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Cost of Living/Cost of Smoking: A Demonstration Study of Cooperative Action Learning to Understand and Address Smoking in Deprived Communities Within the Cost-of-Living Crisis

Lucia D'Ambruoso[1] | Amanda Stephen[2] | Eilidh Cowan[1] | Wendy Innocent[3] | Effie Marathia[1] | Chris Littlejohn[3] | Sheila Duffy[4] | Cost of Living/Cost of Smoking Learning Partnership

[1]Aberdeen Centre for Health Data Science, Institute for Applied Health Sciences, School of Medicine, Medical Sciences and University of Aberdeen, Aberdeen, UK | [2]Turning Point Scotland, Aberdeen, UK | [3]Public Health, NHS Grampian, Aberdeen, UK | [4]Action on Smoking and Health, Edinburgh, UK

Correspondence: Lucia D'Ambruoso (lucia.dambruoso@abdn.ac.uk)

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ABSTRACT

Smoking is responsible for over 8 million deaths globally per annum. While socially disadvantaged communities are disproportionately affected, few interventions effectively reach these groups. We progressed a participatory action research (PAR) study on smoking-related health inequalities in the context of the current UK cost-of-living crisis. We worked with people living in deprived neighbourhoods in rural northeast Scotland. The objective was to engage affected communities together with the health authority in cooperative action learning. Community-based participants ($n = 9$) engaged in a series of workshops ($n = 8$) adopting roles as co-researchers, collecting and arranging new data and evidence. We then connected with service providers in a series of additional workshops ($n = 3$) to analyse and interpret the data, appraise local action and reflect on the process. Community partners identified a convergence between increased stress owing to the crisis, and increased availability, affordability and acceptability of tobacco-related products, namely e-cigarettes. The situation was compounded by lack of awareness of available cessation services. A shared action agenda was developed prioritising: (a) the stress-related root causes of smoking, (b) inclusive access to cessation support, (c) incentivised cessation with locally framed messaging and (d) deliberative dialogue between communities and service providers. There was a high level of engagement, openness and honesty and the strategic relevance of the process was acknowledged. The study provides holistic understandings of health and hardship and demonstrates that existing services can be enhanced with community intelligence. We provide practical methods to support policy commitments to community health emphasising *mutual empowerment* between service users and providers.

Abbreviations: CBT, cognitive behavioural therapy; CDoH, commercial determinants of health; COVID-19, coronavirus disease 2019; GBP, Great British Pounds; GP, general practitioner; NHS, National Health Service; NRT, nicotine replacement therapy; PAR, participatory action research; RREAL, rapid research evaluation and appraisal lab; SIMD, Scottish Index of Multiple Deprivation; TPS, turning point Scotland; UK, United Kingdom.

1 | Introduction

This paper reports on a demonstration study progressing community power and peer learning approaches to develop new forms of data, evidence and dialogue for action on smoking-related health inequalities. The study was progressed from February to August 2023 in the rural northeast of Scotland, one of the four nations in the United Kingdom, and in the context of the current cost-of-living crisis. Researchers worked with people living in socially deprived areas, and with officials and practitioners from the local health authority in a 'cooperative action learning' process.

Responsible for over 8 million deaths per annum, smoking is a leading cause of preventable mortality and morbidity globally (World Health Organization 2023). The impact of tobacco use, and associated harms, are disproportionately borne by socially disadvantaged communities with disparities linked to various measures of inequality including income, occupation, education, gender and ethnicity (Haustein 2006; Loring 2014). Social disadvantage is a dynamic, interconnected phenomenon: different forms of vulnerability and exclusion combine and converge, with amplifying and self-reinforcing effects (D'Ambruoso 2012; Singer 1996). Female smokers, for example, have higher incidence of myocardial infarction, are more likely to have depressive disorder diagnoses, use smoking more often to control weight and mood, and have additional risks of gender-specific cancers (e.g., breast and cervical) (Mackenbach et al. 2008; O'Connell et al. 2022). As such, there is an imperative for more holistic understandings of and action on the root causes and structural factors that influence service provision and uptake and maintain health inequalities in populations. Accordingly, we considered smoking in social terms, considering social, environmental and biomedical factors and their interactions as 'mutually reinforcing components' exacerbating health inequalities (Singer 1996; Singer et al. 2017). Within this, we adopted a view of smoking as a *social problem* like crime or racism; in that it affects large numbers of people; impacts are socially patterned; understood differently; and require urgent remedy.

The study was progressed in the rural northeast of Scotland; a country where there have been significant, overall declines in smoking. In 2021, 11% of women and 12% of men identified as smokers, falling from 28% to 29% respectively in 2003, and exposure to household second-hand smoke has decreased from 25% to 6% over the same period (Scottish Government 2022). Despite progress, the country has the worst health inequalities in Western Europe and smoking is both a cause and effect of that inequality (Poverty Alliance; ASH Scotland 2023). As is the case in many countries, smoking imposes significant burdens on the public health system, and there are few, effective interventions tailored to socially disadvantaged groups. International evidence indicates that interventions such as smoke-free policies, advertising bans, mass media campaigns, warning labels and cessation support are unlikely to reduce smoking inequalities (Hill et al. 2014). International evidence on equity-oriented smoking cessation interventions likewise identifies no better outcomes than with generic interventions, with recommendations for improved pro-equity tailoring (Kock et al. 2019). Similarly, the need to improve equity-oriented approaches to reduce smoking prevalence has been identified in analyses of tobacco control policy in Scotland (Laird et al. 2019; Reid et al. 2017). In this context, there is an urgent need to better understand the social circumstances of people's lives, and where and how smoking fits within these, to properly understand smoking, and to identify effective interventions.

A social perspective highlights an important tension; between smoking seen as a personal choice, and smoking viewed as a social determinants of health issue. For example, Graham (1987) argued that single mothers struggling to survive on welfare continued to smoke because it was reported as the one pleasure in their lives. Agents' responses may seem irrational to observers but perfectly rational to those making the decisions. When seen as a social activity located in a social context, as well as an addiction, reluctance to give up smoking can be seen as reflective of a range of social pressures and influences as well as physiological addiction and behavioural dependence.

Driven by profit motives and market dynamics, smoking is also a commercial determinants of health (CDoH) issue. In 2023, the Lancet Series on CDoH highlighted the profound influence of commercial products and practices on social norms and values, political and economic systems, policy and behaviours (Gilmore et al. 2023), and attributing 30%–60% of avoidable death and disability to the products and practices of transnational corporations (Lancet 2023). Within the Series, Gilmore et al. specifically noted the relational power dynamics among multinational corporations, nation states and affected communities, and that as health harms from this system increase, the ability to intervene decreases. Analyses of health-harming commodities support the need for better understandings of how the balance of power between public and commercial interests shapes people's health (Gilmore et al. 2023; Stuckler et al. 2012).

