkinen HLT, Huttunen R, Syrjälä L, *et al.*: **Action research and narrative inquiry: five principles for validation revisited.** *Educ Act Res.* 2012; **20**(1): 5–21.

[Publisher Full Text](#)

IPH: **Institute of Public Health Strategic Objectives, 2020-2025.** Belfast and Dublin: IPH, 2020.

[Reference Source](#)

Jabot F, Tremblay E, Rivadeneyra A, *et al.*: **A comparative analysis of Health Impact Assessment implementation models in the regions of montérégie (Québec, Canada) and Nouvelle-Aquitaine (France).** *Int J Environ Res Public Health.* 2020; **17**(18): 6558.

[PubMed Abstract](#) | [Publisher Full Text](#) | [Free Full Text](#)

Kearns N, Pursell L: **Time for a paradigm change? Tracing the institutionalisation of Health Impact Assessment in the Republic of Ireland across health and environmental sectors.** *Health Policy.* 2011; **99**(2): 91–96.

[PubMed Abstract](#) | [Publisher Full Text](#)

Linzone N, Ballarini A, Piccinelli C, *et al.*: **Institutionalizing Health Impact Assessment: a consultation with experts on the barriers and facilitators to implementing HIA in Italy.** *J Environ Manage.* 2018; **218**: 95–102.

[PubMed Abstract](#) | [Publisher Full Text](#)

Löhr K, Weinhardt M, Sieber S: **The "World Café" as a participatory method for collecting qualitative data.** *Int J Qual Meth.* 2020; **19**: 1609406920916976.

[Publisher Full Text](#)

Lynch H, Holdroyd I, Black D, *et al.*: **Sick Britain: a call for mandatory Health Impact Assessments across government with the support of a dedicated 'Health in All Policies' support unit.** In: LONDON, Q. M.-U. O. (ed.). London: Queen Mary-University of London, 2023.

[Reference Source](#)

Marmot M: **The health gap: the challenge of an unequal world: the argument.** *Int J Epidemiol.* 2017; **46**(4): 1312–1318.

[PubMed Abstract](#) | [Publisher Full Text](#) | [Free Full Text](#)

McNiff J: **Action research: principles and practice.** Oxon, Routledge, 2013.

[Publisher Full Text](#)

Nettleton S, Bunton R: **Sociological critiques of health promotion.** In: BUNTON, R., BURROWS, R. & NETTLETON, S. (eds.) *The Sociology of Health Promotion.* Oxfordshire, England: Routledge, 1995.

[Reference Source](#)

O'Mullane M: **Integrating Health Impact Assessment with the policy process: lessons and experiences from around the world.** Oxford, UK, Oxford University Press, 2013.

[Publisher Full Text](#)

O'Mullane M: **Making a difference: informing policy development.** In: O'MULLANE, M. (ed.) *Health Impact Assessment and policy development The Republic of Ireland and Northern Ireland.* Manchester: Manchester University Press, 2015.

[Publisher Full Text](#)

Povall SL, Haigh FA, Abrahams D, *et al.*: **Health equity impact assessment.** *Health Promot Int.* 2013; **29**(4): 621–33.

[PubMed Abstract](#) | [Publisher Full Text](#)

Pyper R, Cave B, Purdy J, *et al.*: **Guidance. Health Impact Assessment: standalone HIA and health in Environmental Assessment.** A manual. Dublin and Belfast: Institute of Public Health in Ireland, 2021.

Rogerson B, Lindberg R, Baum F, *et al.*: **Recent advances in Health Impact Assessment and Health in all policies implementation: lessons from an international convening in Barcelona.** *Int J Environ Res Public Health.* 2020; **17**(21): 7714.

[PubMed Abstract](#) | [Publisher Full Text](#) | [Free Full Text](#)

Solar O, Irwin A: **A conceptual framework for action on the social determinants of health.** *Social Determinants of Health Discussion Paper 2 (Policy and Practice).* Geneva, Switzerland: World Health Organization, 2010.

[Reference Source](#)

Solar O, Valentine N, Castedo A, *et al.*: **Action on the social determinants for advancing health equity in the time of COVID-19: perspectives of actors engaged in a WHO special initiative.** *Int J Equity Health.* 2023; **21**(Suppl 3): 193.

