Arab Community Centre of Toronto (ACCT)

Josoor Project Research Report

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Co-Authors:

Dr. Michaela Hynie
Centre for Refugee Studies
York University

Noura Hamade
Canadian Arab Institute

Bashaer Ismail
Arab Community Centre
of Toronto

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Background

This report explores the Josoor's project research component. As this research study is part of a larger project named Josoor, this report first gives a brief background information about the Josoor Project, project description, main activities, and partners. And later, it explores the research's aim, hypothesis, methodology and it reveals the new 'Approach' for testing and piloting.

Josoor Project background

COVID-19 has added another layer of challenges to those already faced by newcomers in accessing settlement services. The pandemic has added to inequities in access to services by newcomers due to their lack of access or skills in the use of technology. If not addressed, these inequities threaten to leave these newcomers behind, resulting in further social exclusion and isolation. Without access to and ability to use digital sources of information effectively, newcomers cannot make informed choices and decisions related to their settlement.

Studies consistently show that access to information is essential to newcomers' social inclusion. Without access to and ability to use digital sources of information effectively newcomers cannot make informed choices and decisions related to their settlement.[1] Research has also revealed that refugee women and other vulnerable newcomers who lack access to devices, and connectivity and also have language and digital literacy barriers were cut off from essential services and connections at a time when their needs and challenges are greater because of the pandemic.[2]

We at the Arab Community Centre of Toronto, throughout our history, and based on our vision, mission, and values, strive to ensure equitable access to services,[3] initiated the JOSOOR Project to provide more expanded, effective, and accessible [including remote] services to refugees and vulnerable newcomers in an innovative and agile approach, to overcome some of the challenges posed by the pandemic to mitigate the inequality and social inclusion resulting from Covid and the shift from in person access to hybrid services, for better settlement outcomes.

Project Description:

Josoor (translates to "bridges" in English) is a community-based project centered around clients' needs. Josoor is a Service Delivery Improvement (SDI) project, funded by the Immigration, Refugees and Citizenship Canada (IRCC), led by the Arab Community Centre of Toronto, and is implemented in partnership with representatives from across the spectrum of the settlement sector, including but not limiting to; Humber College and TechServe TO that developed the digital literacy

[1] See Settlement Sector & Technology Task Group Preliminary Report, December 21, 2020. Online at: <https://km4s.ca/wp-content/uploads/Settlement-Sector-Technology-Task-Group-Preliminary-Report-December-21-2020.pdf >

[2] *Ibid.*

[3] The Arab Community Centre of Toronto (ACCT). Online at: <https://acctonline.ca/about-us/>

curriculum and delivered the training for the project participants, and the Canadian Arab Institute (CAI) and York University's Centre for Refugee Studies that are carrying out the research activities underpinning the Project.

Josoor aims to address considerations and concerns associated with remote service delivery to inform the development of a new approach that is centered on newcomer and refugee women's needs experiences and preferences. which is administered by the Arab Community Centre of Toronto (ACCT).

The project identifies barriers and facilitators to accessing remote services for newcomer and refugee women from Arab and Sub-Saharan African communities living in urban or rural areas across Ontario who lack the digital access/digital literacy skills to effectively navigate information and services needed to make informed decisions related to their settlement. Josoor will investigate a new approach to remote service delivery that will be informed by research into the settlement experiences and information practices of newly arrived newcomer and refugee women, and their use or lack of use of remote services as well as digital mediums and platforms that can best support their settlement outcomes.

The new approach will be tested for its effectiveness by comparing it against the status quo approach of service delivery through a study involving a sample of 69 newcomer and refugee women. These will be divided into three groups: The Test Group will receive settlement information and services through the new approach while the Control Group will be served through the status quo approach. A third group will have a Partial Intervention; they will receive services according to the new approach but will not receive devices or digital training. The three groups (69) participants will be followed over the course of nine months to assess if the new approach achieves the project's objectives of reducing barriers to accessing remote services and serving clients through [their] preferred platforms and medium.

Josoor *project from community to community that* contributes to improved settlement outcomes for newcomers and refugee women by leveraging technologies that meet their specific information and settlement needs for a successful integration into the Canadian society.

Josoor Project's Main Activities:

The project's main activities include:

- **Recruitment of participants:** A strategy for recruiting women into the quantitative and the qualitative arms of the study was developed, and 600 newcomer and refugee women were recruited for the research.
- **Research on Newcomer and Refugee Women's Settlement Experience:** Mixed method research was conducted to gain a better understanding of newcomer and refugee women's settlement experience and information practices, their usage of digital services, and the devices and mediums they use to navigate and access settlement supports. The data was collected from 506 respondents for the survey and from 93 participants in the focus groups. The findings addressed the barriers, platforms, and mediums and informed the development

of a new approach of serving newcomer and refugee women through hybrid/remote service delivery.

- **Recruit Newcomer and Refugee Women for Testing of the New Approach:** 69 newcomer and refugee women were recruited to participate in the testing phase of the Project. Participants were divided into three groups of 23.
- **Digital Literacy Program:** The digital training curriculum was developed, and training was implemented for the Test Group by ACCT and Josoor's digital partners alongside us. During the training each of the 23 women received a digital device (Laptops) at the beginning of the training which they keep during the testing period. They received 15 hours of in person digital training and were provided with internet for the testing period to facilitate the access and delivery remote settlement services during the testing period.
- **Testing period:** To evaluate the effectiveness of the new 'Approach', during the testing period: The Control Group accessed services through the regular stream of settlement and integration services, while The Intervention Group received a customized service that included digital devices, digital literacy, and access to settlement services through preferred online platforms; and The Partial Intervention Group received services according to the new 'Approach' but did not receive devices or digital training.

- **Evaluate the New Approach:** We will administer surveys every 3 months and conduct key informant interviews to monitor, measure, and evaluate the effectiveness of the new approach by comparing the newcomer and refugee women's experience in accessing settlement services between the three groups.

- **Knowledge sharing for the new approach:** We will share what we learned through the project and spread the word about the new approach beyond partners and settlement service providers.

Project Partner and the Advisory Committee

Our partners are representatives of the settlement spectrum who are actively engaged through the Advisory Committee (AC)**.** The AC includes eighteen members: half from immigrant and refugee service agencies, a representative from the Local Immigration partnerships (LIPS), academic institutions, research centers, digital literacy providers and experts, and refugee women representatives. AC members provide guidance and advice on the overall project. They contribute to the development of the research design, share best practices, support participants' recruitment, and the research study.

Research Aim

The aim of this study is to examine how technology can be leveraged to improve the settlement experiences and information practices of Arabic-speaking and/or sub-Saharan African refugee and vulnerable newcomer women in Ontario.

To fulfill the research aim, we first investigated a new approach to remote service delivery that is evidence-based and client-driven. Socio-economic, geographic, language, and digital literacy-related barriers to accessing technology have been identified in the [current] status quo approach. At the current stage of the study, we have developed a new approach and will test its effectiveness in a pilot study that aims to decrease the barriers identified, which will increase settlement client access to technology, enabling them to access necessary information and services.

Research Objectives

The ultimate objective of the Josoor project is to help facilitate the successful integration of newcomers into Canada. This study will contribute to this by:

1. Understanding the knowledge gaps behind the lack of access to information and technology in refugee and vulnerable newcomer women households in both urban and rural areas, by:
    a. Identifying and addressing barriers to accessing remote services for refugee and vulnerable newcomer women;
    b. Developing a better understanding of refugee and vulnerable newcomer women's settlement experience and information needs, practices, connectivity, and preferences;
    c. Identifying refugee and vulnerable newcomer women's experience with seeking, using, and sharing settlement related information remotely;
    d. Filling these gaps with suggestions from their perspective that inform policy recommendations.
2. Identifying technology platforms and mediums (emails, text and other messaging applications) and modalities (skype, iPhone apps) that can best support refugee and vulnerable newcomer women's settlement outcomes;
3. Building the sector's capacity to respond to the needs of vulnerable population groups when serving them remotely or through a hybrid approach, by:
    a. Identifying the unique challenges, systemic barriers, and environmental factors related to digital access, literacy and connectivity,
    b. Listening and learning about the preferred solutions from the affected group itself,
    c. Testing a new model of technology enabled service delivery that meets refugee women and other vulnerable newcomers' specific needs and circumstances to

meet them where they are online,

d. Contributing to the knowledge base of what does and does not work in remote service delivery.

Finally, the study's theory of change assumes that:

1. If refugee women have access to technology and Internet that meet their needs,
2. If they are proficient in the use of these technologies, and
3. If they have a preferred medium to use,

➔ Then they are more likely to access and use settlement information and services that result in improved settlement outcomes.

