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Digital Poverty and Housing Inequality

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1. Executive summary

The link between digital poverty and broader socio-economic inequalities is clear, and it is widely acknowledged within academic and grey literature that people experiencing poverty are more likely to be digitally excluded than people with higher incomes. There is also recognition within the literature that there is a relationship between particular housing types and digital exclusion, yet few studies have examined the dynamics of relationship in detail. This report builds upon the limited existing knowledge of precisely how housing inequalities are linked to digital poverty. The report draws on focus groups with experts from the housing and digital inclusion sectors, and considers some of the key ways in which different aspects of housing inequality shape experiences of digital poverty.

1.1. Summary of key findings

People's housing circumstances impact their ability to get online in several ways:

- For people living in poor-quality housing with low energy efficiency, the cost of heating their home can be very high. Excessive energy bills – as well as the fear of high energy bills – can lead people on low incomes to struggle to afford other expenses (including wi-fi), and to make cuts in household expenditure to attempt to deal with this financial strain. Given that affordability is a key factor in digital exclusion, there is a clear link between living circumstances which exacerbate financial stress, and digital poverty.
- While a lack of access to a reliable internet connection is by no means the only cause of digital exclusion, this is nonetheless a key problem. There are several infrastructural barriers to getting online which are bound up with housing circumstances. These include difficulties getting signals through certain construction materials (such as concrete), difficulties installing connections to certain housing premises (e.g., high-rise blocks of flats), and hazardous materials in older buildings which complicate installation work (e.g., asbestos).
- Deals made between property developers and internet providers as part of the construction of some new build housing has in some cases led to residents having a limited choice of internet providers, as the cables which have been installed are only for the use of particular providers. Where affordable options have not been made available, this can create issues for residents who have no choice but to accept the terms of the few providers which service their accommodation, or go without home broadband.

- Living arrangements within housing units are also a key consideration here. Having a suitable space to use the internet is crucial for using the internet in advantageous ways. Houses in multiple occupation (HMOs), or overcrowded living environments, pose important barriers to internet use. Where several people are trying to get online using the same connection, this can reduce the speed and effectiveness of their connectivity, making it more difficult to complete online tasks and to access online opportunities. In many cases, this makes working and studying from home very difficult – an issue which became increasingly apparent during the COVID-19 lockdowns.
- Related to the issues which a lack of space to use the internet at home creates for digital inclusion, a lack of privacy can also pose a significant barrier to some online opportunities. When dealing with sensitive information online, using digital devices in a space which is not sufficiently private may not be suitable. This may result in a wide range of online opportunities – such as online banking, and online healthcare appointments – being unavailable to people as a result of their living situations.
- People living in temporary accommodation and supported accommodation face particular challenges for getting online as a direct result of their housing circumstances. The reasons for this are discussed in detail later in the report and include the fact that it can be difficult to sign broadband contracts due to the uncertainty around people’s expected duration of stay in a particular place. In addition, people in some supported housing programmes may only be able to get access to wi-fi in communal areas, which again raises issues with regards to privacy.
- Importantly, while it is clear that housing circumstances have implications for opportunities to get online, digital poverty has also been shown to create barriers to accessing good-quality housing. This is because many property viewings for potential tenants now happen online (a shift which accelerated during the COVID-19 lockdowns), and because bidding for social housing primarily happens online.

1.2. Recommendations

Given that digital exclusion is understood to be rooted in poverty, examining the ways in which housing inequality (as an aspect of broader inequalities) affects people’s experiences of digital poverty is vital for informing approaches to improving levels of digital inclusion in the UK. Having set out several ways in which housing circumstances affect people’s online opportunities, the report makes several recommendations which are focused on digital exclusion and housing. These are set out here, as well as at the end of the report:

Collaboration in policy-making

- At the national level, the issue of digital poverty and housing inequality needs to be tackled across government departments and not in policy silos. The Department for Digital, Culture, Media and Sport (DCMS) should collaborate with other departments including the Department for Levelling Up, Housing and Communities (DLUHC) to address the issue in a joined up manner.
- There is also a need to recognise that local authorities are likely to have a strong understanding of their local context and of local needs. Local government therefore needs to be highly involved in designing policy to tackle digital exclusion at the local level because they are familiar with the local socio-economic and demographic profile and nature of the local housing stock and tenure and so are best placed to determine what will work best locally.

