Ethical AI in the third sector - systems supporting people experiencing homelessness

Abstract

This project focused on the impact of AI systems on people experiencing homelessness in various contexts, to better understand the impact they have upon people who are experiencing social and digital exclusion. Previous research specifies the necessity of codesign with front-end users, and so I have been working with people I support, aiming to amplify their voices to inform digital and housing support policy for local, national and international organisations. This has included a literature review of previous research and currently ongoing projects for the use of AI housing allocation, organisation administration, digital inclusion, employment and risk minimisation in interventions. Alongside this, a stakeholder analysis covered the current AI landscape in the UK. I used these to inform my research alongside and in collaboration with a focus group composed of people experiencing homelessness and people supporting them. I have worked with this focus group to create a more concrete research picture of the hopes and concerns of people impacted by the implementation of AI in housing support and social work. This has allowed my policy documents to be person-centred and focused on providing representational advocacy to the opinions of the group of people experiencing homelessness in Edinburgh.

The Literature Review

Introduction

This literature review will assess the current depth of research specifically focusing on the use of AI systems to reduce social inequalities specifically within the context of people experiencing homelessness. Homelessness has been seen to be directly linked with multiple types of social inequality, such as digital, life, economic and political. These factors have all played significant roles in how these systems have been deployed, and in the differing approaches used to involve impacted groups.

A few key issues have become apparent about the terminology used in this research area. This literature review, as well as preceding research, will be working under these definitions and terms. Many researchers have attempted to provide comprehensive definitions of AI, but the term remains disputed as to what exactly is meant. As a consequence, many articles discuss these types of technology using ambiguous terminology. This review will be working under a broader common sense understanding of AI systems as: any system which can perform a historically uniquely 'human' role. Due to the nature of the term, an equally broad definition of homelessness is needed, but again the term is used differently with varying levels of specificity. The definition used in this review will include anyone without safe and consistent access to steady accommodation. This includes people 'sofa surfing' (staying with friends), in temporary accommodation, camping or living in vehicles, in situations of domestic violence or abuse, in between accommodation situations and residing in hostels without other accommodation. This study will primarily focus on individuals rough sleeping and in temporary supported accommodation, as this covers a large percentage of people supported by homelessness charities. Both terms are very flexibly used both in everyday conversation and academia and so for research to reflect the nature of this language a wide-encompassing definition is appropriate. This review aims to find suspected gaps in information regarding the perceptions and experiences of key stakeholder groups in the context of third-sector organisations aiming to support people experiencing homelessness. These gaps are suspected to mainly centre around assessments of familiarity and exposure in the context of homelessnessness spaces in Scotland, and existing understanding of the breadth of digital exclusion and digital literacy by these groups. This review does not aim to explore the various issues in depth and expects currently available/existing research to focus on the experience of people supporting those experiencing homelessness, rather than that of the primarily impacted group.

Methodology

For this project, an evaluation of papers was undertaken following the procedure for a rapid review. The goal was to create a wide-reaching picture of any recent research done about the

impact, effects and understanding of AI systems in areas adjacent to and regarding homelessness, and how this could look in Scotland.

The review was undertaken using 4 different databases, to reduce the chance of publishing bias and vet through a variety of academic sources. These included SCOPUS, Research Gate, Connected Papers and Google Scholar. The goal was to investigate a specific common research theme along the lines of the focused research question, to do this the keywords “AI”, “Algorithmic”, “Digital”, “Digital Exclusion/Inclusion”, “Homelessness” and “Social Work” were used in various combinations and contexts. The review excluded any papers published before 2017, as the development of the particular technological field has been so rapid that the systems being referred to are likely to be irrelevant, and did not include any articles outside of the English language. Following this criteria, 48 papers were included in the original list, with a further 10 cut due to their irrelevance to the particular subject matter, leaving 38 papers which were read, evaluated and extracted in the following sections of the literature review.

The current AI and digital landscape in homelessness

AI systems, now more than ever, need to be represented and implemented in consideration of everyone, especially those in places of social disadvantage or inequality. Digital exclusion has no set definition, and so this review will work under a broad definition of digital exclusion as a system of exclusion wherein an individual’s access to, literacy in use and perceptions of technology reduce or negatively impact their quality of life by this exclusion. Digital exclusion significantly reduces equitable access and exacerbates social inequalities and people experiencing homelessness are disproportionately more likely to experience this type of inequality. Increasing digital inclusion is equally prevalent and something to strive for when it comes to the promotion and encouragement of AI literacy. People experiencing homelessness are at a higher risk when they lack digital access and literacy, and with the growth in the implementation of AI systems, the same risk factors are likely to be replicated by a lack of AI literacy.

Glitches and hallucinations, better described as incorrect generations produced by AI models, are often based upon systemic issues outside of digital spaces, and the use of AI for predictive algorithms can result in the recreation and continuation of inequalities (Jasmina Tacheva, Srividya Ramasubramanian, 2023). Predictive algorithms and automated decision-making can, if implemented incorrectly, perpetuate biases and reinforce stereotypes. In doing so they cause direct harm to users of the technology. Further dangers can be found in what is referred to as data capitalism, which alongside data extractivism leads to violations of individual rights to privacy and misrepresentation of data. Many of these dangers can be unknowingly perpetrated by designers (Jasmina Tacheva, Srividya Ramasubramanian, 2023).

