Towards a Scottish Minimum Digital Living Standard: Interim Report

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Riaghaltas na h-Alba

Towards a Scottish Minimum Digital Living Standard: Interim Report

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1 Executive Summary

This interim report outlines the first phase of a research project commissioned by the Scottish Government to explore the use of a Minimum Digital Living Standard (MDLS) for Scotland. It builds upon earlier UK-wide and Welsh MDLS studies. These explored what households with children require to fully participate in today's digital world. The project employs deliberative focus groups with members of the public and stakeholder interviews to define digital inclusion needs specific to Scotland.

1.1 Context and Background

Digitalisation has transformed how people engage socially, economically and with essential services. However, digital inequalities, highlighted during the COVID-19 pandemic, continue to disproportionately affect vulnerable groups, exacerbating social and economic disparities. In Scotland, challenges include limited *fixed* broadband coverage, with 98,525 households lacking access to fixed broadband services above 30MBs, although there is access to satellite broadband and 4G, and 15% of citizens choosing not to utilise fixed broadband (Ofcom, 2024). Rural areas face compounded issues due to infrastructure gaps, while urban areas exhibit a prevalence of digital and data poverty (Ofcom, 2024).

1.2 Key Findings

1.2.1 Digital Needs in Scotland

The study identified that Scottish MDLS needs are broadly comparable to UK and Welsh MDLS needs. However, there are key specific issues and differences that arise around both households meeting and the government utilising the MDLS in the Scottish context. It was noted that rural challenges can be much greater and more diverse in Scotland than in other areas of the UK. Notable challenges remain accessible internet, adequate devices, and essential digital skills. These components enable individuals and households to communicate, access education, engage in employment, and participate in society confidently and safely.

Focus groups with Scottish households underscored:

- A need for entry-level smartphones and large-screen devices (laptops or tablets) for households with children.
- Essential digital services, including reliable broadband and mobile data, tailored to urban and rural contexts.
- Access to support and resources that address functional, critical, and safety-related digital competencies.

1.2.2 Barriers to Digital Inclusion

Participants highlighted several challenges:

- Connectivity issues: Respondents from rural areas talked of experiencing inadequate broadband and mobile network coverage, while affordability remains a key concern nationwide. This is different from availability of service. Available access does not guarantee uptake or that affordable service is adequate to individual household needs.
- Affordability of goods and services: High costs of devices and data packages create significant barriers, particularly for low-income households.
- Skills deficit: Both parents and children require ongoing support to navigate technological advancements and online safety risks effectively.

1.2.3 Stakeholder Perspectives

Interviews with 32 stakeholders, including policymakers and civil society organisations, revealed strong support for a Scottish MDLS. Stakeholders emphasised:

- The importance of embedding digital inclusion across policy areas.
- The need for sustainable, long-term funding to support digital inclusion initiatives.
- Opportunities to align MDLS with existing standards, such as housing or care strategies, to enhance accessibility.

1.3 Recommendations from phase 1

To address these challenges and implement a Scottish MDLS effectively, the following actions follow from the evidence provided by stakeholders and families:

- Improve infrastructure: Expand availability, quality, and adequacy of connectivity in rural and remote areas, ensuring equitable access across Scotland.
- Enhance affordability: Provide high-quality social tariffs and fair pricing strategies to reduce financial barriers for families.
- Upscale proven initiatives: Expand existing programmes (as one example among many: the Inspire Learning Programme, which provides iPads to students, to standardise access nationwide).
- Holistic support: Develop flexible, community-based support and accessible, trustworthy resources to enhance digital skills and safety awareness.
- Policy integration and funding: Embed MDLS within broader social policies and ensure stable funding to support both civil society organisations and local authorities.

1.4 Next Steps

The second phase of research, involving interviews with families facing potential challenges in meeting MDLS, and further stakeholder engagement, will provide additional insights. A comprehensive report with detailed findings and recommendations is expected in April 2025.

1.5 Conclusion

This interim report underscores the importance of a Scottish MDLS in addressing digital exclusion and supporting social inclusion. While participants expressed enthusiasm for the initiative, challenges such as rural connectivity gaps, affordability, and the need for coordinated policy efforts must be addressed. The implementation of a Scottish MDLS would represent a critical step toward achieving equitable digital inclusion across the nation.

2 Introduction

This report presents interim findings from a project commissioned by the Scottish Government to develop a Minimum Digital Living Standard (MDLS) for Scotland. It details the results from phase 1 on the project work and builds on a UK-wide project funded by the Nuffield Foundation and Nominet to develop a UK MDLS (Yates et al., 2024) as well as a project funded by the Welsh Government to develop a Welsh MDLS (Yates et al., 2023). Phase 2 of the project will focus on the experiences of those living below the MDLS in Scotland and further stakeholder reflections. The full project report on both phases is planned for April 2025.

Members of the research team from the University of Liverpool, Loughborough University, Good Things Foundation, City University, University College Dublin, and the survey company Critical developed the idea of an MDLS. The project initially focused on the digital needs of households with children and is currently working on standards for other household types. MDLS sets out what is needed to live and engage in today's digital world. It is built with public consensus, bringing together members of the public in a series of focus groups to identify digital needs and the goods, services, and skills required to meet those needs.

How people interact with each other and engage with services has been notably and rapidly digitalised in recent years. In this context, digital inequalities, such as gaps in digital access, skills, and attitudes, have significant tangible consequences for citizens, households, and communities. The COVID-19 pandemic revealed absolute digital exclusion, with already vulnerable individuals, finding themselves significantly disadvantaged, socially disconnected, economically struggling, and unable to access benefits, health services, and government assistance or make online payments. At the same time, the pandemic also revealed the complexity of *relative* digital exclusion. It made visible the challenges beyond lack of access (e.g., no internet connection or internet-enabled devices) to those faced by "limited" users. "Limited" users are the several millions of UK citizens with digital access but failing to fully benefit from digital technologies due to limited digital skills and/or support (Yates et al., 2020).

Looking specifically at Scotland, up to September 2024, we find that 11,061 connected premises (Ofcom, 2024) did not have a broadband connection with speeds above 2MBs available to the household. Also, 98,525 connected households (3.5%) did not have access to fixed broadband speeds above 30MBs. Fixed superfast broadband – at least 30 megabits per second – coverage is lower than in any other nation of the UK, with a greater proportion of rural areas likely to have lower-quality provision (Ofcom, 2024) (see Figures 1 and 2). Figure 1 presents the percentage of households in each aggregate census area (Data Zone) having less than 30MB connectivity. Figure 2 presents the percentage of households in each aggregate census area (Data Zone) having less than 30MB connectivity.