Planning, building regulations, and good practice

- In the planning application process, local authorities could make installation of the necessary cables for affordable broadband access a requirement for developers in order to be granted planning permission for housing developments. Given that a lack of choice of internet providers in some new build accommodation (caused by deals between developers and the providers who install broadband cables) is problematic, developers should ensure that affordable options are available in every development. This should be done as a matter of corporate responsibility, but must also be regulated through the planning system to ensure that this issue does not unfairly tie customers to expensive providers.
- Telecoms companies can play a role in addressing digital exclusion (such as through providing affordable wi-fi, installing cables to areas which need them, or providing other support), and should collaborate with local authorities and social housing providers to ensure that responses are targeted effectively within local communities.
- Potential tenants and home buyers should be made aware of the connectivity within the home they are interested in from the outset. Housing providers (both private and social) should make connectivity ratings - such as Wired Score¹ – available as standard.
- Energy efficiency has a clear impact on household budgets, and high utility bills can affect people's ability to pay for wi-fi and suitable devices. To limit the impact of energy bills on people's ability to afford internet access, landlords (both private and social) should be required to ensure that properties are energy efficient. Plans to

¹ <https://wiredscore.com/>

ensure all rented properties have an energy performance rating of C or above will be an important step in this regard. Government should ensure that support with energy bills for those needing to claim benefits is sufficient to meet the rising cost of living.

Housing construction

- Construction materials are clearly a factor affecting the extent to which reliable internet connections are available. House builders and housing providers should consider internet connectivity from an early stage in the design and construction process, and make provisions to ensure that all units have suitable access.
- Importantly, the shortage of available social housing (either from local authorities or housing associations) is a key factor which makes digital exclusion such a large disadvantage when it comes to bidding for properties. Government should therefore ensure that the need for an increase in provision of social housing is met across the UK. The government's commitment to building 300,000 homes per year² must be met as a minimum. It is essential that a large proportion of these homes are affordable and social housing. An additional 90,000 social homes per year will be needed to meet the shortfall³.

Social and affordable tariffs

- The importance of digital inclusion for full participation in many aspects of everyday life is clear. As such, digital inclusion should not be seen as a 'nice to have', or as a luxury, but as essential. National government should take steps to ensure that every household has access to high-quality, reliable internet as an essential utility. Housing associations and other housing providers (including the providers of temporary accommodation and supported housing) should consider the internet connectivity and digital inclusion of their residents as an essential service. To this end, the government should introduce regulation to ensure internet providers are obliged to offer social tariffs for those on low incomes.
- While some providers do already offer social tariffs⁴, these have not been taken up widely by eligible potential customers, and more needs to be done to increase awareness of this option (Fitzsimons, 2022). Providers should actively promote their

² <https://commonslibrary.parliament.uk/research-briefings/cbp-7671/>

³

https://england.shelter.org.uk/support_us/campaigns/social_housing_deficit#:~:text=Over%201%20million%20households%20are,than%20there%20were%20in%201980.

⁴ <https://www.ofcom.org.uk/phones-telecoms-and-internet/advice-for-consumers/costs-and-billing/social-tariffs>

social tariffs, and local services and charities should signpost potential beneficiaries to social tariff providers.

Living arrangements and housing circumstances

- Living arrangements, including household size and composition, and dwelling size, can affect digital inclusion, particularly for those living in Houses in Multiple Occupation (HMOs). 829,000 households in England are overcrowded (Barton and Wilson, 2021). More needs to be done to end overcrowding, including updating the statutory overcrowding standard, which was last updated in 1935 (ibid.), and increasing the provision of affordable and social housing in the UK.
- Living in temporary or supported accommodation for those who are experiencing homelessness has been shown to cause particular difficulties with gaining access to an internet connection. In instances where it is not possible to install a broadband connection due to these precarious housing circumstances, residents should be given the option to access alternatives, such as 4G and 5G routers, along with suitable devices, and given any required support for using this equipment. Given that people in these housing circumstances are likely to have very low household incomes, these may need to be provided at no cost to residents. Government funding is likely to be needed to make this possible.

Housing services

- The online process of bidding for housing association and local authority properties unfairly disadvantages those who cannot get online at all, as well as those who are using mobile phones as their only means of internet access, and those who do not have frequent access to a good quality internet connection. Housing associations and local authorities should therefore review their bidding processes and ensure that provisions are made to ensure that people experiencing digital exclusion are not disadvantaged. This may mean ensuring that people have a longer period of time in which to make a bid, or enabling people to submit their preferences for the characteristics and location of properties offline, so that they could then be matched with properties that meet their needs without having to go online to check what is available.
- It is important for service providers (both public and private) to recognise that not everyone will be able to – or want to – get online. And given that for some people experiencing digital exclusion it is not possible to access the internet privately, service providers (including housing providers, GP surgeries and banks) should ensure that people are given a choice as to whether they would like to use the internet to access their services. Efforts should be made to ensure that for those

not using online services, the quality of service and ease of access to it remains high. This will mean that phone lines will need to be preserved and operated well, without long waiting times, and in-person support should be offered without making this needlessly difficult.

2. Introduction

2.1. Digital poverty

Digital poverty, which may entail limited digital skills or literacy, a lack of motivation to use the internet, or insufficient access to internet-enabled devices and reliable internet connections, is a widespread problem. In the UK, approximately 10 million people do not have basic digital skills (Good Things Foundation, 2021), 10% of people who use the internet can only do so using a mobile phone, and 6% of households do not have internet access at home (Ofcom, 2021). Improving understandings of digital exclusion – including how it interacts with other facets of disadvantage – is crucial for developing strategies to address it.