Research Questions

In order to fulfill the above research objectives, we have to ask:

- What are the current experiences of refugee and newcomer women when using technology to access services and pertinent settlement information?
- What are the knowledge gaps behind access to information and technology in refugee and newcomer women households in both urban and rural areas?
- How can existing technologies be leveraged to improve settlement outcomes of refugee and newcomer women?
- What would a digital program to help facilitate settlement outcomes for refugee and newcomer women look like?

Literature Review

The COVID-19 pandemic has fast-tracked the preparedness of service providers across sectors in leveraging technology to offer remote and virtual operations (Liu and Campana, 2020). Since the onset of the pandemic, the role of settlement practitioners has expanded to incorporate remote service delivery and digital access support for both clients and colleagues. Before collecting primary data, we reviewed the work that has previously been done on the digital integration of refugee women throughout Canada and the US. This also helped us frame the questions we asked in the research instruments.

A 2017 survey assessing the digital capacity of national settlement organizations reported that 92% of surveyed agencies across Canada rated digital capacity (i.e., tools, skills, training, infrastructure, applications, processes) as important to accomplish their work. In terms of preparedness, only 40% of agencies had a digital strategy at the time. 36.7% responded that they

did not have a strategy at all and 22.6% responded that they don't know/that it's hard to say (Open North, 2017).

What does Digital Service Provision mean?

There is no standardized framework for digital service provision in the newcomer, immigrant and refugee settlement sector. There are a number of definitions used by organizations in the sector such as '**digital inclusion**', '**digital access**', '**digital literacy**', '**digital equity**', and '**digital innovation**.' There have been recommendations for the sector to thoroughly evaluate these and create sector-nuanced terms with appropriate definitions.

The Government of Ontario defines **digital inclusion** as the delivery of "intuitive government services that are accessible to anyone who needs to use them […. to] help create a society where everyone can participate in, and benefit from, digital technologies in their lives." (Ontario Digital Service, 2021). The Government of Alberta and Saskatchewan use "co-design and user-centred design" language in their approach to digital standards (pg. 15, Liu, Ekmekcioglu and Campana, 2021). The Government of Nova Scotia's first Chief Digital Officer defined 'digital' as "applying the culture, processes, business models and technologies of the internet era to respond to people's raised expectations" (Clarke, 2019); and New Brunswick uses the language of a "people-powered" approach in their provincial digital strategy (Digital New Brunswick, 2018).

The 2021 annual Pathways 2 Prosperity National Conference discussed five facets to **digital access**, known in the international humanitarian sector as the five A's of **technology access**: *availability, affordability, awareness, ability* and *agency* (Pathways 2 Prosperity, 2021).[4] Exploring these requires asking questions like, to whom is the technology (un)available? To whom is the technology (un)affordable? Who is (un)aware of the technology? Who has the digital literacy to use the technology? Who has the self-efficacy to make use of the technology?

The accessibility of technology is also closely connected to the concept of **digital literacy**. The United Nations Educational, Scientific and Cultural Organization (UNESCO) defines digital literacy as entailing the "ability to identify and use technology confidently, creatively and critically to meet the demands and challenges of living, learning and working in a digital society" (pg. 71, Liu, Ekmekcioglu and Campana, 2021). eSkills Canada[5] developed four fundamental competencies of digital literacy: *productivity* (ie., using applications and managing files) *content*

[4]P2P Canada is an alliance of university, community and government partners dedicated to promoting the integration of immigrants and minorities across Canada

[5]eSkills is an online training initiative for newcomers to develop the digital literacy and computer skills necessary for employment, education and everyday life in Canada. eSkills is the product of research by Red River College's Language Training Centre.

(i.e., accessing media responsibly), *collaboration* (i.e., learning and communicating), and *technology* (i.e., hardware, systems, devices) (Campana and Rochman, 2021).

Digital (in)equity involves looking at technology through a social justice and social service lens and being aware of how exclusion and bias can creep into design elements (Maynard-Atem, 2021). Too often systems fail the people they are being built for, blocking them from accessing critical services, or other unintended consequences (Ibid.). Creating a digital approach to service provision that represents the needs of intersecting identities (i.e., rural residents, ethnic and linguistic minorities, people with disabilities, and those with low technical literacy) is closely connected to the concept of **digital inclusion**.

In terms of **digital innovation**, a series of interviews conducted in 2019 with settlement organizations reported concerns that innovation in the sector "remains poorly defined" due to being a moving target (pg. 14, Peace Geeks, 2019). One of the themes from the 2021 Pathways 2 Prosperity National Conference was that digital innovation in the settlement sector should build on the "three I's of Immigrant Integration:" *intentionality, instruments*, and *investments* (coined by Alan Broadbent, Founder of Maytree).

Intentionality is about creating "success at work, home, and in the community", while instruments refer to "creating the effective mechanisms to give those intentions traction" (pg. 8, Peace Geeks, 2019). Investments encompass financial and energy investments from political leaders and society to drive success (Ibid.). The settlement sector's largest investor is the federal government's Immigration, Refugee and Citizenship Canada (IRCC), characterizing Canada's settlement service delivery as a public-private partnership model.[6]

Newcomer Use of Technology in the Settlement Sector

The concept of **digital literacy** is also tied to literacy more broadly. While it is generally true that most newcomers accessing services prefer materials in their own language, a recent six-month exploration of the Canadian immigrant settlement sector generated an important insight: some vulnerable newcomers are not literate in their own language (Liu, Ekmekcioglu and Campana, 2021). An interview respondent from a refugee-serving organization described why translating written communications often miss the mark entirely:

> "[…] close to 20% [of refugees] don't have functional literacy in their first language. […] Now, if you think about […] our response to COVID [… and how] we just translate something into another language […,] how foolhardy is that, right? A fifth of your audience doesn't read the language? Why did you bother translating it? Some of the things we need to be thinking about is, if we're gonna push the message to people, well, maybe we should

[6]Public-private partnerships is a funding model that involves collaboration between a government agency and a private-sector company to finance, develop and deliver a service.

be using WhatsApp voice messages, because that's what's going to be effective. It doesn't presuppose literacy." (pg. 23, Liu, Ekmekcioglu and Campana, 2021).

In addition to literacy, other challenges reported by newcomers relate to **(in)accessibility of digital services,** including a lack of reliable, affordable internet, access to technology in the home, ability to use software, keyboarding skills, mouse skills, and absence of technological vocabulary in both English and first languages (Campana and Rochman, 2021). These challenges can be compounded by barriers to accessing settlement information more generally, due to isolation, language (discomfort with speaking English), mistrust of government or other institutions, lack of familiarity with asking for services, and feeling like an outsider (DMSI, 2018).

A recent study for the Canadian Orientation Abroad Program (Reid, 2021) assessing the barriers and enablers of digital connectivity specifically for refugees found that the overarching barriers to access include affordability (90% of respondents reported cost) and access to digital infrastructure or connected devices. This lack of access has been a long-standing issue for vulnerable and marginalized newcomer populations, who are often "kept (or pushed) offline by unaffordable high-speed internet fees […] and data capping, as well as cuts to adult and community literacy programs that were once hubs of digital learning" (pg. 13, Liu, Ekmekcioglu and Campana, 2021).

The study also noted lack of trust in digital technology and online information, privacy/security, and policy regulation (e.g., identification requirements to acquire a SIM card) as barriers to digital inclusion. The report highlighted that while 80% of survey participants (identifying as 57% male, 43% female) own mobile phones, ownership of other types of devices is comparatively low (e.g., 14.5% owning laptop, 1% owning desktops, 6% owning tablets). 76% of respondents reported being smart phone owners, with some owning multiple phones. 95% of respondents reported having access to a device belonging to someone else (Reid, 2021). The report noted that a shared device does not guarantee equal access, and that anecdotally, "either the male head of house, youth with higher level of digital literacy, or the strongest English-speaker" might dominate use in families where only one mobile device was accessible (*Ibid.*). Additional anecdotal insights provided by a number of female participants suggest a reliance on male family members, (i.e. husbands and sons) to help make calls, browse the internet, or access a mobile phone altogether.

However, the technologically savvy backgrounds of many newcomers to Canada should not be discounted. Many immigrants and refugees come from countries around the world where internet and mobile connectivity is faster, cheaper and more accessible than Canada (DMSI, 2018). Newcomers use technology to stay connected with their families and friends back home and abroad and use social media to stay abreast of news updates and to build connections in their new communities.