The literature review 'A Human-Centered Review of Algorithms in Homelessness Research' (2024) reviewed 57 papers in similar spaces surrounding algorithms used/involved in homelessness research. This review also found a need for a human-centred design lens. They investigated algorithms such as automated decision-making in housing allocation and prediction software for risks experienced in homelessness such as substance abuse, mental and physical health deterioration and social harm. These algorithms use inferential statistics, and machine and deep learning alongside route optimisation. Most optimised systems were simulation-based, using administrative data, survey answers and filling in the blanks with randomly generated data (Moon and Guha, 2024). The research found that people dislike the use of administrative data for the use and training of models, especially when it is without express consent. However, they also found that these systems and the data used are incredibly useful in resource allocation, risk prediction and influential person identification(Moon and Guha, 2024). The paper suggested that service users need to have input as to what services they need and be able to give feedback on what is accessible to them to developers.

Other research also suggests that there is a need for both participatory and user-centred design. An AI could provide great benefits and simplify navigation to social services and it has already been used in the allocation of housing (Tachtler et al., 2021). Wider treatment gaps exist as a result of a lack of accounting for marginalised communities, meaning there is a need for relevant datasets. People need ownership of their data and an active knowledge of its use (Tachtler et al.,

2021). A design that accounts for trust needs initial trust in the sharing of data and later knowledge-based trust while using the service, but regular data leakage breaks this trust. Each community experiencing marginalisation requires specific, catered solutions (Tachtler et al., 2021). We need the development of specific tools for specific communities.

Increasing digital inclusion is equally prevalent and something to strive for when it comes to the promotion and encouragement of AI literacy, as AI technologies are already being implemented in areas which directly impact people experiencing homelessness such as housing allocation, support work and in many areas of employment.

Chatbots have not historically been used for digital inclusion. Many people experiencing digital exclusion are elderly, and the EBER model attempted to address the question of whether a chatbot could help as a digital assistant, similar to Alice, ChatGPT, SimSimi and Cleverbot (Garcia-Mendez et al., 2021). The EBER model was created to help digitally include these people and help reduce social isolation (Garcia-Mendez et al., 2021). Connecting information found with a friendly linguistic connective leads to better reception of the thing said, and flexible responses should be used to prevent repetition and subsequent user frustration. Modules SA, NLG and AIMS were used in the creation of this system; originally proposed for entertainment (Garcia-Mendez et al., 2021). The model received very positive feedback. However, it was not ethically evaluated, suggesting a need for ethics compliance in development. Another project used an AI combined with the Whitbeck risk amplification model and the Milburn abatement model to select peer change agents for HIV prevention interventions within a population of youth experiencing homelessness. By virtue of the network-based nature of the ‘PCA’ system, it functions well to reach stigmatised or more societally isolated groups. The AI model 'HEALER' used dynamic influence-based modelling, with a focus on maximisation algorithms. More info is found in the article, specifically technical data regarding the training processes and the ideology behind selecting the PCA (Rice et al., 2018). The AI outperformed the traditional popularity approaches as a result of it accounting for variation within social pockets. The effectiveness of these peer change agents is well recorded, and the use of an AI agent to select them was more effective than a simple popularity method (Rice et al., 2018).

The 2023 15th International Conference on Computer and Automation Engineering (ICCAE) found that the provision of an AI can shape an organization's resilience in terms of value creation and sustainability (Vijayakumar, Seetharaman and K. Maddulety, 2023). An 'AIServiceOp' when it has been used provides an organisation's IT team with an alternative to a low-level, repetitive workout and traditional IT practices, allowing them more variety in their day and creating a continuously optimized process (Vijayakumar, Seetharaman and K. Maddulety, 2023).

The digital divide widens socioeconomic disparities. However, an AI assistant can provide multiple ways of interacting with digital platforms, with speech and touch being more effective for semi-literate people (Ravishankar, Padmanabhan and Ravindran, 2023). A few studies in the US have investigated and proposed ways to accurately explain aspects of the technology and gain feedback to incorporate more bottom-up development.

Codesign of AI systems is often hard due to a lack of digital literacy in people affected by these systems. This makes it harder to mitigate issues experienced by users. A more specific type of literacy, AI literacy, is needed as users want a trauma-informed, community-building method of contesting AI decisions. However, most tools offered by developers are technical and offer technical solutions (Tang, Kuo and Zhi, 2024). Service users need to be involved in the bottom-up development of systems, which can be done through comic boarding (Tang, Kuo and Zhi, 2024). The study focused on the use of a housing allocation predictive algorithm assigning accommodation, which prioritised needs depending on risk factors within someone's predicted experience of homelessness. The system was explained using comic-boarded synthetic stories, and service users were asked a series of questions regarding failure mitigation and personal feelings (Tang, Kuo and Zhi, 2024). The article specified that there is a need for further research on the impact on communities and people, and the extent of the impact of different AI systems.