[PubMed Abstract](#) | [Publisher Full Text](#) | [Free Full Text](#)

WHO: **Health Impact Assessment: main concepts and suggested approach, gothenberg consensus paper.** In: HEALTH, E. C. O. P. (ed.). Copenhagen: W.H.O. Regional Office for Europe, 1999.

WHO: **Helsinki statement on health in all policies.** Finnish Presidency, European Commission: World Health Organization, 2013.

Winkler MS, Viliiani F, Knoblauch AM, *et al.*: **Health Impact Assessment international best practice principles.** Fargo, USA: International Association for Impact Assessment, 2021.

[Reference Source](#)

Open Peer Review

Current Peer Review Status:   

Version 3

Reviewer Report 25 February 2025

<https://doi.org/10.21956/hrbopenres.15466.r45418>

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Morufu Olalekan Raimi 

Federal University Otuoke, Otuoke, Bayelsa, Nigeria

HRB Open Research

The theme “Development of a Health Impact Assessment Implementation Model” is an essential contribution to public health and policy implementation. The study aligns with Health in All Policies (HiAP) and intersectoral governance models. Also, the integration of action research and implementation science frameworks by global HIA best practices and frameworks. The research has direct applications in policy implementation and public health interventions. Although, the model could be adapted for other countries looking to strengthen HIA frameworks. Using AI-driven data analysis could enhance HIA implementation and scalability and the study can inform urban planning, climate policy, and social justice initiatives. However, the manuscript requires several improvements for a clearer and stronger impact.

- The title is informative, appropriate, clear and concise, effectively summarizing the research focus. However, it will be better featured as “A Health Impact Assessment Implementation Model for Policy Integration.”
- The abstract is well-structured. however, the abstract should emphasize how this model advances existing HIA practices.
- Rationale: The abstract outlines the importance of HIA but does not adequately highlight the limitations of existing models.
- Objective: Clearly stated, but it should mention how the study builds on previous HIA research.
- Methods: The methodology is well-articulated, but more details on the research frameworks used (e.g., CFIR, NPT) should be included. The proposed model is not tested in multiple policy environments to verify its robustness.
- Results: The abstract should provide a more structured summary of the key innovations of the model.
- Conclusions: Should emphasize the applicability of the model to different policy settings.
- Recommendations: The abstract should outline how policymakers can apply this model in practice.

- Keywords are appropriate
- The introduction provides good background and contextualizes HIA within health policy but needs a clearer statement of research gaps.
- The manuscript should better articulate why previous HIA models have been insufficient.
- Author should avoid First-Person Pronouns: The author should replace “we” with “this study” or “the present study.”
- Methodology - More details on participant recruitment and selection criteria should be included. The methodology should elaborate on data triangulation techniques to enhance validity.
- Ethical considerations should be expanded, especially regarding community participation.
- Results - Clearly structured and well-detailed with model development process.
- Needs stronger comparisons with international HIA models.
- Author should further discuss barriers to implementation and real-world applicability.
- Figures need to better illustrate the implementation model.
- Tables should be referenced more frequently in the text.
- Discussion - The manuscript does not sufficiently discuss political and institutional barriers to HIA adoption. The study would also benefit from comparisons with HIA models in different policy contexts (e.g., EU vs. North America).
- There are few grammatical errors and spelling mistakes in this article. The author should limit the use of personal pronouns and the use of “we” and “our” in the article. Use third person pronoun and past tense in the write up of the article. Reread this article for typographical, grammar and spelling errors.
- Heavy Use of Technical Language – The manuscript could be clearer for a multidisciplinary audience.
- Conclusion – Well-structured but should include policy implications.
- Author needs a stronger statement on policy recommendations and long-term monitoring.
- References – Comprehensive but needs more international case studies. Need more recent citations (2020–2024) and ensure consistent formatting (APA/Harvard style).

Specific Reviewer Comments and Suggestions:

1. Please give a frank account of the strengths and weaknesses of the article (in 100-200 words)

Is the rationale for, and objectives of, the study clearly described?

Yes

Is the study design appropriate for the research question?

Yes

Are sufficient details of the methods provided to allow replication by others?

Partly

Are the datasets clearly presented in a useable and accessible format?