Most newcomers are quite self-sufficient in navigating information gathering for their settlement needs. Immigrant information practice research indicates that a relatively small percentage of newcomers actually access mainstream government and community services during their initial settlement period (DMSI, 2018). Many newcomers bypass settlement agencies altogether and disseminate information amongst one another to inform their integration process. In addition to relying on friends and family as the primary information source, newcomers leverage immigration forum websites like CanadaVisa.com (which has over 400K members), LoonLounge (100K members), CanadianDesi.com (73K members) and Settlement.org (29K members), among others (Campana, 2015).

Immigrants and refugees have also influenced the digital landscape in the sector. WhatsApp had limited popularity in the Canadian immigrant and refugee-serving sector until they experienced the migration flows of Syrian refugees, who demonstrated WhatsApp as a preferred communication channel (DMSI, 2018). This resulted in agencies developing tools and protocols enabling WhatsApp use for clients, revealing other digital messaging preferences for other newcomer groups (e.g., Facebook Messenger, Telegram, WeChat).

Ultimately however, access to the internet, social media and smartphones does not necessary correlate to awareness of digital services or their successful navigation. According to the Digital Messaging for Settlement and Integration (DMSI) project,[7] awareness of settlement services among a diverse set of newcomers remains a crucial challenge. Their research suggests that even "skilled" immigrants do not typically carry out pre-arrival research: 71% of respondents surveyed indicated that they were not aware that pre-arrival services existed and 83% indicated they would have tried to access these services had they known about them. (DMSI, 2018). This finding is likely to be applicable to vulnerable and/or unconnected newcomers as well.

Additionally, individuals may not choose to access services independently even if they have access to the technology or digital tool (Liu, Ekmekcioglu and Campana, 2021). Researchers note that just because newcomers use messaging apps to communicate with friends and family does not necessarily mean they want to use those same apps to receive services from settlement service agencies (Ibid.). Digital outreach needs to be highly personal via known and trusted intermediaries, not "branded as the product of a national or state-funded organization" (Ibid., pg. 7). Newcomers have also indicated that they prefer to connect directly by phone due to privacy/security concerns and speaking to someone they trust (The Systemic Issues and Social Change Working Group, 2021). It is important to consider that not all newcomers necessarily will want to access services via technology and may have a strong desire to speak to someone in person.

[7]DMSI is a communications and mobilization project by Refugee 613 to connect newcomers with the information they need to successfully settle in Canada.

The Settlement Sector's Approach to Digital Transformation

Settlement organizations and agencies are at different phases of technology capabilities and adoption: *experimentation, constructive chaos*, and *institutionalization* (Liu, Ekmekcioglu and Campana, 2021). Experimentation is considered to be "informal adoption, decentralized among workers" (Ibid.). Constructive chaos is when "workers begin to recognize both benefits and risks of the technology use" and "organizations attempt to standardize technology use through practice or policy standards" (Ibid.). And finally, institutionalization occurs when organizations have established standards, processes, and have enforced measures to enable and control the use of the technology.

The COVID-19 pandemic has ushered in many changes to how the sector as a whole delivers settlement services and their use of technologies in facilitating that. In the operational context for settlement service provision, virtual delivery involves multi-channel access points, mobile and remote coverage, local immigration partnerships to refer to supports as required, and monitoring the performance of provider relationships (Edward, J. and Campana, M., 2019).

A 2017 survey from IRCC found that 87% of organizations have been providing services to newcomers in Canada for fewer than 40 years, and that nearly 50% have been doing so for less than 20 years (Liu, 2019). The survey found that a clear majority of organizations employ approximately 10 full-time staff, and that all organizations rely on a pool of volunteers to support programs and service delivery (Ibid.).

Many organizations encounter barriers in adopting digital technologies for their service delivery, citing capacity limitations. Feedback to IRCC from the settlement sector about technology capacity has been consistent: the sector needs "adequate resourcing, professional development, time, collaboration with experts, and flexibility to iterate, fail, learn, and innovate" (pg. 7, Peace Geeks, 2019). Practitioners in the sector also highlight network connectivity, database silos, software issues, data/information overload, and a chronic lack of time as barriers to implementing technological best practices (Gay, 2018).

Other barriers reported by front-line and practitioner staff in the settlement sector include boundary issues with clients, and uncertainty about agency guidance for use of digital messaging to service clients (Edward and Campana, 2019). The preliminary report of the Settlement Sector and Technology Task Group spotlighted that settlement practitioners recognize the importance of assuring and reinforcing client comfort with digital service provision. However, assisting clients with their digital access issues is mostly informal and facilitated on a case-by-case basis (The Systemic Issues and Social Change Working Group, 2021). Service providers also recognize that they are responsible for undertaking training to help minimize gaps in digital service delivery but note that the framework of responsibility and accountability for that looks unclear (pg. 16, Liu and Campana, 2020).

While service providers have identified phone and email as the most common tool to connect with clients (followed by Zoom and SMS), they also report that it is more challenging and time consuming to establish relationships virtually, particularly that mental health counselling and language learning were less effective in virtual spaces (The Systemic Issues and Social Change Working Group, 2021). Other reported barriers in connecting with clients meaningfully have to do with cybersecurity, language, digital literacy (e.g., password protected documents) and trust issues with sharing personal information in a virtual setting. (Liu and Campana, 2020).

The sector has been criticized for collecting and reporting a great deal of data and not harnessing it to inform their service delivery process. On this front, settlement agencies have indicated that they would "need an increase in resources, both technical (technology, design and process) as well as human capacity, involving new roles, or re-/up-skilling of existing staff, as well as time allocated for these tasks" (pg. 27, PeaceGeeks, 2019).

To this end, several new positions are emerging in settlement practitioner organizations. 'Digital Navigators', for example, have become "an essential role in the Immigrant and Refugee-serving sector and in the future of a hybrid service delivery model" (pg. 44, Liu, Ekmekcioglu and Campana, 2021). The National Digital Inclusion Alliance defines Digital Navigators as "individuals who address the whole digital inclusion process — home connectivity, devices, and digital skills — with community members through repeated interaction" (Ibid.). Digital Navigators can be embedded into existing roles within settlement organizations, be trained and dedicated staff, or volunteers that can provide individualized or group digital skills support and assistance.

Methodology

The research study has three phases. The first phase is information gathering, the second is data analysis, and the third is knowledge implementation.

Summary table of methodology in each phase

	Objective	Timeline	Methods
Phase 1	Needs assessment through a community-based mixed methods study.	June - August 2022	Quantitative: 509 survey responses Qualitative: 10 focus groups, 8-12 participants each (total 93 participants), and 6 key informant interviews

Phase 2	Trauma-informed data analysis to help develop a prototype of a service delivery improvement that will contribute to better settlement outcomes for refugee and newcomer women.	September - December 2022	Through Theory of Change framework
Phase 3	Application of prototype through a randomized control trial pilot study.	February 2023 - January 2024	Randomized control trial, 23 full intervention / 23 partial intervention / 23 control. Quarterly evaluations through a phone survey.

In preparation for the community-based data collection, we submitted an Ethics Protocol Form and other recruitment materials, such as consent forms and flyers, in March 2022 to York University's Research Ethics Board. As per ethics rules and common research practice, we did not work on recruitment of participants or any other outreach activities while waiting for ethics approval, but Josoors's team did engage in an exhaustive marketing campaign to spread the word about the projects' objectives and outcomes during April 2023. Operationally, we were in a position to launch the survey two-weeks after receiving ethics approval of the survey instruments.

In May, we received final ethics approval, and we immediately began translating the survey into Arabic and French~~, with the assistance of ACCT~~. CAI recruited a research team that would be responsible for the day-to-day interactions with participants; the research team received training on ethics and culturally sensitive data collection during the last week of May. Finally, to ensure that the survey is digestible and straightforward, we tested it with 10 women who had just received their Canadian citizenship (so they were not eligible for the study anymore); we received positive feedback across the board.

Phase 1: information gathering - June to August 2022

During the first week of June, we opened registration for the survey and made it public. In an effort to make the survey as accessible as possible, participants could fill out the survey online, over the phone or in-person at their settlement agency, and it was available in three languages (Arabic, French and English). We divided our data collection efforts into three categories: recruitment, registration, and reimbursement.

