



# Closing the Mobile Disability Gap in Ghana: Insights and Recommendations



In the wake of the COVID-19 pandemic and the accelerated shift to online and digital services, mobile and digital solutions have become a central part of everyday life. Mobile phones are now ubiquitous in our societies and provide opportunities for persons with disabilities to be digitally connected, stay informed and live more independent lives.<sup>1</sup> However, research by the GSMA Assistive Tech programme shows that persons with disabilities are less likely to own a mobile or use mobile internet, which also means they are less likely to reap the benefits of mobile products and services.<sup>2</sup>

The World Health Organization (WHO) estimates that 80 per cent of persons with disabilities live in low- and middle-income countries (LMICs) and around 90 per cent do not have sufficient access to the assistive technologies (ATs) they require.<sup>3</sup>

Mobiles, especially smartphones, cluster multiple ATs into one device, making them a valuable and cost-effective tool for persons with disabilities.

The journey to mobile internet use, from accessing a mobile to learning how to use and adopt digital services, such as mobile internet, is not always a linear process. Many persons with disabilities face barriers to regular mobile internet use at different stages of the journey (Figure 1). In Ghana, as in many LMICs,<sup>4</sup> the disability gap widens as users progress through these stages.

This short report examines the mobile disability gap in Ghana and highlights six key findings. It compares how persons with disabilities and non-disabled persons experience mobile internet differently and looks at important nuances between disability types.

Figure 1

## The mobile internet user journey



1. ATScale. (2020). "Product narrative: Digital assistive technology".  
2. GSMA. (2021). [The Mobile Disability Gap Report 2021](#); GSMA. (2022). [Closing the Mobile Disability Gap in Sri Lanka: Insights and Recommendations](#).  
3. WHO. (2011). [World Report on Disability](#).  
4. GSMA. (2021). [The Mobile Disability Gap Report 2021](#); GSMA. (2022). [Closing the Mobile Disability Gap in Sri Lanka: Insights and Recommendations](#).

# Methodology

This short report is based on quantitative survey research in Ghana with 997 persons with disabilities and 207 non-disabled persons. The study was conducted between December 2020 and March 2021 and was designed to provide regionally representative samples of four administrative regions in Ghana where the study took place: Ashanti, Eastern, Greater Accra and Northern.

## Box 1: Key findings

- 1. Persons with disabilities are 34 per cent less likely to own a mobile phone than non-disabled persons and 72 per cent less likely to own a smartphone**, with ownership levels varying significantly by type of disability. Mobile phone ownership is highest among those with mobility impairments whereas smartphone ownership is highest among persons with hearing and speech impairment.
- 2. The biggest barriers to owning a mobile phone reported by persons with disabilities are the disability itself**, followed by the cost of a handset and reading and writing difficulties.
- 3. Persons with disabilities are 42 per cent less likely to know about the internet compared to non-disabled persons and 74 per cent less likely to use mobile internet**. However, once persons with disabilities start using mobile internet, usage of mobile apps and services is similar to that of non-disabled persons.
- 4. Despite the benefits of mobile accessibility features, persons with disabilities are less likely to be aware of them than non-disabled persons**. Only 25 per cent of persons with disabilities are aware of video conferencing and fewer than 20 per cent are aware of other common accessibility features.
- 5. Among mobile internet users with disabilities, the cost of data and an internet-enabled handset are the main barriers to using mobile internet** more often.
- 6. Mobile has significant value for persons with disabilities**. A substantial portion of respondents report relying on their mobile to meet important life needs. However, while mobile is reported to be very helpful for accessing important basic services, especially financial services, persons with disabilities reported this to a lesser extent than non-disabled persons.

## What is the mobile disability gap?



The percentage by which persons with disabilities are less likely to own a mobile phone/use mobile internet/perform a use case on mobile than non-disabled persons. It is calculated using the following formula:

$$\text{Mobile disability gap} = \frac{\% \text{ non-disabled mobile owners or users} - \% \text{ mobile owners or users with disabilities}}{\% \text{ non-disabled mobile owners or users}}$$

### Research sample composition:

The Washington Group Short Set of Questions<sup>5</sup> on disability was used to identify persons with disabilities and types of disabilities.

Table 1

### Disability prevalence

Persons with visual impairment	357
Persons with hearing impairment	244
Persons with mobility impairment	417
Persons with speech impairment	275
Persons with multiple disabilities	430
Total persons with disabilities	997
Non-disabled persons	207

Individual disability categories do not add up to the total since persons with one or more impairments were counted under each type (i.e. have been double counted). Persons with two or more impairments were also categorised under multiple disabilities.