2.2. Existing understandings of the relationship between digital poverty and housing inequality

There is a clear link between digital exclusion and broader aspects of poverty, with those on low incomes far more likely to experience digital exclusion than those on higher incomes (ONS, 2019). There is an abundance of literature which highlights this relationship and shows how social exclusion or deprivation often goes hand in hand with digital exclusion (Park, 2017; Longley and Singleton, 2009; Helsper, 2012). However, there is relatively little work which sets out the role of housing circumstances (and in particular, housing inequality as a key aspect of poverty) in shaping digital poverty.

There is recognition that particular types of housing and tenure types can affect levels of digital inclusion. In 2014, the government set out its Digital Inclusion Strategy, and highlighted that 37% of people who were experiencing digital exclusion were tenants in social housing, and also indicated that areas with a high proportion of social housing were at higher risk than other areas of facing infrastructural barriers to accessing the internet (GOV.UK, 2014). Yates et al. (2014) further highlight that those living in social housing are particularly at risk of digital exclusion because people who are already experiencing disadvantage are also likely to live in social housing, and digital exclusion is closely linked to poverty. Importantly, digital exclusion affects people in different ways and to different extents, existing on a continuum (Livingstone and Helsper, 2007). Yates et al. (2014) indicate that among social housing tenants who can get online in their homes, use of the internet is often lower and narrower in scope than average.

However, despite this important recognition, there remains a limited amount of research which examines in depth exactly how specific dimensions of housing inequality shape experiences of digital exclusion. Holmes and Burgess (2021) observe that particular types of

housing can create obstacles for digital inclusion: for instance, living in temporary housing may make paying to have broadband installed unfeasible, particularly as there may be uncertainty around how long a person will live there before being asked to move house again. There are also infrastructural issues associated with particular types of housing. Ross and Clarke (2021) highlight that installing internet connections in some buildings, such as blocks of flats which currently lack internet connections at speeds which meet residents' needs, is often expensive and difficult to do. Furthermore, being unable to get online is thought to have knock-on-effects on a person's ability to secure good quality housing, as the bidding process for housing association properties is often done online (Holmes and Burgess, forthcoming). In addition, the space inside a home can also limit people's effective use of the internet, where limited space is a problem (Ross and Clarke, 2021). Evidently, there is a need for further research to examine the relationship between digital poverty and housing inequality in more depth, to expose the ways in which housing limits digital inclusion in practice, and to develop understandings of these dynamics in order that they might be more effectively addressed.

2.3. The aims of this report

This report builds upon this limited existing knowledge of the link between housing inequality and digital poverty to examine the precise dynamics of this relationship. Digital exclusion is recognised within the literature as a key aspect of poverty in the UK in the 21st century (Robinson et al., 2015); previous studies have indicated that digital exclusion cannot be tackled alone, and that addressing the broader inequalities in which it is rooted will be crucial for long-term solutions to digital poverty (Holmes and Burgess, forthcoming). Understanding how housing inequality – a key aspect of inequality more broadly – intersects with people's opportunities to get online is therefore important in developing approaches to tackling digital poverty. Drawing on focus groups with experts from the housing and digital inclusion sectors, this report sets out some of the key ways in which digital exclusion is linked to different aspects of housing inequality. The research findings presented are then used to inform a list of policy recommendations.

3. Methodology

To address the gap in the literature, which is the relationship between housing inequalities and digital exclusion, empirical data collection was conducted by organising three focus groups with experts from the housing and digital inclusion sectors. The focus groups were held in February 2022, and a total of 20 people attended these sessions. The participants were invited to the discussions due to the relevance of their knowledge and experience; some were drawn from CCHPR's existing professional network, other individuals had relevant digital inclusion or housing expertise. The participants comprised representatives from housing associations based in a range of locations across England; academics with extensive digital exclusion research experience; individuals from local authorities; and people working with housing or digital inclusion charities and organisations.

The main topic of discussion in the focus groups was how housing circumstances shape experiences of digital exclusion by covering various topics including: how the places people live affect their opportunities to get online; how housing circumstances affect whether there is space for a home computer; proximity to public computers in libraries and job centres, as well as proximity to transport networks to reach such provision; shaping opportunities for using online housing services (such as using online systems to bid for housing association properties); and shaping community support.

Each focus group took place via Microsoft Teams, and each lasted one hour. The focus groups were recorded, transcribed and anonymised for thematic analysis.