We developed a recruitment strategy and a marketing and communication plan, and produced materials and flyers (in both English and Arabic languages) that we posted on ACCT's website, partners' websites, and on a specialized media website that enabled us to reach out to potential participants. We were able to connect with more than 600 women in the data collection period. Since the eligibility of this study is quite narrow (refugee newcomer women from Arab and sub-Saharan African countries), potential participants had to confirm their eligibility by connecting with CAI either through email, phone, or a Google Form. We needed to add this step to vet registrants to ensure all subsequent survey responses were eligible and authentic, and not completed just for the compensation.

To meet the eligibility criteria, research participants were:

- Refugee women from Arab and sub-Saharan African communities, who arrived to Canada in or after 2017; or
- 18 years and older; and
- Predominantly speak either English and/or Arabic; and
- Used a settlement service in their integration journey.

In order to ensure that the most marginalized experiences are also reflected in the data, we recruited participants in both rural and urban communities, participants who are government assisted and privately-sponsored refugees, former refugee claimants, women who accompanied their spouses into Canada, women who have come alone or are single mothers, women who are living with a disability, and those experiencing poverty.

While ACCT handled recruitment, the CAI team handled **registrations** and ensured that eligible participants received the link to the survey in their preferred language no later than 48 hours after contacting CAI. The survey took 15-20 minutes to complete and had 52 questions divided into 4 sections: sociodemographic information, technology use, access to information, and using virtual services. Once participants completed the survey, they were automatically transferred to a Google Form to complete their details for the **reimbursement**. We gave participants three options (worth $15 each): a gift card to Tim Horton's or Amazon, or an e-transfer. Around 95% of participants received their gift cards within two weeks of completing the survey. For a few participants, they indicated preference to have their gift card mailed to them.

In July, as we continued administering the survey, we began organizing the focus groups. The principal researchers met to discuss the demographic criteria for each focus group and then shared it with the Steering Committee and broader AC committee for their input and feedback. After these consultations, we decided to divide focus groups based on the different barriers that we are evaluating (digital skills, language, socioeconomic, and geographic). We also pivoted from the initial research design and decided to have focus group members fill out the survey prior to the sessions in order to make the focus group discussions richer in conversation. Accordingly, we were

mindful of not opening focus group registrations before reaching at least 300 responses in the survey in order to not confuse participants. We decided on the following focus groups:

1. One general focus group for Arab women exhibiting two or more barriers
2. One general focus group for sub-Saharan African women exhibiting two or more barriers
3. Women living in urban areas
4. Women living in suburban areas
5. Women with no digital skills
6. Women with basic digital skills
7. Women who cannot afford devices
8. Women with no formal education
9. Single mothers

The registration form for focus groups had a few additional questions regarding marital status, education level, affordability, and level of digital literacy, in order to place participants in the appropriate focus groups. We emailed all the previous survey participants who consented to be contacted for further research, and we received a stunning 232 registrations (we were expecting 100). We conducted all focus groups over Zoom between August 1 and August 26. We used Zoom as it is accessible via one-tap-phone call, which made it easier for participants with only regular phones to call in. No participant preferred to meet in-person.

In July, we also began reaching out to individuals for key informant interviews, as part of our qualitative data collection efforts. We recruited 6 interviewees, who represent the settlement spectrum: 2 settlement service providers, a policy expert, a settlement service expert, academics, a digital expert in the settlement sector and a representative from LIPs. These interviews were conducted throughout July and August.

Data collection officially ended on August 26, where we closed the survey on Qualtrics and closed all registration forms. Data collection was delayed by one month due to the ethics form process in April and May, but this did not impact the timelines of the overall project. By September 9, all participants received their compensation either online or by mail. **In total, 509 participants completed the survey and 93 participants joined a focus group.**

Phase 2: community-based data analysis and design – September 2022 to December 2022

During the analysis phase, our priority was to ensure that the new approach (prototype) would be evidence-based, community-based, and a value-added to clients. Accordingly, we tasked a design committee to review the data that was collected, provide input, suggestions, guidance, and advice on building the prototype, and contribute to knowledge transfer, given the previous

experiences of design committee members. The group of 7 members hailed from the settlement sector, the community, academia, and the digital literacy field. After 3 sessions, the 4 components of the prototype were outlined and subsequently tested at a workshop that brought together Josoor's stakeholders, including some members of the target group. During the workshop, we conducted 5 focus groups where we asked participants about two specific components of the prototype - the digital literacy training and the digital service protocol. The feedback collected was then taken into consideration in a fourth and final design committee session, where members finalized the prototype, ready to be tested in the pilot phase.

Findings - The Four Barriers

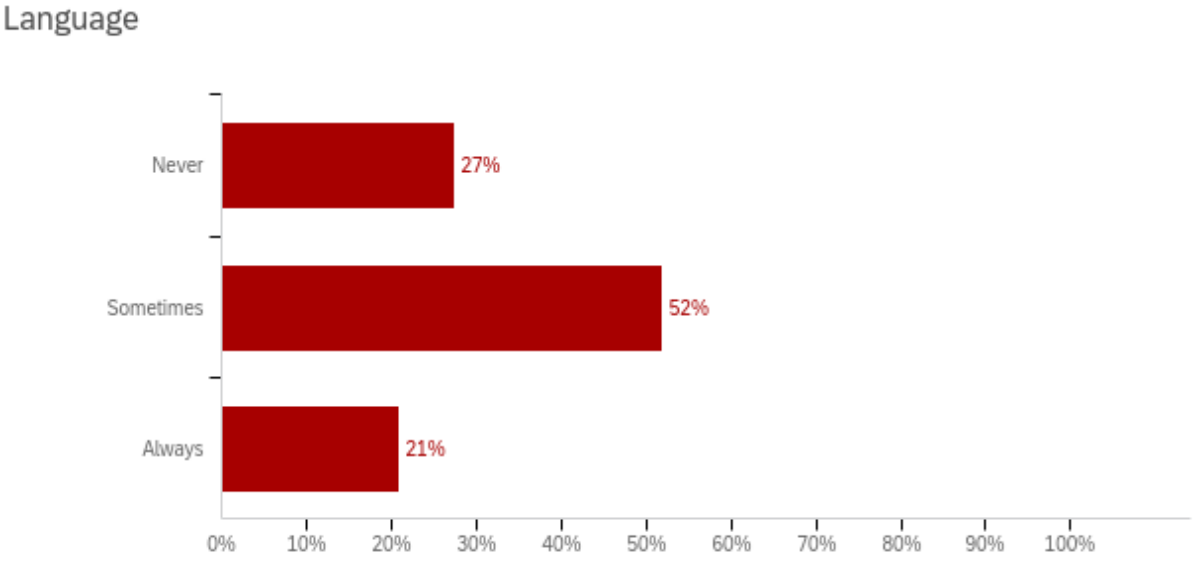
In order to not reinvent work that has been done in this field, we adopted a deductive approach to analyzing the data. Based on the literature review and the extensive community experience of Josoor's project team, informant interviewees with representatives from the settlement spectrum, we had an understanding that language, socio-economic status, geographic, and digital skills were the four main barriers inhibiting newcomer refugee women from digitally integrating into Canada. Accordingly, we produced the research instruments (survey and focus group guide) and subsequently analyzed the data according to these four barriers. To support our analysis, we created different archetypes of the typical service user from our dataset. Ultimately, we found that the intersection of language and socio-economic barriers tend to lead to a lack of digital skills, with poorer settlement outcomes and less access to information.

Language

The language barrier is defined as "a participant's lack of English and/or French language skills that inhibits their ability to access services and information about their settlement journey."

We operationalized this variable by asking survey participants how often they needed someone to help interpret for them in their appointments. As seen in the following graph, almost 3 out of 4 participants needed some form of language assistance in their appointments. This means that language could be a prominent barrier for most newcomer refugee women.

Graph 1



In the focus group discussions, when asked what the biggest barrier they personally faced is, most participants agreed that it is language. One participant remarked that:

"The #1 challenge is the language itself. Even if your English is good, there are still some terms that you need to understand better. Even in Arabic, it is difficult to understand them. For example, every time I go to the bank, I gain zero information. I could not understand them at all. Besides, the system of the county is vague. You don't know what is right and wrong. This leads to making mistakes and losing the advantages of certain services. You don't get these advantages because you were unable to get the right information."

