ELSEVIER

Contents lists available at ScienceDirect

Environmental Impact Assessment Review

journal homepage: www.elsevier.com/locate/eiar



Analysing the value, benefits and barriers to stakeholder and community participation in health impact assessments (HIAs) in Wales from 2005 to 2020

Liz Green a,d, Amber Murphy b,c,*, Kathryn Ashton d, Christopher Standen b,c, Fiona Haigh b,c

- ^a Wales Health Impact Assessment Support Unit, Policy and International Health, WHO Collaborating Centre Directorate, Public Health Wales, Cardiff, UK
- b Centre for Primary Health Care and Equity, Faculty of Medicine & Health, UNSW Sydney, Sydney, Australia
- ^c Health Equity Research Development Unit, Sydney Local Health District, Sydney, Australia
- d Department of International Health, Care and Public Health Research Institute CAPHRI, Maastricht University, Maastricht, the Netherlands

ARTICLE INFO

Keywords: Health impact assessment Stakeholder involvement Participation Community consultation Effectiveness Learning

ABSTRACT

Health Impact Assessments (HIA) are undertaken to inform decision-making processes by assessing the potential health and health equity impacts of a programme, policy, or project and developing appropriate responses to mitigate harms and maximize benefits. Stakeholder and community participation is central to the impact assessment process. This research explores the experiences of stakeholders and community members who participated in HIA workshops in Wales between 2005 and 2020. Data were gathered through a questionnaire at the end of each HIA workshop session with stakeholder and community participants from diverse backgrounds reporting on the experience of their participation. The analysis reveals a range of perceived benefits of participation in the HIA process. The identified benefits included the opportunity to be heard, networking, and a view of participation in HIA, through the perspective of participants themselves. This study contributes to the understanding of community and stakeholder participation in impact assessment processes and offers recommendations for improving the practice and impact of HIA in policy development. These findings have the potential to be transferable to other types of impact assessments, and other forms of community and stakeholder participation.

1. Introduction

Stakeholder and community participation is promoted and legislated for as part of policy, strategy, project, and plan development across various sectors and settings worldwide (Regulatory Studies Center, 2014; Christensen, 2019; OECD, 2019a; OECD, 2019b; NHS England, 2022). Such participation aims to increase democratic processes and inclusivity, and to promote transparency (OECD, 2019b; International Association for Public Participation, 2019; OECD, 2019c; Kujala et al., 2022) and can range from simple consultation to community control (OECD, 2019b; International Association for Public Participation, 2019; Arnstein, 1969). In this paper the term participation is used to describe people taking part in HIA workshops designed to identify potential health, wellbeing and equity impacts and recommend actions to address those impacts

Extensive research has focused on the effects of stakeholder and

community participation, particularly in health improvement and protection programs. (Kujala et al., 2022; Emmerson and Wood, 2019; Rowe and Frewer, 2004; Harris et al., 2016) Evidence also suggests that stakeholder and community participation in decision-making processes can yield both positive and negative outcomes. As George (George et al., 2015) describes, community participation can be:

"transformative, helping to empower and emancipate marginalized communities. At the same time, community mobilization without attention to power relations can distort participation from its developmental aims, exacerbate existing patterns of exclusion and further entrench inequities."

Individual and community participation in decision making or developing programs and plans is a key part of the democratic process and is promoted by a range of organizations and many governments. (OECD, 2019b; United Nations, 2020; Welsh Government, 2011; Panagi,

^{*} Corresponding author at: Centre for Primary Health Care and Equity, Level 3, AGSM Building, University of New South Wales, Sydney. NSW 2052, Australia. E-mail address: amber.murphy@unsw.edu.au (A. Murphy).

2023) It is an important determinant of physical and mental health and wellbeing and can have positive impacts for health but also potential negative ones. (United Nations, 2020; Attree et al., 2011a; Milton et al., 2012; Dodds, 2016; Attree et al., 2011b) Positive benefits of participation include feeling engaged, physical and psychological health benefits, increased self-confidence and esteem, personal empowerment and improved social relationships. (Attree et al., 2011a; Milton et al., 2012) Active community participation in urban planning for example, has been shown to empower communities, foster a sense of ownership and enhance individual competence (Dodds, 2016). However, unintended negative impacts of community participation can occur, such as exhaustion and stress - particularly if the same participants are repeatedly involved in multiple projects. (Attree et al., 2011b)

Stakeholder participation and community consultation are integral to many impact assessments, including Social Impact Assessment, Strategic Environmental Assessment, Environmental Impact Assessment, Health Impact Assessment (HIA) and Equality Impact Assessments. (Vanclay, 2003; Fischer, 2008; Winkler et al., 2013; Winkler et al., 2021; Bond and Fischer, 2022; Audit Wales, 2022) Whilst stakeholder participation is generally agreed to be a key factor for the effectiveness of impact assessments, (Glucker et al., 2013; Haigh et al., 2015; Dannenberg, 2016a) such participation varies ranging from passive consultation for example, posting a report for review online, to active participation in the establishment and carrying out of an impact assessment. (Haigh et al., 2015; Elliott and Williams, 2008; Impact Assess Outlook J., 2023)

There are also varied definitions of the term stakeholder, which has been challenged for potentially supporting colonial narratives and reinforcing inequities. (Reed et al., 2024) Stakeholders in this context are defined as individuals, groups, communities and organizations with a vested interest or influence in the policy, project, proposal or program being assessed. Community stakeholders include representatives and individuals affected by the proposal, plan or project, whilst organisational stakeholders hold specialist evidence or local knowledge that can inform the HIA, including civil society and third sector organizations, local government, and local health authorities.