The research was performed in the context of cost-of-living crisis in the United Kingdom. 'Unique and unforeseen' in nature, and significantly impacting people living in areas of deprivation (Meadows et al. 2024), the crisis started in the early 2020s, significantly intensifying around 2021, continuing into 2024. Driven by COVID-19 economic disruptions, Brexit-related challenges, the Ukraine-Russia war, global supply chain issues, energy price surges and high inflation, the ongoing crisis is driving a 'second health emergency' emphasising more effective, and targeted, use of limited resources (Meadows et al. 2024). Evidence on the impacts of the crisis on smoking is mixed. Reports indicate large proportions of smokers quitting to save money whereas elsewhere, smoking rates are thought to be increasing owing to stress (Gallus et al. 2011; Gallus, Ghislandi, and Muttarak 2015; Hodgson 2022; Jackson et al. 2023; Kettle 2022). Uncertainty notwithstanding, rapidly changing social circumstances impose acute and complex stressors on households to cope and manage.

A social, including CDoH, perspective encourages active engagement with less-represented groups to explore the influence of wider circumstances on smoking over the life course, and acceptable alternatives and routes out of addiction and

dependency. While there is a growing evidence base on the potential of participatory and peer-facilitated approaches to improve smoking cessation services in underserved populations, practical guidance is limited and sustaining authentic processes is challenging (Andrews et al. 2012; Apata et al. 2019; Castello et al. 2022; Petteway, Sheikhattari, and Wagner 2019).

The research was therefore a response to calls for fuller accounts of agents and contexts, including shared and peer behaviours, the influence of relationships and social networks on smoking norms, behaviours and identities (Graham 2017), as well as power dynamics between commercial and public interests from the perspectives of those most directly affected (Gilmore et al. 2023). The purpose was to provide new knowledge on the social circumstances and drivers of smoking in the context of prolonged economic shocks to inform more effective prevention and cessation approaches among vulnerable and marginalised groups. The aim was to engage community members to gain insights into the social contexts and lived experiences of smoking in the context of the cost-of-living crisis, and through cooperative action learning with the health authority, develop feasible and acceptable solutions around tobacco use, prevention and control. Methodologically, the research sought to make contributions around developing community empowerment[1] processes and dialogue between service users and providers to address health concerns from a pro-social perspective. The research questions were twofold: (1) how do dynamic and interconnected, social and structural determinants of health influence the effectiveness of health interventions in reducing smoking-related health disparities? And, (2) what strategies can be employed to engage disproportionately affected communities together with health authorities in addressing health inequalities and their social drivers? The objectives were to:

1. Engage with tobacco consumers and those directly impacted by tobacco consumption in deprived communities to generate new data and evidence on the social circumstances and drivers of smoking, and on cessation and prevention, in the context of the cost-of-living crisis, and document forms, processes and contexts of engagement.
2. Engage health systems actors in analysis and interpretation of evidence generated employing deliberative and dialogue processes connecting service users and providers, and document forms, processes and contexts of engagement.
3. Promote participatory and peer learning approaches in routine health systems functions to enable collective capabilities including by disseminating findings (substantive and methodological) to the public, health systems stakeholders, governmental, technical and research groups.

2 | Data and Methods

2.1 | Theoretical and Analytical Framework

We adopted a participatory action research (PAR) methodology. As a paradigm, participatory enquiry seeks to understand and improve the world through change, generating new, collective knowledge and knowledge capabilities, for social transformation (Fals-Borda 1979, 1991, 2006; Loewenson et al. 2014). PAR aims to empower those typically engaged as research 'subjects', instead engaging them as co-researchers, ensuring that the research is relevant, collaborative and action oriented (Baum, MacDougall, and Smith 2006; Loewenson et al. 2014; Minkler et al. 2003). From this perspective, PAR actively involves community members in research to address issues that directly affect their lives. Recognising practical experience as a valuable source of knowledge, PAR operates on the premise that practical, shared, experiential knowledge that is co-constructed, self-reflective and embedded in complex, adaptive social and health systems can support and inform organisation and delivery of solutions that promote equity and transformative change (Scottish Government 2023a).

Within this, and drawing on Popay's community power work, we sought to extend the PAR process through attention to the social and institutional contexts in which it was progressed (Popay et al. 2021). To this end, we structured the PAR process drawing on a community power-building in health framework. The framework emphasises three core elements: (1) community ownership, control and capabilities; (2) embedding in social and institutional contexts; and (3) creating and sustaining authentic learning environments (Mabetha et al. 2023). From this standpoint, we developed a short, 6-month, demonstration project to engage communities and generate new forms of data and evidence on smoking as a social problem within the context of the cost-of-living crisis (community capabilities domain). On this basis, we facilitated a series of engagements with health systems actors to jointly analyse and interpret these data. This was done in learning spaces where we also considered the applicability and practical utility of the process (institutional contexts and sustainability domains). We documented engagement and dialogue, and substantive outputs. Primary beneficiaries were people in resource-constrained settings and systems for whom cooperative action learning has the potential to build trust relationships and support pro-social change (Lancet 2022).

2.2 | Study Setting

The research was based in the Grampian region, which encompasses Aberdeen City, Aberdeenshire and Moray (Figure 1). Grampian is one of eight regions in Scotland with a population of 581,300 (Scotland's Census 2023). The economy is dominated by oil and gas production and the region is overall affluent with localised areas of deprivation. Unemployment is less than 5% (Office for National Statistics (ONS) 2023a, 2023b, 2023c). There are no data on household poverty but 13% of households in Aberdeen, 15% in Aberdeenshire and 19% in Moray live in extreme fuel poverty: spending more than 20% of their net income (after housing costs), on fuel (Scottish Government 2021). 22% of children were living in poverty in Aberdeen City in 2018/19 (Community Planning Aberdeen (CPA) 2021).

As described above, smoking is in decline in Scotland. In 2022, 15% of adults (defined as persons over 16 years) smoked, falling from 28% in 2003 (Scottish Government 2023b). The decline has been attributed to various policies including smoke-free legislation, high taxation, standardised packaging, graphic health warnings on tobacco packages, bans on advertising, promotion and sponsorship and media campaigns (Scottish