4. Findings

A number of findings regarding the relationship between digital exclusion and housing inequality have emerged from the focus groups conducted as part of this research. As previously highlighted, the clear overlap between digital exclusion and poverty is likely to be a key reason why those living in social housing or in poor quality housing (which is likely to be among the lowest-cost housing) may be affected by digital exclusion (see Yates et al., 2014). The costs associated with housing are an important factor here, with UK private sector rents (not including London) seeing annual growth of 6% in September 2021 (The Guardian, 2021). As one housing expert who participated in this research highlighted, the rising cost of living has increasingly led to people having to choose where to make cuts to their budgets, as housing costs combine with increased energy and food costs to make many expenses, including wi-fi, unaffordable. Indeed, many of the ways in which housing inequality intersects with digital exclusion are rooted in poverty. However, while tackling poverty as a root cause of digital exclusion is undoubtedly essential, understanding the specific ways in which housing circumstances can affect experiences of digital exclusion may point to courses of action which could be taken to mitigate this issue in the domain of housing. Several key issues have been identified in this regard, and these are discussed in turn below.

4.1. Energy-efficiency and building-safety

Notably, poorer-quality housing can incur higher costs for residents. This is a widespread issue, given that approximately 10 million people are thought to live in non-decent homes (Centre for Ageing Better, 2021). It stands to reason that energy bills will be higher in properties which are poorly insulated and hence have poor energy-efficiency. Indeed, in 2018, for properties with the lowest energy efficiency ratings (band G), annual energy costs were estimated to be over £2500 higher than for properties with the best energy efficiency ratings (band A) (MHCLG, 2020). This issue is of particular concern in high-rise buildings which have had to have cladding removed due to fire safety issues:

[There's] a cost implication, because we were affected quite severely by the cladding issue. So some of our blocks had this new heating system installed, which would have interacted with the cladding and was supposed to make heating costs much lower. But then when that's removed, the cladding [insulation] systems don't then work. So the people... in those blocks, their utility bills have gone through the roof, so that affects their ability to afford things like broadband. – Housing expert

It is clear that those living in high-rise flats with cladding which does not meet fire safety standards have faced *unexpected* additional costs. As such, a sudden change in the energy efficiency of a person's home can make residents who are already on low incomes vulnerable to fuel poverty. This can then have an effect on people's ability to pay for internet connections and can result in digital exclusion.

An estimated 4 million households in the UK are living in fuel poverty, meaning that they live in energy inefficient homes (with energy efficiency ratings of D or below) and after paying their energy bills they are living below the poverty line (NEA, 2022). Poor energy efficiency is common across the UK, with the median score for housing across England placing properties in band D for efficiency (ONS, 2021). There are variations in energy efficiency ratings for properties of different tenures and types. Flats are typically more energy-efficient than the average home, and those let at social rents are among the most energy-efficient properties (ibid.). In England, across all property types (classified as detached, semi-detached, terraced, and flats/maisonettes), privately rented housing performs the worst in terms of energy efficiency (ibid.). Importantly, people on low incomes often live in houses which are costly to keep warm, exacerbating their vulnerability to fuel poverty (NEA, 2022).

As Longhurst and Hargreaves (2019) suggest, emotional responses to being vulnerable to fuel poverty (particularly worry about energy bills) can lead people to reduce their consumption of energy, and to sacrifice other needs due to a fear of going into debt as a result of being unable to pay utility bills. Notably, the fear of high bills, or a sense of vulnerability, means that people engage in these practices even where their budgets may allow them to increase their energy consumption (ibid.). It is easy to see how living in housing with poor energy efficiency can lead people to experience a higher level of digital exclusion as a result of struggling to afford the cost of being online in combination with already high living costs.

4.2. Infrastructural barriers and housing typology

There are several infrastructural barriers to accessing the internet in some forms of housing. Indeed, failure to comply with fire safety regulations is again a barrier to online connectivity in some large blocks of flats:

It can actually get quite complicated to install the sort of thing that you need for fibre broadband. And so there's a whole fire safety aspect as well. A colleague mentioned another Housing Association in London who apparently had streamlined their permissions process quite a lot in order to get a supplier to come in and install fibre. And then when they eventually went back and

*checked the installations, it was not in keeping with fire safety policy. –
Housing expert*

As such, it is clear that difficulties with safely installing broadband connections in a block of flats can create barriers to internet access. While the Telecoms Infrastructure (Leasehold Property) Act passed in 2021 is designed to make it easier for suppliers to install broadband connections in large accommodation blocks where freeholders are not engaging with requests to make such installations, it is clear that this alone is insufficient to tackle the problem if the physical installation is not undertaken in compliance with important safety regulations.