This paper focuses on participation specifically in HIA. HIA is defined as a combination of procedures, methods and tools used to assess the potential health and wellbeing impacts of a proposed policy, program, proposal or project (referred to throughout as 'project'), and the distribution of those effects across the population. (European Centre for Health Policy, 1999) HIA is a flexible and scalable process, proportionate to need and resources. (Winkler et al., 2021; Douglas, 2011; Harris-Roxas et al., 2012; Green, 2023)

HIAs can range from desktop reviews of evidence and literature to more comprehensive and participatory processes, including policy reviews, systematic literature reviews, technical data analysis and extensive stakeholder participation. Stakeholder participation is a core component of HIA, providing rich contextual knowledge to improve decision making and highlighting potential positive and negative impacts and who may be disproportionately affected in the population. (Elliott and Williams, 2008; McDermott et al., 2024; Chadderton et al., 2008)

Previous studies have detailed the strengths and challenges of stakeholder participation in the HIA process. Strengths include improved decision-making and project outcomes, and challenges include ensuring representativeness and the appropriate weighting of stakeholder evidence against other forms of evidence such as statistical data and peer-reviewed literature. (Parry and Stevens, 2001; Kearney, 2004; Elliott and Francis, 2005; Chadderton et al., 2013; Iroz-Elardo, 2015; den Broeder et al., 2017; Kemm et al., 2004; Mahoney et al., 2010) One US study found that 84 % of respondents reported that stakeholder participation positively impacted the success of the HIA by increasing civil engagement and community mobilization. (Center for Community Health and Evaluation and Human Impact Partners, 2015) However, some studies have noted that those commissioning and conducting HIAs may fear using impact assessments for politically contentious or locally

significant projects due to potential negative reactions to the proposal during the participation stage or that it will make their proposal appear negative for health and wider wellbeing. (Green, 2023; Harris-Roxas and Harris, 2013; Bever et al., 2021; Chang and Green, 2022)

To date, there is limited research that explores the barriers to effective participation and strategies to enhance meaningful participation within the HIA process. Previously, the strengths of participation within the HIA process have been from small scale studies, studies over compressed time frames or inferred from studies on other types of Impact Assessment processes. (Chadderton et al., 2008; den Broeder et al., 2017; Center for Community Health and Evaluation and Human Impact Partners, 2015; Haigh et al., 2020) There has yet to be a longitudinal analysis of stakeholder participation across a range of settings, HIA subject matters, and locations.

This research aims to identify the stakeholder perceptions of participation in the HIA process, and outlines the perceived benefits and barriers. It does this by collating and analysing feedback and evaluation responses from stakeholders who have participated in the HIA process in Wales from 2005 to 2020. The dataset is unique due to the extended time period over which it was collected and its diverse mix of HIA topic areas, such as housing, planning and healthcare services and participants, including professional stakeholders such as municipal officers from various disciplines and sectors such as healthcare services, public health, economy, environment, community members including elected representatives, and participants from the third sector and academia.

This paper provides insight into the experiences of stakeholders involved in the HIA process in Wales. Several strategic drivers in Wales make public participation and stakeholder participation foundational to Welsh government public policy making (Welsh Government, 2011). These drivers include the Well-being of the Future Generations (Wales) Act 2015 (Welsh Government, 2011; Welsh Government, 2015) which promotes public participation and stakeholder involvement in decisionmaking processes. Wales has a long history of advocating for, and conducting HIAs, as a decision and policy support tool, assisted by the Wales Health Impact Assessment Support Unit (WHIASU) based in Public Health Wales (Green, 2023; Welsh Government, 2015; Welsh Government, 2017; Public Health Wales, 2023). Since its establishment in 2004, numerous HIAs have been conducted in Wales, with stakeholder participation and stakeholder workshops at their core (Elliott and Williams, 2008; Green, 2023; Chadderton et al., 2013; Wales Health Impact Assessment Support Unit, 2014; Wales Health Impact Assessment Support Unit, 2016).

The paper brings forward the voices and experiences of stakeholders involved in HIAs, highlighting the learning, benefits, usefulness (or lack thereof) of HIA participation based on unique evidence and data. It offers key evidence for consultants commissioned to carry out HIAs and for policy and decision makers who commission them, demonstrating that stakeholder participation in HIA can be beneficial and not something to be feared.

2. Methods

2.1. HIA workshops

This research analyses 15 years of evaluation data collected from 63 stakeholder participatory HIA workshops in Wales. The HIAs covered a wide range of local topic areas including community health promotion projects, spatial planning policies, and housing developments. There were also national, strategic-level HIAs on topics including Brexit and climate change.

The aim of participatory stakeholder HIA workshops is to actively engage with key stakeholders to assess the potential health and wellbeing impacts of a project, proposal, or plan and who may be affected in the population. Usually undertaken as part of the evidence gathering and appraisal process of a HIA, the workshops were designed to be open, transparent, and tailored to the needs of the community attendees and

stakeholders. During the study period, the format of the HIA workshops involved the following steps:

- 1- Introduction to the project or plan, and the HIA process.
- 2- An opportunity for the participants to ask questions and discuss the subject, identify potential impacts on wider determinants and population groups, either facilitated as one group or in break out groups. All workshops systematically used the WHIASU wider determinants of health and population group checklists to guide discussions. (Wales Health Impact Assessment Support Unit, 2020a; Wales Health Impact Assessment Support Unit, 2020b)
- 3- Feedback from different groups was shared.
- 4- Clear communication of the intentions and outcomes of the workshop and the HIA.

Workshops varied in length, ranging from half-day to full-day sessions dependent on the needs of the stakeholders and context. All comments were transcribed, checked and/or clarified with attendees during the workshop. Written notes were then sent to all participants for review and validation. These notes were included in the final HIA report with the attendees permission. (Wales Health Impact Assessment Support Unit, 2014; Green et al., 2019a)

2.2. Participants

As per standard practice in HIA in Wales, participants in each of the 63 individual HIA workshops were identified by a Steering Group using purposive and/or convenience sampling from a broad pool of main parties and project leads. Selection was based on their direct knowledge and expertise of the project, local context, and the communities, partners and stakeholders affected by the HIA subject matter. Each workshop and HIA topic differed, and the mix of participants were scoped to include a wide range of multidisciplinary and cross-sector stakeholders who may be affected. This includes representatives from public health, the environment, education, and land use planning for example. The WHIASU Scoping checklist was used to determine the scope and focus of the HIA, and to determine suitable workshop invitees. (WHIASU, 2020) Stakeholders included professional representatives from organizations, sectors and communities, as well as community members and democratically elected representatives, for example local councillors, affected by the project or proposed changes. Participants then self-selected to attend the workshop.