5. See: <https://www.washingtongroup-disability.com/question-sets/wg-short-set-on-functioning-wg-ss/>.



**Key finding 1:** Persons with disabilities are 34 per cent less likely to own a mobile phone than non-disabled persons and are even less likely to own a smartphone.

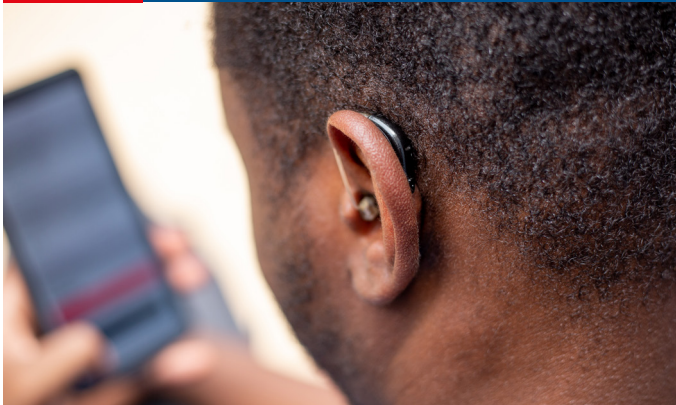
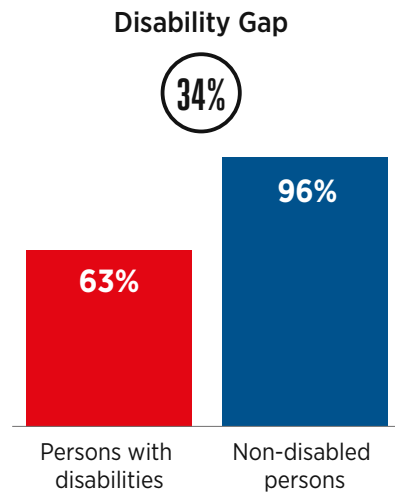


Figure 2

**Mobile ownership among persons with disabilities and non-disabled persons**

Percentage of total population



**Base:** Survey respondents. Respondents were asked if they personally owned a mobile phone. n=997 persons with disabilities, n=207 non-disabled persons.

Mobile phones can support the digital inclusion of persons with disabilities and provide access to useful information and services. Despite this, persons with disabilities are 34 per cent less likely to own a mobile phone than non-disabled persons (Figure 2). However, levels of mobile ownership differ by disability type (Figure 3). Mobile ownership is highest among those with mobility impairments (72 per cent) and lowest among those with a speech impairment (42 per cent).

**Smartphone ownership**

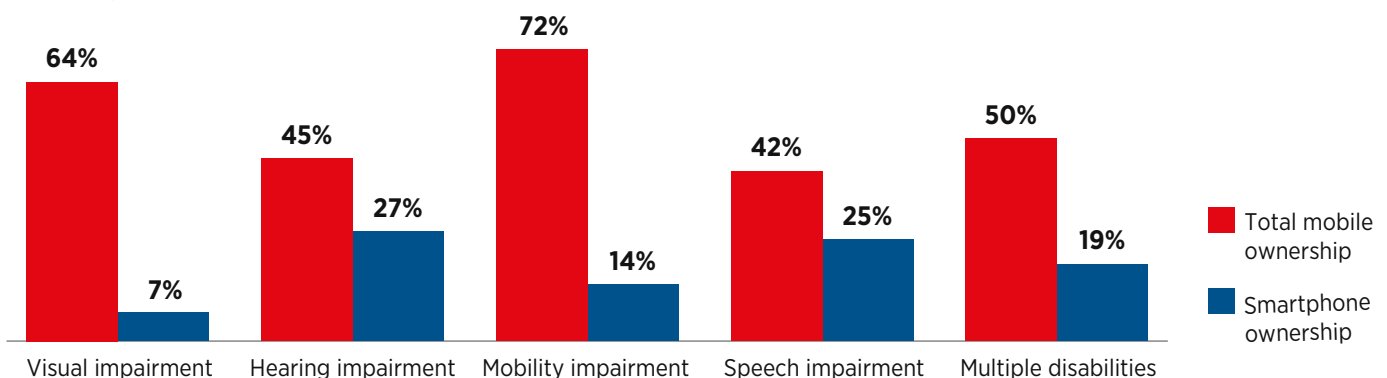
Smartphones provide accessibility features that enable persons with disabilities to use potentially life-changing digital products and services. These accessibility features are absent in basic phones and very limited in feature phones. Yet only 19 per cent of persons with disabilities report owning a smartphone, compared to 67 per cent of non-disabled respondents. This means that persons with disabilities are 72 per cent less likely to own a smartphone than non-disabled persons.