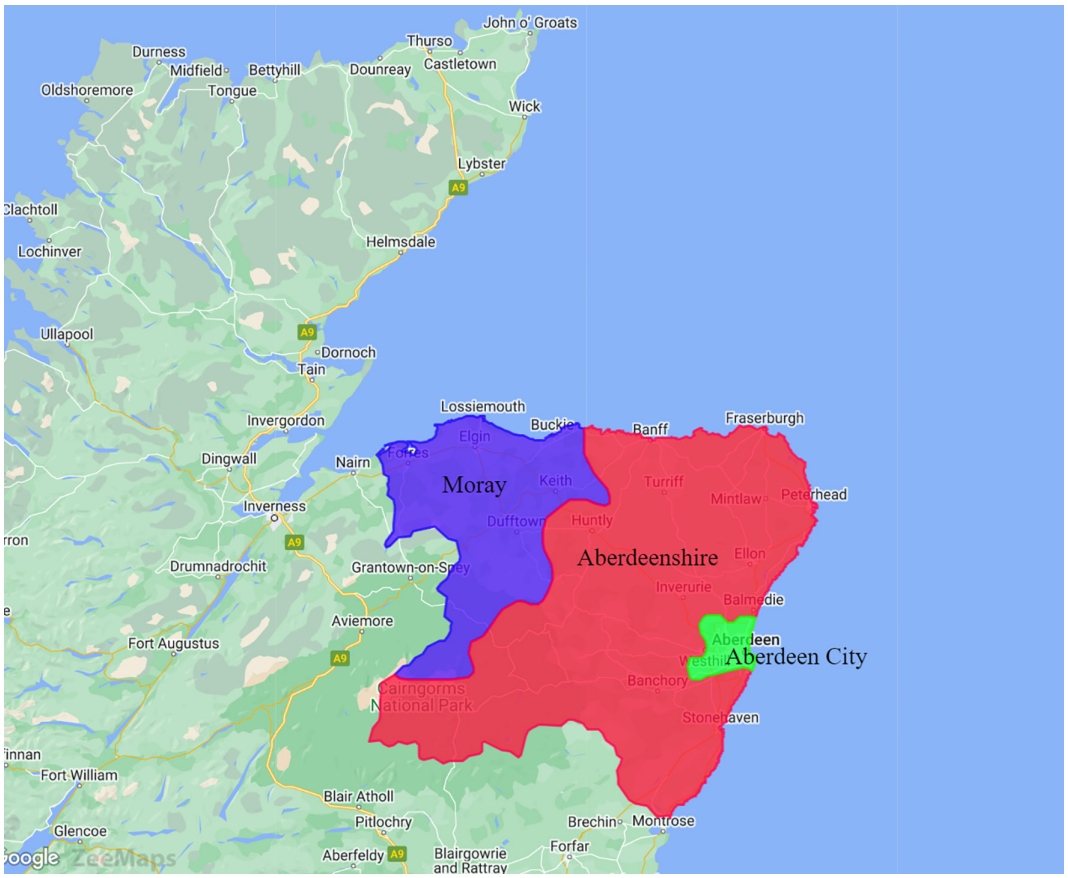

FIGURE 1 | Map of study area, northeast Scotland. [Colour figure can be viewed at wileyonlinelibrary.com]

Government 2013, 2023c; World Health Organization 2017). Inequalities remain, however, with 25% versus 6% smoking prevalence in the areas classified as most and least deprived (Scottish Government 2023b).

Complicating this picture is the rapidly expanding use of e-cigarettes. Survey data indicate that between 5% and 13% of the adult population in Scotland use e-cigarettes, and that over 40% of adults who currently use e-cigarettes also smoke tobacco (Scottish Government 2023a). Moreover, in 2022, 25% of 15-year-olds reported using e-cigarettes (Banks et al. 2022; Buss et al. 2023; Scottish Government 2023a, 2023c). Marketed as a cessation aid, recent evidence raises concerns over no proven cessation benefits and rising youth initiation (Banks et al. 2022; Grana, Benowitz, and Glantz 2014). Evidence also suggests that many smokers switch rather than quit, and dual use potentially increases cardiovascular risk (Bozier et al. 2020). There is also evidence that e-cigarette use may worsen asthma and affect foetal development (Bozier et al. 2020), and there are concerns about respiratory risks, especially among youth (Yayan et al. 2024). Furthermore, e-cigarettes have not had toxicology or long-term safety testing despite widespread availability (Gotts et al. 2019). There is also no evidence on the long-term consequences of these devices.

2.3 | Participant recruitment

In this context, target populations were those classified by the Scottish Index of Multiple Deprivation (SIMD) as the most deprived national quintiles (1 and 2). Sampling was purposive to include the perspectives of adult consumers of tobacco and/or other smoking products, for example, electronic cigarettes and those directly impacted by smoking and tobacco consumption, and its costs. There was an inclusive approach to connect with those most directly affected by and excluded from planning and action to address the issue. Potential participants were identified among community members accessing services provided by Turning Point Scotland (TPS). These services encompass social care and support for people facing complex and challenging situations in alcohol and drugs, mental health problems and homelessness. TPS also provides peer support services giving and receiving nonprofessional, nonclinical assistance from individuals with similar conditions or circumstances to achieve long-term recovery from psychiatric, alcohol and/or other drug-related problems (Tracy and Wallace 2016). Sampling was purposive, with defined inclusion characteristics (Table 1). We aimed to recruit 12 participants as a reasonable, maximum, number for a facilitated discussion. Participants were approached by the community-based researcher, a lead practitioner for TPS, who described the study, activities and intended outputs and asked about interest and willingness to participate. Those who expressed interest were provided with written information on the research, and consent form and given minimum 72 h to absorb the information, ask questions and have those questions answered (ethical considerations are described below).

During the study period, February to August 2023, we progressed a series of eight weekly community-based workshops

of approximately 2 h each. Informed by PAR framework and tools, we progressed partially through one cycle: systematising experience; collectively analysing and problematising; reflecting on action; and engaging to review action and systematise learning (Figure 2, Table 2). The workshops were sequenced accordingly: to explore and systematise knowledge on the contexts and circumstances of smoking, smoking choices and behaviours, cessation and prevention, as well as health concerns and impacts, the financial costs of cigarettes, drivers around stress, isolation and on available healthcare support. At the end of the sequence, a further three workshops were held with representatives from the health authority to analyse and interpret the new data and evidence that had been generated, and to reflect on the practical utility of the process among those involved. Participants were supported to adopt roles as co-researchers throughout, co-designing the process and its implementation (Table 3). Visual data were collected and appraised by participants with dedicated time to discuss, select and narrate this data (Brooks et al. 2017; Petteway, Sheikhattari, and Wagner 2019). We provided participants with basic orientation to photography, explained why and how to secure release permissions from any identifiable subjects of photographs, and provided participants with standard letters and permission release forms for this purpose. All community-based workshops were facilitated by the TPS practitioner, with knowledge of the local area. Workshops were held in accessible settings, delivered in local languages and dialects (Doric and Scots) to support participants to assume ownership and control and build collective capabilities. We also compiled statistical analyses and evidence reviews during the workshop sequence, to provide additional information at relevant points on sub-topics of community partner interest. For the former, we drew on publicly available Scottish Health Survey data 2018–2022 on smoking and smoking cessation. Descriptive analyses were performed using R software, quantifying smoking rates, quit attempts and success of quit attempts by SIMD.

We adopted a rapid qualitative research approach. The process, developed by the RREAL (Rapid Research Evaluation and Appraisal Lab) group, supports systematic collection of data, enables rapid summary of findings and identification of themes, including adaption of data collection and analytical processes through team reflection (Vindrola-Padros et al. 2020). According to this procedure, during the workshops, researchers took notes. Following each workshop, notes were summarised in two structured 'RREAL Sheets': one on substantive content, and one for observations and reflections (Appendix S1). In subsequent workshops, notes were taken, and key findings transferred, using the RREAL Sheets as a triangulation tool. The process enabled data to be captured according to key analytical categories: subjective perspectives, collective problematisation; reflecting on and choosing action; and engaging to review action and learning.