2.3. Evaluation data collection

At the end of workshop sessions, participants were asked to complete an anonymised, one-page, paper-based feedback and evaluation form (see Supplementary File 1). This contributed to the ongoing learning and evolution of Welsh HIA practice by incorporating participants' feedback on the workshop format and providing potential areas for improvement in the process. (Wales Health Impact Assessment Support Unit, 2014; Wales Health Impact Assessment Support Unit, 2021; Green et al., 2020) This evidence has been used to carry out research into stakeholder views and insight on HIA and the process, based on their participation in these HIAs.

Between 2005 and 2020, feedback and evaluation were obtained from a total of 63 workshops. The number of participants at each workshop ranged from 10 to 40. The evaluation forms evolved over time. From 2005 to 2010, participants were asked to discuss their expectations and comments on the workshops. From 2011 to 2020, the evaluation forms included four open-ended questions along with an "any other comments" section for additional anonymous feedback. The forms also asked participants to rate the extent to which the workshop had met their expectations on a 10-point Likert scale (where 1 = "not at all" and 10 = "very much met them").

The primary purpose of the forms was to capture feedback to

improve participatory stakeholder HIA workshops as part of a quality improvement process. (Winkler et al., 2021; Dannenberg, 2016a; Green et al., 2020; Backhouse and Ogunlayi, 2020; The Health Foundation, 2021; Reddy, 2024) Therefore, the evaluation forms did not request participants' background or relationship to the project, or demographic information such as age and sex. The brevity and anonymity of the questionnaires were intended to encourage completion rates.

2.4. Data analysis

The evaluation forms from the folders from each year were extracted. The data were imported into the NVivo qualitative analysis software. A mix of inductive and deductive approaches were used for thematic analysis and coding. (Eyler, 2021)

It was coded initially with a deductive framework based on three broad categories centred around three research questions:

- How do participants feel about and perceive HIA?
 - o The responses in these categories centred on participants' expectations and perceptions of the HIA process, and uncertainty over implementation and follow up. This section also included people whose support for the project changed after participating in the HIA process.
- What are perceived benefits to participants themselves and wider community?
 - o This focused on the wide range of internal and external motivations and benefits the participants gained from participation in the HIA process.
- What worked well/not so well?
 - This was broken into areas for improvement and positive feedback

 there were some venue or food specific answers in this feedback,
 but other comments that could be modified to improve the HIA process for participants.

Subsequently, an inductive thematic analysis was conducted, which involved open coding of the data using constant comparative analysis until saturation was reached. (Eyler, 2021) This process led to the identification of 14 major categories. Axial coding was applied to connect codes, to form broader categories. (Eyler, 2021) Regular team meetings were held, resources were shared, and the data analysis process was meticulously documented to ensure transparency and strengthen the rigor of the research.

The NHS ethics tool (NHS Research Authority, 2024) indicated that no formal ethics approval was required for this study. Participants were informed their data would be anonymized and used as a quality improvement tool for the HIA process. All participants agreed to the use of their information for these purposes at the time each HIA was conducted.

The research team included three experienced HIA researchers and practitioners and a Master of Public Health student. The two leads have a longstanding interest in the role of participation and different forms of knowledge in HIA methodology (Haigh et al., 2015; Green, 2023; Haigh et al., 2020; Green et al., 2020; Green, 2015; Haigh et al., 2023; Green et al., 2019b).

3. Results

In total, 528 forms were returned, reviewed, and analysed. From the data obtained, 14 subcategories were identified, sitting within the three overarching research questions (parent categories). The key themes for each research question identified through the analysis are depicted in Table 1.

Overall, participants reported that participating in the workshops provided a deeper understanding of the project or proposal, including its strengths, weaknesses, and the relationship between the project and the wider determinants of health.

Table 1 Key findings.

Key findings.			
Research question	Themes	Description	Example quote from participant feedback form
1. How do participants feel about, and perceive, HIA?	Changing level of support for the project	Participation often resulted in invigorated support for the project at hand	Today provided myself with an insight into the Project and what it is all about and what's available. I feel this will be of benefit to others who are within my project and I would certainly be happy to recommend them to use these facilities
	Expectations	Most responses had minimal or no expectations coming into the workshop	Completely unknown expectations. I'm particularly impressed with the structure and the process. A positive tool that has been extremely useful
	Further understanding of HIA	Some participants reported an increased understanding of the HIA process and how it may be used in a number of settings	Better understanding of the health impact assessment process and how it can be used in the decision- making process
	Queries over implementation and follow up	Participants commented on the process being beneficial for bringing attention to issues and developing recommendations, some ended the session with renewed sense of optimism and hope for the project, whereas others referenced their uncertainty over the follow up.	Not sure what I expected but very useful wide-ranging discussion. Useful recommendations – not sure how many will be implemented
2. What are perceived benefits, to participants themselves and the wider community?	Exposure to alternative viewpoints	This topic in general was the strongest thread - participants continued to reference that diversity of participants, opinions and viewpoints as being a strength of the process. Participants reported that this diversity expanded their own perspectives, allowing them to understand others needs and roles, and added to the decision-making process.	I was surprised at the number of very simple issues that were identified which had not been included in the plan and were now captured. Added enormously to the plan. A very interesting process
	Further understanding of project	Participants gained a deeper understanding of the project at hand, in terms of both the strengths and	To look at the project objectively, looking at both the positive and negative aspects. To come up with

Table 1 (continued)

abio i (commune	u)		
Research question	Themes	Description	Example quote from participant feedback form
	Further understanding of social determinants	weaknesses of the project, and future plans There were both explicit and implicit mentions of the wider determinants of health that were highlighted through	recommendations to take the project forward. To think outside the box and think of all factors which could be relevant, and which relate to health improvement
	Improvement of services	the HIA process Some participants saw their participation in the HIA as vital for the continued improvement of the services surrounding the project, their own organization or the wider community	Help to improve the system that is running at the moment and to get ideas or positive and negative feedback from all the people who were invited to the meeting.
	Networking	Many referenced networking as being a benefit of participation	Time spent meeting and talking to others was also very valuable
	Opportunity for input	This differed from exposure to alternative viewpoints (above) and the benefit of having their own voice heard	To gain an understanding of moving HIA from theory to action and how I can input. It was good to feel that my contribution was valid.
	Personal and professional development	Some participants viewed workshops as a professional development experience	A better working knowledge of HIA with an opportunity to participate and get to build up practical knowledge.
	Service to community	Some participants participated as an act of service to, or to be a representative of, their community	To provide activities which are safe, accessible and convenient for myself and other women in the area
3. What worked well and not so well?	Areas for improvement	Mostly superficial suggestions to improve the day - e.g. facilitators, food and venue, time and length of session. Ways discussed that the HIA process could be improved included increased representation and more information provided to participants both before and during the HIA	Had a little knowledge - had hoped for more detail of methods. More detail of programme might help to assist better selection of workshops
	Positive feedback	This section reinforced that the diversity of opinions was a strength of HIA. Many found it informative, interesting, and commented that the informal nature of the session helped the day to flow. Some left with strong feelings about the process of HIA and its	A very interesting exercise – focusing on the important issues – a good level of consultation and information sharing