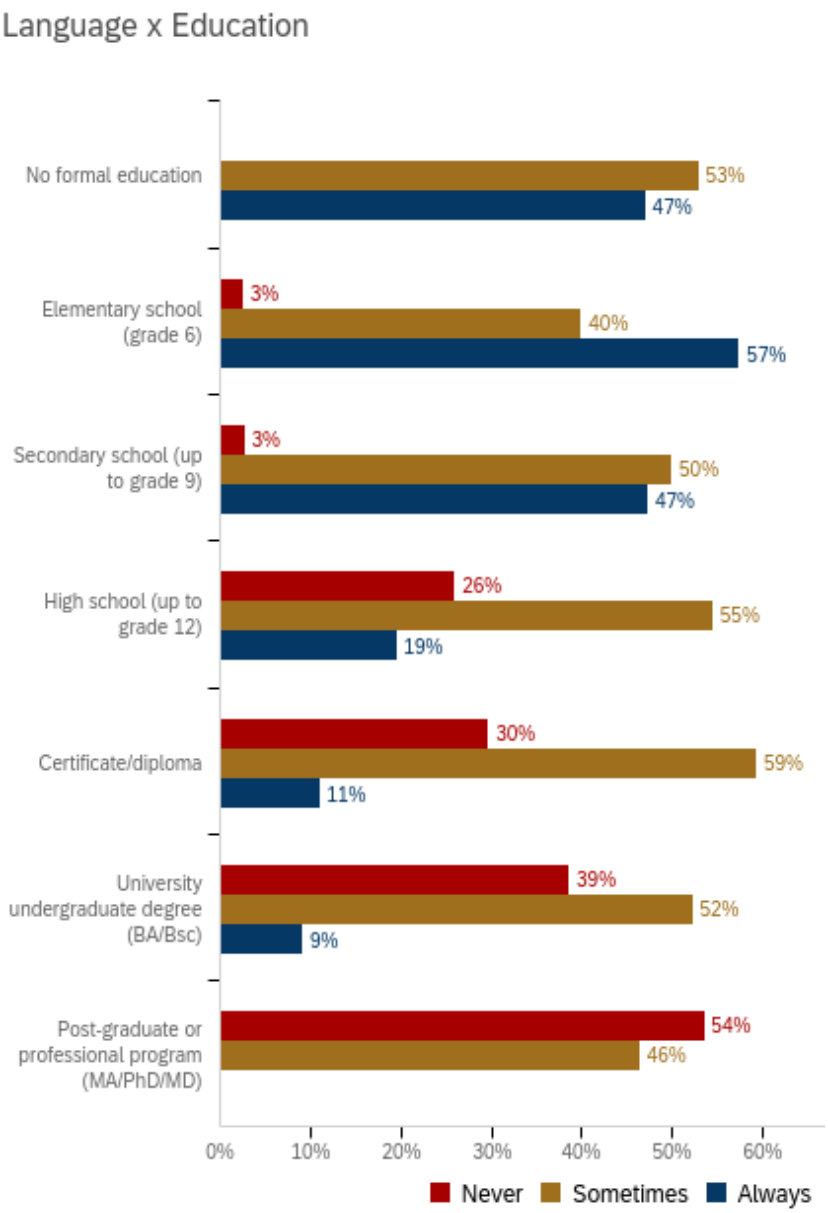
– 37 year-old mother of two living in Toronto

Her experience resonates with the participants across the board – the less language skills you have, the less access to services and correct information you have, which impacts the settlement journey.

To gain more insight into the information practices and settlement access of participants based on who they are, we cross-tabulated the question in graph 1 (how often you need someone to help interpret in your appointments) with participants' immigration status, education level, age, and family size. The results showed the following:

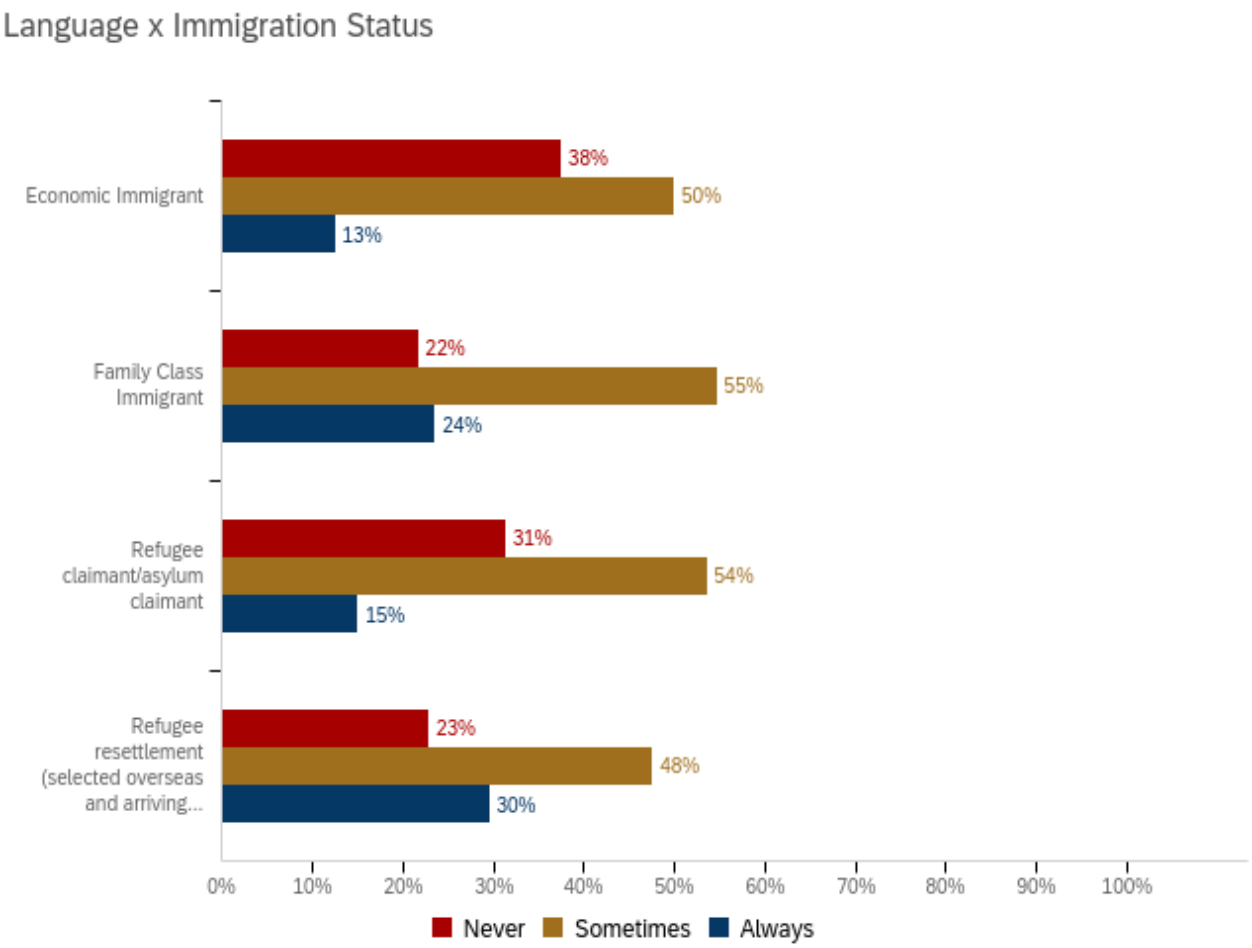
- Graph 2: the more formal education a participant had, the less likely they needed language assistance. For example, 57% of participants with an elementary school education (grade 6) always needed an interpreter at appointments, whereas only 9% of those with a bachelor's degree needed an interpreter. The inverse is also true – 3% of participants with an elementary education versus 39% of participants with a bachelor's never needed language assistance. This implies that newcomer refugee women with higher levels of education face less language barriers.