In an investigation into deployed ADS in housing allocation prioritisation, specifically within a US state county context, it was found that automated decision-making systems face issues

regarding data and black box outputs (Kuo et al., 2023). From this, we can gather that there is a need to broaden AI participation. The study looked to do just that and again focused on the use of comic boards, as they were beneficial for allowing stakeholders to empathise. Through the use of comicboarding and semi-structured interviews, they interviewed 21 participants using a reflective thematic analysis (Kuo et al., 2023). They found that service users and workers desire meaningful opportunities for feedback on the use and design of AI, and they can give this feedback if empowered. The study suggested that other studies should adapt comic boards for different groups, and incorporate effective feedback into design.

However, even in a US context, this focused primarily on Los Angeles and this was never research undertaken in Scotland, wherein the population of people experiencing homelessness face different struggles, the technology is being implemented in different forms and the digital landscape is just as constantly changing. The majority of this research and information couldn't be applied in Scotland without further research as to how this would be applied within our national context.

In the UK and Sweden

Even when this research on digital exclusion and its intersections with AI has been undertaken in the United Kingdom or Sweden, there is a common thread suggesting that further research areas should focus further on the voices of people being supported as it is such a dynamic and rapidly changing population.

UK-based third-sector organisations looking to implement AI systems are at risk of exacerbating problems if it is done incorrectly. The Joseph Rowntree 2024 report on non-profit perspectives on AI gathered information on 78% of Non-Profits in the UK, of whom 71% used generative AI to work more efficiently (Joseph Rowntree Foundation, 2024b). 70% of these organisations held concerns over privacy and data security concerns, 60% were worried about the accuracy of outputs and 57% held concerns regarding computational bias (Joseph Rowntree Foundation, 2024b). As has been seen in the US, these concerns are not unfounded and can cause direct

harm to people being supported using the technology. Furthermore, only 15% of these companies disclose their use of generative AI, meaning service users were likely unaware of the extent to which these technologies have been used (Joseph Rowntree Foundation, 2024b). 73% of UK-based third-sector organisations have no company policy in place regarding AI use and from this, I conclude the need for further research regarding AI policy in a UK context is more important now than ever, and companies need guidance on how to work with this new technology.

It can however be done correctly. Projects such as ClearCommunityWeb; a social enterprise supporting older people, vulnerable adults and carers to feel more comfortable with technology, create a safe, supported space to talk about AI and support people to have a go themselves (Joseph Rowntree Foundation, 2024a). These include systems like Bard or ChatGPT being used to write a letter of complaint to a landlord; and practical and meaningful contributions to people's lives which present the technology as a positive force for good rather than something to be feared. This is proof that with further research these systems can be implemented positively, and be of benefit to people with a need for support.

The Needs of Women Using Homelessness Services: The Results of Collaborative Research in London focused on the narratives which typically assume homelessness to be primarily rough sleeping and the harmful effects this can have on women, who stand at an increased risk of experiencing a more hidden type of homelessness. From this, they conclude that the extent of research and understanding shapes the extent of social services provided, which then shapes the form of homelessness experienced. The study focused on anonymous surveys and tracking of service use, using semi-structured interviews and stakeholder interviews to gather data on the hidden homelessness experienced by women in London (Bretherton and Pleace, 2024). Further analysis was done using IBM statistics and Excel. This study lays out the benefits that can be conveyed when systems are built on an accurate picture of this experience, and the damaging effects of when they are not (Bretherton and Pleace, 2024).

Britain and Sweden are fairly comparative in terms of their digital use and trends, and it stands to reason that this should allow comparisons between both their populations experiencing digital exclusion and solutions implemented. Reducing digital exclusion benefits the person being supported while also reducing the strain on services (Helsper, 2017). In both nations, the population of non-users and digitally excluded has reduced in size but has also concentrated into groups of non-users, often people experiencing compound disadvantage and already victim to social exclusion in some form or another. In Sweden, this is more extreme, and in both, it can be consistently indicated by factors such as age, education, and disability (Helsper, 2017). In a modern context, it is more about the skills and digital literacy a person possesses and less about the cost. These trends will likely continue to become worse, as digital exclusion has become entrenched in vulnerable groups, with significant focuses on economic disadvantage and social exclusion as impacting factors (Helsper, 2017).

Drawing conclusions

The area of research regarding the use of digital and AI-based approaches to homelessness is incredibly wide and is being touched on from many angles. These have often cited a need for people to have a form of feedback or input in Scotland as it stands there has been no research from a grassroots bottom-up perspective into what people experiencing homelessness think about the implementation, possibilities, dangers and applications of AI in the context of their own lives. This research would stand to be a useful tool for future academic research, as will be laid out in the proposal for further research, following the evaluation of stakeholders in the following section.

Stakeholder Analysis Report

This section aims to summarise and evaluate the various stakeholders involved in the AI / Homelessness landscape within specifically Edinburgh and the UK, in the ways they relate to this research project. This will be done to ensure the correct stakeholders are liaised within the project and to allow accurate advocacy in the policy proposal section.