Table 1 (continued)

Research question	Themes	Description	Example quote from participant feedback form
		application to various settings	

3.1. How do participants feel about / perceive HIA?

Perceptions of involvement in the HIA process varied among participants. Several participants reported having minimal or no expectations about the workshop. This was followed by an increased understanding of the HIA process, the workshop clarified the HIA process and expanded participants' understanding of how it could be applied across different contexts.

Participants also noted an increased level of support for the project being assessed after participating in the HIA process, although some raised concerns regarding the implementation and follow-up of the recommendations generated during the session. While some left feeling optimistic and hopeful, others questioned how many of the suggestions would actually be executed. Incorporating a follow-up with participants as part of the evaluation and monitoring step in the HIA process may allay some of these concerns.

3.2. What are the perceived benefits – to participants themselves and to the wider community?

Some participants saw their involvement in the HIA as significant for improving services related to the project, their own organization, or the broader community. Many participants found networking to be one of the key benefits of participation and valued the opportunity to have their voices heard. Some used the workshop as a professional development experience, while others saw their participation as a service to their community.

Additionally, participants reported that the workshop process often revealed previously unidentified issues, including short and long term, positive, negative and unintended negative impacts. For example, several simple yet significant issues that had not been addressed in an initial plan were identified during one workshop, suggesting the identification of such issues enhanced the plan in question's ability to maximize health benefits or mitigate negative impacts. The workshops also facilitated a reframing of communication to make plans more inclusive, as noted by one participant: "The workshop highlighted issues that would not normally have been seen as significant from the perspective of my service area."

The perceived benefits were often related to learning. Several types of learning were identified in the findings: conceptual, technical, social, and transformative. The conceptual learning involved participants understanding the wider determinants of health, as one participant noted, "Interesting to bring wider determinants – gave a chance for lateral thinking." The technical learning surrounded gaining knowledge about the HIA process and how to conduct an HIA, with comments like, "To gain knowledge and understanding of HIA as a tool for informing decision-making." Social learning encompassed relationship building, networking, and understanding the perspectives of other organizations. For instance, participants mentioned, "To establish views of other relevant professionals, to identify positives and negatives, to allow these to be action planned and resolved where needed" and "Extremely useful way of getting the experience of the service users, which really reinforces the gaps in services." Transformative learning involved participants questioning and revising their assumptions, for example, "highlighted issues that would not normally have been seen as significant from the perspective of my service area".

3.3. What worked well / not so well?

The diversity of participants and their viewpoints was seen as a strength of the process, as it expanded perspectives and enriched the decision-making process.

Participants noted that areas for improvement were often process related, such as room size, venue, food, timing; or diversity of representation (for example, a lack of older or younger attendees).

What worked well included the diversity of opinions and the discussion-based nature of the workshops, which many found informative and interesting, and that the day flowed smoothly due to the informal nature of the workshops. Some participants left with strong positive feelings about the HIA process and its application to various settings.

4. Discussion

The research has highlighted the benefits of stakeholder participation in the HIA process for participants. Participation can foster personal growth, a sense of agency and engagement among the participants themselves. (Attree et al., 2011b) Additionally, participants reported professional development, networking, learning opportunities, and a sense of being heard and HIA participatory workshops can play a significant role in exposing those involved to alternative points of view. This exposure is particularly important in a world where the receipt of information is increasingly influenced by algorithms creating "echo chambers" that reinforce pre-existing world views. (Cinelli et al., 2020)

The findings highlight the value of bringing together stakeholders, providing a platform for the exchange of ideas and views that lead to new knowledge and co-creation of potential solutions. The findings support previous literature that highlights the role of HIA in creating "knowledge spaces" where different perspectives and evidence converge. (Chadderton et al., 2013) Participants reported that the process of perspective-taking provided an opportunity to hear a variety of viewpoints, encouraged learning and potentially reshaped perspectives. This approach was instrumental in facilitating discussions across a range of topics and promoting the exchange of diverse views across sectors. It allowed for an expression of concerns, a contribution of ideas, and a more comprehensive understanding of the issues from multiple perspectives. This approach effectively highlighted the strengths and weaknesses of proposals through diverse stakeholder perspectives and viewpoints.

The different types of conceptual, technical, social, and transformative learning that were identified in the findings also align with previous HIA research that highlights the relationship between HIA effectiveness, participation and different types of learning. (Haigh et al., 2015) Conceptual learning involved understanding the wider determinants of health; Technical learning involved acquiring knowledge about the HIA process and how to conduct an HIA; Social learning involved building relationships, creating networks, and understanding the perspectives of other organizations. These types of learning can lead to transformative outcomes, where participants question and adjust deeply held beliefs. (Zapata, 2013) This shows the added value that HIA workshops can bring to stakeholders who participate in them.

It is important to note that participants often attended workshops with limited or no expectations, yet their overall feedback was positive, particularly after actively contributing to the process. Participants felt their input was valued, often viewing their involvement as a community service. Participation, whether viewed as an altruistic act or a self-protective measure, (Kujala et al., 2022; Devine-Wright, 2009; Hunter et al., 2012; Esaiasson, 2014; Carrera et al., 2018) serves as a key protective factor for mental health and well-being and is an important determinant of health. (Suškevičs et al., 2023; Dahlgren and Whitehead, 1991; Cooke et al., 2011). (Cooke et al., 2011; Ampuero et al., 2015)

Previously published literature on stakeholder involvement reveals variability in stakeholder and community engagement within HIA.