Graph 2



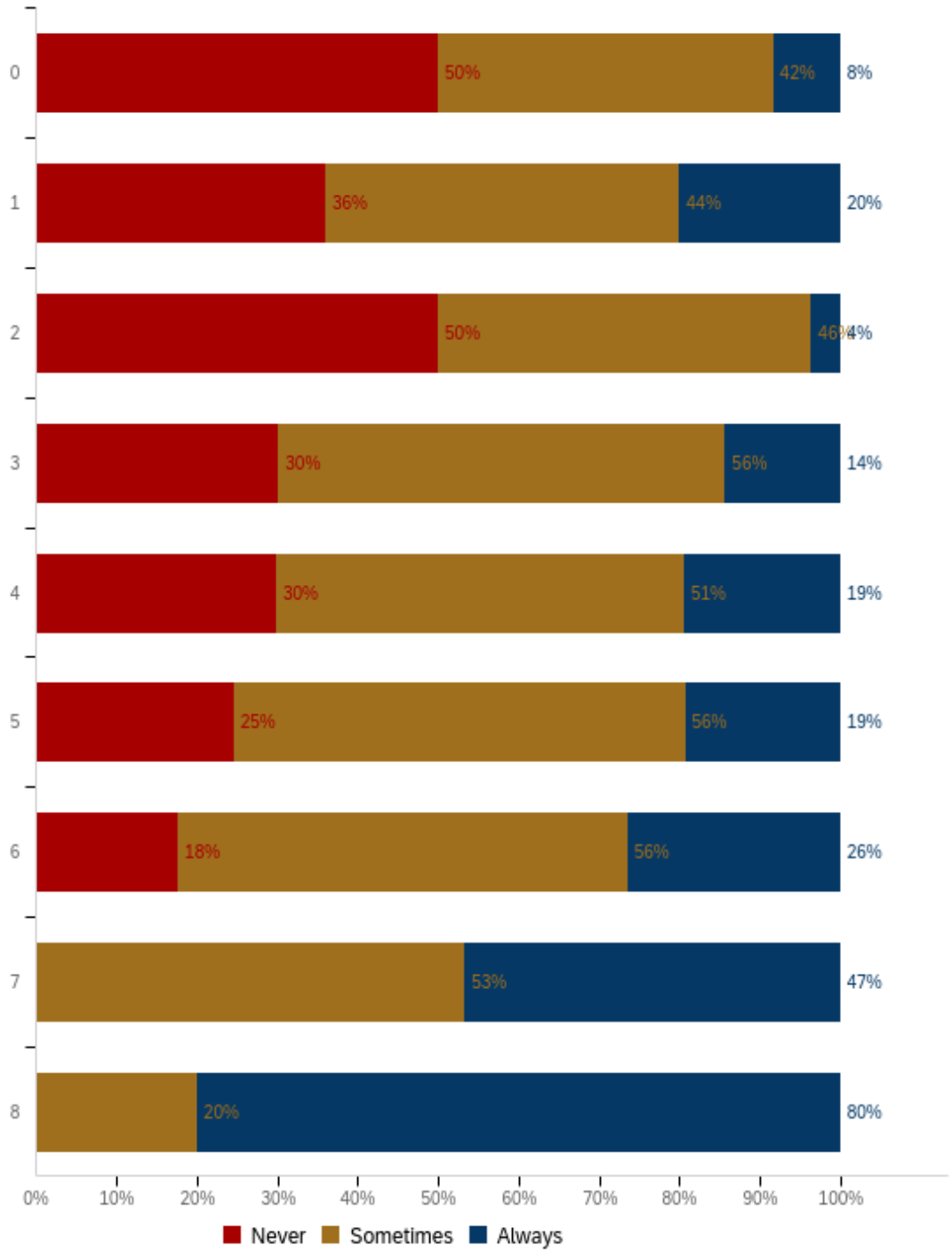
- Graph 3: when it comes to immigrant status, government-assisted refugees (GARs) needed more language support than their economic immigrant and refugee claimant counterparts. In fact, GARs are twice as likely (30%) than refugee claimants (15%) and economic immigrants (13%) to always need language assistance in appointments. However, across the board around 50% of participants sometimes needed language assistance, regardless of immigrant status. This implies that language supports are needed for most newcomers, but GARs are facing this barrier the most.

Graph 3



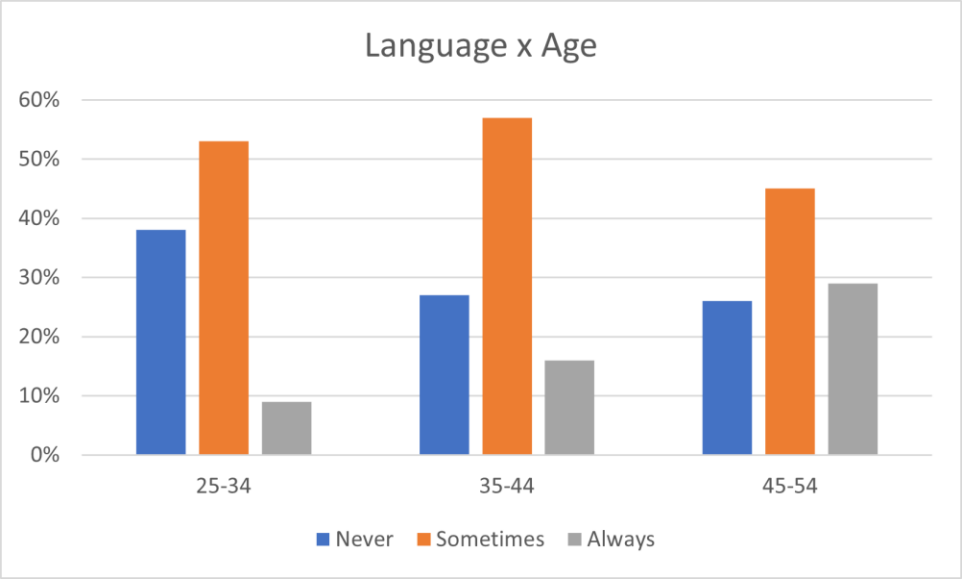
- Graph 4: as for family size, the trend identified is that the larger their family is, the more language assistance the participant will require. Graph 4 paints a visually telling story, where the navy blue bar (always need assistance) gets longer and the red bar (never need assistance) gets shorter, the more members a person has in their family. It may be that family size is an indicator of other family challenges like fewer opportunities for education or originating from rural regions. However, this still means that the larger a participant's family is, the more likely they will require language assistance.

Graph 4: Language x Family Size



- Graph 5: finally, with regards to age, we identified a trend where older newcomer refugee women need more language assistance than their younger counterparts. For example, 9% of those between 25 and 34 years of age always needed language assistance, compared to 29% of those between 45 and 54.

Graph 5



In addition to the statistics, it is important for us to humanize the experience of participants facing language issues. This barrier is one that can cause major personal strife and fear from not being able to communicate in Canadian society. One participant put it best when she said:

"I once told my counselor in college that my situation is like a person who is walking with closed eyes and there are no lights around. Once I walked, fire erupted. It looks like I am suffering from depression because of this issue." - 27-year-old woman in Scarborough

There is also a fear of not understanding the information presented in English or French, which can unintentionally delay their settlement journey. This inhibits newcomer refugee women from searching for information on their own online:

"It is definitely correct that the official website is the best way but I need someone who can translate and explain to me what the requirements are. The language is not always clear to me, therefore, I prefer to talk with a specialized one." – 43-year-old women in Etobicoke

Receiving information from a specialized person will always be a preference for those who face language barriers, in fear of misunderstanding what is being said to them. It is also worth noting that the language barrier is not only about understanding English, but it is also about understanding the different bureaucratic systems in Canada - this is especially true with banking, immigration, healthcare, and education. Participants remarked that even if they get all the details from a specialized expert who speaks in Arabic, it is still difficult for them to internalize the information.

Participants felt that they will not learn or truly understand unless they experience it by themselves; however, guidance and patience by the people supporting them in the settlement journey is the key to success. On this note, a community leader we interviewed as a key informant remarked that:

"The emotional and mental drainage of immigrating needs to be acknowledged. Women have to make sure kids are settled and fed, husband is not stressed, build a home that feels secure - building a home is a full-time job. There's some sort of cultural familiarity needed at first, and this sector does not understand or factor in the pressures that the women has at home – instead, they are trapped into stereotypes that 'Arab women don't want to learn the language or build a career.'"

Indeed, acknowledging the impacts of immigrating in and of itself is needed. Nevertheless, a facilitator that some women are using to alleviate the language barrier is the Google Translate application on their smartphone – they use the microphone feature to translate what they want to say when maneuvering around everyday life.

Ultimately, we found that language is a major barrier that most participants faced to varying degrees, based on their demographic background. This barrier could lead to a severe lack of access to information and services.