However, blocks of flats are not the only housing typology to be at risk of infrastructural barriers to digital inclusion. As one housing expert who participated in this research highlighted, housing associations often find it more difficult to persuade internet providers to install the necessary infrastructure to homes where there is a smaller potential customer base:

When you've got a tower block, you have a better chance of actually getting a contractor to agree to service it. But if we've got an area where there's only maybe four people living in it, it can be really difficult to get something new installed, actually. Tower blocks might have the issue of safety more than the smaller homes, but the smaller homes, just because they offer a smaller number of customers.... it can be harder to commit someone to install lines that our residents can use. – Housing expert

Further, construction materials themselves can create a barrier to internet connectivity. There is recognition within the literature that some materials used for construction can block signals or limit their strength (see Holmes et al., forthcoming). As noted by one of the participants of this research, connectivity to the internet might be inconsistent in some parts of concrete blocks:

I've spoken to tenants who were in concrete blocks. They're [at] the back end. The wi-fi is in one end, and they're right at the back. And they have intermittent access, whereas the tenants right at the front.... have got great access. So, the actual materials need consideration. – Digital exclusion expert

This means that the location of individual flats within a block which appears to have internet connectivity can reduce a person's chances of engaging with online opportunities. However,

this is not the only barrier which construction materials can pose for connectivity, as hazardous materials can make retrofitting older buildings with internet connections difficult:

We've had a few issues where buildings have been particularly old, and we've been looking into whether we can put [internet connections] in there. And it could be that the walls are really thick. Somebody could come in to do some investigative work and come across asbestos or something. You just don't know what you're going to uncover in some of the really old buildings. – Housing expert

Indeed, in older buildings, there is a danger that hazardous materials will be disturbed during the installation of cables. This would result in the need for potentially expensive remediation work and create an additional layer of complexity to the process of expanding access to the internet. Of course, being able to access an internet connection is just one aspect of digital inclusion, and the presence of a connection does not necessarily mean that a person will be able to make full use of it, for any number of reasons, including affordability, digital literacy, or motivation. But without this basic possibility for access, people face significant barriers to getting online.

4.3. Limited choice

For some new build housing, residents have a limited choice of broadband options, as developers have agreed deals with particular providers who will then provide their service to the accommodation. This means that residents may not have an affordable option, and are forced to accept the terms and prices of the providers available or go without home broadband:

For some of the new build houses ... there's only certain internet companies [that the residents] can use. So they don't have variety of competitors to choose from... they literally have a choice of six. And it's ridiculous, because they're all the same price, pretty much you've got no choice but to go with them. Because you can't get BT, you can't get TalkTalk or things like that. So you're limited to spending 30 pounds a month. And it would be a lot for family to spend that extra [money]... It is really tricky on these new builds. – Digital exclusion expert

Indeed, there is anecdotal evidence from other sources which suggests that some residents of new build housing cannot sign up to the broadband supplier of their choice and have to pick from a limited selection of smaller providers (e.g. see The Guardian, 2019). Given that

affordability is a key factor affecting people's ability to get online (see Reddick et al., 2020), this is clearly problematic. While several internet providers do offer social tariffs (Ofcom, n.d), if choice of provider in a particular block of housing is limited, the option to choose one of these tariffs may not be available.

4.4. Living arrangements

Living arrangements inside the home (including household size and composition, and dwelling size) are important considerations for digital inclusion. For those living in Houses in Multiple Occupation (HMOs), where several people are trying to use the same home wi-fi connection, this can result in poor quality connectivity. The increased shift to online working from home, as well as online learning, as a result of the COVID-19 pandemic, has brought heightened attention to this issue:

We did not recognise the value of space until we had to work remotely [when] we were in lockdown. ... we heard people were working on ironing boards or on their bed because they don't have a place or they're sharing it, [or] because it's a multiple person household. ... If we're moving towards hybrid working... [this could lead to] more disadvantage, where those living in settings where they don't have the luxury of space are being impacted [the most]. - Housing expert

Indeed, this issue has been observed elsewhere. Ross and Clarke (2021) highlighted how tenants of one housing association who found working at home during the lockdowns challenging. This was partly due to not having enough space to work or learn at home, and because of difficulties accessing the internet at sufficient speeds (particularly where several people in one dwelling were using the same connection).

In addition, where several people are using online devices within crowded or small dwellings, the noise generated by different online resources (particularly video and audio content, which may be needed for online learning) can be distracting, and can reduce people's ability to engage and benefit from internet use:

During COVID [lockdowns], when the kids weren't going to school, and they were all being home-schooled, many people [who] have got three or four children, [even if] they have got enough devices, you can't all sit around a kitchen table and all do separate lessons, because it all just becomes too much. [...] Or you see kids sitting on the bed with a laptop. It's not very suitable either. Is it? - Digital exclusion expert

Importantly, while several schemes have donated laptops and computers to those who need them, the provision of headsets is less common:

You know, often people are gifted tablets, but they're not gifted headsets. And you just think, 'oh, wow, headsets would be a really useful addition to people's entire experience'. But it's the one thing that people don't necessarily think about when they're dishing out kits and devices. - Digital exclusion expert

Indeed, as discussed elsewhere, people's experiences of digital exclusion are closely intertwined with the broader contexts of their lives (Holmes and Burgess, 2021). The above quote further highlights that recognition of the way in which devices will be used, and in what circumstances (taking into account living arrangements), is essential for addressing digital exclusion in the immediate term. It is clear that where such contexts are not taken into account, this can pose a barrier to getting online and from accessing opportunities, even where people have connectivity, digital skills, and access to internet-enabled devices.