Internal stakeholders

The AI Lab @ Umea University

A primary internal stakeholder in the project, the AI Policy Lab at Umea aims to research and influence the AI policy landscape, advocating in the name of AI for good. This includes reflection on when it is and is not necessary to involve AI technology and a variety of different research projects centred around building a comprehensive understanding of its impact.

Simon Community

A third-sector organisation in Edinburgh focused on homelessness support, Simon Community grew to include numerous projects focused on reducing the harm felt by people experiencing homelessness. This includes harm reduction practices such as IEP provision, safe consumption and naloxone training, alongside housing referrals, financial advice, advocacy and many other additional projects such as literacy, community building and health. These projects are held up by a great deal of motivated and warm individuals based in several different teams, spanning a range of cities in the UK, including Glasgow, Edinburgh, Perth and North Lanarkshire. In Edinburgh, multiple active teams tackle specific issues. These teams include;

- The Holyrood Hub
- The Street Team
- The StreetReads Library
- Housing First
- The Digital Team

Simon Community has a growing role in digital in the Scottish third sector landscape and has a few projects already in development centred around the use of AI to support their clients. These projects are at times innovations in support work and others a continuation or replication of tested methods which have found success in other areas.

People experiencing homelessness

Including a wide range of ages, cultures and communities, specifying a concrete definition for people experiencing homelessness is incredibly difficult. Over 38,000 people registered as

homeless in Scotland as of 2023, however, due to hectic lifestyles and difficulties in reporting, this is estimated to be significantly less than the real number, as a great deal of homelessness goes unreported or hidden. The term is generally taken to refer to

- People 'sleeping rough' (spending the night outside without accommodation)
- People in temporary / supported accommodation
- Victims of domestic violence
- Victims of human trafficking
- Asylum seekers

This can also include people experiencing compound issues involving substance abuse, struggles with mental health, physical injury and difficulties communicating (to name a few) and typically correlates with a person experiencing social and economic exclusion. People experiencing homelessness are primary internal stakeholders in this project, standing as one of the groups most at risk from poor implementation of AI technology. As illustrated in the literature review AI and digital systems can, if not implemented properly, replicate the social exclusion and myriad of factors which hurt people experiencing homelessness. Furthermore, the experience of digital exclusion can then exacerbate this replication, which causes further harm. The project will aim to keep people experiencing homelessness at its centre and provide them with a voice to shape internal research and implementation in the services supporting them, as well as externally in local government projects.

External stakeholders

This covers stakeholders outside of the direct reach of this research project, and individuals or organisations that play roles in the wider areas of research adjacent to the project. This will primarily be companies or bodies with high levels of influence in AI policy, local collaboration and national innovation.

Governmental bodies

Within the United Kingdom and Scotland, governmental organisations are significant stakeholders in the AI policy landscape, as their policies shape the possible uses, ethics and implementations of technology. These include:

The UK Government and Scottish Government

The Scottish and UK governments both have different digital strategies, with their policies driving the implementation and form AI takes across industries. Often disagreeing on strategy, can cause issues in local implementation and effective policy advocacy. Lower and more local levels

Edinburgh Council

Holding the primary duty of care for people experiencing homelessness, the Edinburgh Council plays a central role in the provision of several services. This includes council housing, medical attention, provision of scripts to treat addiction and funding for third-sector organisations active within their locality. As a local form of government, they are representatives of the rules, policies and people of both the UK and Scottish Governments. Any implemented policy would likely be actioned through the Edinburgh council, and so their understanding of the people, technology and stakes is paramount.

People experiencing homelessness often interact with the Edinburgh council in three primary ways, all of which could be changed (for better or for worse) by an increased digitalisation or implementation of AI. These will now be described.

- Locality offices

These are where someone must present themselves as homeless for their case to be heard and a duty of care to be adopted. Often slow-moving, they stand to be improved by greater technological implementation however the rising rates of digital exclusion and overcomplication of technology in homeless spaces could make this problematic.

- Housing services

Council housing and supported accommodation are often funded and run by the Edinburgh Council. This process again could be streamlined using AI, with American states already

trialling systems such as ADS. These also often intersect with third-sector and privately supported accommodations, as the council will pay for these in the absence of available spaces.

- The Access Place

A first-stop shop for medical and housing, TAP plays a defining role in the process of local council homelessness strategy. Individuals can also present here and must do so every morning to request a place in the housing services provided by the council.
The Edinburgh Council plays a defining role in the actioning of policy and is a key stakeholder in the AI landscape of the future, within a third-sector homelessness context.

Third-sector organisations

Other third-sector organisations are stakeholders in this area of research as they either are already or may in the future look to integrate AI into their services. If these organisations do so, the voices and opinions of the people they are supporting stand to be relevant so long as they implement the technology in ways which are truly bottom-up and person-centred.