Not applicable

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Health Impact Assessment; Environmental Impact Assessment; Environmental Epidemiology; Climate Change and Health; Medical Geography; Pollution Control Management; Waste Management and Health etc.

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard, however I have significant reservations, as outlined above.

Reviewer Report 25 February 2025

<https://doi.org/10.21956/hrbopenres.15466.r45402>

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Courtney L McNamara 

Newcastle University, Newcastle upon Tyne, England, UK

The authors' revisions have addressed my concerns, and I am happy to update the status of the article to approved without reservations.

Is the rationale for, and objectives of, the study clearly described?

Not applicable

Is the study design appropriate for the research question?

Not applicable

Are sufficient details of the methods provided to allow replication by others?

Not applicable

Are the datasets clearly presented in a useable and accessible format?

Not applicable

Competing Interests: No competing interests were disclosed.

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard.

Version 2

Reviewer Report 29 January 2025

<https://doi.org/10.21956/hrbopenres.15391.r44395>

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Marleen Bekker 

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The detailed response and the summary it looks like the authors have sufficiently processed the comments and suggestions in the new version.

Is the rationale for, and objectives of, the study clearly described?

Not applicable

Is the study design appropriate for the research question?

Not applicable

Are sufficient details of the methods provided to allow replication by others?

Not applicable

Are the datasets clearly presented in a useable and accessible format?

Not applicable

Competing Interests: No competing interests were disclosed.

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard.

Version 1

Reviewer Report 20 May 2024

<https://doi.org/10.21956/hrbopenres.15209.r38902>

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Courtney L McNamara 

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The manuscript 'Development of a Health Impact Assessment Implementation Model: Enhancing Intersectoral Approaches in Tackling Health Inequalities- A Mixed Methods Study Protocol' discusses the development and implementation of a Health Impact Assessment (HIA) model aimed at enhancing intersectoral approaches to tackle health inequalities in Ireland. It employs a mixed methods research strategy incorporating action research and implementation science theories to develop a contextualized HIA Implementation Model. The study is structured around several work streams that address five objectives and includes the production of a Community Engagement Toolkit and dissemination strategies.

Overall, the study addresses a topical/pressing issue, using a robust methodological approach. The manuscript, however, is structured and written in a manner that might be confusing for readers. The transitions between sections are not always clear, and it can be challenging to discern the main objectives and rationale of the study's methods.

The study's aim for example is discussed in several places using different terminology. The authors might consider some restructuring so that the aim (mentioned just once) flows directly from an introduction that introduces the research gap, followed by methods and results/conclusions. It would be helpful when outlining the research gap to also describe the rationale for action research and implementation science strategies broadly and for the specific frameworks that are being used.

Please check the numbering/characterization of the objectives on page 4 as the numbering system at the moment is a bit confusing and seems to list only 4 objectives.

Greater detail should be provided on the steering and working groups and who will be included in them.

Although the creation of a Community Engagement Toolkit is mentioned, there doesn't seem to be a public component to the dissemination strategy.

Minor recommendation

P 3 The following sentence: Employment status and education is associated with people reporting 'good or very good health' in the Healthy Ireland survey (DOH, 2023; Duffy et al., 2022)."

Should be revised to mention that *those who are employed and higher educated* are more likely to report 'good or very good' health

Is the rationale for, and objectives of, the study clearly described?

Partly

Is the study design appropriate for the research question?

Yes

Are sufficient details of the methods provided to allow replication by others?

Partly

Are the datasets clearly presented in a useable and accessible format?

Not applicable

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: My background is in public health and health equity and I have experience

with HIAs

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard, however I have significant reservations, as outlined above.

Author Response 13 Dec 2024

Monica OMullane

Dear Courtney, Many thanks for this review.

The Aim mentioned now only in the 'study aims and objectives section,' following the introduction that introduces the research gap.

Rationale for using implementation science and action research in the introduction, as well as rationale for why using the two IS frameworks.

Under the 'Study aims and objectives section,' the five research objectives are now listed.

Under the section 'study aims and objectives,' I've included details on the broad sectoral representation of who is on the steering groups.

This information is included now in the 'results dissemination' section- that the HIA reports, and the Community Engagement Toolkit will be stored on an open access repository and will be disseminate across networks including the HIA-IM Public Involvement Consultation Group.