Archetype #1

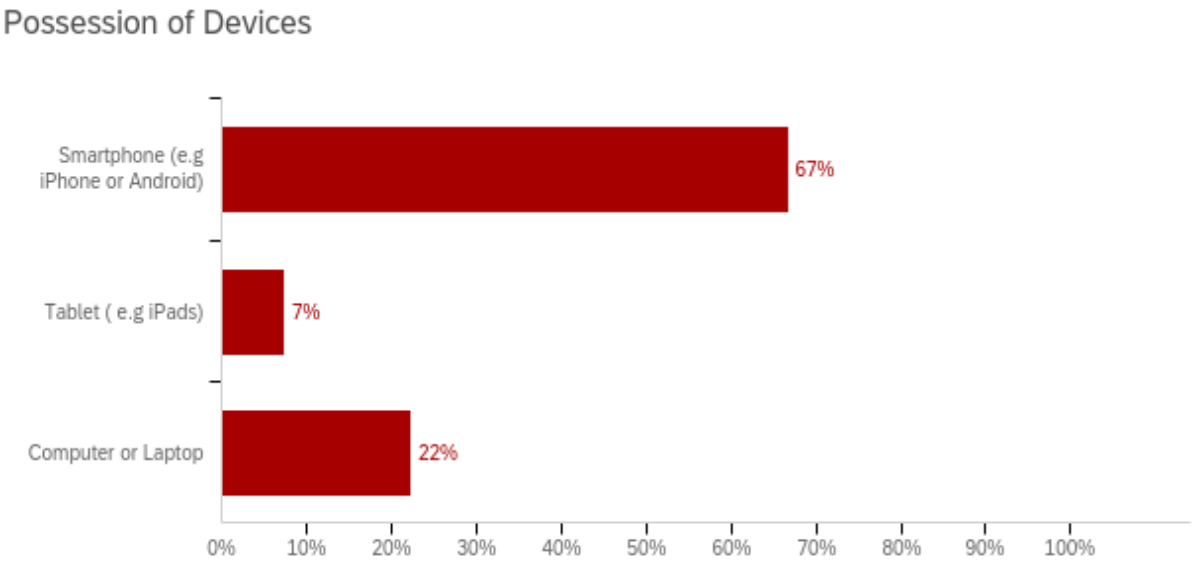
	Najat, 47
Biography	Najat arrived to Canada a few weeks before COVID restrictions began under the refugee resettlement program. She has no kids and her husband passed away 20 years ago. She lived with her sister's family for the first few months, but wanted to be more independent. So, she started working at a warehouse, thanks to a connection from her settlement counselor. Despite the hardships, she loves being in Canada and sees this country as a new opportunity for her life. She is finding it difficult to move her papers along the process.
Year of Arrival	2020
Immigration Status	Refugee resettlement
CLB English Level	3
Digital Literacy	Najat feels like if she had a stronger command of English and was able to use a laptop to its full potential, then she'd have an easier time settling in Canada. She has a difficult time trusting all the information on Google, and so she likes to verify it with a settlement counselor. She wants to reach a point where she can research for basic things online at least. She is comfortable with Zoom because she can see the service provider and might understand what they are saying more if she can see their mouth. Najat wants to be able to use the different platforms for different reasons (Instagram for fun social networking vs. email for serious information). She would prefer using virtual services more, but feels like settlement providers need to do a training on how to communicate better virtually.
Geographic Location	Suburb

Socio-economic Status

We define this barrier as "a participant's financial situation inhibiting their ability to access services and information about their settlement journey."

We operationalized this variable through several questions in order to understand the different ways this barrier presents itself. We first asked participants what devices they possessed without sharing with others. As shown in graph 6, two-thirds of participants exclusively own a smartphone, while less than a quarter own a laptop of their own.

Graph 6



We found that most participants were living in a household where they shared laptops because this is what they can afford. A 41-year-old single mother of 3 remarked that:

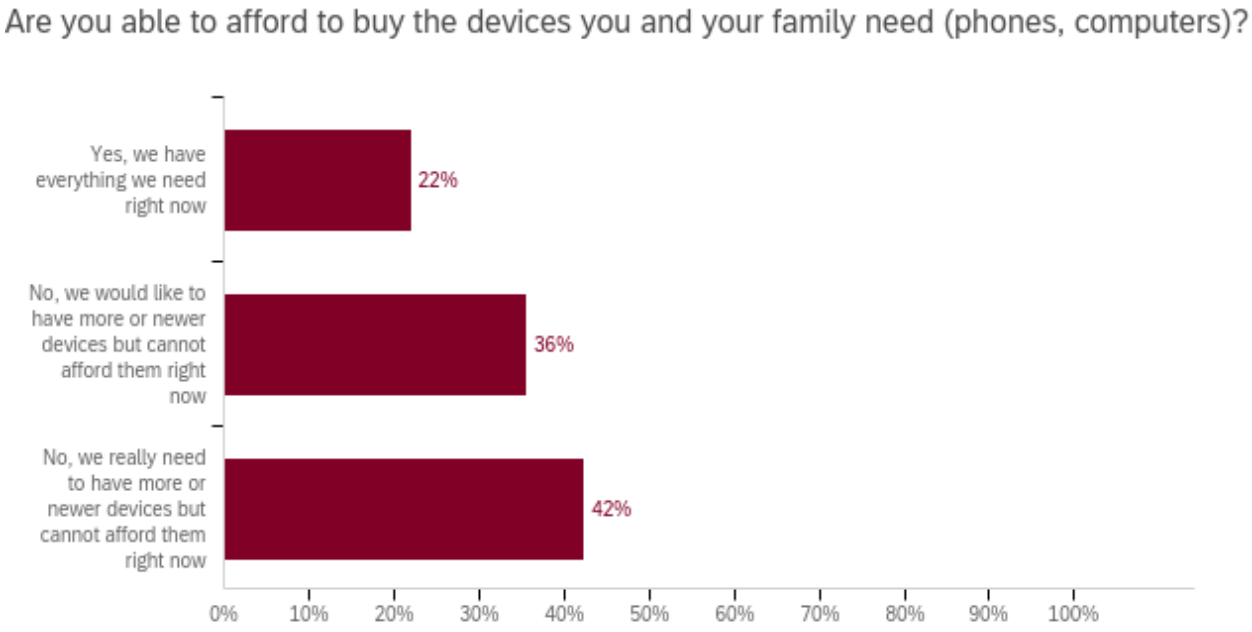
"When school was online, with my 3 daughters, internet speed was not enough. Every kid needed a laptop. Laptops needed to be changed in less than a year. Mobiles were broken. My daughters needed a new laptop as their mobiles were broken. We were forced to pay extra for the internet service. Adding to that the small space of the home. Each daughter is in a place to study. Everything was chaotic."

This participant's experience was a common one heard in the focus groups. During the pandemic, laptops were being shared by all members of the household, and priority was given to children attending virtual classes. As such, participants had limited access to a laptop. Knowing that Canada's digital environment is more accessible using a computer/laptop rather than a smartphone,[8] this suggests that participants' lack of ability to purchase laptops inhibits their ability to fully access Canada's digital environment.

[8] https://www.statista.com/statistics/914496/canada-devices-used-for-internet-access/

We also asked survey participants whether they can afford new devices:

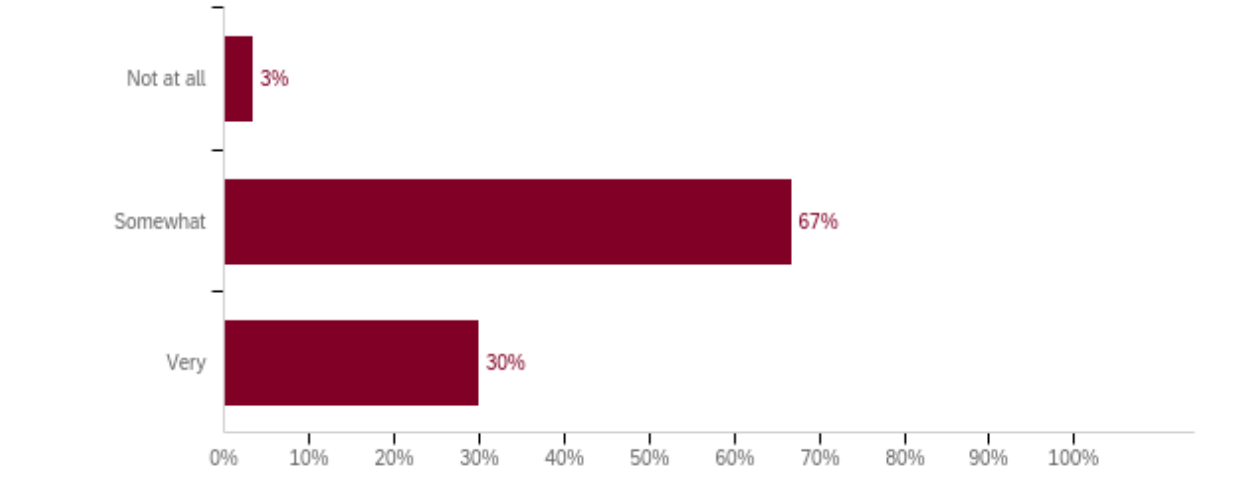
Graph 7



This graph shows that 78% of participants wanted (36%) or really needed (42%) to buy a new device, but could not afford it.