2.4 | Ethical Considerations

Prospective participants were informed about the purpose and focus of the research, the activities, degree of involvement and time commitment. We explained that it would not be possible to protect identities from others in the workshops, but outside the workshops, identities would be protected in reporting. Participants were also informed that they were free to leave the study at any time and for any reason. For those agreeing to be involved, suitable dates, times and locations for the workshops were arranged. All participants were provided with a shopping voucher of 20 GBP for each workshop, to compensate for time and reimburse for travel. Refreshments were also provided during the workshops. In anticipation of the potential for emotional distress from the discussions, we put measures in place for: early recognition of trauma and distress; delivery of support (during and/or out-with workshop spaces); follow up with one-to-one support; and referral to additional support. The TPS team had access to a clinical psychologist, and the community-based researcher was supported by a TPS staff member during the workshops. These arrangements were also described to participants at the outset of workshops (NHS Education for Scotland 2019). Additional procedures were put in place to ensure participants' safety during collection of visual data. All participants received prior safety and de-escalation briefings to ensure that they were able to identify and respond to the potential to create conflict and/or pose safety issues.

TABLE 1 | Inclusion and exclusion characteristics.

Inclusion	Exclusion
• People residing or located in areas classified as SIMD 1 and 2 • People negatively affected by the cost-of-living crisis • People >18 years • People directly impacted by smoking and tobacco consumption (e.g., people who consume tobacco or smoking products, family members of smokers, family members of people with smoking-related illness/es) • People directly and negatively impacted by the costs of smoking and tobacco consumption (e.g., family members from households where a significant proportion of household income may be spent on tobacco/smoking products) • People who access TPS services and/or networks • Parents, carers and/or guardians (includes adoptive parents and kinship carers)	• Individual characteristics that could hinder participation (e.g., low levels of literacy, discriminatory, personal beliefs that oppose or could disrupt or disable the research and research activities) • Reasonable possibility of loss to follow up (i.e., inability to commit to series of workshops for personal/ professional/ other reasons, e.g., familial commitments, chaotic and/or unstable personal circumstances, existence of severe or acute health condition that is likely to preclude participation) • Prisoners, people in detention or involuntary treatment • People in residential or supported accommodation • People who may present a risk of physical aggression and/or harm

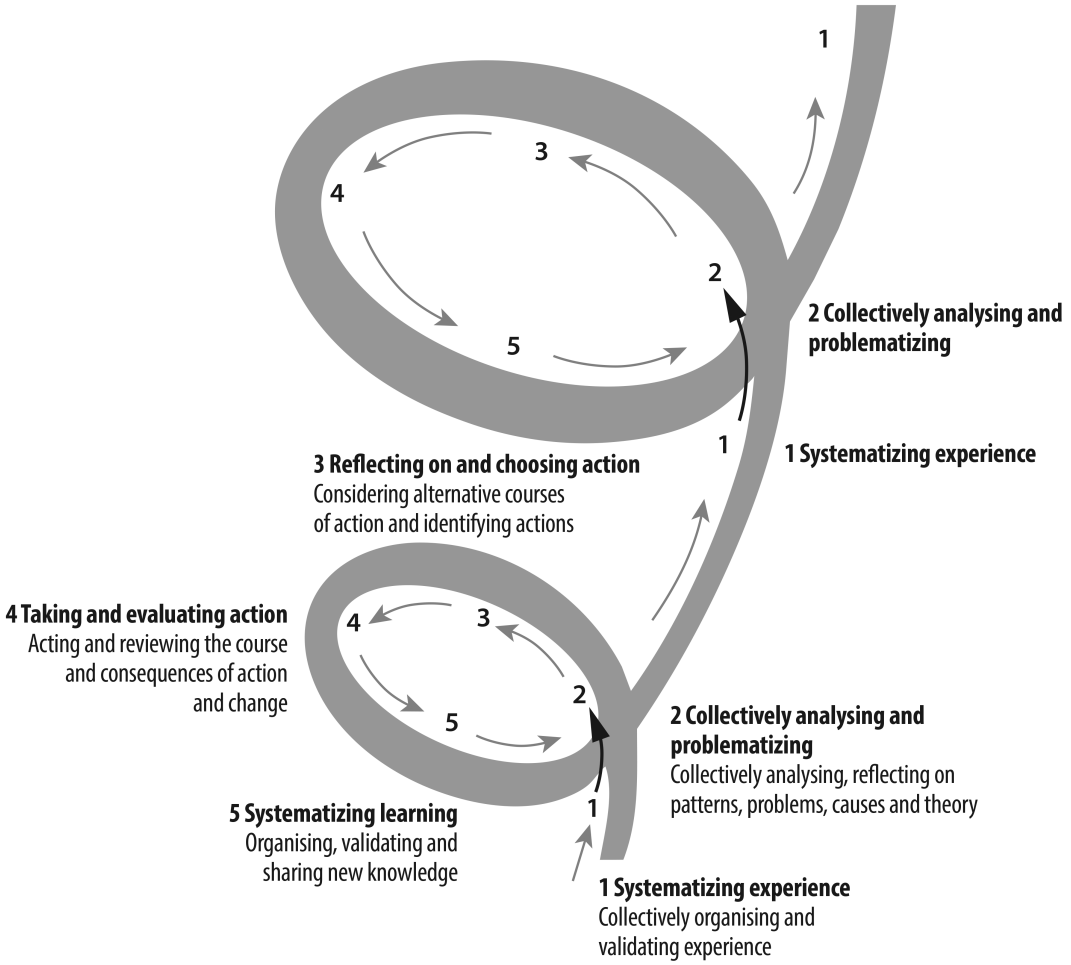

FIGURE 2 | The cyclical process of Participatory Action Research.
Source: Loewenson et al. 2014.

TABLE 2 | Participatory action research (PAR) tools.

Ranking and voting	To identify priority topics of relevance to the community. A list of health priorities developed via facilitated discussion, after which participants vote for topics of highest relevance using adhesive stickers.
Problem tree	To understand and 'unpack' topics from different perspectives. Through facilitated discussion using a tree diagram visible to all, participants identified cause-and-effect relationships at various levels from root (tree roots) to intermediary causes (trunk and branches) and consequences and other effects (tree pods), building subjective perspectives into shared accounts through consensus.
Venn diagrams	To understand impacts and actors involved. Collective account developed with Venn diagram made from cardboard circles of different sizes and colours to indicate relationships and interactions between actors and institutions, identifying organisations active in the topic and how they related to one another.
Action reflection	Collectively developed to represent moving towards a desired goal. Groups supported to consider alternative courses of action and specify/appraise interventions, their feasibility and acceptability, and potential barriers including cultural factors.
Visual data	To visually convey lived experience. Participants provided with basic training in photography and research ethics to take photographs illustrating the topic or condition as it exists in physical environments. Photographs presented and discussed in workshops, and captions developed to describe what images convey.

Participants were briefed to be respectful, noncoercive and nonconfrontational during collection of visual data, to identify any threat to safety, and to remove themselves immediately from any situation that they judged to be threatening, dangerous or in any way unsafe. Participants were also provided with telephone contact details for the community-based researcher,

TABLE 3 | Sequence of workshops.