Amended the sentence in the introduction section of the Protocol to read:

Those who are employed and higher educated are more likely to report 'good or very good' health ([DOH, 2023](#); [Duffy et al., 2022](#)).

Competing Interests: No competing interests were disclosed.

Reviewer Report 13 April 2024

<https://doi.org/10.21956/hrbopenres.15209.r38898>

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The paper 'Development of a Health Impact Assessment Implementation Model: Enhancing Intersectoral Approaches in Tackling Health Inequalities- A Mixed Methods Study Protocol' offers a commendable approach to experiment with and reflect on implementation conditions for HIA and its conclusions and policy recommendations. Identifying an implementation gap of HIA into intersectoral policies and actions addressing health inequalities, the study sets out to experiment

with a local and a national level HIA, using these as action research settings for exploring theory-driven as well as experience-based implementation conditions and co-developing with study participants an implementation model and a Community Engagement Toolkit. The authors argue that this design will also allow for critical assessment of whether HIA overall is fit for purpose.

The action research approach in my view offers important conditions to do justice to observed implementation barriers such as reflexive dialogues with HIA actors, affected groups and end users moving from evidence to meaning through joint sense-making and shared value creation, developing a common language and ambition horizon, as well as developing a shared understanding and sense of acceptability, feasibility and applicability of policy recommendations within the institutional frames and boundaries of voluntary coordination in that particular policy field. Actions that move beyond these boundaries require alternative strategies such as activism, advocacy or litigation. The reflection-in-action design could however take a broader approach, moving the development of a toolkit and a model towards developing conditions for a sustainable organizational infrastructure collecting policy feed forward and feedback for policy responsiveness and change, of which HIA can be an important partial component. This could institutionalize ownership in the non-health policy domain. It is of crucial importance to understand that implementation is not in the hands of HIA proponents, and ownership needs to be organized beyond the HIA.

On a more critical note, the study design reads as a rather technical approach to procedures of HIA and action research. Yet the study purposes of policy implementation and change are fundamentally political - whether at the micro, meso or macrolevel of government and its relations to society. Therefore the study design could benefit from adding an explicit framework for the analysis of power within and between governmental and societal actors and stakeholders. Understanding the political dynamics allows HIA proponents to leverage the access, voice and veto options in the political system in strategies additional to HIA to the benefit of the public's health. Why would this be important? Because HIA implementation cannot be enforced. We need to deeply understand the mechanisms of policy change apart from HIA in order to devise appropriate strategies.

Under policy and institutional conditions by which intersectoral policies and HIAs are 'endorsed' - and therefore in the absence of regulatory obligations, sanctions and enforcement, the coordination of such HIAs and their policy recommendations depends largely on voluntary mechanisms. Voluntary policy coordination and alignment across sectors, although often described as 'weak' or 'soft' mechanisms, rely on an ever growing repertoire of strategies, instruments, arrangements and networks that can produce strong and hard policy change to better promote and protect the health of affected groups or populations. However, such policy change usually does not result from a singular HIA but rather from intentional or unintentional combinations of strategies that significantly broaden the relevance to a larger and more powerful group, external events that induce contextual changes in public or political support, and/or shifts in power within the bureaucracy or in the political system. Any HIA initiative therefore could be more embedded in an approach to understand and act upon the complex adaptive system around the policy at hand. Secondly, HIA could become embedded in a sustainable learning infrastructure that connects operational, instrumental policy learning within a single HIA to organizational learning and adaptation of policymaking rules and procedures and to system level learning and change. The system level incorporates an infrastructure built around governmental monitoring and evaluation that makes policies more responsive to issues of legitimacy. Deeply understanding

the politics of, for instance, permit procedures, practices, lobbying and (lack of) enforcement puts HIA in a different perspective. It might be helpful to use the action research design to develop a decision tool on what strategies would fit a variety of health impacts and purposes.

It might be interesting to further strengthen this study protocol in the literature with alternative considerations of the Health FOR All Policies model and a co-benefits approach towards a persuasive argumentation for policy change; and whole of society approaches for the convergence of health and economy - an anticipatory rather than reactive approach to state-society partnerships.