(Elliott and Williams, 2008; Chadderton et al., 2008; Mahoney et al., 2010; Leuenberger et al., 2022) Den Broeder identified that while participation and democracy are core principles of HIA practice, their realization can be limited in practice. (Chadderton et al., 2013; Carrera et al., 2018) This variability is often context-specific (Winkler et al., 2021; Haigh et al., 2020; Leuenberger et al., 2022) with some regions and typologies of HIA being more advanced than others. (Emmerson and Wood, 2019; Mahoney et al., 2010)

However, the findings suggest that, contrary to some previous literature, it is feasible to consistently include and involve stakeholders in HIA. (Mahoney et al., 2010; Parry and Wright, 2003) This success may be attributed to the presence of a dedicated HIA unit actively engaging stakeholders and valuing public participation as crucial to HIA and informing and influencing policy, plans, and decisions. There was a consistency in methodology and tools used throughout the time frame (noting some evolutions as part of the quality improvement process). (Reddy, 2024) The consistency in methodology and tools used across the workshop materials also indicates an evolving approach driven by continuous quality improvement and learning. (Reddy, 2024) This approach reflects a willingness to learn, evolve, and adapt practices to better accommodate involvement and participation and strengthen HIA outcomes.

Previous research, both in HIA and general literature, has demonstrated that participation enhances the decision-making process, supports the creation of healthy public policy, offers valuable contextspecific insights and empowers communities in their relationships with policymakers. (Attree et al., 2011b; Winkler et al., 2013; Haigh et al., 2015; Elliott and Williams, 2008; den Broeder et al., 2017; Center for Community Health and Evaluation and Human Impact Partners, 2015; Haigh et al., 2020; Dannenberg, 2016b; Leuenberger et al., 2022) Stakeholder participation can strengthen the project, plan, or policy being assessed by providing stakeholders, particularly community members, with a platform to contribute to local plans and proposals. (Impact Assess Outlook J., 2023; Anaf et al., 2022; Suškevičs et al., 2023) This process helps identify potential health, wellbeing and equity impacts and develop locally relevant recommendations for action and can promote participant mental wellbeing also by being part of that decision informing process. (Suškevičs et al., 2023; Dahlgren and Whitehead, 1991; Cooke et al., 2011)

This research builds on and extends the evidence on the value of participation in the impact assessment process, both for participants and the wider community. The research also offers transferrable learning for practitioners by providing practical insights into participants perspectives of the HIA process, and how the process can be strengthened through participation. It also offers key insights for consultants commissioned to carry out HIAs and for policy and decision makers who commission them, reinforcing that stakeholder participation in HIA is beneficial and should be encouraged.

4.1. Strengths and limitations of the research

A key strength of this research is its extensive dataset collected over many years. It provides key insights that can be practically applied by other practitioners, such as using similar forms to enhance stakeholder participation in their own HIAs (or other impact assessments and frameworks) and within quality improvement cycles. Workshop attendance varied, ranging from 10 to 40 participants, with all bringing highly relevant contextual knowledge that enriched discussions, recommendations and actions within the HIAs. Stakeholders provided crucial evidence and insights into how plans or projects could be strengthened, and negative impacts mitigated, leveraging their deep understanding of local demographics and social contexts.

However, there are some limitations to the research. The primary purpose of the evaluation forms was to capture and then enhance the practical delivery of HIA workshops and participant experiences, so all of the data were anonymised. This prevented the researchers from identifying which representatives, organizations, or sectors completed feedback forms at each workshop. Furthermore, an overall response rate to the individual evaluation forms; for example, how many workshop attendees completed an evaluation form cannot be reported. This was due to the original intention of the collection of data being to improve future stakeholder experiences and improve the HIA process itself. The attendees who completed the evaluation forms were also self-selected which could be both a strength or a limitation; with those most passionate or interested attending or marginalized groups not engaging, thus leading to the feedback about lack of diversity in those participating. The survey itself asked about positive outcomes from the workshop, and does not explicitly ask for negative outcomes in the same way (negative comments were collated from the "other comments" section). This may have led to a positivity bias in the results collected. The survey questions were adjusted minimally based on stakeholder feedback at one point, a step aimed at improving the HIA workshop delivery process. However, the surveys remained brief, (a page of A4), facilitating easy completion at the end of intensive and interactive workshops. Finally, the dataset cannot provide evidence of how the stakeholder workshops influenced the plans or not, as the data were gathered before the HIAs and decisions were finalised.

4.2. Opportunities for further research / Implications for further practice

Future research could explore collecting demographic information of participants to provide a more detailed breakdown of findings for informed decision-making based on participatory approaches such as the use of HIA stakeholder workshops. The HIAs within the study could also provide a basis for further research and exploration of how they, and/or the stakeholder participation, influenced or shaped (or not) the decision-making process and ultimately the projects or plans themselves.

5. Conclusion

This research presents the findings and analysis of a unique and extensive dataset involving 15 years of evaluation data on stakeholder participation in HIAs in Wales. The study highlights the value of documenting perspectives, and highlights the perceived impacts of participation in HIA. It shows that the participants found the process valuable in helping to inform community services, infrastructure and policies when they are being proposed or implemented at local, regional and national levels.

The research supports the active participation of stakeholders in HIA (and other impact assessment) processes and emphasises the power of open discussions. It reinforces findings from previous short-term examinations of stakeholder and community participation in HIA and builds on this.

Importantly, the study validates what many HIA practitioners have long suspected - that stakeholder engagement is beneficial to both the HIA process, and the participants themselves. Stakeholder participation in HIA can support decision-making by incorporating a variety of viewpoints and fostering knowledge exchange.

Authorship statement

FH: Conceptualization, Methodology, Supervision Validation, Writing – original draft; Writing – review & editing.

LG: conceptualization, methodology, data content, context, writing – original draft; writing – review & editing.

KA: writing – review & editing.

CS: writing – review & editing, visualisation, supervision.

AM: Data extraction and analysis, writing – original draft; writing – review & editing.

Declaration of generative AI and AI-assisted technologies in the writing process

During the preparation of this work the author(s) used copilot in order to edit key words and highlights. After using this tool/service, the author(s) reviewed and edited that content as needed and take(s) full responsibility for the content of the publication. AI was not used to analyse the data nor write the main paper.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

The authors do not have permission to share data.