Notably, smartphone ownership differs by type of disability. Persons with hearing and speech impairments have the highest level of smartphone ownership (27 per cent and 25 per cent, respectively). Meanwhile, those with visual impairments have the lowest smartphone ownership levels at just seven per cent (Figure 3). Considering the low levels of awareness of accessibility features among those with visual impairments (see Key finding 4), it is not surprising that smartphone ownership is also low.

Figure 3

**Mobile and smartphone ownership by disability type**

Percentage of total population with disabilities



**Base:** Survey respondents. Respondents were asked if they personally owned a mobile phone and what type of phone they owned. n=997 persons with disabilities, n=357 visual impairment, n=244 hearing impairment, n=417 mobility impairment, n=275 speech impairment, n=430 multiple disabilities.



**Key finding 2:** Persons with disabilities report that their disability is the main barrier to mobile ownership, followed by the cost of a handset and reading and writing difficulties.



Persons with disabilities face a range of barriers to owning a mobile phone, but the main one is the disability itself (“My condition limits my ability to use a mobile”). The affordability of a handset, as well as difficulties with reading and writing, are also major barriers to mobile ownership. Although these barriers also affect non-disabled persons, they have a disproportionate impact on persons with disabilities, particularly considering the discrimination they often face in education and employment.<sup>6</sup>

These barriers differ slightly by type of disability. For persons with mobility impairment, the main barrier to mobile ownership is the cost of a handset while for persons with visual, hearing and speech impairments, the main reported barrier is the disability itself. Given that awareness of accessibility features is low (see Key finding 4), it is not surprising that four out of five groups of persons with disabilities report this as the main barrier to mobile ownership.

Table 2

**Barriers to mobile ownership among persons with disabilities and by disability type**

Ranking	All persons with disabilities	Visual impairment	Hearing impairment	Mobility impairment	Speech impairment	Multiple disabilities
1	My condition limits my ability to use a mobile	My condition limits my ability to use a mobile	My condition limits my ability to use a mobile	Handset cost	My condition limits my ability to use a mobile	My condition limits my ability to use a mobile
2	Handset cost	Handset cost	Do not know how to use a mobile	My condition limits my ability to use a mobile	Do not know how to use a mobile	Handset cost
3	Reading and writing difficulties	Reading and writing difficulties	Handset cost	Reading and writing difficulties	Handset cost	Do not know how to use a mobile

**Base:** Respondents that do not personally own a phone. Respondents were able to choose multiple answers and therefore rankings indicate the most frequently reported barrier in each group. n=367 persons with disabilities, n=127 visual impairment, n=133 hearing impairment, n=119 mobility impairment, n=160 speech impairment, n=215 multiple disabilities.

6. ILO. (n.d.). “Disability and work”.



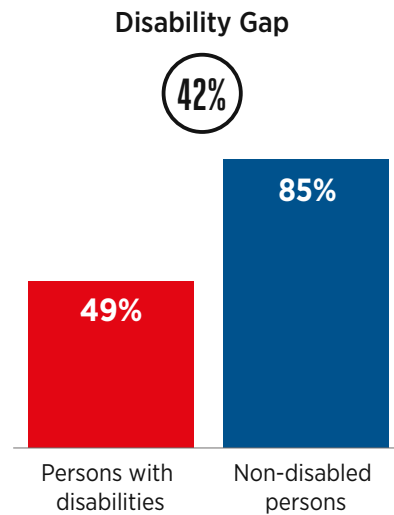
**Key finding 3:** Persons with disabilities are 42 per cent less likely to know about the internet compared to non-disabled persons and are even less likely to use it.