Some suggestions concern specific points in the use of theory and methods, these are listed here. On the use of theory: the Normalisation Process Theory (NPT) and the Consolidated Framework for Implementation Research (CFIR): why and how did the authors select these two and how do these complement each other? The CFIR was not developed with a focus on public policies but, rather, to address organizational or professional policies that do not have to comply with or are not set according to democratic requirements.

Methods

- Although participation of key implementation actors and end users is mentioned under the Analysis stage of HIA, it is of crucial importance that implementation actors are already part of the study from the very first moments of designing the HIAs in the Steering and Working Groups.
- The protocol states that a conceptual framework for meaningful community engagement needs to be developed. The World Café offers an organizational procedure that might be enriched with for instance the technique of responsive evaluation (first developed by Robert Stake). Here the dialogue is owned and designed by participants. It focuses on sharing and understanding their issues, claims and concerns, articulating the controversies and avoiding premature consensus. This has been evaluated and proven highly effective in communities and stakeholders feeling heard, developing common understanding and offering increased engagement and alternative actions.
- I would suggest to replace the Stop and Share interview during the reporting and implementation stage with this World Café format since this seems a crucial stage to the study's purpose. Moreover, participants learn from each other enriching the model further.
- I am unfamiliar with the NoMAD questionnaire and it is unclear to me why participants would have to fill out this questionnaire three times, since this study does not have an experimental or longitudinal setup.
- the study protocol does not elaborate on the Cork City Development plan nor the national Climate Action plan. It is therefore unclear what specific conditions are relevant for the HIA as well as the action research design, and to what extent the implementation model and citizen engagement kit are generalizable to other policy proposals, geographic regions and population groups.
- The protocol does not address a theoretical framework for health inequalities. The design might benefit from using scientific publications on the Health Equity Impact Assessment toolkit.
- The study organization with for instance the Public Involvement Group is convincing to ensure co-creation and co-production with relevant stakeholders and community representatives. The quality however will depend on who will participate and the range of diversity represented. This is not specified yet.

Overall the protocol addresses an important and increasingly urgent issue of aligning policies to

protect public health. However, the protocol is executed in a rapidly changing context with increasing uncertainties and pressures on democratic and governance stability. Moreover, climate change increasingly shows how human health in the complex ecosystem depends on environmental and planetary conditions. As a last suggestion, it might not suffice to focus the HIA implementation model and the community engagement toolkit on human health and human inequalities alone. The public health sector itself might consider going beyond human health to incorporate other living organisms affected by climate change, environmental health, biodiversity, and a circular economy as crucial risks and resources to human health.

Refer:

(PDF) [The Politics of Healthy Policies: Redesigning health impact assessment to integrate health in public policy \(researchgate.net\)](#)

References

1. Dubé L, Addy NA, Blouin C, Drager N: From policy coherence to 21st century convergence: a whole-of-society paradigm of human and economic development. *Ann N Y Acad Sci.* 2014; **1331**: 201-215 [PubMed Abstract](#) | [Publisher Full Text](#)
2. Abma TA: Responsive evaluation in health promotion: its value for ambiguous contexts. *Health Promot Int.* 2005; **20** (4): 391-7 [PubMed Abstract](#) | [Publisher Full Text](#)
3. Sadare O, Williams M, Simon L: Implementation of the Health Equity Impact Assessment (HEIA) tool in a local public health setting: challenges, facilitators, and impacts. *Can J Public Health.* 2020; **111** (2): 212-219 [PubMed Abstract](#) | [Publisher Full Text](#)
4. Greer S, Bekker M, Azzopardi-Muscat N, McKee M: Political analysis in public health: middle-range concepts to make sense of the politics of health. *European Journal of Public Health.* 2018; **28** (suppl_3): 3-6 [Publisher Full Text](#)
5. Greer SL, Falkenbach M, Siciliani L, McKee M, et al.: From Health in All Policies to Health for All Policies. *Lancet Public Health.* 2022; **7** (8): e718-e720 [PubMed Abstract](#) | [Publisher Full Text](#)

Is the rationale for, and objectives of, the study clearly described?

Partly

Is the study design appropriate for the research question?

Yes

Are sufficient details of the methods provided to allow replication by others?

Partly

Are the datasets clearly presented in a useable and accessible format?