Supported Accommodations

Supported accommodations make up a bulk of the available spaces to house people experiencing homelessness. Often run by third-sector organisations, these are commonly quite costly to a company working in the third sector, as they suffer from high staff turnover and expensive running costs.
Examples of these include

- Salvation Army Pleasance
- The Bethany Welcome Centre
- The Haymarket Hub Hotel

These organisations stand to be impacted by AI not only because it will directly influence the people these accommodations support, but because it could, if done correctly, be leveraged to help reduce the workload upon workers and ease the administrative burden. However, if poorly implemented, systems could cause more hindrance than help.

The Joseph Rowntree Foundation

Started in 1904, to understand social inequality and issues across the UK, the Joseph Rowntree Foundation has been at the forefront of many projects and research projects looking to investigate the root causes of social inequality, including many who seek possible solutions in new technologies, such as AI. Having already published a report on the use of AI in other third-sector organisations, this project looks to build upon this research and contextualise it with a focus on homelessness in Edinburgh.

Mhor Collective

A Scotland-based charitable organisation centred around digital inclusion, Mhor Collective aims to help empower people experiencing social inequality by reducing digital exclusion and inequality. Often working in partnership with the Simon community on projects centred around building digital skills, training with various types of technology and empowering people through the internet, Mhor Collective is a central player in the Scottish digital landscape and has found success in similar grassroots approaches to development before. Primarily doing work in Scotland, in cities such as Edinburgh and Glasgow, the organisation stands to be impacted by the development and growth in AI spaces, especially if these spaces begin to intersect with their supported client base.

The Ada Lovelace institute

The institute primarily focuses on AI research and development, often collaborating with the Joseph Rowntree Foundation for UK-wide projects. Primarily focused on the technical side of AI development, to ensure that "the transformative power of data and AI is used and harnessed in ways that maximise social wellbeing and put technology at the service of humanity". With branches now outside of the UK, The Ada Lovelace Institute is becoming a growing external stakeholder in the wider AI landscape and could stand to benefit from a greater understanding of how, or if, people experiencing poor social well-being would like AI to be the solution.

Private organisations

These include private development teams and organisations which offer consultation to third sector organisations, often centring around the implementation of new technology and new development. I will focus on only one of each as they currently hold very minor stakes in the research project and spaces adjacent to it.

AND Digital

A technological consulting firm based in Edinburgh, AND Digital works with several multinational and national companies on a varied corpus of digital projects. They have, in the past, worked with Simon Community on the development of the By My Side app, a directory and online repository aimed at supporting clients of the charity. AND Digital does not currently have any AI Adjacent projects, however, as a company in the technological industry with a vested interest in the performance of third-sector companies, it is likely that AND Digital could play a role in the AI landscape in Edinburgh, especially with regards to homelessness. However, they are unlikely to be as central a player in the research being undertaken in this project as others are.

EY

A larger and older firm, one which is primarily focused on the finance sector, EY also has a team in Edinburgh with a focus on technology risk consulting. EY stands to benefit from a greater understanding of the application and success in various user-centred approaches to AI development. However, as a global organisation, it is unlikely there is much vested interest to be found in Edinburgh homelessness spaces, but some level of influence in AI spaces internationally and nationally.

Plan and Proposal for Research

Implementation of AI systems would be of great value to third-sector organisations, but this must be done in a way that seeks to involve and understand the people supported and impacted

by this technology. This literature review has highlighted a gap in information on the level of understanding and accessibility of AI information regarding the experiences of people experiencing homelessness in Scotland. To breach this gap, it is necessary and right to survey and consult the primary group impacted, people experiencing homelessness. I aim to produce research which encapsulates the feelings, perceptions and wishes of people experiencing homelessness concerning the use and impact of AI systems in areas of concern.

Data gathering plan - pre-research report

The investigation aimed to involve a focus group of people experiencing homelessness and the people supporting them. The project aimed to assess the level of understanding already in place and to consult the people directly impacted as to how they feel these systems can and should be used, looking to compare this with how they are being used now. This would allow one to gauge the interest and engagement with ideas surrounding the proposed issues of AI safety, understanding and concerns.
The formation of a focus group was done to encourage open discussion and collaboration in ideas between staff and people supported, coming together to draw up a list of their concerns, thoughts and feelings involving the use of AI technology which I would use to inform the following work.

Overall Aims

1. Compile the expressed desires and concerns of people experiencing homelessness regarding the use of AI systems, investigate how people feel these systems can and should be used, and compare this with how they are being currently implemented.
2. Assess the level of understanding already in place and the general AI literacy present in the community of people experiencing homelessness in Edinburgh.

Expected outcomes

The literature review has suggested that people experiencing homelessness and digital exclusion are likely to have concerns over the use of technology, and relatively low digital literacy required to accurately discuss technical features of such technologies.
Furthermore, I expect data privacy concerns and fear of the creation of further service access barriers through this technology to be present.