Acknowledgement

We would like to acknowledge all of the HIA workshop participants who contributed their time and knowledge. We also thank the Wales HIA Support Unit team who facilitated the workshops

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.eiar.2024.107713.

References

- Ampuero, D., Goldswosthy, S., Delgado, L.E., Miranda, J.C., 2015 Jul 3. Using mental well-being impact assessment to understand factors influencing well-being after a disaster. Impact Assess. Proj. Apprais. 33 (3), 184–194.
- Anaf, J., Fisher, M., Baum, F., 2022. Using critical TheoryCritical theory to research commercial determinants of health: health impact assessment of the practices and products of transnational CorporationsTransnational corporations. In: Potvin, L., Jourdan, D. (Eds.), Global Handbook of Health Promotion Research, Vol 1: Mapping Health Promotion Research. Springer International Publishing, Cham, pp. 497–511. Available from: https://doi.org/10.1007/978-3-030-97212-7_33.
- Arnstein, S.R., 1969 Jul 1. A ladder of citizen participation. J. Am. Inst. Plann. 35 (4), 216–224.
- Attree, P., French, B., Milton, B., Povall, S., Whitehead, M., Popay, J., 2011a. The experience of community engagement for individuals: a rapid review of evidence. Health Soc. Care Community 19 (3), 250–260. Available from: https://doi.org/10.1111/j.1365-2524.2010.00976.x.
- Attree, P., French, B., Milton, B., Povall, S., Whitehead, M., Popay, J., 2011b. The experience of community engagement for individuals: a rapid review of evidence. Health Soc. Care Community 19 (3), 250–260.
- Audit Wales, 2022. Equality Impact Assessments: More than a Tick Box Exercise?

 Available from: https://www.audit.wales/publication/equality-impact-assessments

 -more-tick-box-exercise.
- Backhouse, A., Ogunlayi, F., 2020. Quality improvement into practice. BMJ 368. Available from: https://www.bmj.com/content/368/bmj.m865.
- Bever, E., Arnold, K.T., Lindberg, R., Dannenberg, A.L., Morley, R., Breysse, J., et al., 2021 Sep 1. Use of health impact assessments in the housing sector to promote health in the United States, 2002–2016. J. Housing Built Environ. 36 (3), 1277–1297. Available from: https://doi.org/10.1007/s10901-020-09795-9.
- Bond, A.J., Fischer, T.B., 2022 Nov 1. Characterising the collaboration between academia and practice in UK environmental assessment. Environ. Impact Assess. Rev. 97, 106899. Available from: https://www.sciencedirect.com/science/article/ pii/S0195925522001652.
- Carrera, J.S., Brown, P., Brody, J.G., Morello-Frosch, R., 2018 Jan. Research altruism as motivation for participation in community-centered environmental health research. Soc. Sci. Med. 1982 (196), 175–181.
- Center for Community Health and Evaluation and Human Impact Partners, 2015.

 Community Participation in Health Impact Assessments: A National Evaluation.

 Available from: https://humanimpact.org/hipprojects/community-participation-in-health-impact-assessments-a-national-evaluation/?strategy=all.
- Chadderton, C., Elliott, E., Williams, G., 2008. Involving the Public in HIA: An Evaluation of Current Practice in Wales. Available from: https://phwwhocc.co.uk/whiasu/wp-content/uploads/sites/3/2021/06/Involving_the_Public_in_HIA_Final_Report-2.pdf.
- Chadderton, C., Elliott, E., Hacking, N., Shepherd, M., Williams, G., 2013 Dec. Health impact assessment in the UK planning system: the possibilities and limits of community engagement. Health Promot. Int. 28 (4), 533–543.