Not applicable

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Transformative health governance; Health policy and politics; Global One Health

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard, however I have significant reservations, as outlined above.

Author Response 18 Apr 2024

Monica OMullane

Many thanks for your review and insightful comments and report.

The research is set within the context of the [Health for all Policies](#) realm, which we can include explicitly in the protocol. The setting theoretical domain of CFIR will capture the broader institutional and political context, and the extent to which it does that, will be reflected by us in the findings.

The research seeks to examine implementation processes, with a particular focus on the process of implementation, which NPT can theoretically capture, and the factors determining or shaping implementation of a specific approach, such as HIA, which is the validity of using CFIR. Both are well established implementation science frameworks and are often used together (for example- this [article](#) [Schroeder, D., Luig, T., Finch, T.L. *et al.*

Understanding implementation context and social processes through integrating Normalization Process Theory (NPT) and the Consolidated Framework for Implementation Research (CFIR). *Implement Sci Commun* **3**, 13 (2022). <https://doi.org/10.1186/s43058-022-00264-8>] looking to understand implementation context with CFIR and NPT). In the protocol, we can revise and clarify why we are using these chosen frameworks, and why together. Using these frameworks with HIA in mind as an innovative process is novel, and we seek to illustrate how and why the frameworks were useful, and also, if or when they were not applicable.

In response to queries regarding Methods used:

- We are currently in the middle of data collection and therefore cannot change the Stop & Share for World Café; however, point duly noted for when planning HIA 2. What we are finding so far with doing the Stop & Shares at the various stages of the HIA is that there are revealing aspects of subjective experience of the process of the HIA that participants are reflecting in an open manner and this space seems to work well in their enabling their reflection during the 'doing' of the HIA.
- NoMAD is a standardised survey developed from the domains of NPT; the reason for administering it three times during the process of data collection is to elicit data on how participants are experiencing the process of HIA at various stages of the HIA. Although not a longitudinal study, we are interested to see if there are any changes in the groups experience and involvement in the HIA.
- We seek to detail the policies under study when we publish results. In these further papers and in the publication of the implementation model, we will detail to which extent is the protocol and subsequent model with toolkit generalizable to other policies, geographic regions and population groups.
- We will review the design of the Community Engagement Toolkit to include design with scientific publications on the Health Equity Impact Assessment toolkit.

Competing Interests: No competing interests were disclosed.

Author Response 13 Dec 2024

Monica OMullane

More detail on responding to the review:

We will make it explicit in the protocol that when we refer to the implementation of HIA, we are referring to the doing of HIA in practice: This is included now in the Introduction, and in the Methods section.

Under work stream 2 in the 'methods section, I've made explicit that we are looking at HIA implementation with our research approach and using the outer and inner settings domains of CFIR to explore relevant policy or institutional drivers or levers. Included Health for All Policies reference in the 'introduction,' where HiAP is first mentioned. Included in the manuscript an explanation as to why we chose the two IS frameworks, why and how they complement each other. This is now in the Introduction section.

Included in the Methods section, in the Work Stream 2 section: I would argue that whilst yes, CFIR was not developed solely to focus on public policies, one of its five domains (Damschroder et al. 2022) in the original and updated CFIR includes the outer setting, which includes policy relevant attributes such as Policies & Laws, Local Conditions, Local Attitudes and so on.

The information on Steering and Working Groups is included in the Methods section, under work stream one, task 1.1.

The reference for the NoMAD survey is included in the protocol (Finch et al. 2018), from my searching online, the Finch et al 2018) paper looks like the accepted published paper on the NoMAD survey/ questionnaire

<https://implementationoutcomerepository.org/implementation-outcomes/sustainability/normalisation-measure-development-questionnaire-nomad>

Information included in the Methods section under Work Stream 2 in relation to rationale for repeating the administration of the survey.

More detail is provided on the two policies, namely, the Cork City Development Plan (2022-2028) and the Climate Action Plan (2024), specifying their remit and scope, geographic scope, and population groups.

Included now in the section:

Included the Health Equity Impact Assessment to the Work stream 3- Section.

Members of the HIA-IM public Involvement Consultation Group are included in the Introduction. Included a point on this in 'results dissemination.'

I include reference to Bekker (2007) also.

Competing Interests: No competing interests were disclosed.