Data management/protection plan

Data protection measures + Guarantees
Personal data collected in this study will be kept secure, and will not be shared outside of the specific, legitimate reasons laid out in the information form. I will comply with an individual's right to privacy and to access their data. I will be able to demonstrate compliance with the GDPR on demand, and every data subject will have given their informed consent for participation and data harvesting. As the data processor, I provide sufficient guarantees to protect personal data. Personal data will be protected from loss, theft and access from unauthorised individuals. Data will be anonymised so it remains fit for purpose but is no longer personally identifiable data, and kept in a form which does not permit identification of data subjects. The data will be used only for the purposes laid out in the participant information sheet and held in the form of anonymised notes. Participants will be informed why their data is being held and used, and they will be given the appropriate privacy notices.
Individual rights to data

When data is no longer necessary, if consent is withdrawn, if the data is unlawfully processed or if there is no legitimate reason for the organisation to have it, measures will be undertaken to attempt to ensure that the data will be erased. In the event of a personal data breach, it will be disclosed to participants (data subjects) and the ICO (Information Commissioner's Office), and efforts will be taken to erase the data, within 72 hours of the breach.
Subject access requests will be responded to within 30 days and be free of charge, with data portability requirements will be met as laid out in the information form.
Notes will be kept on all processing of personal information.

Research Report

Summary of research

This focus group meeting took place in the Simon Community Streetreads library. The project involved 12 people experiencing homelessness and 3 support workers who have worked closely with them in the past. The goals were to gain qualitative data gathering to understand how the implementation of AI looks from the point of view of people experiencing homelessness, and the people supporting them, and to gain a better understanding of digital literacy.

Questions discussed

1. What does AI mean to you?

- This question received a very mixed reaction, and people struggled to nail down exactly what kinds of technology to discuss.
- “Do we know it’s artificial?”.
- Intentionally confusing design and implementation mentioned.
- “Fear it’s just another con”.
- “Significantly more confusing”.
- “Overdeveloped postal service”.

2. How do you feel about technology being used in services which impact you?

- “too much“
- Concerns voiced over overreliance on services upon technology.
- “The technology walks right past you” & “Nationalisation reduces availability”.
- Fears were voiced over the use of cameras, TVs and other computers in national services.
- Faulty technology was mentioned concerning bookies and technology.
- Exposure of children to technology is “not a normal upbringing” and that children being bullied online is an “invasion of private life”.

2. Do you have any thoughts on the use of AI in a service supporting you?

- There was unanimous agreement that AI should not be used in allocating accommodation or in managing their personal information.
- They have “complex faults”, these faults come from “high development”, and “cost everyone”.
- “If there’s not a clean practice, this takes even our language away from us”.
- “London is a different world”.
- “They’re great with numbers but not with anything else”.

3. What could a project using this to support you look like?

- People seemed to struggle to answer this.

Making a personal judgment, there was not enough understanding of the technology to accurately describe possibility.

- Concerns raised about projects “if there’s not a clean practice”
- “This takes language away from us”

Data Analysis - Common and recurring themes from research

<u>Theme 1</u>

Privacy and data protection concerns

- By far the predominantly recurring theme was concerns surrounding privacy and personal data use.
- People experiencing homelessness voiced genuine and, in the context of the current landscape, entirely legitimate concerns surrounding the use and ownership of their data in an AI-driven context.

<u>Theme 2</u>

Conceptual fear of AI

- People experiencing homelessness voiced significant fear regarding the concept of AI. These took the form of a fear of replacement of the human touch, risk of active harm and hyperintelligent systems.
- These fears and concerns primarily took shape in discussion of representations of AI prevalent in pop culture and did not directly focus upon

Theme 3

Overuse of technology and the danger of an overreliance upon it in service provision

- The focus group also voiced concerns surrounding a loss of human touch in the services being provided.

Theme 4

Difficulty understanding and accurately discussing the concepts in question

- People struggled to discuss the same technologies, partially because of the umbrella usage of 'AI' and partially as a result of the conversation bouncing between multiple different technologies while discussing the same issues.
- This is in keeping with the relatively low levels of AI literacy present in digitally excluded communities.

Key research takeaways & quotes

- Privacy, data and autonomy are valued highly
- "If there's not a clean practice this takes language away from us"
- Extreme care and express consent are needed when integrating systems to ensure they are used in a way which accurately reflects the wishes of the people they are supporting.
- There is a need for AI literacy programmes as a part of digital movements.

Critical evaluation of research methods

This research focused on a fairly narrow scope, and as such is only representative of the opinions and experiences of a select group of people experiencing homelessness. It should not be taken to cover everyone, and each person often has a unique and individual experience of technology and services. Solutions should be tailored to their use on a case-by-case basis. Furthermore, low levels of digital literacy and technical understanding present within the community could result in the opinions of people experiencing homelessness being skewed to a greater level of fear, or vice versa.

Additionally, trauma or mental health difficulties such as psychosis or schizophrenia are more likely to be experienced by people rough sleeping or in interaction with services. People experiencing these often misrepresent and misunderstand technical language and implementation, and as such this often prompts inaccurate discussion of the use and nature of the technology being discussed.