- Chang, M., Green, L., 2022. Public Health Spatial Planning in Practice. Policy Press, Bristol. Available from: https://policy.bristoluniversitypress.co.uk/public-health-sp atial-planning-in-practice.
- Christensen, H., 2019. Legislating community engagement at the Australian local government level. J. Local Gov. 21, 1–30.
- Cinelli, M., Morales, G.D.F., Galeazzi, A., Quattrociocchi, W., Starnini, M., 2020. Echo chambers on social media: a comparative analysis. Preprint 1-16 arXiv Available from: http://arxiv.org/abs/2004.09603.
- Cooke, A., Friedli, L., Coggins, T., Edmonds, N., Michaelson, J., O'Hara, K., et al., 2011. Mental well-being impact assessment: a toolkit for well-being. National MWIA Collab. Available from: http://hiaconnect.edu.au/wp-content/uploads/2012/05/MentalWellbeingImpactAssessmentToolkit20101.pdf.
- Dahlgren, G., Whitehead, M., 1991. Policies and Strategies to Promote Social Equity in Health. Institute for Future Studies, Stockholm.
- Dannenberg, A.L., 2016a. Effectiveness of health impact assessments: a synthesis of data from five impact evaluation reports. Prev. Chronic Dis. 13. Available from: https://www.cdc.gov/pcd/issues/2016/15_0559.htm.
- Dannenberg, A., 2016b. Effectiveness of health impact assessments: a synthesis of data from five impact evaluation reports. Prev. Chronic Dis. 13, 1–15.
- den Broeder, L., Uiters, E., ten Have, W., Wagemakers, A., Schuit, A.J., 2017 Sep. Community participation in health impact assessment. A scoping review of the literature. Environ. Impact Assess. Rev. 66, 33–42.
- Devine-Wright, P., 2009. Rethinking NIMBYism: the role of place attachment and place identity in explaining place-protective action. J. Community Appl. Soc. Psychol. 19 (6), 426–441.
- Dodds, S., 2016. Social Contexts and Health: A GCPH Synthesis. Glasgow Centre for Population health, Glasgow.
- Douglas, M.J., 2011. Health impact assessment: principles and practice. J. Public Health 33 (4), 635. Available from: https://doi.org/10.1093/pubmed/fdr073.
- Elliott, E., Francis, S., 2005 Oct. Making effective links to decision-making: key challenges for health impact assessment. Environ. Impact Assess. Rev. 25 (7–8), 747–757.
- Elliott, E., Williams, G., 2008 Nov 1. Developing public sociology through health impact assessment. Sociol. Health Illn. 30 (7), 1101–1116.
- Emmerson, C., Wood, F., 2019 Jun. A critical discourse analysis of how public participants and their evidence are presented in health impact assessment reports in Wales. Health Expect. 22 (3), 585–593.
- Esaiasson, P., 2014 Nov. NIMBYism a re-examination of the phenomenon. Soc. Sci. Res. 1 (48), 185–195.
- European Centre for Health Policy, 1999. Gothenburg Consensus Paper: Health Impact Assessment Main Concepts and Suggested Approach. Brussels.
- Eyler, A., 2021. Research Methods in Public Health. Springer Publishing, New York. Available from: https://www-springerpub-com.mu.idm.oclc.org/research-methods-for-public-health-9780826182050.html.
- Fischer, T.B., 2008. Theory and Practice of Strategic Environmental Assessment. Earthscan, London.
- George, A.S., Mehra, V., Scott, K., Sriram, V., 2015. Community participation in health systems research: a systematic review assessing the state of research, the nature of interventions involved and the features of engagement with communities. PLoS One 10 (10), e0141091
- Glucker, A.N., Driessen, P.P.J., Kolhoff, A., Runhaar, H.A.C., 2013. Public participation in environmental impact assessment: why, who and how? Environ. Impact Assess. Rev. 43, 104–111. Available from: https://www.sciencedirect.com/science/article/ pii/S0195925513000711.
- Green, L., 2015. The importance of health impact assessments. In: The Human and Environmental Impact of Fracking; how Fracturing Shale for Gas Effects us and our World. Praeger, Santa Barbara, pp. 49–60.
- Green, L., 2023. Health Impact Assessment (HIA) as a Tool to Mobilise 'Health in all Policies' [Doctoral thesis]. Maastricht University. Available from: https://cris.maastrichtuniversity.nl/en/publications/health-impact-assessment-hia-as-a-tool-to-mobilise-health-in-all-.
- Green, L., Edmonds, N., Morgan, L., Andrew, R., Ward, M., Azam, S., et al., 2019a. The Public Health Implications of Brexit in Wales. A Health Impact Assessment Approach. Technical Report Part 1. Available from: https://phwwhocc.co.uk/wp-content/uploads/2020/08/Implications-ofBrexit_Main_Findings.pdf.
- Green, L., Gray, B.J., Edmonds, N., Parry-Williams, L., 2019b. Development of a quality assurance review framework for health impact assessments. Impact Assess. Proj. Apprais. 37 (2), 107–113.
- Green, L., Ashton, K., Edmonds, N., Azam, S., 2020. Process, practice and progress: a case study of the health impact assessment (HIA) of Brexit in Wales. Int. J. Environ. Res. Public Health 17 (18). Available from: https://www.ncbi.nlm.nih.gov/pmc/artic les/PMC7557572/.
- Haigh, F., Harris, E., Harris-Roxas, B., Baum, F., Dannenberg, A.L., Harris, M.F., et al., 2015 Oct 3. What makes health impact assessments successful? Factors contributing to effectiveness in Australia and New Zealand. BMC Public Health 15, 1009.
- Haigh, F., Fletcher-Lartey, S., Jaques, K., Millen, E., Calalang, C., de Leeuw, E., et al., 2020 Nov. The health impacts of transformative infrastructure change: process matters as much as outcomes. Environ. Impact Assess. Rev. 85.
- Haigh, F., Douglas, M., Mekel, O., Green, L., Hirono, K., 2023. The future of health impact assessment- setting the research agenda. Popul. Med. 5 (Supplement). https://doi.org/10.18332/popmed/165568. Available from:
- Harris, J., Croot, L., Thompson, J., Springett, J., 2016 Feb 1. How stakeholder participation can contribute to systematic reviews of complex interventions. J. Epidemiol. Community Health 70 (2), 207–214.
- Harris-Roxas, B., Harris, E., 2013. The impact and effectiveness of health impact assessment: a conceptual framework. Environ. Impact Assess. Rev. 42, 51–59.

- Available from: https://www.sciencedirect.com/science/article/pii/S01959255
- Harris-Roxas, B., Viliani, F., Bond, A., Cave, B., Divall, M., Furu, P., et al., 2012. Health impact assessment: the state of the art. Impact Assess. Proj. Apprais. 30 (1), 43–52. Available from: https://doi.org/10.1080/14615517.2012.666035.
- Hunter, J., Corcoran, K., Leeder, S., Phelps, K., 2012 Jul. Appealing to altruism is not enough: motivators for participating in health services research. J. Empir. Res. Hum. Res. Ethics 7 (3), 84–90.
- International environmental management association. Public participation, stakeholder engagement and impact assessment. Impact Assess Outlook J., 2023 15. Available from: https://www.iema.net/resources/blog/2023/02/08/ia-outlook-journal-volu me-15-public-participation-stakeholder-engagement-and-impact-assessment.
- International Association for Public Participation, 2019. IAP2 Public Participation Spectrum. Available from: https://iap2.org.au/resources/spectrum/.
- Iroz-Elardo, N., 2015. Health impact assessment as community participation. Community Dev. J. 50 (2), 280–295.
- Kearney, M., 2004. Walking the walk? Community participation in HIA a qualitative interview study. Environ. Impact Assess. Rev. 24 (2), 217–229.
- Kemm, J., Parry, J., Palmer, S., 2004. Health Impact Assessment. Oxford University
- Kujala, J., Sachs, S., Leinonen, H., Heikkinen, A., Laude, D., 2022. Stakeholder engagement: past, present, and future. Bus. Soc. 61 (5), 1136–1196. Available from: https://doi.org/10.1177/00076503211066595.
- Leuenberger, A., Winkler, M.S., Lyatuu, I., Cossa, H., Zabré, H.R., Dietler, D., et al., 2022. Incorporating community perspectives in health impact assessment: a toolbox. Environ. Impact Assess. Rev. 95, 106788.
- Mahoney, M.E., Potter, J.L.L., Marsh, R.S., 2010. Community participation in HIA: discords in teleology and terminology. Crit. Public Health 17 (3), 229–241.
- McDermott, R., Douglas, M.J., Haigh, F., Takemon, N., Green, L., 2024 Aug 1.
 A systematic review of whether health impact assessment frameworks support best practice principles. Public Health 233, 137–144.
- Milton, B., Attree, P., French, B., Povall, S., Whitehead, M., Popay, J., 2012 Jul 1. The impact of community engagement on health and social outcomes: a systematic review. Community Dev. J. 47 (3), 316–334.
- NHS England, 2022. Working in Partnership with People and Communities: Statutory Guidance. Available from: https://www.england.nhs.uk/long-read/working-in-partnership-with-people-and-communities-statutory-guidance/.
- NHS Research Authority, 2024. NHS Decision Tool. Available from: https://hra-decisiontools.org.uk/research/.
- OECD, 2019a. Multi-dimensional review of Thailand. In: OECD Development Pathways. https://doi.org/10.1787/7ef9363b-en. Available from:
- OECD, 2019b. Stakeholder Participation and Open Government. Available from: https://www.oecd-ilibrary.org/content/component/a88c7194-en.
- OECD, 2019c. Governance as an SDG Accelerator, p. 164. Available from: https://www.oecd-ilibrary.org/content/publication/0666b085-en.
- Panagi, K., 2023. Democracy and Participation: The Cornerstones of a Just Society. Your Commonwealth. Available from: https://yourcommonwealth.org/peace-demo cracy/democracy-and-participation-the-cornerstones-of-a-just-society/.
- Parry, J., Stevens, A., 2001. Prospective health impact assessment: pitfalls, problems, and possible ways forward. BMJ 323. Available from: https://doi.org/10.1136/bmj.323. 7322.1177
- Parry, J., Wright, J., 2003. Community participation in health impact assessments: intuitively appealing but practically difficult. Bull. World Health Organ. 81, 388.
- Public Health Wales, 2023. Our Strategic Plan 2023–2026. Available from: https://publichealthwales.nhs.wales/about-us/board-and-executive-team/board-papers/board-meetings/2022-2023/30-march-2023/board-papers-30-march-2023/412a-board-20230330-strategic-plan-imtp-2023-2026/.
- Reddy, K., 2024. Formative Evaluation: Importance, Advantages & Disadvantages. Available from: https://content.wisestep.com/formative-evaluation-importance-advantages-disadvantages/.