Workshop/s	Description
Introduce and codesign the process	The community-based researcher, a professional facilitator and lead practitioner familiar with the local context and methods, held an introductory workshop to root the process in the contexts, needs and perspectives of community members. The process was reviewed and adapted with participants to ensure co-ownership (Workshop 1). Tools: facilitated discussion.
Systematise subjective experiences	Facilitator and participants used PAR tools to elicit subjective understandings and experiences of smoking and tobacco use, including the extent to which it is seen as a problem and what are considered the main causes and consequences. Discussions explored drivers of tobacco use and disproportionate harms in socially disadvantaged groups with a focus on the cost-of-living crisis; analysing the main patterns, problems, causes and impacts at individual, community societal levels (Workshops 2 and 3). Tools: ranking/voting/problem tree/visual data.
Collectively analyse and problematise and analyse tobacco-use and tobacco related illness	We collectively identified and analysed actors and impacts at individual, community and societal levels, including relationships and interactions between actors and institutions, identifying internal and external organisations active in the topic and how they relate to one another in terms of contact/collaboration (Workshops 4 and 5). Tools: Venn diagram/visual data.
Reflect on and prioritise action	Facilitator and participants appraised alternative courses of action and specified/appraised interventions, their feasibility and acceptability, and potential barriers including social, cultural and economic factors. In these workshops, the groups also appraised data and evidence on the extent of the problem and interventions to address smoking and related health inequalities (Workshop 6). Tools: Action reflection/visual data.
Engage to review action and systematise learning:	The final workshops reflected on experiences, outputs and how the process should be carried forward to engage government and non-government organisations. Participants discussed workshop outputs and reflected on the process and future development. Facilitator and participants: (a) reviewed courses and consequences of action and change, and (b) shared, organised and validated new knowledge from the process. The final workshops also developed a dialogue mechanism to connect with statutory services to share key insights and learning (Workshops 7–11). Tools: facilitated discussion.

who they could call on as required. A study protocol was prepared and submitted to the Research Ethics Committee of the School of Medicine, Medical Sciences, and Nutrition at the University of Aberdeen, and approval was granted [School Ethics Review Board (SERB) Reference: 652990].

3 | Results

The results are presented according to the PAR aims, purpose, framework and tools employed. As described above, within the time and resources available, we progressed partially through one PAR cycle. In line with this approach and preceded with an account of how the research was initiated, the findings are arranged according to the PAR sequence of: (a) systematising experience, (b) collectively analysing and problematising, (c) reflecting on action and (d) engaging to review action and systematise learning.

3.1 | Introduction and Codesign

In the first workshop, we oriented the group to the study, objectives, activities and agreed the process. We set out the overall goal of PAR as to empower under-served communities through active participation in research processes for meaningful social change. We also reiterated the intended social impacts including empowerment, capacity building, promotion of social justice, creation of relevant solutions, strengthened community cohesion, policy influence and improved community well-being. The group agreed the importance of representing those facing smoking-related illnesses and those who had lost relatives to or had family members with smoking-related illnesses. Participants expressed enthusiasm and positivity about the study and process and welcomed the invitation to collect and analyse visual data. The group was engaged, open and honest, with strong opinions about what they would like to capture and share.

3.2 | Subjective Perspectives

Subsequent workshops explored experiences and perspectives on smoking. Smoking was viewed as a learned behaviour influenced by family, peers, marketing, socialising and as a response to stress and shock. Narrating current smoking behaviours, participants described seeking comfort, stress relief, a reward and using smoking to suppress emotions. Some described habit and addiction, while for others it was seen as a way of taking time out from work and family. Some used smoking as a substitute for other addictive behaviours. Smoking was perceived negatively overall. It was described as expensive with serious

consequences for household finances. Physical and health impacts were listed: that smoking kills, ages, suppresses appetite, affects physical health, breathing, appearance (staining nails, fingers and making you smell), senses of smell and taste, fertility and impotence, and can be addictive. Smoking was seen as 'full of poison', able to kill brain cells, affect mood and harm others. Participants also associated smoking with the development of chronic illnesses such as cancer, emphysema, chronic obstructive pulmonary disorder (COPD), throat cancer, heart disease, stroke, bronchitis and diabetes.

On social attitudes, participants described how tobacco smokers are regularly, unfairly subject to judgement and seen as 'tinks' (a derogatory Scots term for an individual with poor personal hygiene, or a thief). While e-cigarettes were viewed as more socially acceptable, views on them were also negative. Participants noted concerns over widespread accessibility including in everyday shops and online, despite a lack of evidence on long-term health effects. We performed a rapid review to inform these discussions, finding limited, inconclusive evidence supporting use of e-cigarettes as a cessation aid (Appendix S2). Participants also expressed concern over the likelihood of children and young people using e-cigarettes, and highlighted environmental impacts.

On the cost-of-living crisis, experiences of acute stress, hardship and financial pressures were shared: 'financial stress is through the roof'. Participants highlighted how people experience emotional turmoil, stress, anxiety, struggle with sleep and that the situation erodes self-worth, and can lead to debt and criminal activity. Cost-of-living stressors were seen to predispose to smoking; smoking in these circumstances was described as coming before food, heating, rent and other essentials. Several participants shared experiences of no longer being able to afford cigarettes, and switching to cheaper e-cigarettes, but feeling more addicted to nicotine owing to fewer limitations (e.g., being able to smoke in the house and car, and with 'no end' to an e-cigarette). Smoking was seen to simultaneously relieve and exacerbate financial stress.

3.3 | Collective Problematisation

We systematised perspectives and experiences in a shared model of smoking causes and consequences. This revealed a clear convergence of increased stress owing to the financial crisis, and increased availability of tobacco-related products, particularly e-cigarettes. The group agreed that cessation support was not easy to access, recounting previous unsuccessful quit attempts, long waits to see GPs, and uncertainty over who to ask for help. Participants expressed anger that people struggle financially and are caught between increasing stress and increasing availability of smoking and tobacco-related products with little or no knowledge of cessation services to intervene. This was articulated as 'no means to break the cycle' (Figure 3).

We also mapped the significance and connectedness of key actors and institutions influencing smoking. Smoking product manufacturers were seen to have considerable power and influence. The priorities and activities of commercial organisations were discussed in terms of generating profit from