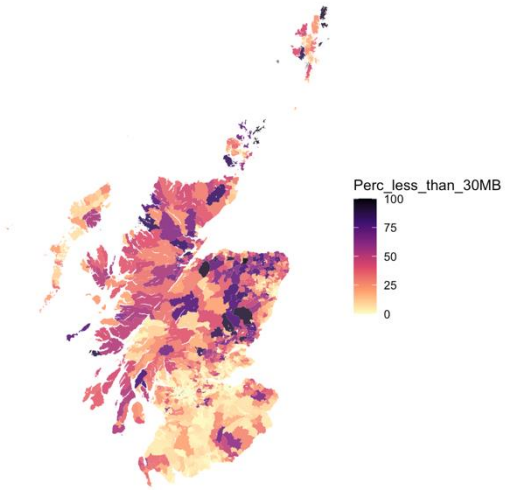

Figure 1: Percentage of households with access to less than 30MBs by Data Zone

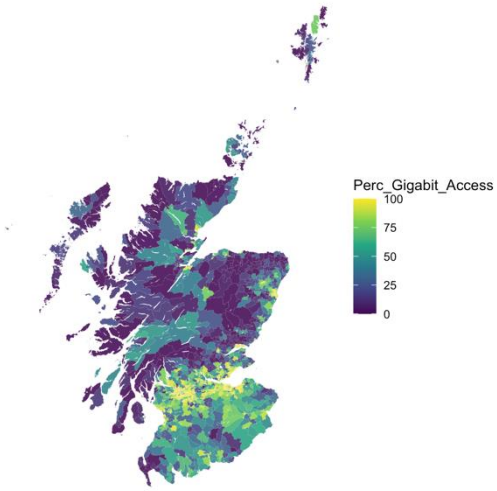

Figure 2: Percentage of households with access to gigabit broadband by Data Zone

However, an analysis of Ofcom (2024) Tech Tracker data indicates that 15.1% of Scottish residents do not use fixed broadband connections (whether available to their residences or not). We find that these citizens not utilising broadband were more likely to live in urban (15.8% of urban citizens) than rural (12.1%) areas, indicating that factors other than connection availability play a key role. We also know that one in seven adults in Scotland and Wales are experiencing data poverty – defined as " households or communities who cannot afford sufficient, private and secure mobile or broadband data to meet their essential needs". With differences between the least and most deprived areas being more significant in Scotland than in Wales (Lucas et al., 2021). Indeed, a 2022 Scottish Government (2023b) survey found that 84% of households in Scotland's 20% most deprived areas (based on Scottish Index of Multiple Deprivation) had internet access at home compared with 96% of households in the 20% least deprived areas. This survey also found notable age variations. Nearly all adults aged 16-34 (99%) reported using the internet compared to 76% of those aged 60+. Also, of disabled adults aged 60+, 66% reported using the internet, compared with 81% of non-disabled adults aged 60+ (Scottish Government, 2023b). Similarly, more recent work undertaken by Audit Scotland (2024) found that 9% of Scottish households do not have access to the internet, with 15% of Scotland's adult population lacking foundational digital skills. Overall these various results indicate that there are multiple demographic factors that impact digital inclusion in Scotland – over and above availability of internet services.

The Scottish Government has been aware of these issues for some time and is actively committed to tackling digital exclusion in Scotland. In 2021, they published their most recent digital strategy, aiming to achieve "world-leading levels of digital inclusion" (Scottish Government, 2021, p. 29). In addition, as a response to the COVID-19 lockdowns, the Scottish Government set up the Connecting Scotland programme, supporting and funding organisations

in distributing devices, data, and digital skills support via a digital champions model (Brown et al., 2024) focused on people on low incomes. While this programme has now changed its mode of delivery, there is evidence that it was very well-received by organisations (D'Arcy et al., 2024) and beneficial in combating digital exclusion. According to a survey commissioned by the Scottish Government (2023a), 86% of participants reported that their digital skills had improved thanks to Connecting Scotland and were more able to stay in touch with family and friends. Despite these efforts, issues of digital exclusion are far from resolved in Scotland. Alarmingly, more than four in ten households with children do not meet the full MDLS in the UK (Yates et al., 2024). This implies that 3.69M households with children do not meet our MDLS definition. In Scotland this rises to 6 in 10 households or 354,300 households.

This report builds on a body of MDLS work and focuses on Scotland. It delivers evidence at a time when Scotland's approach to digital inclusion is under review. This report presents findings from the first phase of MDLS Scotland research. This initial phase examined the digital needs of households with children in the Scottish context and discussed possible approaches to implementing a Scottish MDLS with stakeholders. This was achieved through focus group discussions with parents and young people and interviews with policymakers and representatives of charities and third sector organisations working in digital inclusion in Scotland.

3 Method

This section describes the rationale behind the development of the MDLS. The section then looks at the potential use of the MDLS in Scotland. Particularly the approach to assessing the appropriateness of the UK wide MDLS in the context of Scotland and Scottish households. The goal of the UK MDLS was to create a standard that captures what people in the UK think households with children need to be digitally included. The UK MDLS provides a "baseline", which can be built upon to establish what households with children need to meet MDLS in Scotland. The initial MDLS study, funded by the Nuffield Foundation and Nominet, was conducted in 2022 across England, Scotland, Wales, and Northern Ireland. It set out what families with children need at a minimum, socially acceptable level to be included in the current digital world. Drawing on this as a benchmark, the MDLS for Scotland explores if and how digital needs may vary for families living in Scotland, the challenges households may face in meeting MDLS in the Scottish context, and what might help.

3.1 Approach: Building on the MIS methodology

All MDLS work draws on the Minimum Income Standard (MIS) methodology (Davis et al., 2024; see also Davis et al., 2018). Key aspects of the MIS approach that were adopted for the development of MDLS are:

- The method involves bringing together members of the public in a series of focus groups. In these groups, participants make decisions and build consensus about needs and ways to meet them. The method emphasises the public's opinion of "need" rather than taking a "top-down" or expert-driven approach.
- It works towards defining a minimum *acceptable* standard of living (Davis et al., 2024; see also Davis et al., 2018). It is about "needs", not "wants", but more than the "bare minimum" needed for survival, as it must enable people to participate in the world around them.
- It accounts for individuals' different needs and can also examine how these needs combine within the context of a household.
- The needs established by groups can act as a benchmark and be used to determine who may or may not be meeting this level and the barriers to doing so.

3.2 Developing the initial UK MDLS

Reflecting on the Connecting Scotland Programme, Brown et al. (2024, p. 66) wrote that "digital inclusion works best when it recognises and reflects individual needs, and helps people achieve outcomes that are relevant to their lives". The MDLS research puts these principles into practice with its inductive (or "bottom-up") approach via deliberative focus groups with members of the UK public. It utilises lived experiences to build a picture of individual needs and how they can combine at a household level. Understanding digital inclusion needs to be holistic, so the MDLS comprises a range of interdependent digital goods, services, and skills.

The UK MDLS research focused on households with children to pilot the feasibility of developing a digital living standard. It involved 17 focus groups with adults and young people across four stages. During the research's initial "orientation" stage, participants developed a definition of the MDLS. As the definition needed to be applicable across household types, this involved groups with pensioners, working-age people without dependent children, and parents and young people. See below for the MDLS definition.

Over further stages of groups with parents of children of different ages and with young people, participants worked together to develop lists of the types of goods, services, and skills households with children would need to meet the MDLS definition. Decisions were fed through from one group to the next, checked back and reviewed to identify any missing or unnecessary items, and resolve any areas where previous groups may have been unable to agree to move

towards consensus about the contents of MDLS. A complete outline of the MDLS research approach can be found in Yates et al. (2024).

Further elements of the research included interviews and workshops with stakeholders and experts from different sectors. Finally, a UK-wide nationally representative survey was conducted to measure the extent to which UK households with children fall below or above the MDLS (Yates et al., 2024).

3.3 The MDLS definition

The definition of the MDLS is central to the research. It is central to all focus group deliberations about what people need for digital inclusion, providing a shared understanding of the "standard" under discussion.

> "A minimum digital standard of living includes having accessible internet, adequate equipment, and the skills and knowledge people need. It is about being able to communicate, connect and engage with opportunities safely and with confidence."

When developing the MDLS definition, discussion groups were clear that it should be multi-faceted, highlighting that digital inclusion would require a combination of devices and connection, as well as skills and knowledge – not only for using technology effectively but to be able to do so safely and confidently. People also agreed that the MDLS definition must be holistic, meaning that household needs would have to be met across *all* areas of the definition and that devices and connections should be adequate and fit for purpose. All these components were seen as important for enabling a household to participate in society and culture, connect with others, access services, and engage with opportunities, such as in education or work.

The MDLS definition was presented and explained at the beginning of the Scotland MDLS groups. Participants felt it was appropriate and covered the different components of "needs" for digital inclusion.

3.4 MDLS Scotland research questions and methods

Using the UK MDLS as a baseline this interim report presents initial findings from further qualitative work to explore the MDLS's applicability in Scotland. It is based on semi-structured interviews with policymakers and civil society organisations working in the digital inclusion space in Scotland, as well as additional focus groups with Scottish households. The research aims to provide an extensive overview and discussion of the findings and recommendations for the Scottish Government. This report presents key findings in response to the following questions:

1. What are the views of key stakeholders (e.g., civil society organisations and local authorities) conducting digital inclusion in Scotland about the potential applicability of the MDLS in Scotland?
2. What do Scottish parents and young people think about the MDLS and its applicability to their experience in Scotland?
3. What are stakeholders' views of the MDLS definition, and what are the challenges to and benefits of a possible implementation of the MDLS in Scotland?
4. What kinds of challenges do Scottish parents and young people identify to meeting MDLS in Scotland?