4.5. Privacy

As previously highlighted, those who cannot access the internet at home face significant barriers to getting online. For these people, using computers in public spaces such as libraries and job centres is often the only option. Of course, there are several problems with this, including potential additional costs incurred in physically getting to these locations (see Warren, 2007). Importantly, privacy concerns can create a barrier to internet use in these circumstances. For instance, people may not feel secure undertaking online financial transactions, using online banking, or sharing sensitive information over the internet in public spaces:

It's something I hear a lot with some of the campaigning I do: 'well, yeah, they can go to libraries to do this, go and do that'... We're in a privileged position where we have our own wi-fi, and we can do what we want online privately. Why should we expect somebody who hasn't got their own wi-fi to go to a public arena, and access a doctor's surgery [online appointment] and share very private information in a public space? - Digital exclusion expert

Importantly, a lack of privacy can still pose a barrier to digital inclusion for people who do have access at home if their housing circumstances do not enable them to use a device in a quiet area. Focus group participants highlighted that living in overcrowded housing, or in HMOs may similarly affect people's ability to use the internet. Around 3.5% of all households

in England (around 829,000 households) are overcrowded (Barton and Wilson, 2021), which can have a negative impact on people's ability to get online and use the internet confidently. Using the internet in narrow ways can reduce the extent to which a person can take advantage of online opportunities (see Ofcom, 2018), and if a person does not feel able to make use of certain functions of the internet due to privacy concerns, this can close off several opportunities, representing a clear limitation on digital inclusion.

4.6. Temporary accommodation, supported housing, and precarity

Those living in temporary accommodation face a barrier to getting online as they are less likely to be able to sign broadband contracts, since they often do not know how long they will be living in their present accommodation before they will be informed that they have to move:

It's not that easy for people to get broadband and stuff put in because they can't sign up to a contract. They don't know how long they're going to be there. We might have to move them.... It's always been a problem, but it was a massive issue during lockdown with families that were having to home-school children with no internet access. - Housing expert

The uncertainty which arises in this regard may make paying for the installation of broadband connections unfeasible for those in temporary housing. Given that many units of temporary housing are owned privately, and then leased by local authorities and housing associations (Rich, 2022), this adds an extra layer of uncertainty for residents:

They find it difficult to sign up to any kind of deal where they have to have a contract, because they don't know how long they're going to be there. You know, sometimes a landlord will contact us [the housing association] to say 'we need that property back'. And we have to move the family with a day's notice. - Housing expert

The transitory nature of temporary housing is clearly a factor which prevents people from gaining access to a reliable broadband connection from home. In addition, as noted by one of the focus group participants, there is anecdotal evidence that some temporary addresses are blacklisted by internet providers, which makes it even more difficult for the residents to get fair access to internet connections:

I've noticed that some of these temporary addresses kind of get blacklisted by companies... they've become known as a temporary address. [...] They'll use it as an excuse to either fully reject requests to install wi-fi] from that address or

to bump the prices up, which is again, another tax on the poor. - Digital exclusion expert

Within some supported housing schemes, wi-fi is not provided within people's individual rooms, as the cost of this would have to be included in a service charge. Some housing providers do not wish to impose this charge on everyone, regardless of whether they use the internet, and therefore only provide access to broadband in communal areas. This means that residents in these supported housing schemes do not have the option to get online in their own private space:

... in supported housing, there was a point several years ago where even the communal areas didn't have any kind of wi-fi. And then there was a change in thinking to actually, this is a necessity [but] we still don't have individuals able to have their own wi-fi in their rooms. [...] That's because it would be a big project... and there would be a knock on effect, because it would have to be added to the service charge, whether people want it or not, as it would have to be done across the board. - Housing expert

As previously highlighted, a lack of wi-fi in a private space can have a negative impact on a person's ability to use the internet widely, as they may feel unable to engage with online opportunities that involve sharing personal information, such as financial details or medical history. And so, while there may be some level of access to the internet available, people may have a lower level of digital inclusion than they otherwise might be able to achieve. Meanwhile, in supported housing schemes where wi-fi is included as part of the service charge or is provided for free, it has been observed by one of the focus group participants that the quality is not always particularly high.

Importantly, one focus group participant highlighted that they did not think that it was the housing itself which was a determining factor in a person's level of digital exclusion, but rather the precarity which housing circumstances can contribute to:

[A key question here is] 'what breaks that chain [of continuous online connectivity for an individual]?' Is that something to do with their housing circumstances? They're homeless, or they're in social housing, and then moving regularly in social housing, or [they get hit with the] Bedroom Tax or they get a child so they have to move? You know, all of those things break the chain. - Digital exclusion expert

Indeed, there is recognition within the literature that digital inclusion is not fixed across a person's lifetime. In a longitudinal study of internet use among older people, Matthews et al.