Policy Proposals

Policy proposals should aim to encourage co-design alongside informed and consensual use, assessed on a case-by-case basis. I aim to investigate and propose future policy using recommendations based upon value-sensitive design, aiming to create ongoing policy goals for use that both ensure safe, informed use, serve to benefit the groups most at risk from emerging technology and address cases where AI should, and should not, be used in ways which impact people experiencing digital exclusion and/or homelessness. This has not been an individual endeavour. I have looked to the extremely talented people involved with the AI lab and a focus group of people experiencing homelessness and undertaking work to support them, to ensure fair representation of all groups who stand to be impacted. With the assistance of the Lab, I have used the research undertaken to investigate which policies could be put in place to ensure informed development and allow people experiencing homelessness a say in AI use, both internally in development teams and externally in government. Customised and presentable versions of my policy proposals are found in a separate document, accessible upon request.

Policy Document 1- For use by homelessness charities looking to apply AI systems to service provision in a way that ensures greater ethical certainty

Recommendations for the use of AI in services supporting people experiencing homelessness

AI Policy Lab
at Umeå University

This document aims to provide third sector organisations with key principles and a pathway for the ethical integration of AI systems into their service provision. This could involve projects related to case management, housing service allocation and digital inclusion.

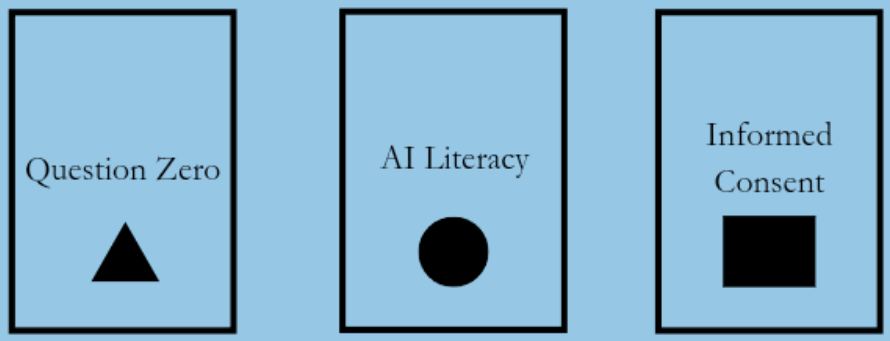
AI and homelessness

AI Systems are increasingly being utilised in services supporting people experiencing homelessness. In the UK **71%** of third sector organisations having admitted to using GenAI to work more efficiently, but AI use could look plenty of different ways. Projects such as automated housing allocation, risk prediction, mapping fo interventions alongside use for note taking and employability are already underway. Steps need to be taken to ensure these projects are ethically robust and person-centred.

Digital exclusion, AI and Scotland

People experiencing homelessness are at an increased risk of digital exclusion. This arises from factors such as mistrust, poverty, lack of motivation and lack of digital literacy. Digital exclusion is particularly dangerous when combined with AI as the technology is harder to understand and explain. Furthermore, data used in AI can replicate digital exclusion as victims lack cruicial representation. In both Scotland and Sweden, digitally excluded people experiencing homelessness are being impacted by AI systems, and deserve a say in what this implementation looks like.

A pathway to ethical use



▲ The importance of question zero

The focus group (15 people both experiencing homelessness or serving in the role of a support worker) presented near unanimous concerns over the implementation of an AI system used in services supporting them. should be very rarely and situationally used in landscapes which impact the digitally excluded. Furthermore, efforts should be made to avoid AI being used by services as a decision maker in the allocation and provision of emergency accomodation, and specific informed measures should be taken to educate and inform people impacted by digital exclusion

Concerns were unanimously raised on three fronts

1. AI integration causing a loss of 'human touch' in supporting services
2. Mistrust and unreliability within systems
3. Data privacy and a right to 'opt out' of digital solutions

● AI and Digital Literacy : training in service provision

If a system is to be used, this is to be done responsibly in a way which does not breach the desires previously stated.

Increased digital and AI literacy are integral to the ethical integration of AI systems.

- A crucial part of codesign is AI inclusion (drop in classes for literacy and access to build hard skills)

Digital inclusion on two fronts

- Boosting AI literacy in groups standing to be impacted by systems
- Providing literacy training to all frontline staff involved in both casework and support work

The SCVO, UNICEF, UCMA, WEF, Salesforce, and local government recomend training and have guidelines for this, these are not manditory nor inclusive of the rate at which use of the technology is increasing. Government blanket policies must be more comprehensive in scope and direction.

■ Informed consent for use cases

All people impacted by the outcome of the AI system must be specifically informed of the extent and function of its use. All available data protection measures must be taken and the organisation must acquire express, informed consent for data use.

- In acquring consent for use easy read explainations of the use of the technology should be used, with comicboarded explainations available on request.

An additional focus should be placed upon avoiding the use of anthropomorphising language. This can often mislead people who lack AI literacy, including use of terms such as "talking with" chatbots and an algorithm "deciding" an outcome, leading to misplaced trust in their consent.