Figure 4

### Awareness of the internet among persons with disabilities and non-disabled persons

Percentage of total population

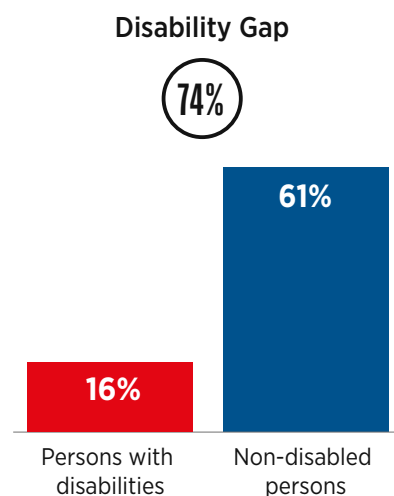


Base: Survey respondents. Respondents were asked if they knew what the internet was. n=997 persons with disabilities, n=207 non-disabled persons.

Figure 5

### Mobile internet use in the past three months among persons with disabilities and non-disabled persons

Percentage of total population



Base: Survey respondents. Respondents were asked if they knew what the internet was. n=997 persons with disabilities, n=207 non-disabled persons.

Awareness of the internet is the first step to internet use. However, less than half of persons with disabilities in our Ghana survey were aware of the internet compared to 85 per cent of non-disabled persons. This means persons with disabilities are 42 per cent less likely to know what the internet is (Figure 4).

Mobile internet can offer life-changing benefits to persons with disabilities, providing support to meet a range of life needs independently. However, despite the potential benefits, only 16 per cent of persons with disabilities use mobile internet<sup>7</sup> compared to 61 per cent of non-disabled users (Figure 5). This means that persons with disabilities are 74 per cent less likely to use mobile internet than non-disabled users.

When analysing the data by disability type, persons with mobility impairment have the highest level of awareness (49 per cent) while those with speech and multiple impairments have the lowest levels (43 per cent). Lack of awareness among persons with disabilities presents a substantial barrier to mobile internet use.

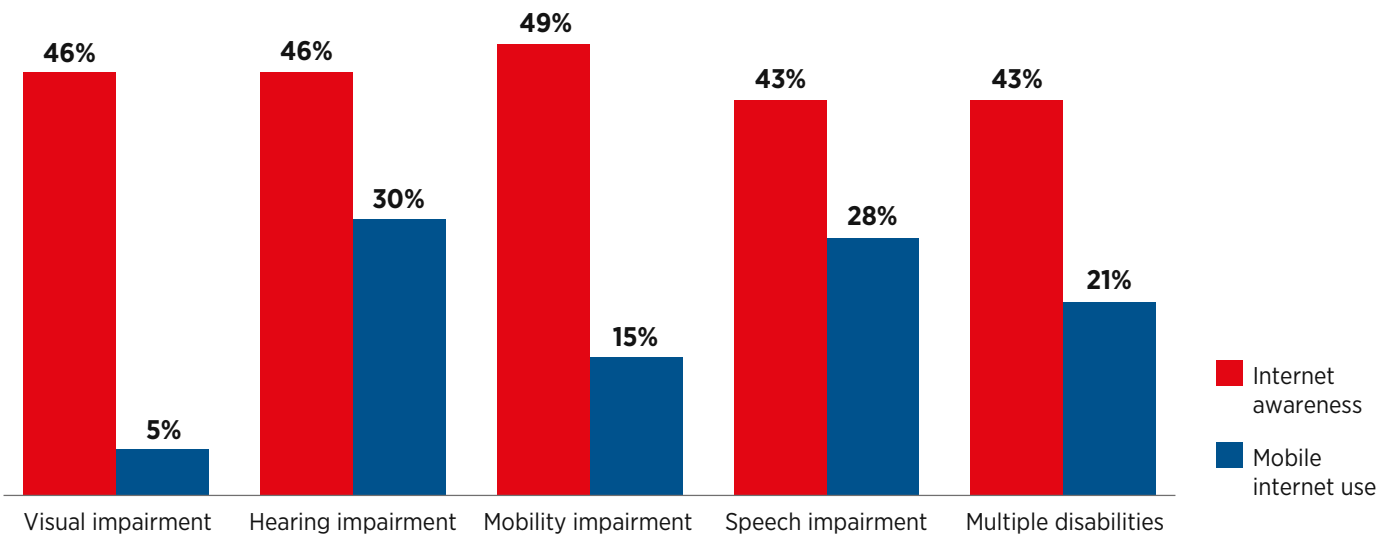
Although the level of internet awareness is relatively similar between different types of impairment, the level of internet use on a mobile device varies substantially. Mobile internet use is highest among persons with speech and hearing impairments (Figure 6). However, it is worth noting that this is still less than half the level of mobile internet use by non-disabled persons (Figure 5). The gap between awareness and use is widest for those with visual impairment, suggesting that this group faces greater barriers to usage (Figure 6).