Two pieces of fieldwork were undertaken for this phase of the research. First, we interviewed Scottish stakeholders between September and November 2024. Semi-structured interviews were conducted online (via Teams) with 32 participants selected with the help of contacts known to the research team, including from the Scottish Council for Voluntary Organisations (SCVO) and Good Things Foundation. Table 1 (see Appendix) presents the interviewees' details. The interviews were undertaken with stakeholders holding a digital inclusion role, being responsible for digital inclusion strategy, or delivering digital inclusion-facing projects within organisations. The organisations covered a wide range of geographic areas and organisational missions in Scotland. These included organisations from the third sector, local authorities, and the Scottish Government. Areas of focus ranged from youth services and mental health support to cultural engagement and housing. All organisations had a primary focus on digital inclusion or a digital element to their work relevant to digital inclusion. Once interviews were completed, the data was transcribed, anonymised, and then thematically analysed using Atlas.ti.

Second, we used the established UK MDLS for households with children as a benchmark to examine the digital needs of families in Scotland in detail. In November 2024, researchers held three focus groups (each comprising between 7 and 10 participants). As with the UK MDLS research, these involved groups with parents and young people.

Two groups were held with parents, including lone and partnered parents (a mix of mothers and fathers) from different socioeconomic backgrounds (including people working/not-in-work and in various housing tenures) who had children living at home aged 5 to 20 years old. The first group was held in a city in Scotland's Central Belt, and the other was conducted online to enable the inclusion of participants spread across Scotland from the Borders to the Highlands. Given known differences in digital infrastructure, this group was deliberately comprised of participants living in more rural areas, with the majority describing their location as a village. The group, undertaken with young people (aged 12 and 13), was held in a public high school in a town on the edge of the Central Belt. It was timed between the two parent groups, which

provided the opportunity to feed decisions and perspectives back between parents and young people.

Groups were shown lists outlining the range of devices/tech items, means of internet connection, and the different skills and knowledge included in the UK MDLS. This was a starting point for discussions to explore whether or how digital needs might vary, issues that may affect digital inclusion, and the ability to meet the various aspects of MDLS for people living in different Scottish contexts. The group discussions were recorded, transcribed, and then analysed using NVivo.

The second phase of this MDLS Scotland project will involve in-depth interviews with families who may face challenges in meeting their digital needs, and further interviews with stakeholders. These family interviews and stakeholder perspectives will provide more evidence on implementing MDLS in Scottish digital policymaking and strategies. The work will also focus on potential barriers to reaching MDLS, and interventions that could support communities, including disadvantaged groups.

4 Support for a Scottish MDLS

This section presents the first set of findings from the stakeholder and household interviews. The section details the extent to which the idea of an MDLS for Scotland was supported by stakeholders and households.

4.1 Stakeholders

The stakeholder interviews provided significant evidence of support for the concept of a Scottish MDLS. Participants were overwhelmingly positive about the possibility of implementing a Scottish MDLS and the definition itself, reflecting on its added value and benefits. They emphasised that having an MDLS in place would raise the profile of digital inclusion across Scotland, legitimising and recognising the already undertaken digital inclusion work.

Stakeholders stated that an MDLS would aid social inclusion in terms of supporting access to opportunities and services in relation to employment, learning, and social benefits, among others. For example, as remarked by P31, a representative of a local council working on its digital strategy in Scotland:

> "[A Scottish MDLS] could result in a whole range of positive benefits in terms of helping people back into work, it could [also] help with ... people learning ... from home... In terms of university, it could help with tackling ... isolation by connecting [students] with their family, friends and loved ones, support workers, etcetera."

In relation to social benefits, P8, working for an organisation providing leisure and cultural activities, commented on how the implementation of a Scottish MDLS might help those in the community who struggle to ask for what they need and might feel that they are "getting things that they're not eligible for [... like] a free laptop or a free mobile phone". She went on to say that an MDLS "might go some way to addressing that stigma of people that are accessing support". Another way in which participants felt a Scottish MDLS would benefit individuals and communities is by creating conditions that would encourage more affordability, meaning that the MDLS could provide local governments and other public bodies with a mandate for implementing new solutions designed to bring down the costs of digital access. P28, working for a charity providing culture and sports services, explained how the Scottish Government could intervene to support low-income tenants in both metropolitan and rural areas: "I would lay that at the door of the Scottish Government ... 'what can you do to aggregate demand across the public sector to drive down home broadband prices?'". As we have noted in other work (Tyrell et al, 2024) the current national policy tool in this space are social tariffs which have had limited uptake and are outside affordability envelopes for some households. However, we have also found that many stakeholders argue for Government and key agencies (e.g. NHS, social housing providers) to work together to lower access barriers as they all gain from households having digital access and making use of digital services.

Meanwhile, participants thought that implementing a Scottish MDLS could also better support the work of civil society organisations in digital inclusion, especially in terms of providing more stable funding (e.g., multiyear funding) and expanding their work with different communities. P25, who works at a charity providing support for people affected by displacement and exploitation, presented a scenario in which they could use the MDLS to obtain more funding to support their digital inclusion work:

> "If you're in Scotland and you're seeking asylum and it was said that this was the minimum standard [... and] people were below that minimum ..., I guess we would have more [... of] a robust statement that we could stand against ... when we go looking for funding. You know, we could ... say this is the minimum standard in Scotland, and we can demonstrate to you that all of our clients on our asylum side ... don't even meet that standard."

Relatedly, P5, a representative of a non-profit organisation delivering projects meeting the needs of marginalised communities, told us how more funding would enable them to expand their work and reach specific groups in need of support: "[If we had more funding] I would get more classes. I would get more people, and then I'll target a particular community. I'll target ... some African communities, for example, the Sudanese community".

Besides showing support for the overall concept of a Scottish MDLS, participants were presented with the definition of the standard during the interviews, with many saying that that definition is adequate and relevant to the Scottish context. At the same time, several participants thought that the second part of the definition is particularly important, given its focus on internet safety and confidence. As remarked by P22 (a representative of a volunteer organisation), "the safety bit and the confidence, that's really important". Equally, some participants liked that the definition includes the word "accessible", which prompted insightful discussions around the specific meaning of this term in several contexts.

Working at a charity supporting people affected by different forms of disability, P17 discussed, for example, the dual nature of the term "accessibility" when engaging with this group. On the one hand, she raised the importance of providing and designing appropriate assistive technology for this community. As she put it: "it might be that you need a Bluetooth speaker, you need an external keyboard, you need an Apple Pencil. You need something else to be able to use [a device]. There's not a kind of one-size-fits-all solution". On the other hand, this is a community that also has specific needs in terms of confidence, which is why "crappy tablets and other devices of poor quality or functionality (e.g., slow speed) can actually really hinder somebody's digital journey because people go 'I'm so stupid. It takes me so long to open an app'". By contrast, other participants considered accessibility related to the stability and (public) availability of broadband and connectivity. It follows that discussions about accessibility reveal the inherent tension in a standard like the MDLS between, on the one hand, its universal character (e.g., in terms of how to provide stable and reliable internet for all) and, on the other, the specific needs of particular groups/individuals.

4.2 Households: "Everything is going online"

Parents and young people emphasised how important it is for families to be able to participate in today's digital world. Groups discussed the significance of recent digitalisation, and the ways this necessitated families' digital skills and access to the digital technology and services included in MDLS. Parents and young people reflected on the changes from many services and everyday interactions moving online, including examples of a cashless and paperless society.