(2018) highlighted that use of the internet increased among younger groups and began to decrease over time among older groups. Notably, they indicate that increased socio-economic inequalities among older people may make a decrease in internet use more likely for those on a low income (ibid.). This issue affects people of all ages and, as Yates (2020) observes, having access to the internet at one time does not mean that a person will retain access over the course of their life due to the costs of wi-fi and data becoming unaffordable. Precarious circumstances in temporary accommodation and supported housing for people experiencing homelessness, which are closely linked to unstable financial circumstances, appear to add an extra barrier to consistency of internet access.

4.7. Digital exclusion as a barrier to good quality housing

While this report has so far highlighted how housing inequality can contribute to digital poverty in many different ways, this is not a one-sided relationship. A low level of digital inclusion (regardless of whether this is linked to limited access to devices or connections, low levels of digital skills, or confidence and motivation issues) can present a barrier to people looking to secure good quality housing, within both the private and public sector. Within the private sector, since the beginning of the COVID-19 pandemic, viewings of rental properties for prospective tenants have increasingly moved online. Focus group participants highlighted that this can mean that those who do not have internet access, or who have limited access (either in terms of the amount of data they can use, or the reliability of their connection), miss the opportunity to access the most in-demand properties, as these are secured more quickly by people who can take part in online viewings.

For people looking to find social housing, digital exclusion can also be prohibitive to finding somewhere suitable to live. Many councils and housing associations operate an online system for housing allocation in which prospective tenants must apply for specific properties, in a process known as 'bidding'. For those experiencing some level of digital exclusion, finding somewhere to live can therefore be very difficult as the process is highly competitive:

You've got to bid on a weekly or fortnightly basis. If you've not got regular [internet] access, you can't possibly do that. Because I know people who have got access, they're ready when these properties come out, it's a bit like booking something to make sure you get it, you've got to be really quick. If you haven't got good access, you can't do that. – Housing expert

The importance of the kind of device a person has access to is apparent here, as smartphones can be disadvantageous compared with devices such as laptops and desktop computers:

People were on tiny smartphones, trying to search for housing, desperately bidding for space. You know, so they're on a slow connection, they were literally losing [their position in] a ranking on a bid for a house. And the Bedroom Tax had come in, and people were trying to look at the quality of schools [in the area], what housing's available, bus transport, bus costs, to make a decision. You try and do all of that by having to do one thing at a time and writing it all down, and then put your bid in, whereas other people with a laptop or something could do it [more quickly and easily]. And it was effectively designed for someone on a laptop. – Digital exclusion expert

The disadvantages faced by those who can only access the internet via a smartphone are well understood. Indeed, because some tasks are difficult to perform using a phone, and because it can be difficult to access some content (including bidding platforms) using this technology, people using only a smartphone to get online have access to a more limited range of opportunities and fewer chances to practice digital skills than those who have access to laptops and desktop computers (Napoli and Obar, 2014). Importantly, the above quote also indicates that not being able to get online to bid for housing has broader consequences for people's finances: since 2013, working-age social housing tenants deemed to have 'spare' bedrooms have been liable for a reduction to their housing benefit, commonly known as the 'Bedroom Tax'. Under the rules, if people are considered to have one spare bedroom, their eligible housing benefit will be reduced by 14%, or by 25% if they have more than one room considered spare (see GOV.UK, 2022). As Dorling (2014) highlights, a shortage of social housing means that it is often not possible for people to downsize. Given the difficulties of online bidding for those without high levels of digital inclusion, it is clear that this may pose an additional barrier to downsizing, potentially leaving people experiencing digital exclusion unable to avoid a reduction in their housing benefit payments and squeezing their budget even further.

It is evident, therefore, that experiencing digital exclusion can present a key barrier to accessing good quality housing, as this is often secured by people who can book viewings or make bids online more easily and quickly. In addition to this, being unable to bid competitively for properties can place further strain on people's budgets (particularly where people are deemed to be living in social housing properties with a spare room and are unable to bid successfully for a property with fewer bedrooms, making them liable for a reduction in their eligible housing benefit). It follows that this additional strain on people's budgets has implications for people's ability to afford to get online.

5. Recommendations

While housing inequality clearly plays a role in shaping people's experiences of digital exclusion, it is evident that digital exclusion is rooted in poverty more broadly. Efforts to overcome structural inequalities will therefore be needed to make long-term improvements to digital poverty levels in the UK. Indeed, digital exclusion is not primarily a housing issue, but one which becomes intertwined with housing circumstances as a result of the interactions between broader inequalities. Nonetheless, there are specific housing-related improvements which could be made within the UK as part of efforts to tackle digital poverty. Some recommendations are set out below, taking into account both the findings presented in this report, as well as some suggestions made by housing and digital exclusion experts during the focus groups conducted for this research:

Collaboration in policy-making

- At the national level, the issue of digital poverty and housing inequality needs to be tackled across government departments and not in policy silos. The Department for Digital, Culture, Media and Sport (DCMS) should collaborate with other departments including the Department for Levelling Up, Housing and Communities (DLUHC) to address the issue in a joined up manner.
- There is also a need to recognise that local authorities are likely to have a strong understanding of their local context and of local needs. Local government therefore needs to be highly involved in designing policy to tackle digital exclusion at the local level because they are familiar with the local socio-economic and demographic profile and nature of the local housing stock and tenure and so are best placed to determine what will work best locally.