7. Respondents who had used the internet on a mobile device at least once in the past three months.

Figure 6

### Internet awareness and internet use on a mobile device, by disability type

Percentage of total population with a disability



**Base:** Survey respondents. Respondents were asked if they knew what the internet was. They were also asked whether they had used the internet on a mobile phone and they were able to respond whether they had done so in the past three months. n=357 visual impairment, n=244 hearing impairment, n=417 mobility impairment, n=275 speech impairment, n=430 multiple disabilities.

However, once persons with disabilities start using mobile internet, their usage is high and similar to non-disabled persons. For instance, when asked about

mobile apps and services, more than 70 per cent of respondents in both groups said they used instant messaging and social media apps on a weekly basis.





## Key finding 4: Awareness and use of accessibility features on a mobile phone is low among persons with disabilities in Ghana.



Overall, our disaggregated data by disability type showed that persons with a visual or mobility impairment have the lowest levels of awareness of accessibility features. However, the most commonly known feature among persons with hearing, speech, and mobility impairments is video conferencing. This feature allows for the use of sign language and supports remote participation, removing the need to travel and infrastructure barriers, such as inaccessible buildings.

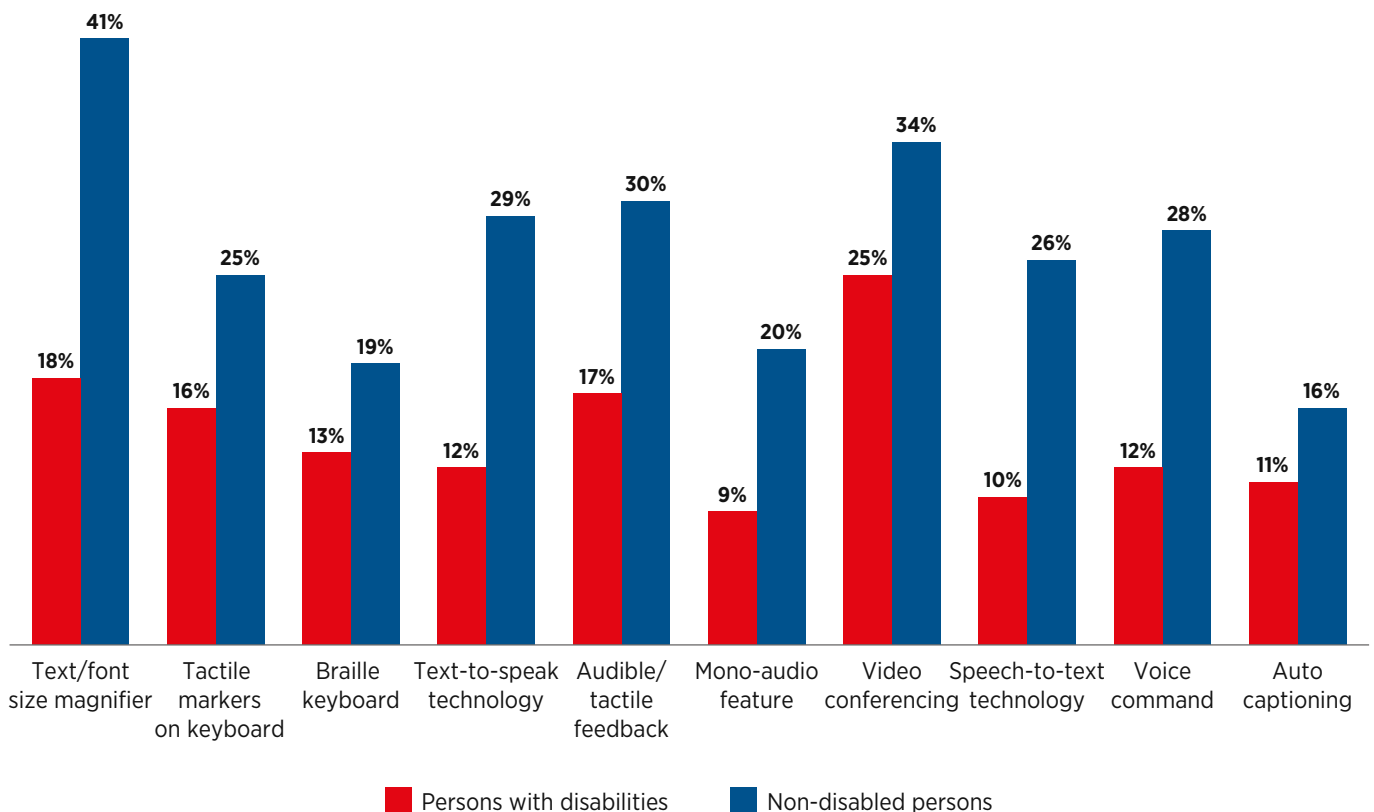
Interestingly, more than twice as many non-disabled persons than persons with disabilities are aware of important accessibility features, such as text size magnifiers, audible feedback and text-to-speech technology, and some are also widely used by non-disabled persons, demonstrating the value of built-in accessibility features for all mobile users.