> "Man: Everything is going online, your bank, your bus pass, I have got a season ticket for football that next year is going to become a digital wallet card, I am not going to be able to hold a physical card, everything is going online. Or if it isn't, it is aiming that way.
>
> Woman: Yes, I think a lot of shops now don't allow cash, but then there is a problem right away, even gigs and things, depending if your children are going to concerts and things, I have found myself going into places and they just don't accept cash at all."
>
> **(Parent group, urban Scotland)**

Focusing on the needs of households with children, groups often talked about the digitalisation of school, which had continued and potentially intensified since the COVID-19 pandemic, and its significance for children and families. Young people of secondary school age said that email and online platforms such as Google Classroom were the primary ways they submitted homework. Some parents also said that their primary school-age children were encouraged by schools to use eBooks rather than physical books for home reading. We asked groups about the advantages and disadvantages of digitalisation. They noted that digital resources, like eBooks, gave children instant access to a broader range of resources, and homework activities could be more engaging because technology enabled better access to different mediums of information. However, another implication of such digitalisation was that it created "an expectation that there is a device at home" (Parents group, rural Scotland). Parents reflected that, even if they were not comfortable with it, the digitalisation of school meant that digital goods and services should be considered a "need":

> "Woman 1: Need is a very strong word.
>
> Woman 2: I feel I agree with you, but I feel like in terms of education then it has been taken out of our hands because if the children are coming home and saying well I need [a tablet] to do my work and schools are saying that we're not giving out homework… your books are now online, your homework is online, then parents don't have a choice, essentially.
>
> Woman 3: You need to have broadband, you need to have…
>
> Woman 2: It becomes a need but yes like…
>
> Woman 1: No for sure, for sure, like my son came home saying, erm, I am not really into them spending too much time in front of screens and things, and he said no like the teacher said I have to take a picture of the homework so they have to have a phone now, but I don't like that, I don't think they should be… they should have to.
>
> Woman 3: Yes, it has almost been forced upon you as a parent.
>
> Woman 2: But that is why it is now a necessity, that list because of how…the world is now. These are now what are considered essential because if you don't have [them] in your house your kids can't do their homework essentially now, so it is bad I agree with you."
>
> **(Parent group, urban Scotland)**

5 MDLS and Scottish households' needs

Across the three focus groups with Scottish households, parents and young people agreed with the UK MDLS contents and did not significantly change the range of goods, services, and skills included. However, conducting groups with people from different regions of Scotland highlighted some nuance to households' digital needs, the significance of digital inclusion in a rural or urban context, and issues that could inhibit a person or household from reaching MDLS, particularly infrastructure. The digital goods, services, and skills are presented below, highlighting the aspects remarked as important to Scottish households with children. The key contents are summarised in bullets at the start of each section.

5.1 Digital goods and services

5.1.1 Mobile phones, laptops, and tablets: Necessary tools for everyday life

- An entry-level smartphone for each parent and for each child who is socialising and travelling independently.
- Plus, an entry-level "large screen device" such as a laptop or tablet per household – parent(s) and first child share one device.
- Plus, another "large screen device" for every additional school age child in the household.

Groups agreed that parents and older children needed a smartphone. We asked groups when a school child would need their own phone. Parents and young people felt that the answer to this depended on when a child began going out independently, for example, meeting friends in the streets near home or making their own way to school. Groups suggested this could be between ages 9 and 11, depending on a family's circumstances. The phone was identified as an important aspect of this independence, allowing young people and parents to contact each other, with parents, in particular, noting that the ability to track each other's locations on a smartphone provided reassurance and "peace of mind". Parents living in rural areas indicated that children may have to travel some distance even to primary school, perhaps on a school bus on their own, which could influence when they might have a phone. In such situations, parents emphasised the increased importance of children being able to contact them, given the implications of missing a bus or having it cancelled in bad weather. With more independence as they get older, children would need a phone to access apps, QR codes, and cashless payments, for instance, for travel, school organisation, and homework, as well as accessing social media and keeping in touch with friends.

> "Researcher: When do you think it becomes important, then, [to have] your own device with its own data?

Girl 1: I would say nine, 10.

Girl 2: I would say nine, 10, yes.

Researcher: So, what is that about? Why is that?

Girl 2: Well, when I was nine and 10, like, I was allowed to go out on my street so instead of mum and dad having to go and get me, it would be so they could phone me.

Girl 1: Yes, because if you go out your mum can always like, your mum or your dad can always put like a tracker on your phone when you're younger and then they can always like find out where you are."

(Young person group, urban Scotland)

"Woman: We live a little bit away from my son's academy, so he has to get public transport, so he does need to take his mobile because he has got that app on it so he can work out his buses to and from school. A lot of schools now [use a lot of] technology so they have got an app, you can check what is in the canteen daily and obviously we have to top it up, so he can check when it is running out of funds."

(Parents group, rural Scotland)

Additionally, groups said that any household with children needed at least one other large-screen device, such as a laptop or tablet. Groups agreed that it was acceptable for parents and one school-age child to share a large screen device with each other, as well as with very young children in the household. However, the household would need another equivalent device for every additional school-age child. Groups said that having the extra functionality of a laptop or tablet, as well as a smartphone, was an important combination for everyday life necessitated by rapid digitalisation since the COVID-19 pandemic. The larger screen on a laptop or tablet was seen as more suitable for children to use for homework or parents filling in forms online, for example. A few parents said their children had been given individual iPads through their school; however, there was recognition of uneven provision across Scotland.

5.1.2 Equipment for media and gaming: Opportunities for information, entertainment and social participation

- A television per household, access to a streaming television service, and a television license.
- Plus, access to gaming via an entry-level subscription or other means for school-age children.
- Plus, a set of headphones for each school-age child.

People said that television remained a valuable source of information and entertainment, allowing the family to watch the news, programmes, and movies together or with friends. They felt that accessing the same television content as others fulfilled a social and cultural need, and therefore, families with children needed to be able to access streaming services. Groups agreed that this need could be met with a mix of free streaming apps, a basic paid subscription service, and a television license to watch live programmes and the news.

Groups said that people of all ages may want to access gaming, and they said that gaming could provide opportunities for educational and skills development and entertainment. They noted that younger school-age children may benefit from mobile or tablet games with supervision. People agreed that online gaming could be an important form of social inclusion for some older school-age children. However, this came with the caveat that gaming online with others involved risks requiring critical digital skills to assess and mitigate these. Groups agreed that each school-age child should be able to have a set of headphones for listening to music, creating some privacy or managing background noise when doing homework.

5.1.3 Broadband and phone data: Vital services for connectivity

- Reliable home broadband with sufficient speed to support multiple family members accessing the internet at the same time.
- Plus, mobile data for every family member with a smartphone. 5GB of data per month could meet the needs of families living in urban areas, while those living in rural areas would need at least 10GB of data per month.

As with digital devices, connection to the internet was described as something "you can't live without" (Parents group, urban Scotland). Getting online instantly and having access to adequate and reliable broadband and data connections was paramount for digital inclusion. Groups said, for example, that households should not have to worry about running out of data or unpredictable broadband that loses connection. They agreed that households with children would need a combination of home broadband and phone data to always ensure a minimum acceptable level of connectivity.

Broadband was an essential part of family life and necessary for accessing entertainment and information, communicating and interacting with others, and accessing services, work, and education. Groups said that a household with children would require broadband with sufficient speed and reliability to enable all family members to use the internet simultaneously without worrying about the impact on connection quality. The broadband speed required would depend on the household size and how they were using it. The MDLS groups stated that the technologies that home broadband could need to simultaneously support included online gaming, media streaming, video calls, online messaging, and internet browsing.

Connectivity issues were identified as a significant issue affecting households. People living in rural parts of Scotland were described as especially disadvantaged by poor infrastructure. Participants discussed how unreliable broadband provision, even sometimes despite paying for a faster connection and/or equipment to try to improve coverage, meant being unable to get an adequate connection and having to rely on using mobile data in the home instead. This has implications for the level of mobile data that households require, as families in rural, as well as other areas and situations, who lack a stable home broadband connection will need more mobile data.

Groups agreed with the UK MDLS model for households living in urban areas that, alongside stable home broadband, any family member with a smartphone would need a minimum level of phone data. Groups in Scotland, as with other parts of the UK, found it difficult to decide on precise amounts of data, but they agreed in principle that all urban areas of the UK would need a similar amount. For the UK, MDLS groups felt that 5GB of data was a reasonable amount per month. However, they said that households living in more rural and remote parts of Scotland would need more data. They felt that an extra 5GB per month for each family member with a smartphone could be a way to meet additional needs, such as for longer journeys to shops, school and work, while also having fewer opportunities to connect to public Wi-Fi. Mobile phone data was especially important for children travelling long distances independently to school.