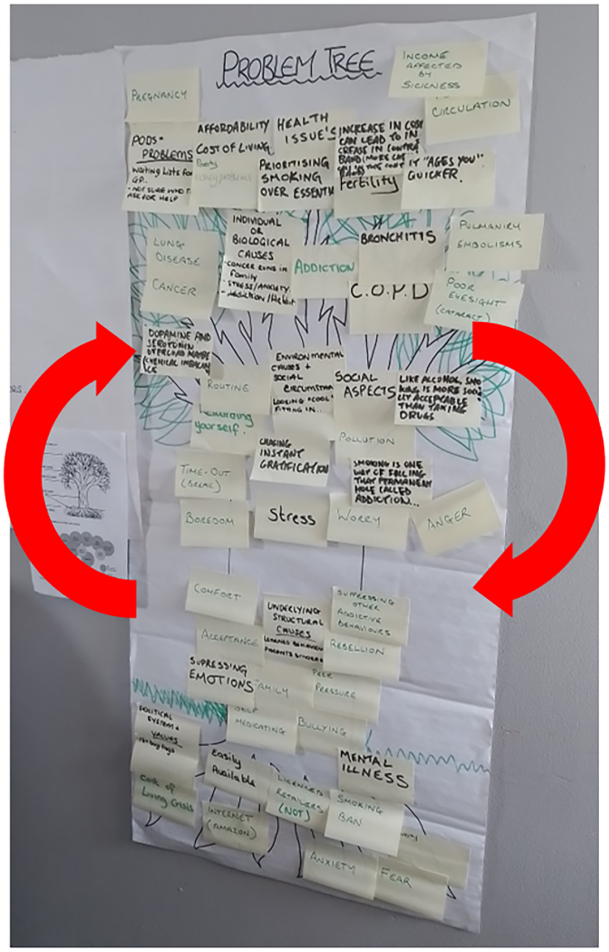

FIGURE 3 | 'No means to break the cycle': The problem tree mapping of causes and consequences of smoking at different levels identified a convergence of increased stress owing to the cost-of-living crisis and increased availability of smoking products, combined with lack of awareness of cessation services locally. [Colour figure can be viewed at wileyonlinelibrary.com]

sales, widespread advertising, and marketing, particularly of e-cigarette products, and as having no interest in health. Government was also identified as a powerful institution with the power to limit access to smoking products. There were strong feelings about the state's role in cessation relative to commercial actors including multinational corporations through to local retailers.

In terms of services, online resources were seen as important 'information at our fingertips', and NHS and community pharmacies relative to these. Cessation supports were discussed including helplines, GP/doctor, nicotine replacement therapy (NRT), cognitive behavioural therapy (CBT) and hypnotherapy. CBT and hypnotherapy were seen as costly, however, and not an option for many. In response, we performed a rapid review on hypnotherapy for cessation, which revealed limited evidence supporting use in cessation (Appendix S3). Despite the range of aids listed, a lack of awareness of how to access them was noted. Participants also acknowledged smoking-related illness as further burdens on already-stretched services. Peer support was identified as potentially useful service response, but participants were not aware of any local support groups.

'The individual' was located as the least powerful actor. The consensus was that while individuals may have willpower to stop smoking, commercial and public organisations significantly contribute to people's success or failure. The group concluded that 'the individual is a grain of sand' in comparison (Figure 4). This was a heated debate and again surfaced feelings of anger: participants expressed they would like to have control over their lives, however, identified many actors and factors with significant power and influence.

Visual evidence was shared, selected and captioned reflecting the health and financial consequences of smoking, accessibility, convenience, the influence of celebrity culture, environmental pollution, youth appeal and marketing and financial choices regarding essential items (Figures 5–7, Appendix S4). Vaping was a recurring theme. Participants revisited concerns over lack of knowledge on the content of products and on long-term health effects. Participants noted that tobacco was previously advertised as healthy and considered a similar pattern with vaping. Overall, e-cigarettes were viewed as replacing one problem with another.

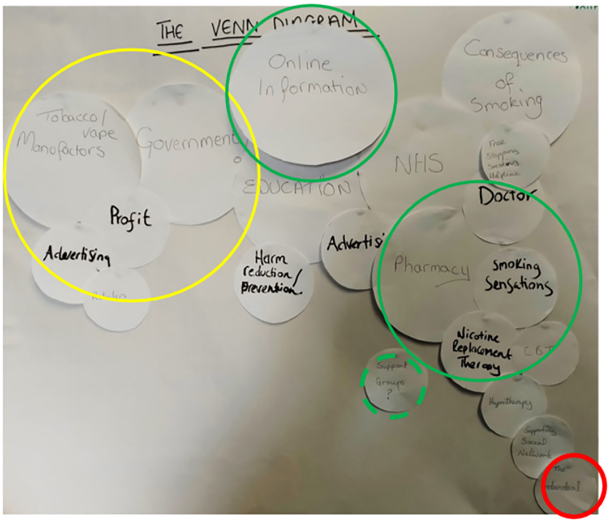

FIGURE 4 | 'The individual is a grain of sand': Mapping actors and institutions their importance and inter-relationships revealed the extent of power and influence of 'the big players', that is, commercial actors and government over individual agency, and how these are mediated by cessation services, seen as lacking in availability locally. [Colour figure can be viewed at wileyonlinelibrary.com]

FIGURE 5 | 'Delivered to Your Door': Easily accessible via internet shopping and delivered straight to your front door. Examples of visual data selected, titled and captioned. [Colour figure can be viewed at wileyonlinelibrary.com]

3.4 | Reflecting on and Choosing Action

Subsequent workshops focussed on action. Here, we worked with health improvement practitioners delivering cessation services. In these workshops, community participants presented the data and evidence generated, and existing services were discussed. A range of cessation provisions were outlined, which we arranged on a continuum from 'DIY' approaches such as shop-bought NRT and Quit Your Way services, community pharmacy 12-week support, NRT prescriptions and weekly check-ins, and through to specialist services with 12 weeks of patient-centred support. Participants again expressed frustration that a comprehensive range of service was available, but that there was a general lack awareness about these, locally. Participants emphatically discussed inclusive access with accessibility promoted through social media, tv/radio and education, framed locally, based on services available in communities, and welcomed the availability of free, NHS cessation support.

FIGURE 6 | 'Rainbow of Toxins': Perfectly packaged poison and a beautiful, gift-wrapped present looking very appealing to the younger generation. Examples of visual data selected, titled and captioned. [Colour figure can be viewed at wileyonlinelibrary.com]

FIGURE 7 | 'Smoking versus Eating': The amount of shopping you can purchase for a fortnight, equalling the amount spent on smoking related products—Which would you prefer? Examples of visual data selected, titled and captioned. [Colour figure can be viewed at wileyonlinelibrary.com]

The group also appraised cessation campaigns: marketing materials, wording, placements and messages. We discussed framing campaigns for people struggling financially. Participants highlighted the importance of engaging materials, with key information and wording such as 'free' being bolder to capture people's attention. The importance of aspirational themes was highlighted (e.g., illustrating how holidays could be affordable with money saved from stopping smoking) rather than related to survival (whereby money saved could be used for essentials e.g., food and/or fuel). An analysis of national survey data on smoking and smoking cessation was prepared to inform these discussions. This analysis highlighted that while smoking rates and quit attempts were comparatively worse in deprived areas, quit success rates were no different, further underscoring the imperative for targeted cessation (Appendix S5). The appraisal led to a wider, and unanticipated discussion on working with communities and recognising wider social networks and community assets. Discussing 'the message and the messenger', commitments were made by the health improvement team to explore embedding cessation services in peer support for alcohol and drugs and continuing to work with the group to provide feedback on marketing materials and future campaigns (Figure 8).

During the deliberations, we also discussed how to talk about financial hardship. While 'poverty' was acknowledged as a term that accurately described participants' circumstances, there was consensus that the word had negative associations, was stigmatising, victimising and disempowering. We conducted a final rapid review on language on poverty, highlighting shifts from individualised notions associated with moral failure towards terms conveying meanings of empowerment (Appendix S6). The consensus was that the need for targeted services was high, and that appropriate language was important. More appropriate terms were discussed including *deprived social circumstances*, which we used in reporting.