Accessibility features are an important part of mobile usage for persons with disabilities, as they enable autonomous use. However, low rates of awareness have kept usage low. Only 25 per cent of persons with disabilities are aware of video conferencing and awareness of other features is even lower at less than 20 per cent (Figure 7).

Figure 7

### Awareness of mobile accessibility features among mobile users

Percentage of mobile users



Base: Mobile phone owners and non-mobile owners who have access to a mobile phone (mobile users). Respondents were asked if they knew of each accessibility feature. n=791 for persons with disabilities and n=203 for non-disabled persons.



**Key finding 5:** Among mobile internet users with disabilities in Ghana, the cost of data and the cost of an internet-enabled handset are the main barriers to using mobile internet more.



Among mobile internet users with disabilities, the main reported barriers to using mobile internet more often are the cost of data, followed by the cost of an internet-enabled handset. This means that, along with lack of awareness of accessibility features, affordability is another key barrier to regular mobile internet use. Respondents also found battery usage an important barrier when using mobile internet, which, among other reasons, could be a sign of owning cheaper and older devices.

Apps and services that address the needs of persons with disabilities are likely to be more data heavy, such as video conferencing for the use of sign language. Additionally, for persons with disabilities to fully benefit from mobile internet, they will require a smartphone with the unique accessibility features these handsets provide. However, smartphones are more expensive. Given that persons with disabilities are often excluded from economic participation,<sup>8</sup> the handset they need may be even less affordable.

Table 3

### Main barriers to using mobile internet more often

Ranking	Mobile internet users with disabilities
1	Data cost
2	Internet-enabled handset cost
3	Mobile internet uses too much battery

**Base:** Respondents who own a phone or have access to a phone (mobile users) and have used the internet on a mobile at least, but would like to access it more. Respondents were asked what is preventing them from using mobile internet more often. Since they could choose multiple answers, rankings indicate the most frequently reported barrier in each group. n=56 for persons with disabilities.

8. Thompson, S. (2018). [Mobile technology and inclusion of persons with disabilities](#). Institute of Development Studies; ILO. (n.d.). ["Disability and work"](#).





**Key finding 6:** Mobile has significant value for persons with disabilities, but as important services digitise, more must be done to make them fully accessible.