> "Woman 1: [Our daughter] goes to school quite far away from where we live, so WhatsApp has been key in making sure she gets where she needs to and…here, buses get cancelled so often, like I have never known anything like it. So, her being able to get in touch with us really quickly and easily it is like it has been really reassuring.
>
> Man: …From my own experience having to bus to and from school from a great distance erm… it is different story if you can walk home, you don't have a phone you know you have still got that ability to get home. If you're more rural and you're 10, 12, 15 miles away your options are very limited for [getting] home…
>
> Woman 2: For us, the weather is a massive thing. We live rurally, there is transport not running when there is snow…and I would never want my children to be out without access to a phone and some data."
>
> **(Parents group, rural Scotland)**

While the included data would meet the different needs described, people would likely need to prioritise how they used it. Groups said monitoring data usage was acceptable but required skills such as connecting to secure Wi-Fi connections when possible and using apps to set data

limits and alerts. This interaction between data needs and skills exemplifies how digital goods, services and skills are needed in combination for MDLS.

5.2 Digital skills and knowledge: Necessary assets for online confidence and safety

All the components listed in the MDLS contents are interdependent and needed in combination for an acceptable digital living standard, including the equipment, connectivity, and digital skills and knowledge. We asked people in Scotland for their thoughts on the digital skills that groups listed in 2022. They agreed that some digital skills were more functional, while others were about critical thinking and knowledge of risks online. Although many skills overlap, they could be organised as follows:

Functional and Practical Skills

- Using basic device functions
  e.g., volume controls, turning devices on/off
- Using apps and programmes
  e.g., phone applications or computer software
- Connecting devices to the internet
  e.g., connecting to home or public Wi-Fi
- Managing documents and device storage
  e.g., saving and moving documents, deleting old files
- Internet browsing
  e.g., using an internet browser to find information
- Changing device and programme settings
  e.g., turning off notifications

Critical Skills and Knowledge for Safety

- Evaluating what we see online
  e.g., friend requests, fraudulent links, misinformation, AI generated content, sponsored videos
- Evaluating what to share online
  e.g., personal details and locations
- Understanding digital footprint
  e.g., considering information/opinions put online
- Managing and monitoring banking activity and purchases
  e.g., monitoring transactions, removing card details to avoid accidental in-app purchases
- Monitoring time online
  e.g., self- or parental-monitoring of screen time
- Managing social pressures
  e.g., pressures to reply to instant messages, comparing ourselves to images online

- Managing and monitoring mobile data
  e.g., using phone features to track data usage of different apps
- Cashless and online payments
  e.g., online shopping or cashless payments for services
- Using secure passwords
  e.g., setting strong passwords and storing them safely
- Content controls and location sharing
  e.g., turning on/off location sharing, blocking/enabling online content, reporting harmful content

The wide range of skills and knowledge were included in MDLS to enable parents and children to use digital technology and minimise risks while engaging online to socialise and access services and opportunities. The functional skills were about more positive uses of technology and giving people the confidence to enable them to do what they need. The critical skills and knowledge were primarily for mitigating risks, which were crucial because staying safe online was a key concern among parents and young people.

> "Woman: My friend's daughters are 14, 15 and are constantly sent message by strange men just on Snapchat or whatever, like I don't know how, but it happens…. So, teaching them from a very young age like don't contact people that you don't know, don't respond to people who send you messages."
>
> **(Parents group, urban Scotland)**
>
> "Girl: I just don't agree with like really young kids having phones at that age, I just don't think they know enough and there is a lot of online bullying and things, but I know their parents can set up things like they can see everything their friend writes and everything they write."
>
> **(Young person group, urban Scotland)**

Groups described technological change as a challenging aspect of digitalisation because it required that people continuously develop their digital skills. Both parents and young people talked about the growing availability and use of generative artificial intelligence (AI), such as ChatGPT, image generators and filters, which they said required new skills and awareness, including for (responsibly) using generative AI as a tool or discerning whether or not the things we see and hear are AI generated.

> "Woman 1: AI is so dangerous because you can now video chat someone, but AI could make me look like Beyonce if I wanted to and somebody could think they are speaking to… [It] changes your voice, changes your look and you can't always tell now, it is getting harder and harder to tell a manipulated image and it is now extended to video chats. It

is so, so scary when you think, like news stories have been manipulated through AI generated images is so bad."

(Parents group, urban Scotland)

"Girl: AI is making [students] work less… like, say my friend used it for an English essay but it's not like what she's done, in like, she is going to get good grades because she knows she has used AI but the teacher probably knew that and they don't know what level she is at like, it is not true."

(Young person group, urban Scotland)

Groups agreed that parents would need all of the listed skills to use digital goods and services safely and confidently. In contrast, children would need to develop their skills according to their level of online engagement and the types of devices and programmes they were using. For example, parents would support primary school-age children in emailing or uploading homework to educational apps like Google Classroom, while most older children progressing through secondary school would need to be able to use these platforms independently. Developing the critical skills of young people would also need to begin early with a focus on equipping them with appropriate safety knowledge before interacting with others online.

6 Challenges to implementing a Scottish MDLS

6.1 Stakeholders' perspectives

During the stakeholder interviews, many participants remarked on the specificity of rurality within the Scottish context, which must be accounted for if we implement a Scottish MDLS. As explained by participants, within rural areas, communities tend to be more spread apart than in other areas, such as Wales. This, along with the geographical landscape of rural Scotland, poses physical difficulties with establishing and maintaining a digital infrastructure. As emphasised by P11, a representative of a housing association: "in Scotland, in terms of rurality ... I just think sometimes the connectivity of it can be a little bit more difficult... Reception is not so good in some areas". As further unpacked by P25:

"I think ... that you do get rural parts of Scotland where there's still limitations around phone coverage and Internet access. I think that's fair to say. I know now, for example, that there's definitely places in Scotland where you go more rurally that wouldn't be set up for that level of digital."

What stood out from the interviews is that issues of digital exclusion are interlinked with issues of poverty, which exist in rural areas but are more prevalent in urban areas. Many participants

commented on deprivation in large cities such as Glasgow and, more generally, on poverty that cuts across all social and digital exclusion elements. Many remarked on the extent to which digital inclusion issues, however important, are secondary to more basic needs such as access to food, heating or shelter. P27 talked about the challenges that this raises to their provision of digital skills support:

> "Let's see how we can get a good iPad or computer to use, but people who haven't got that privilege, they're going to be in ... poverty... When we've given them the training ..., when they have the laptop or they have the iPad ..., they say ... they are hungry [so] they cannot see them for too long if they are hungry [... or] concentrate on the digital equipment."

Relatedly, P14 discussed the problem of homelessness, with "40,000 people in Scotland that are technically classed as homeless". He emphasised that an MDLS should encompass not just the binary of people who are either in secure accommodation or rough sleeping but all those who are "in inappropriate accommodation..., in abusive relationships ..., sofa surfing [... and] temporary accommodation".

Besides poverty, it was recognised in interviews that a Scottish MDLS should also account for intersectionality and the vulnerabilities and needs of specific groups, such as older people. For example, P2, who works for an organisation supporting recovery from the use of substances, explained: "we support a lot of people who come through here of an older generation, so they haven't necessarily ... got the digital equipment. If they have, they don't know how to use it". Meanwhile, besides other factors such as disability, differing levels of proficiency in the English language can intersect with the vulnerabilities of different groups, such as ethnic minorities, and with other factors, including poverty. Working for an organisation supporting refugees and migrants in Scotland, P6 explained:

> "Adult new Scots ... will have very specific barriers, so English language being the obvious one... When you have a resettlement programme, for example for Syrians or Afghans or Ukrainians, the first thing everyone thinks about is English language classes. But people don't also think about digital literacy classes or digital access. So, in my view, those two things are equally as important."

Other intersections may relate to language and rurality. P26, who works with people over 55 in a Scottish city, points out that there may be a language barrier "way up North if people are speaking Gaelic."

While the above relates to obstacles concerning those receiving support to be digitally included, participants also identified challenges relating specifically to the work of organisations

and policymakers tasked with providing that support. Representatives of both organisations and local authorities see the limited and inconsistent nature of funding as a significant problem affecting their ability to conduct digital inclusion work on the ground and support organisations. This includes financing from the government and other organisations, such as charitable trusts. P20 works for an organisation that takes a human-rights approach to digital inclusion. As she emphasised from the perspective of an organisation struggling in the current funding climate: "[there is] very limited funding ..., [which] seems to be at a very crunch point. There is no funding... Organisations will not exist without funding".