A dedicated workshop was also held on the stress-based root causes of smoking, and for which health improvement providers connected us to the mental health team. In these discussions, mental wellbeing drivers of smoking were powerfully communicated: 'we are not taught that we are enough', 'you are smoking to suppress feelings', 'we are always reaching for a solution… a fix'. 'This is about understanding your own mind.' It was strongly recommended that services should recognise smoking is the only form of stress relief that some people have. Healthy alternatives to destress and holistic services such as hypnotherapy and meditation were recommended focussing on why people smoke and that healthier alternatives exist. The wider utility of the process was discussed including in the new public mental health strategy. There was discussion around developing training opportunities for the mental health team to utilise PAR and peer-led methods. The group discussed a potential partnership to research health harming products and mental health.

FIGURE 8 | 'The message and the messenger': Reviewing cessation marketing materials led to a wider discussion on working with communities as equals, open conversations about how they envisage the future, and recognising wider social networks and community assets. [Colour figure can be viewed at wileyonlinelibrary.com]

3.5 | Engaging to Review Action and Learning

In the final workshop, community and service participants engaged with a wider group of service providers and senior managers to present and deliberate over the data, evidence and process and consider ways forward. Practical relevance across service domains was recognised. The process was also relevant to the health authority's strategic commitments to community-led health and addressing the social patterning of health (NHS Grampian 2022). Participants were elated to have health officials engage with the process. All participants expressed that they enjoyed the discussion and felt empowered, cared about and listened to. Through these workshops, a shared 'action agenda' was developed advocating for: (a) inclusive access to cessation services, (b) incentivised cessation for people struggling financially, (c) action on the stress-related root causes of smoking and (d) for deliberative, data-informed dialogue between communities and service providers.

4 | Discussion

The study sought to understand smoking in the cost-of-living crisis through a process grounded in the circumstances and perspectives of people most disproportionately and directly affected. The research responded to a lack of information on, and relevant methods to surface, the dynamic and complex ways through which social circumstances, factors and forces combine and converge to influence agents' behaviours, health sector responses and resulting health inequalities, related to smoking. Informed by community power and peer learning approaches, community partners performed a sophisticated, real-time analysis critically analysing the influence of commercial interests, statutory actors and individuals. The analysis highlighted a dynamic, self-reinforcing situation in which prolonged financial uncertainty and stress combined with increased availability, affordability and acceptability of smoking products (namely, e-cigarettes) significantly limited individual agency to initiate and sustain cessation. The situation was further compounded by a general lack of awareness of available cessation support. There was shared frustration over the lack of knowledge of a range of freely available services, and an emphatic drive to use the new data and evidence generated to expand inclusive access. We discuss the substantive

and methodological implications in terms of the evidence on smoking in deprived populations, below.

The United Kingdom is the only country globally with a state-funded cessation support system (Smith, Hill, and Amos 2020). NHS Health Scotland offers specialist services, with intensive behavioural multi-session support and pharmacotherapy, a nationally funded community pharmacy service, and national telephone or online support (NHS Inform 2023; Smith, Hill, and Amos 2020). COVID-19 imposed significant and lasting disruptions on such services, however, with reductions in smoking prevalence going into reverse, especially in the most deprived areas (Public Health Scotland 2023a; Scottish Government 2023c). Our data may reflect a dislocation of communities and established cessation support networks owing to, and extending beyond, COVID-19. Nevertheless, recent data show increased quit attempts across all health authorities in Scotland, suggesting services getting back into operation (Public Health Scotland 2023b).

Cessation services form part of an advanced regulatory and public health landscape in Scotland. A range of prevention and control measures have driven large declines in smoking. Inequalities persist, however, and (as described earlier) there is a dearth of understanding of how to tailor cessation interventions for those who bear the highest burden of smoking-related health inequalities. Reductions in smoking inequalities are likely to be insufficient to meet the Scottish government's 2034 target of ≤5% smoking prevalence (Scottish Government 2013), and smoking remains the leading cause of health inequalities in the United Kingdom (Marmot and Bell 2012). In this scenario, the Scottish government recognises the need to accelerate progress with targeted efforts in high-prevalence areas. The demonstration study supports and informs calls for targeted cessation (Latif et al. 2021). We developed practical approaches including tailored messaging for people living in hardship, embedding cessation awareness in existing alcohol and drugs services, and ongoing community dialogue building relationships and trust.

The rise of e-cigarettes further frustrates overall declines in smoking in Scotland, and vaping was a prominent theme throughout. The evidence base, albeit limited, on the effectiveness of e-cigarettes versus other treatments means they are currently supported as a nonprescription cessation aid (Hartmann-Boyce et al. 2021; Scottish Government 2023c). The Scottish government acknowledges uncertainties surrounding the long-term health effects of e-cigarettes, however, together with concerns over use among children and young people (Scottish Government 2023c). Community participants conveyed the realities of e-cigarettes: widespread availability online and in everyday shops; affordability; social acceptability; fewer restrictions in the home and transportation; fewer restrictions in smoking duration; widespread dual use; feeling more addicted to nicotine because of e-cigarettes; and anxiety over unknown long term health effects. The explicit targeting of children and implications for people who have never smoked were further concerns, as were environmental impacts. Overall, e-cigarettes were seen as severely undermining cessation, and as encouraging new uptake.

Around 4 million people use e-cigarettes in the United Kingdom (Banks et al. 2022; Rough 2023). 18% of adolescents report ever-use, and 40% of 15-year-old girls reported use in 2022, up from 20% in 2018 (Inchley et al. 2023). E-cigarettes are currently marketed as consumer products without a medicines licence (Rough 2023). While regulation is shifting (Scottish Government 2023c), there is uncertainty and some predisposition towards perceived harm reduction benefits, together with consumer demands and growing economic impacts and interests driving industry lobbying. Our data suggest significant *collective harms* from e-cigarettes and support stringent regulation as a priority.

Our findings also align with the 2023 Lancet Series on CDoH. Community partners conveyed relational power dynamics in terms of a self-reinforcing situation: cheaper and more socially acceptable smoking products, combined with prolonged financial stress and uncertainty, and services struggling to meet demand post-COVID, resulting in increased likelihood of smoking for people living in socially deprived circumstances, as well as wider consequences for children, young people and others. Considering the potential for *diminishing ability to intervene* as health harms owing to products of transnational corporations increase (Gilmore et al. 2023), the results support the Lancet Series calls for a rebalancing of public and commercial interests as an overall imperative.

4.1 | Methodological Reflections

Participatory approaches emphasise connectedness and representation. We regularly, critically and carefully reflected on whose views were included, and how the process was owned and controlled. From these, we made responsive efforts to create environments where people were comfortable to share perspectives and have supportive exchanges both among peers, and especially with more diverse and otherwise disconnected actors representing statutory services. Repeated engagements with sensitive facilitation established and reinforced cooperative learning principles. Participants engaged well, the community group gelled, and there were lively, often heated, discussions. While there was frustration about the range of available services for which awareness was lacking, all participants were happy with the information that was developed and appraised with health professionals and frequently recounted how empowered they felt. Service planners and managers engaged consistently and sensitively, connected us to adjacent sectors, and were open to and welcoming of community-based and data-informed deliberations. Nevertheless, the group was small. Of the nine community participants recruited, two dropped out (owing to family commitments and an employment opportunity). While the demonstration study did not seek to achieve statistical generalisability, a larger group and/or a longer process would extend substantive and methodological insights.