Planning, building regulations, and good practice

- In the planning application process, local authorities could make installation of the necessary cables for affordable broadband access a requirement for developers in order to be granted planning permission for housing developments. Given that a lack of choice of internet providers in some new build accommodation (caused by deals between developers and the providers who install broadband cables) is problematic, developers should ensure that affordable options are available in every development. This should be done as a matter of corporate responsibility, but must also be regulated through the planning system to ensure that this issue does not unfairly tie customers to expensive providers.
- Telecoms companies can play a role in addressing digital exclusion (such as through providing affordable wi-fi, installing cables to areas which need them, or

providing other support), and should collaborate with local authorities and social housing providers to ensure that responses are targeted effectively within local communities.

- Potential tenants and home buyers should be made aware of the connectivity within the home they are interested in from the outset. Housing providers (both private and social) should make connectivity ratings - such as Wired Score - available as standard.
- Energy efficiency has a clear impact on household budgets, and high utility bills can affect people's ability to pay for wi-fi and suitable devices. To limit the impact of energy bills on people's ability to afford internet access, landlords (both private and social) should be required to ensure that properties are energy efficient. Plans to ensure all rented properties have an energy performance rating of C or above will be an important step in this regard. Government should ensure that support with energy bills for those needing to claim benefits is sufficient to meet the rising cost of living.

Housing construction

- Construction materials are clearly a factor affecting the extent to which reliable internet connections are available. House builders and housing providers should consider internet connectivity from an early stage in the design and construction process, and make provisions to ensure that all units have suitable access.
- Importantly, the shortage of available social housing (either from local authorities or housing associations) is a key factor which makes digital exclusion such a large disadvantage when it comes to bidding for properties. Government should therefore ensure that the need for an increase in provision of social housing is met across the UK. The government's commitment to building 300,000 homes per year must be met as a minimum. It is essential that a large proportion of these homes are affordable and social housing. An additional 90,000 social homes per year will be needed to meet the shortfall.

Social and affordable tariffs

- The importance of digital inclusion for full participation in many aspects of everyday life is clear. As such, digital inclusion should not be seen as a 'nice to have' or as a luxury, but as essential. National government should take steps to ensure that every household has access to high-quality, reliable internet as an essential utility. Housing associations and other housing providers (including the providers of temporary accommodation and supported housing) should consider

the internet connectivity and digital inclusion of their residents as an essential service. To this end, the government should introduce regulation to ensure internet providers are obliged to offer social-tariffs for those on low incomes.

- While some providers do already offer social tariffs, these have not been taken up widely by eligible potential customers, and more needs to be done to increase awareness of this option (Fitzsimons, 2022). Providers should actively promote their social tariffs, and local services and charities should signpost potential beneficiaries to social-tariff providers.

Living arrangements and housing circumstances

- Living arrangements, including household size and composition, and dwelling size, can affect digital inclusion, particularly for those living in Houses in Multiple Occupation (HMOs). 829,000 households in England are overcrowded (Barton and Wilson, 2021). More needs to be done to end overcrowding, including updating the statutory overcrowding standard, which was last updated in 1935 (ibid.), and increasing the provision of affordable and social housing in the UK.
- Living in temporary or supported accommodation for those who are experiencing homelessness has been shown to cause particular difficulties with gaining access to an internet connection. In instances where it is not possible to install a broadband connection due to these precarious housing circumstances, residents should be given the option to access alternatives, such as 4G and 5G routers, along with suitable devices, and given any required support for using this equipment. Given that people in these housing circumstances are likely to have very low household incomes, these may need to be provided at no cost to residents. Government funding is likely to be needed to make this possible.

Housing services

- The online process of bidding for housing association and local authority properties unfairly disadvantages those who cannot get online at all, as well as those who are using mobile phones as their only means of internet access, and those who do not have frequent access to a good quality internet connection. Housing associations and local authorities should therefore review their bidding processes and ensure that provisions are made to ensure that people experiencing digital exclusion are not disadvantaged. This may mean ensuring that people have a longer period of time in which to make a bid, or enabling people to submit their preferences for the characteristics and location of properties offline, so that they could then be matched with properties that meet their needs without having to go online to check what is available.

- It is important for service providers (both public and private) to recognise that not everyone will be able to – or want to – get online. And given that for some people experiencing digital exclusion it is not possible to access the internet privately, service providers (including housing providers, GP surgeries and banks) should ensure that people are given a choice as to whether they would like to use the internet to access their services. Efforts should be made to ensure that for those not using online services, the quality of service and ease of access to it remains high. This will mean that phone lines will need to be preserved and operated well, without long waiting times, and in-person support should be offered without making this needlessly difficult.

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