What is more, when calls for funding are put out, these calls are often too prescriptive, or their allocation is ineffective because of a lack of clarity as to what needs to be prioritised to achieve the best outcomes. Several organisations, for example, mentioned shifting their work to fit different funding criteria, sometimes using the money to continue to provide their core services while also providing new services in line with these criteria. While this means that as organisations are potentially stretching themselves even more thinly without funders necessarily being aware, the allocation of funding is not always targeted in the most effective areas, with precarious staff conditions becoming the norm. As explained by P30, working at a community support centre in rural Scotland:

> "I think when a government throws money, I think they don't always do it well... If we wanted to buy laptops and give them out, we could probably get funded for that. But the really important bit ... that really works and makes a difference is paying the staff's wages to make it work."

Talking about funding, many participants expressed concern about the shifted priorities since the lifting of COVID-19 restrictions, with the perception that the Connecting Scotland programme is being suspended. Rolled out in the spring of 2020, this program consisted of a funding scheme supporting organisations in providing digital devices, connectivity, and digital skills support to people in need in Scotland. We know from discussion with the Scottish government that the programme has not been suspended but has now evolved into a different model designed to support existing projects providing support; however, respondents perceived that funding was no longer available from the programmes as it had been in the past. While the Scottish Government is considering options for continuing to provide digital inclusion services like those offered by that programme, many participants explained how this cessation of funding was already affecting their work and were worried about the future. For example, as emphasised by P14: "we know how tight Scottish Government and general national government funding is… That door has been very very firmly closed just at the moment". Many participants worried not just about funding, but also about how far digital inclusion seems to have slipped from policymaker agendas in Scotland. As remarked by P9, who works at a digital

inclusion charity in rural Scotland: “digital inclusion is becoming deprioritised by a lot of funders and government agencies and public bodies. And it shouldn't be, it needs to come back to the forefront like it was during [COVID-19]”.

6.2 Supporting families facing challenges to digital access

In our group discussion with families, we discussed the challenges that can prevent households with children from meeting MDLS. These challenges relate to three main areas: inadequate infrastructure, unaffordable goods and services, and insufficient skills and confidence. We asked groups what would help families with children overcome these types of barriers. The headings below outline the key areas of support they identified: better connectivity, supported access to equipment, and opportunities for developing skills and knowledge.

6.2.1 Better connectivity across Scotland

- Better infrastructure, specifically to improve connectivity for households living in rural and remote areas.
- More choice of broadband providers across Scotland, including for households living in recently developed areas and in rural and remote areas.
- Higher-quality social tariffs enable all families to use broadband at the same time.
- Better upfront advice about what data and broadband package a household need.
- Fairer pricing strategies for data and broadband that minimise the use of “loyalty premiums”.

Groups said that connectivity, including data, broadband and phone signal, was important for everyone, regardless of who they were or where in Scotland they lived. However, issues of affordability and infrastructure could impact a household’s connectivity. While these were issues that could affect households across Scotland, with gaps in mobile provision discussed in both the parent’s and young people’s groups in urban areas, it was identified that households in rural areas were particularly impacted by patchy phone signal and data connectivity and poor broadband provision.

Groups said that characteristics of rural and remote Scotland, such as the hilly landscapes, traditional stone buildings and rainstorms, were all barriers to connectivity. Still, they said that these factors alone could not explain their experiences of lacking provision. Instead, aspects of rural living were compounded by lagging infrastructure, with access to reliable broadband raised as a particular issue. People were concerned that the gap between rural and urban parts of Scotland was widening, observing that cities and larger towns were equipped with newer fibreoptic broadband while smaller towns, villages, and remote areas struggled with older copper technology. Consequently, groups said rural households were left with weak services, high costs and little recourse to do anything about it. Premium rates for broadband were seen

as a problem for people living in rural areas where there was limited or no choice between service providers.

> "Man: So much focus on the central belt and Glasgow and Edinburgh, and if it doesn't happen there, then it doesn't matter. But it is obviously not true, and so many people living in rural or remote or island or highland areas it is… I kind of get an impression [infrastructure] is almost like an afterthought…Some of it is practical things, like it is difficult to lay fibre in those kinds of areas, but there are other things out there… things should be subsidised…Towns and cities have continued to get better and better whereas that real rural connection…you will really struggle for any kind of competent service… we're trying to put that broadband connection through legacy, aged copper cables, overhead copper cables that will fail regularly."
>
> **(Parents group, rural Scotland)**

The affordability of digital services was a key issue among groups who said that phone and broadband packages presented significant costs that some families would struggle to pay for. However, people were clear that given the digitalisation of everyday life, forgoing such services would not be the answer to financial hardship. Social tariffs, an intended solution for low-income households, were described as inadequate, both in terms of connection and cost-effectiveness, by parents who had accessed them. The inadequacy of social tariffs was frustrating for families, especially if they had already had ongoing issues with poor broadband provision, as described by a parent living in a rural part of Scotland:

> "Woman: I didn't think our broadband could be any worse than it was prior to [the social tariff] but it is really an issue. Obviously, [that is] a step towards trying to make it more inclusive, more accessible. But I am going to have to scrap it and we're going to have to go for fast fibre because it is false economy for us as a family, it is worse than it was before.
>
> Researcher: And when you refer to it as a false economy, do you mean because then you are having to rely on the phone data?
>
> Woman: Yes absolutely, absolutely yes…We have always had to get [phone data] as high as we possibly could because the broadband [connection] wasn't good anyway but since changing to the social tariff, the need is even worse. So yes, I have actually upped the data on our contracts."
>
> **(Parents group, rural Scotland)**

Groups said that many households could be overpaying for data and broadband if they had been sold packages that provided much more than they needed. They said that people needed

better advice about broadband and data rates (e.g., guidance on which provider had the best deals) and reliable advice from service providers about what package would be required according to household needs. As noted above, this ability to shop around depended on having a choice of providers.

People also identified the "loyalty premium", higher rates charged to longstanding customers, as a type of financial shock affecting households. According to groups, people could end up having to commit to higher annual rates because they forgot to switch providers because they did not know that switching would save them money or because of their personal circumstances (e.g., illness) or location (living in places with a restricted choice of providers) meant they could not switch. Groups suggested that changing regulations to restrict loyalty premiums as a pricing strategy would reduce the financial pressures and shocks induced by sudden price rises for necessary connectivity services.

6.2.2 Supported access to equipment

- More use and promotion of second-hand and reconditioned goods.
- More access to devices through school, for example via initiatives such as the Inspire Learning Programme.

If a household wanted to be digitally included but had inadequate or none of the described devices, accessing many everyday services, such as school or work, could be more challenging. In trying to make up for inadequate devices at home, people might try to access them elsewhere, but this could come at the expense of a person's time and opportunities. For example, young people described how accessing school computers to complete homework came at the cost of missing out on seeing their friends at lunchtime. In another example, parents said people could find it more challenging to make doctor's appointments by not possessing smartphones. For the groups, such regular disadvantages could accumulate to make people feel excluded from society.

Both parents and young people observed that affordability and the cost of devices could be a challenge to digital inclusion amid competing priorities for parents struggling to get by.

> "Woman: On the question of are we quite digitally included in Scotland for children, I don't think we are. I just think, without being doom and gloom, all we hear just now is how much people are struggling to feed their children, to do anything at all … so the last thing on a parent's mind who can't feed their child, who is struggling to heat the house, is going to be anything digital.
>
> Woman: But they can't do anything without being digital.

Woman: …Whether we like it or not, Scotland is full of deprived areas, I imagine if you go to one of those schools, there is a huge proportion of all of the things that we have just discussed, where the kids can't go home and do their homework online, because there is a lot of them."

(Parents group, urban Scotland)

Groups said that selling and using second-hand and reconditioned devices was a good way to tackle waste and affordability issues. They welcomed any organisations using such a scheme to support families.

"Girl: My old iPad, we gave it in to the charity shop because they can then give it to people that maybe like can't afford one so I think maybe if people start doing that a bit more than it might help people that can't afford it."

(Young person group, urban Scotland)

They were also very supportive of the Inspire Learning programme carried out by some councils in Scotland (they referred namely to the Scottish Borders and Glasgow City) to distribute shared iPads to all classes in Primary Years 1-3 and personal iPads to all pupils in Primary Year 4 to Secondary Year 6. Groups referred to the programme as the "iPad scheme". Parents said that the distribution of iPads was a positive step in the government taking responsibility for digital inclusion. Groups noted that the programme alleviated household financial pressure and helped mitigate social and digital exclusion. They wanted to see the programme upscaled to include the whole of Scotland so that families living anywhere in the country could receive the same standardised support.