The regular reflection on our perspectives and identities, considering, for example, who controlled funding, who published, and whose perspectives were prioritised, concluded in support of emphasising and respecting diversity and working to share decision-making. Indeed, the diverse forms of evidence developed were the foundation of dialogue and exchange. In this regard, the real value of the process can be located in the development of shared understanding between diverse actors as a catalyst for change (Buse 2008). Post-COVID, evidence-based

practice models are shifting towards more relational ideas, emphasising real-time learning, prospective evidence production and use and learning as a core function in every health system (Greenhalgh et al. 2022; Vindrola-Padros et al. 2020; World Health Organization 2021). Our data suggest the potential value in approaches emphasising *mutual empowerment* between service users and providers.

The process was explicitly cooperative: participants built new capabilities to raise community voice, and service providers connected to new data and capabilities supporting uptake. Researchers supported and sustained dialogue in regular learning spaces informed by data and evidence. Together we developed a shared action agenda for prosocial action. The study adds to a growing evidence base supporting participatory and peer-facilitated approaches to improve smoking cessation services in underserved populations (Andrews et al. 2012; Apata et al. 2019; Castello et al. 2022; Petteway, Sheikhattari, and Wagner 2019). Practical guidance is limited, however, and sustaining authentic processes is challenging. The pandemic also severed many, critical links between service users and providers, and put extraordinary demands on services (Gilmore et al. 2020). Further development and testing of processes enabling connection and trust relationships is therefore worthwhile.

Finally, expanding ideas about what constitutes success is important. Service provision frameworks usually emphasise consistency, scalability, targets, metrics and short-term impacts. Without a wider paradigm shift, together with fit-for-purpose monitoring and evaluation, there are risks that the impacts of participatory and peer-led approaches may remain limited (New Local 2021). Our study adds to evidence supporting further development. These results reflect the benefits and potential of PAR and peer-support methods, over extractive approaches that rely solely on quantification (Smith and Stewart 2024). Future development and testing should: embrace the central category of power and rebalancing power dynamics among commercial, public and community actors; focus on the development of new cooperative paradigms, driving new state-society synergies with shared rights and responsibilities for health; and explore and promote mainstreaming, embedding in local systems to understand and address health inequalities.

5 | Conclusion

Smoking-related harms disproportionately impact under-served populations. There is a dearth of practical knowledge on how to tailor interventions to the populations that bear the highest burden, and how to connect with under-served communities for this purpose. In response, we developed a process to engage and build new, prosocial understandings grounded in the perspectives of excluded and at-risk communities around smoking in the context of a protracted economic crisis. We progressed a series of participatory engagements in rural communities to raise and frame the problem of smoking-related health inequalities, and on this basis, we facilitated a series of engagements with health systems actors to jointly analyse and interpret new data and evidence generated. This was done in learning spaces where we also considered the applicability and practical utility of the process for cooperative action learning as a function in the health system.

The originality and added value of the study in relation to previous literature can be seen in two main ways. First, and substantively, the analysis revealed the extent of *collective harms* that can be directly attributed to smoking in the context of prolonged economic shocks in low-income communities. Community partners conveyed a self-reinforcing situation of cheaper and more socially acceptable smoking products, combined with prolonged financial stress and uncertainty, and services struggling to meet demand post-COVID, resulting in increased likelihood of smoking as well as new uptake, including among children, young people, together with environmental impacts. Many of the deliberations focussed on the exponential rise of e-cigarettes. Considered in terms of a nascent, contested evidence base on e-cigarettes, where regulation is limited around use as a consumer product rather than a medical device, our results also confirm a troubling potential for *diminishing ability to intervene* on the health harms related to products of transnational corporations. The results thus support the need for an urgent rebalancing of public and commercial interests as an overall imperative.

In these terms, and second, originality and added value are also located in the participatory and peer-led process. We developed a rapid, practical approach to generate diverse forms of data and evidence, and sophisticated real-time accounts of complex problems, grounded in the lived realities of low-income communities, and with the explicit purpose of supporting and informing feasible, local, cooperative action and learning. We advanced novel approaches to establish and connect spaces and processes to support and enable the development of shared understandings: building stronger links between diverse, and otherwise disconnected, actors as a catalyst for change. The process was acknowledged by both community partners and health officials as novel, acceptable and relevant, supporting community-led health initiatives and addressing the social patterning of health. The study provides initial proof-of-concept evidence of the value in approaches emphasising *mutual empowerment* between service users and providers.

Overall, these results suggest that existing services can be enhanced using community intelligence, and that the process has practical relevance across service domains. More broadly, these mechanisms enable connection and trust relationships between service users and providers. Our process suggests that cooperative action learning can complement health systems responses, address health inequalities and build trust and future resilience. Embedding cooperative action learning in local systems to address health inequalities should be further explored in future.

Author Contributions

Conception and design: Lucia D'Ambruoso, Sheila Duffy and Chris Littlejohn. Collection of data: Amanda Stephen, Lucia D'Ambruoso, Eilidh Cowan, Effie Marathia and Wendy Innocent. Analysis and interpretation of data: All authors. Drafting of the manuscript: Lucia

D'Ambruoso. Critical revision of the manuscript for important intellectual content: All authors. Obtaining funding: Lucia D'Ambruoso, Sheila Duffy and Chris Littlejohn. Administrative, technical or material support: Eilidh Cowan, Effie Marathia, Amanda Stephen and Wendy Innocent.

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This study represents a collective commitment to transforming unfair and unnecessary burdens of smoking related-illness, suffering and loss in rural communities living with deprived social circumstances. We dedicate the study to community partners and members disproportionately affected by the cost of smoking and cost of living. Their willingness, vulnerability and commitment to share personal, lived experience made the work possible. Moreover, the resulting 'community intelligence' reinforces the need to expand community consultation into fuller forms of ongoing community dialogue, and demonstrates the potential of community power as a driving force for needed social change.

Ethics Statement

The study protocol was prepared and submitted to the Research Ethics Committee of the School of Medicine, Medical Sciences, and Nutrition at the University of Aberdeen, and approvals granted (School Ethics Review Board [SERB] Reference: 652990). Permissions have been secured for the reproduction of all images.

Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

Data are available from the research team upon reasonable request. A non-author point-of-contact to field future requests (where authors are not available) is achds@abdn.ac.uk.

Endnotes

[1]There are many terms related to community empowerment including participation, involvement, engagement, development, action and power. The terminology reflects different methods and frameworks, goals and outcomes, context and focus and cultural and regional variations. In this study, we adopted an interpretation around building community capabilities for decision-making authority, highlighting the role of communities in shaping their own destinies. The theoretical foundations of the approach are described in the 'Data and Methods' section.

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Supporting Information

Additional supporting information can be found online in the Supporting Information section.