- Reed, M.S., Merkle, B.G., Cook, E.J., Hafferty, C., Hejnowicz, A.P., Holliman, R., et al., 2024 Jul 1. Reimagining the language of engagement in a post-stakeholder world. Sustain. Sci. 19 (4), 1481–1490.
- Regulatory Studies Center, 2014. Stakeholder Participation and Regulatory
 Policymaking in the United States. Colombia University. Available from: htt
 ps://regulatorystudies.columbian.gwu.edu/stakeholder-participation-and-regulato
 ry-policymaking-united-states.
- Rowe, G., Frewer, L.J., 2004. Evaluating public-participation exercises: a research agenda. Sci. Technol. Hum. Values 29 (4), 512–557.
- Suškevičs, M., Ehrlich, T., Peterson, K., Hiiemäe, O., Sepp, K., 2023 Jan 1. Public participation in environmental assessments in the EU: a systematic search and qualitative synthesis of empirical scientific literature. Environ. Impact Assess. Rev. (98), 106944
- The Health Foundation, 2021. Quality Improvement Made Simple. Available from: htt ps://www.health.org.uk/sites/default/files/QualityImprovementMadeSimple.pdf.
- United Nations, 2020. United Nations Sustainable Development Goals. Available from: https://www.un.org/sustainabledevelopment/.
- Vanclay, F., 2003. International principles for social impact assessment. Impact Assess. Proj. Apprais. 21 (1), 5–12. Available from: https://doi.org/10.3152/147154603 781766491.
- Wales Health Impact Assessment Support Unit, 2014. Bodelwyddan Key Strategic Site Draft Development Brief—Health Impact Assessment (HIA) Report. Available from: https://whiasu.publichealthnetwork.cymru/files/7214/9554/0175/Bodelwyddan_Housing_Devt_Final_Report.pdf.
- Wales Health Impact Assessment Support Unit, 2016. Temporary Changes to Women's and Maternity Services in North Wales. Health Impact Assessment Report. Available from: https://whiasu.publichealthnetwork.cymru/files/6414/9553/7616/Temporary Changes to Womens and Maternity Services in North Wales.pdf.
- Wales Health Impact Assessment Support Unit, 2020a. Population Group Checklists.

 Available from: https://phwwhocc.co.uk/whiasu/wp-content/uploads/sites
 /3/2021/05/WHIASU Population Groups Checklist.pdf.
- Wales Health Impact Assessment Support Unit, 2020b. Scoping Template. Available from: https://phwwhocc.co.uk/whiasu/wp-content/uploads/sites/3/2021/12/Ne w-Scoping-Checklist-master-final-draft.pdf.
- Wales Health Impact Assessment Support Unit, 2021. Health Impact Assessment (HIA) and Local Development Plans (LDPs): A Toolkit for Practice. Available from: https://phwwhocc.co.uk/wp-content/uploads/2021/10/HIA-and-LDPs-Toolkit-E-final.pdf.
- Welsh Government, 2011. National Principles for Public Engagement in Wales. Available from: https://www.flintshire.gov.uk/en/PDFFiles/Your-Council/National-Principle s-for-Public-Engagement-in-Wales.pdf.
- Welsh Government, 2015. Well-Being of Future Generations (Wales) Act 2015. Available from: https://www.legislation.gov.uk/anaw/2015/2/contents/enacted.
- Welsh Government, 2017. Public Health (Wales) Act 2017. Available from: https://www.legislation.gov.uk/anaw/2017/2/contents/enacted.
- WHIASU, 2020. Scoping Checklist. Available from: https://phwwhocc.co.uk/whiasu/wp-content/uploads/sites/3/2021/12/New-Scoping-Checklist-master-final-draft.pdf.
- Winkler, M.S., Krieger, G.R., Divall, M.J., Cissé, G., Wielga, M., Singer, B.H., et al., 2013. Untapped potential of health impact assessment. Bull. World Health Organ. 91 (4), 298–305. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PM C3629454/.
- Winkler, M., Viliani, F., Cave, B., Divall, M., Ramesh, G., Harris-Roxas, B., et al., 2021.
 Health Impact Assessment International Best Practice Principles, No. 5. Special Publication Series.
- Zapata, M.A., 2013 Sep. Five years later: how California community members acted on transformative learning achieved in a participatory planning process. Plan. Theory Pract. 14 (3), 373–387.