"Woman: It takes a lot of strain off of families and there is no stigma because absolutely every child in like Primary 4 upwards gets given iPads, so it is not just the people who can't afford it. They are all given one which takes that pressure off everybody…

Man: Yes, it is very much by local authority whether they will get a device or not. You're not going to have the conflict potentially with kids, going to look at my laptop, it is better than yours type thing. If there is a level of consistency, it is going to make life a bit easier on that…"

(Parents group, rural Scotland)

"Woman 1: All the kids in that school have got an iPad…they don't do that in my kid's school…

Woman 2: Yes, they don't do it in mine either. But they possibly don't think that it is needed in our school.

Man: I would disagree with that because I think there has to be a set standard across…

Woman: No, absolutely.

Man: You shouldn't be in shock that…my 7-year-old daughter has an iPad and like… I am shocked that you guys don't have that."

(Parents group, urban Scotland)

6.2.3 Opportunities for developing skills and knowledge

- Flexible classes and support sessions for parents – e.g., outside of typical work hours, offering online or in-person support, covering urban and rural areas.
- A "one-stop-shop" of online safety information and advice – e.g., a website run by a trusted organisation.
- Manufacturer-led support for developing functional skills, available to people regardless of whether they have a new/second-hand or basic/high-end device.

Groups were particularly concerned with having the appropriate skills for staying safe while using digital devices because of the risks of making mistakes online, such as clicking on fraudulent links. Staying safe would also require that families' skills and knowledge be constantly refreshed to keep up with evolving risks. People were generally satisfied that schools were supporting the skills development of children. However, they felt that hard-hitting stories about online risks and direct talks from relatable people about real-life experiences could help get online safety messages through to children. They also noted increasing numbers of home-educated children who would not have the same contact with school. While some parents might learn digital skills through work or through their own motivation to use technology, groups observed that there would be a skills divide which would need to be addressed, and they related this to constant technological change.

"Woman: Some parents are going to know more than others and just with all of the changes and erm like you know the different AI and QR codes and things coming in there is different things you need to sort of watch out for."

(Parents group, rural Scotland)

Group discussions emphasised parents' need for skills to oversee and guide the safety and development of children's digital knowledge at home. However, knowing where to seek resources and support to build digital skills could be difficult. To support parents, people said that schools and libraries were examples of trusted places already in contact with many families, and they could be a good source of digital safety information and good hosts for skills classes and talks. However, they also said that they would like to see more flexible support to accommodate various needs, for example, taking into account the different working hours of

parents, their level of preexisting knowledge and the family's location. Alongside this, some parents suggested that there should be better online resources where they could find information for themselves, but through a source they could trust.

> "Woman 1: I know they do classes in our local town, but if you're rural then you're not going to travel to get these classes. And quite a lot of the classes are during working hours as well so if you work then you've not got the chance to go…I wouldn't mind going if they did online sessions or…even if your school invited parents one evening to go over cyber security or something so then you know what to tell your children.
>
> Man: I wonder if there is something for local authorities to do. You know, some kind of…digital officer or something, and maybe this already exists but if it does, they are not very good at telling you about it. Using schools or community centres or GP surgeries or whatever is convenient. Especially thinking about rural areas and doing that you know going out and educating people rather than you know if you have it online. That is all well and good if you can get online… It is just having some kind of public information. There is maybe something there that the local authorities themselves could be doing because they know their areas.
>
> Woman 2: …just building on to what [name] said, all of those digital [safety] skills, I don't really know them to be honest. Nobody has ever taught me them and I learn bits and pieces as I go. I would like a one stop shop, a website that is reliable, that I know is correct and safe and that gives me the information I need."
>
> **(Parents group, rural Scotland)**

Groups said people would also feel safer online if they felt confident in their devices' different functional and practical skills. Retailers could be a good place for people to go if they have questions about the features on their devices. For example, young people talked about older relatives who had accessed advice and lessons for particular devices, such as iPads, through Apple. However, groups also observed that this support was not ubiquitous and unavailable to people with entry-level devices. Greater digital inclusion would require better access to tech support. Other sources of support mentioned included local authorities, due to their knowledge of specific local areas, and tech companies, for example, to provide more accessible and helpful information with devices. Overall, it was seen that a wide range of bodies, organisations and individual families needed to be involved.

> "Woman: A lot of different bodies, but I think the tech companies are going to have to have a lot to do with it, it is their tech, they know how it works. But then you have got to have government, you have got to have campaign groups, people who just know what they are talking … we don't want just tech companies telling us exactly what to do

because they have [profit] margins to look after. So, we just want the input from everyone, but in a user-friendly way."

(Parents group, rural Scotland)

7 Implementing a Scottish MDLS: Build on best practice and push for a joined-up, holistic approach

We discussed the implementation of MDLS as part of Scottish Government policy with stakeholders. Organisations were overwhelmingly positive about implementing a Scottish MDLS and were keen to showcase the aspects of their work that align with this objective. Participants discussed many examples of best practices during the stakeholder interviews. Representatives of organisations felt they were best placed to speak about best practices regarding what would benefit their communities. Key examples revolved around the importance of working directly with communities, including strategies such as "co-production" of interventions and resources (P7, working with young people across Scotland), tailor-made approaches that "meet the needs of where people are coming from" (P17), a combination of formal and informal approaches that allow organisations to "build rapport" with and confidence in their service users (P17), and the deployment of digital champions (i.e., members from communities who are trained in digital literacy to help others), "which has been so successful" (P31). Meanwhile, an example of good practice discussed at the local government level included the importance of having "key individuals that are driving the digital strategy", especially amidst a general feeling that the government "are not making that connection between cost-of-living crisis and the digital" (P19). Indeed, there is a growing interest in linking broader issues such as the climate and other crises with digital inclusion, with several participants speaking about the success of "IT recycling scheme[s]" where local governments donate devices to those in need in their communities (P28).

Building on such examples of best practices will be key but insufficient for implementing a Scottish MDLS. Participants suggested various approaches, actions, and strategies that would need to be undertaken to implement the MDLS effectively. A Scottish MDLS would require a clear plan and vision, with a joined-up approach where digital inclusion is consistently embedded across different sectors, policy agendas and government departments, with everyone taking responsibility and a clear push from government. As P11 described:

> "From that … policy perspective, I think if we had something that ran all the way through and that we could go to for support… The SCVO have done really good work in

> that area… You know [organisations are] doing really good stuff and supporting. But… it's not across the piece… So, it's back to consistency."

Several participants suggested that a convenient way to ensure the MDLS could be implemented across these spaces was to utilise standards that are already in place, updating these to embed actions supporting digital inclusion or linking current standards with digital standards. P10, working with an organisation that takes a human-rights approach to digital inclusion, spoke about "making sure that digital inclusion is fitted into standards [like] The Promise [a Scottish government standard aimed at supporting young people with experience of care] … [and] looking at our political commitment to refugees and asylum seekers".

Similarly, P22 suggested the utility of writing digital standards into those for housing, which could be beneficial in maximising digital access provision and targeting those most in need:

> "There needs to be a really joined up approach... Housing needs to be involved… Housing associations need to make sure that every property … is equipped to … have broadband. I think they should be offering that … if you get a home through a housing association, you … should be offered broadband."

Participants also reflected on the importance of creating permanent roles and appointing the right people, which could alleviate precarious staff conditions. As remarked by P13: "at the moment we run almost entirely on volunteers… What we need more than anything else is to have that paid person who could be in the hub". Furthermore, permanent professional staff is also needed at local government level, with P23 speaking about the importance of such staff for taking a joined-up approach to digital inclusion:

> "If any government is serious about this, they have to employ … digital officers, MDLS officers… They [would] go out to the schools … do outreach, go out to colleges, universities, go out to industry… Everybody who's in the game has to be pulled together."