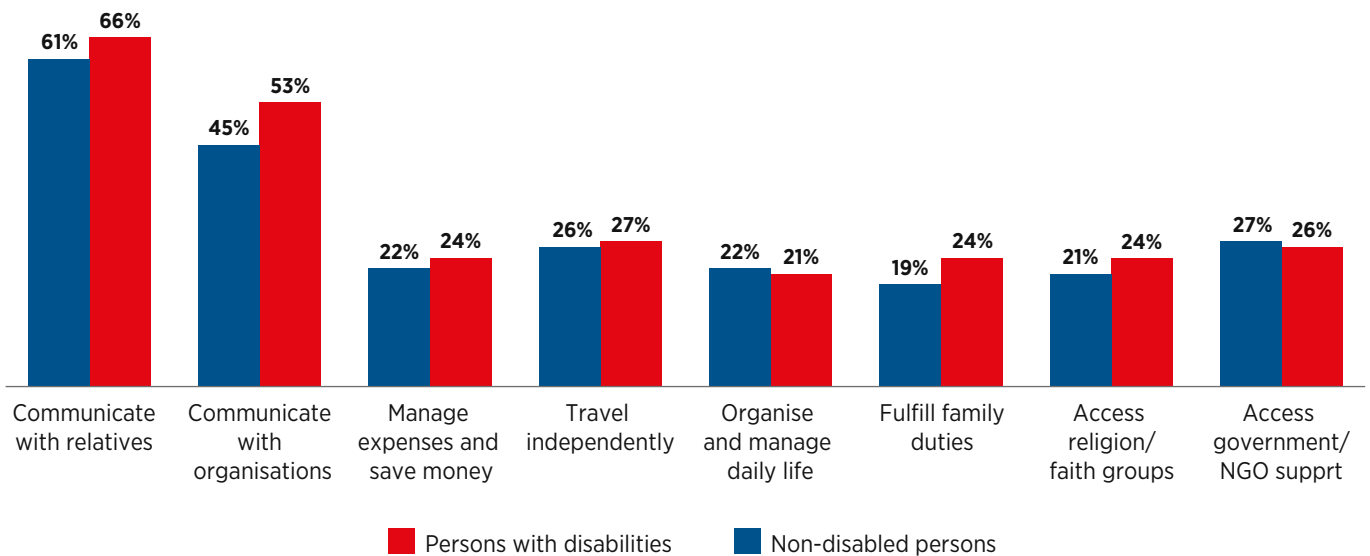


In Ghana, mobile is playing an important role in the lives of persons with disabilities, enabling them to participate in key activities. Across all areas surveyed (Figure 8), a significant portion of respondents reported that they could not do the activity without a mobile phone. This is particularly the case with communication. More than 60 per cent of respondents across all disability types reported they could not communicate with relatives without a mobile phone, and around 50 per cent of respondents reported they could not communicate with organisations without one.

Figure 8

**Activities that mobile users with disabilities and non-disabled users feel they “could not do without a mobile”**

Percentage of mobile users



**Base:** Mobile phone owners and non-mobile owners who have access to a mobile phone (mobile users). Respondents were asked if they knew of each accessibility feature. n=791 for persons with disabilities and n=203 for non-disabled persons.



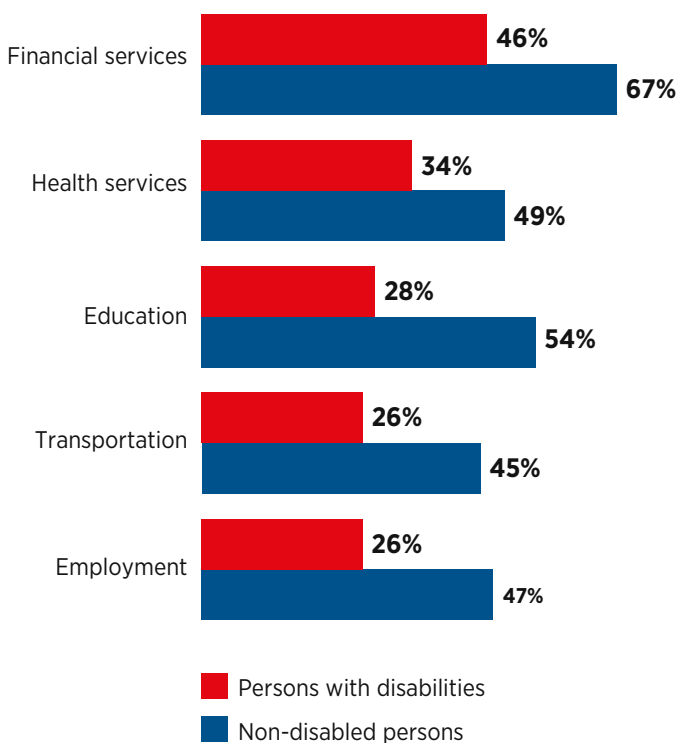
Respondents also reported that mobile is helpful in accessing important basic services, and most helpful in accessing financial services. This was reported by almost half of all respondents with disabilities (Figure 9). This may be due to the high prevalence of mobile money account ownership among both persons with disabilities and non-disabled persons in Ghana (see Box Spotlight on mobile money). However, for all the services listed in Figure 9, fewer persons with disabilities than non-disabled persons perceive mobile as helpful in accessing them. This may be linked to lower levels of awareness of mobile internet services and accessibility features, as well as lower levels of smartphone ownership.

This means that persons with disabilities are missing out on the potential benefits of using mobile services. Tackling this gap and ensuring persons with disabilities can access and use these services to the same extent as non-disabled persons is critical to address, especially in an increasingly digitised world.