For references, additional information and the full research scan QR code

For any questions : contact me at taywarnermac@outlook.com

Policy Document 2 - Broader suggestions for councils, governments and organisations

Recommendations for the use of AI in services supporting people experiencing homelessness

AI Policy Lab

This document aims to inform third sector organisations and public sector bodies with regards to the effecitve integration of AI systems into their service provision in projects related to case management, housing service allocation and digital inclusion. [among other things] - rework.
This will be done by first providing a brief summary of the AI - homelessness landscape. The question of when use is acceptable will then be addressed and explained. Following from this, this document aims to provide an acceptable use framework to be used in guiding organisation policy.

AI in homelessness

AI Systems are increasingly being utilised in services supporting people experiencing homelessness, primarily in the USA in Los Angeles, though also in smaller countries such as the UK, with 71% of third sector organisations having admitted to using generative AI to work more efficiently. This integration takes many forms, including automated housing allocation, risk prediction, mapping of social groups for health interventions, note taking and in projects surrounding inclusivity / employability.

Digital exclusion and AI

People experiencing homelessness are at an increased risk of digital exclusion, better understood as being excluded from participation in pursuits, systems and services due to lack of access, understanding or competency in the use of technology. This results from multiple factors including cultural mistrust, poverty, lack of motivation for use and crucially lack of digital literacy. AI systems, as complex forms of technology, come with significant risks to use and though they also have benefits, must be used in a way which does not exacerbate digital exlusion.

How this can impact

Scotland is currently experiencing a housing crisis. Rates of both poverty and homelessness have increased rapidly over the last few years, and services are stretched very thin. The AI solutions utilised to assist in effective service provision could stand to be of use, however steps must be taken to ensure this use is ethical, and will not instead make the correlating issue of digital exclusion far worse.

Scotland and Sweden are fairly comparative in digital use and trends, including their rates of digital exclusion and the populations impacted. Though Scotland is currently seeing an increase in homelessness, their digitally excluded populations are comparable as such policy recommendations will be relatively similar (though still tailored to their respective state).

Addressing question zero

Automated decision technologies should be very rarely and situationally used in landscapes which impact the digitally excluded.

A focus group of 15 people both experiencing homelessness or serving in the role of a support worker, concluded that AI systems should not be used by services as a decision maker in the allocation and provision of emergency accomodation, and measures to inform should be taken to avoid use when the technology will be used in other areas impacing someone digitally excluded or lacking AI literacy.

Concerns were unanimously raised on three fronts

1. AI integration causing a loss of 'human touch' in supporting services
2. Mistrust and unreliability within systems
3. Data privacy and a right to 'opt out' of digital solutions

The increased digitalisation within government services has served to exacerbate digital inequalities, and digital systems being integrated in Edinburgh's local council such as Edindex [EUSS, digital passports, etc etc - add examples] reduce the accessibility of services harmful to people experiencing homelessness. This would likely be entrenched by the integration of AI systems.

A framework for responsible use

If a system is to be used, this is to be done responsibly in a way which does not breach the desires previously stated.

Increased digital and AI literacy are integral to the ethical integration of AI systems

- A crucial part of this is conwork focusing on digital inclusion (drop in classes, improved access, etc.)

All people / persons impacted by the outcome of the AI system being utilised must be specifically informed regarding the extent and outcome of its use, all available data protection measures must be taken and the organisation must acquire express, informed consent for data use.

- In acquring consent for use, this must come from a place of genuine understanding. For this, easy read explainations of the use of the technology should be used, with comicboarded explainations available on request.

An additional focus should be placed upon avoiding the use of anthropomorphising language. This can often mislead people who lack AI literacy, including use of terms such as "talking with" chatbots and an algorithm "deciding" an outcome, leading to misplaced trust in their consent.

Future Research

Future research should focus upon solutions and services tailored to three primary goals

1. Alternative solutions to digitalisation in services impacting people experiencing homelessness

2. Bottom up approaches to AI system design, aimed at particiapatory approaches and involving marginalised groups in the decision making progress.

3. Digital inclusion on two fronts
   - Boosting AI literacy in groups standing to be impacted by systems
   - Providing literacy training to all frontline staff involved in both casework and support work

Future research

Through this project, people experiencing homelessness expressed a desire for the necessity of genuine, expressed consent required for the use of AI in a situation they are being or will be impacted by. Future research is best to gather accurate and informed consent for the use of artificial intelligence systems.

Furthermore, research into the positive application of AI models to be used in a context which would impact people experiencing homelessness should be researched. This could include Language models to generate text-to-speech recordings and create pieces of writing, potential benefits of consensual ADS in allocating housing, the use of generative models in artistic or self-expression and use in note-taking.

When acquiring consent for the use of AI technologies, I propose a comic boarding process, as suggested by the 2023 CHI Conference on Human Factors in Computing Systems, which functions better than explaining understandably how these technologies impact them and the benefits and risks that stand from their implementation before use.

Comic boards are necessary for the pre-use consent stage, and explanations should use simple easy-to-read language to convey precise meanings. This ensures consent is coherent and the correct types of technology are being discussed. They have been successfully used to summarise the functioning of 3 types of AI technology (LLMs, AI-Based Decision Support Systems, Generative models).

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