In order for this to happen, participants were adamant that more funding would be paramount. Several participants raised the concern that, if digital inclusion standards were simply written into existing standards (as suggested above) without further funding allocation, this would only increase the burden on already stretched services. This is why there was a clear consensus that more long-term and less prescriptive funding schemes are essential. For example, some participants described the Connecting Scotland programme as "not a sustainable financial model" (P10), with others emphasising they may have "sort of short-term solutions …, but what happens after six months?". Equally, as remarked by P12, working at an organisation supporting young people with experience of care:

> “Often there's funding out there, but the criteria are so strict that it's like you have to hit every marker, and you could hit, you know, nine out of the 10… Then you don't get it, and it can be really quite frustrating.”

The issue of limited funding does not only apply to organisations that need financial support to conduct digital inclusion work but also to local councils who, as explained by P31, work “with a very tight financial envelope” and need funding from the Scottish Government to support organisations working on the ground.

Meanwhile, another issue discussed consistently by participants relates to the expectation that digital inclusion and access should be seen as a universal human right. As emphasised by P15: “digital is like water… We need to be thinking about digital as a basic human right”. In line with this expectation, participants remarked that, if we are to implement a Scottish MDLS, it would be beneficial to provide free Wi-Fi in public places. As P28 put it: “all local authorities must have in place … easy-to-access free public Wi-Fi in all places... And that would be housing associations, offices, libraries, community centres, etcetera”. It follows that, as discussed by P7, digital inclusion should be seen as a basic human need, with free public Wi-Fi available and affordable broadband for every individual and household. Indeed, connectivity in terms of digital access was discussed by many participants as an essential requirement for allowing people to have a meaningful and decent life in the digital age. This means that, besides lowering costs for people to afford broadband, it is paramount that people can access the internet outside the home whenever it is physically possible to have the infrastructure in place. As emphasised by participants, coordinated efforts are equally essential to provide both opportunities for digital skills development and the provision of devices to those in need, with the scaling up of successful IT recycling schemes constituting an avenue to consider.

8 Conclusions

This interim report presents findings from the first phase of MDLS Scotland research, which examined the potential applicability of the MDLS in the Scottish context. This included focus groups with parents and young people and interviews with key stakeholders, such as representatives of local authorities and civil society organisations conducting digital inclusion work in Scotland.

As shown above, participants were consistently positive about the MDLS and thought its definition was comprehensive and relevant to Scotland. More specifically, we found that people believed that the MDLS covers the three main aspects of digital inclusion: digital access and equipment, digital literacy (both functional and critical), and confidence. They were also particularly enthusiastic about its emphasis on the broader implications of digital inclusion for

living a decent and meaningful life. Meeting the MDLS is not merely about adding convenience to people's lives, it is about what they need to be included in the current digitalised world.

The stakeholder interviews and focus groups with households included discussions about accessibility and affordability. Both of these feed into the idea that the internet should be considered a utility or even a human right, with public Wi-Fi access and affordable broadband for every household being fundamental for the Scottish people.

The MDLS research is about establishing needs, but it also explores how meeting these needs and reaching MDLS depend on access to a range of resources and external factors. Financial resources, the affordability of goods and services, the adequacy of infrastructure affecting broadband coverage and mobile reception, and the availability and quality of support to acquire knowledge and skills all affect households' *ability* to meet digital needs.

Digital goods, services, and skills are vital for families with children so that they can interact, complete everyday tasks, and access services and opportunities. While the idea of a Scottish MDLS was well-received, several challenges to its practical implementation were discussed.

Key challenges relate to Scotland's geographical landscape, as issues of rurality and the scattered nature of communities make connectivity and the task of reaching these communities with support difficult. Whether a family lives in an urban or rural location does not change the need to be connected and engaged in society, but sometimes the means for achieving this differ**.** In the Scottish context, rurality and rural infrastructure present specific key challenges, which appear to be more acute than those identified in other UK areas through our National and Welsh MDLS work. Further investigation of these specific challenges needs to be undertaken. As our work in Wales identified, living in a rural area can increase the need for digital access and skills, especially where local services (e.g., medical and banking services) shift to digital formats. Group discussions highlighted that households living in rural Scotland may need more mobile phone data than those in urban Scotland to achieve adequate connectivity. Families living in rural Scotland can face other barriers to securing what they need for digital inclusion, such as disparities in infrastructure provision and the availability of accessible skills development. In phase 2 of the project, we will seek to explore these issues in greater depth. However, the statistics also indicate that complex intersectional issues in Scottish urban areas can lead to as many or even greater numbers of citizens being disconnected than in rural areas. Again, understanding how these urban factors differ from those in rural areas and which solutions are appropriate in each country may require further investigation.

In addition, poverty remains a barrier to social and digital inclusion in Scotland, compounding the difficulty of reaching communities with other intersectional factors such as language barriers, disability, and age. Relatedly, civil society organisations and local authorities are

struggling with the current funding landscape. Various government and charitable funding is short-term and too prescriptive, and uncertainty around the ending of the successful and much-praised Connecting Scotland programme causes apprehension and disappointment.

The MDLS research captures what individuals and households need to possess and have access to if they choose to engage digitally, but this does not come from a view that digital inclusion is an individual responsibility. Families' digital inclusion can be improved by policy, public provision and by the practice of companies that provide goods and services. Targeted infrastructure, a better choice of service providers and social tariffs which are fit for purpose are examples of ways to improve the connectivity of households. Device manufacturers can play a role in developing the skills of parents and young people alongside community-based support. And better access to digital goods will help to mitigate issues of affordability, such as with the upscaling of the Inspire Learning Programme, which has been a good example of the Scottish Government's response to digitalisation highlighted by parents and young people.

To address the above challenges and allow for the implementation of a Scottish MDLS, participants in the stakeholder interviews remarked on the importance of building on best practices (e.g., the co-production of resources and projects with communities) and of taking a joined-up approach, allowing for more and better coordination to ensure that digital inclusion is a priority across different departments and levels. Crucial to this would be the recruitment and funding of more permanent professional roles with specific responsibility for digital inclusion and the mandate to implement the MDLS across the different institutions and bodies in their local area. In short, while participants expressed a lot of enthusiasm about the MDLS and the good digital inclusion work that has been taking place in Scotland, there is still a lot of uncertainty on the ground as to whether and how this work will be funded moving forward, with the recognition that any implementation would require both more funding and more support from the Scottish Government.

9 Next steps

This report provides interim findings. These will feed into phase 2 of the research with Scottish households and stakeholders. A final report offering a more comprehensive discussion of the findings and practical recommendations for the Scottish Government is planned for April 2025.

10 Appendix

10.1 Details of stakeholder interviews

Table 1. Details of stakeholder organisations interviewed

Acronym (e.g., Participant 1 = P1)	Type of organisation	Focus / target population	Coverage
P1	Civil society organisation (CSO)	Young people	Aberdeenshire
P2	CSO	Substance abuse recovery	Inverclyde
P3	CSO	Scottish refugees and asylum seekers	Glasgow
P4	CSO	Community centre (digital lending library)	Whiteinch
P5	CSO	Ethnic minority groups, asylum seekers and refugees	Glasgow
P6	CSO	Refugees and asylum seekers	Edinburgh
P7	CSO	Young people	Scotland
P8	CSO	Leisure and culture	Dundee
P9	CSO	Vulnerable groups	Highlands
P10	CSO	Human rights and social justice	Scotland
P11	CSO	Housing Association	Scottish borders region
P12	Council	Scheme focusing on young people	Town in the Scottish Lowlands
P13	CSO	Rural heritage	Grantown
P14	CSO	Homelessness	Scotland
P15	CSO	Health and social care	Scotland
P16	CSO	Housing Association	Glasgow
P17	CSO	People with disabilities	Glasgow
P18	Library	Library services	Shetland
P19	Council	Lifelong learning and employability	Town in the Scottish Lowlands
P20	CSO	Human rights and social justice	Scotland
P21	CSO	Housing association	Edinburgh
P22	CSO	Advocacy and support for third-sector organisations	Glasgow
P23	CSO	Digital inclusion	Dumbarton
P24	CSO	Older people	Midlothian

P25	CSO	People affected by displacement and exploitation	Glasgow (coverage across UK)
P26	CSO	Older people	Glasgow
P27	CSO	Poverty	Edinburgh
P28	CSO	Culture, sport and learning	Glasgow
P29	CSO	People with disabilities and carers	Scotland
P30	CSO	Community centre	Town in Southwest Scotland
P31	Council	Digital inclusion team	Town in the Scottish Lowlands
P32	Scottish Government	Digital mental health	Scotland

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