Figure 9

### Percentage of persons with disabilities and non-disabled persons who perceive mobile is “helping [them] very much” to access basic services

Percentage of mobile users



**Base:** Mobile phone owners and non-mobile owners who have access to a mobile phone (mobile users). Respondents were asked to what extent they believe mobile does, or could, help them with each basic service and percentages indicate the proportion of respondents that said mobile is “helping very much”. n=791 for persons with disabilities and n=203 for non-disabled persons.

## Box 2: Spotlight on mobile money



In Ghana, persons with disabilities have relatively high levels of mobile money account ownership at 72 per cent. However, there is still a substantial disability gap as persons with disabilities are 17 per cent less likely to have an account than non-disabled persons, 87 per cent of whom have an account. Further nuances emerge among persons with disabilities when account ownership is viewed by disability type, gender and location.

Our analysis by disability type showed that persons with mobility impairments have the highest levels of mobile money account ownership (76 per cent) whereas persons with visual impairment have the lowest levels (67 per cent). It is worth noting that for persons with some disabilities such as visual impairments, managing a mobile money account from a basic mobile phone is much more difficult due to the lack of accessibility features, such as audible feedback and voice commands.

Our gender analysis provided additional insights and revealed an even wider disability gap. In Ghana, women with disabilities have the lowest level of account ownership, at 68 per cent. They are 25 per cent less likely to own an account than men without disabilities, who have the highest level of ownership at 91 per cent. Similarly, persons with disabilities living in rural areas are 23 per cent less likely to own a mobile money account than non-disabled persons living in urban areas.

It is important for the mobile and financial industries and the public sector to take steps to improve financial inclusion for persons with disabilities, as these stakeholders play a critical role in closing these gaps.

See our [Mobile money can drive the financial inclusion of persons with disabilities in Ghana blog](#) for more details.

# Recommendations

Our research has revealed a substantial mobile disability gap in Ghana across mobile products and services, including mobile ownership and the use of mobile internet. Industry and public sector stakeholders have a critical role to play in closing the disability gap. Based on the findings of this research, we offer the following recommendations:

- **1 Collect and analyse disability-disaggregated data.** This will help to understand the mobile disability gap and how to address the digital divide. Stakeholders in the mobile industry and the public sector should invest in the collection of accurate, reliable and ethically disaggregated data by disability type. Such data should inform stakeholders' digital inclusion efforts, such as monitoring the progress of interventions. The data should also inform the development of disability-inclusive products, services and innovations, and meet the diverse needs of persons with different disabilities.
- **2 Raise awareness of mobile internet and its value among persons with disabilities.** Mobile has significant value for persons with disabilities, but low levels of awareness mean persons with disabilities are missing out on the benefits. Stakeholders from the mobile industry should collaborate with organisations for persons with disabilities (OPDs) and other relevant stakeholders to reach persons with disabilities and lead awareness-raising campaigns. These campaigns should be co-designed with and feature persons with disabilities.
- **3 Increase awareness of accessibility features and the benefits of smartphones for persons with disabilities.** By increasing awareness of accessibility features, mobile industry stakeholders can show that mobile devices can be used as assistive technologies and a person's disability does not need to limit their access to and use of mobile. Greater awareness of accessibility features is a steppingstone in the uptake of smartphone ownership and the use of mobile internet.
- **4 Make smartphones and mobile internet data more affordable for persons with disabilities.** Smartphones typically provide the most accessibility features and drive substantially higher mobile internet use. However, these devices are often unaffordable for persons with disabilities. Addressing the affordability barrier should be a key priority for stakeholders (e.g. through special tariffs or subsidies and access to handset financing).
- **5 Roll out digital skills training for persons with disabilities, with a focus on the use of mobile phones and accessibility features.** Having the knowledge and skills to use mobile phones, products and services can increase mobile internet use. Digital skills training on the use of mobile and accessibility features is key to addressing these skills gap, and industry stakeholders can collaborate with OPDs that are already reaching persons with disabilities. Stakeholders can also take advantage of existing resources and content, such as the accessibility features module in the GSMA Mobile Internet Skills Training Toolkit (MISTT).

A more detailed set of recommendations for the mobile industry can be found in the GSMA Principles for Driving the Digital Inclusion of Persons with Disabilities.<sup>9</sup>

9. GSMA. (2020). [Principles for Driving the Digital Inclusion of Persons with Disabilities \(the "Principles"\)](#).



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