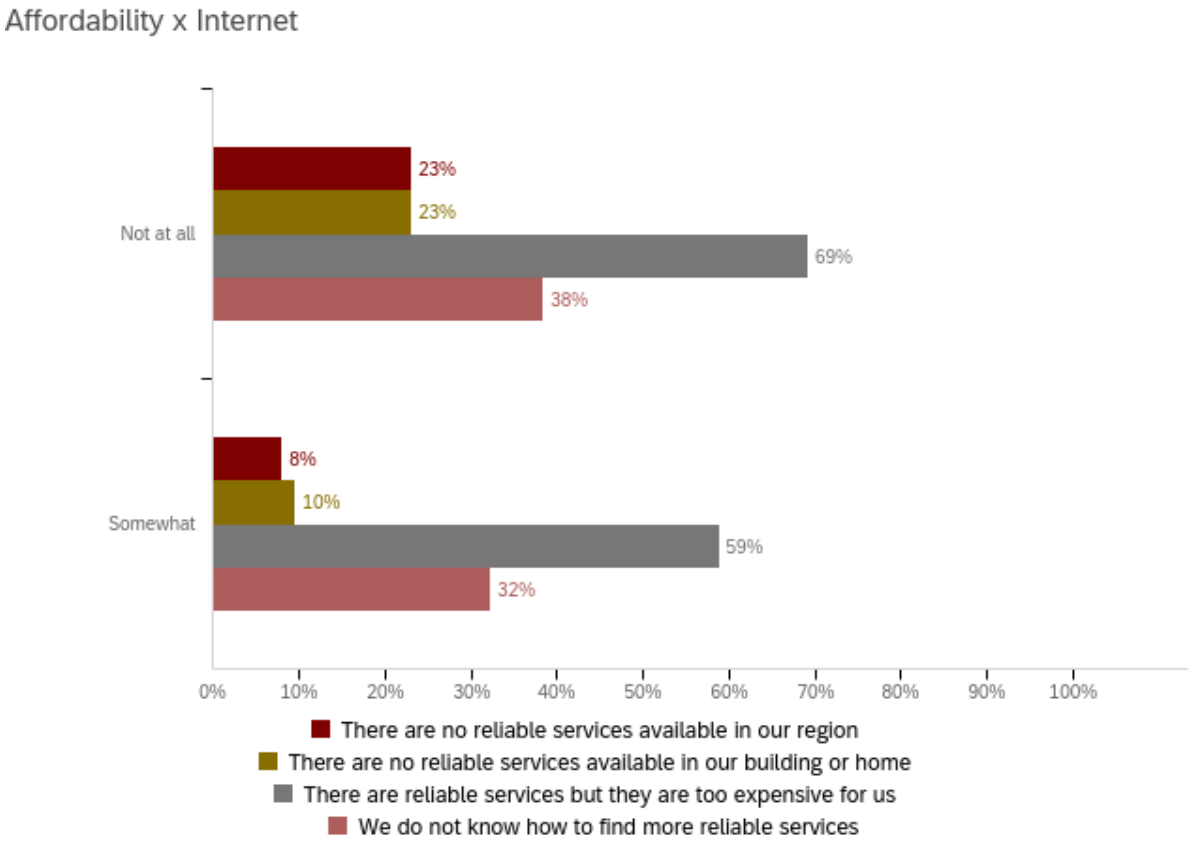
In addition to owning devices, we operationalized this barrier by also asking about how stable and reliable participants' access to Internet is:

Graph 8



It is encouraging to see that almost a third of participants have a “very” stable and reliable internet service at home. Nonetheless, we wanted to understand why those who answered “somewhat” or “not at all” felt that way:

Graph 9



Indeed, graph 9 shows that around two-thirds of participants who do “not at all” and “somewhat” have reliable internet access struggle with finding a service provider because “they are too expensive” for them. This infers that socioeconomic status hampers access to information on the internet.

Weak internet service was also a discussion point during the focus groups, where one participant remarked that:

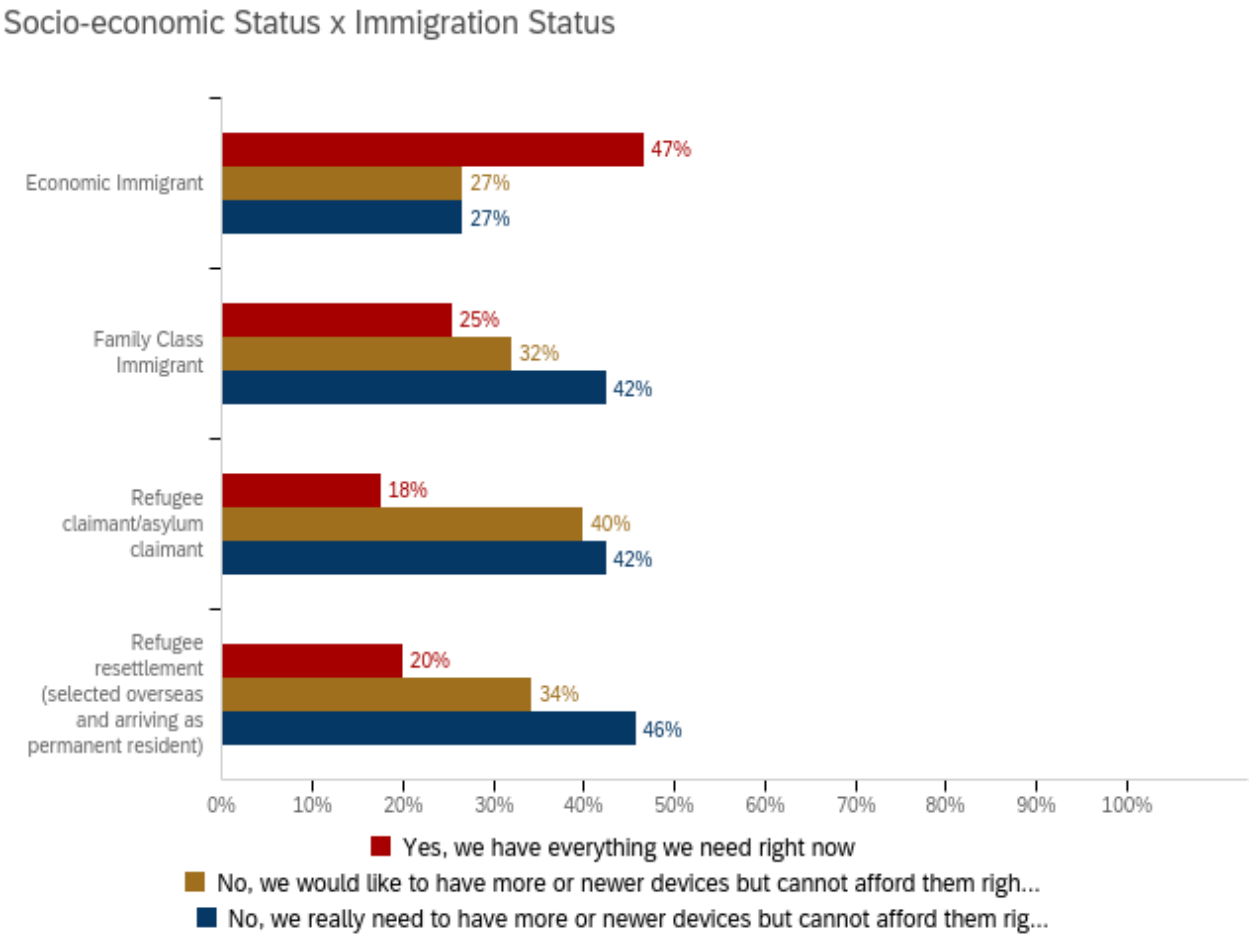
“With the number of devices, the poor internet connection leads me to increasing the speed for 5 devices altogether as me and my children are using the internet which requires more data plan. The difficulty in booking appointments for governmental, medical or social services is that if you get an appointment, you might have to do it outdoors. For example, I was forced to increase my mobile data plan to convene this online meeting, and I have to do this with every meeting. It is true that we face financial distress to increase our phone’s data for a better and faster service.” – 38-year-old woman from Mississauga

Due to the lack of devices, clients used smartphones to attend classes and access remote services. At times, up to 5 devices (e.g. 1 laptop and 4 smartphones) would be connected to an internet router that would not have a reliable connection.

When explored the interactions of the socio-economic status barrier with different demographics like immigration status, education level, age, and family size, we found that immigration status and family size had an impact on affordability of devices, but education and age had the same effect across levels (see Appendix A for the latter graphs).

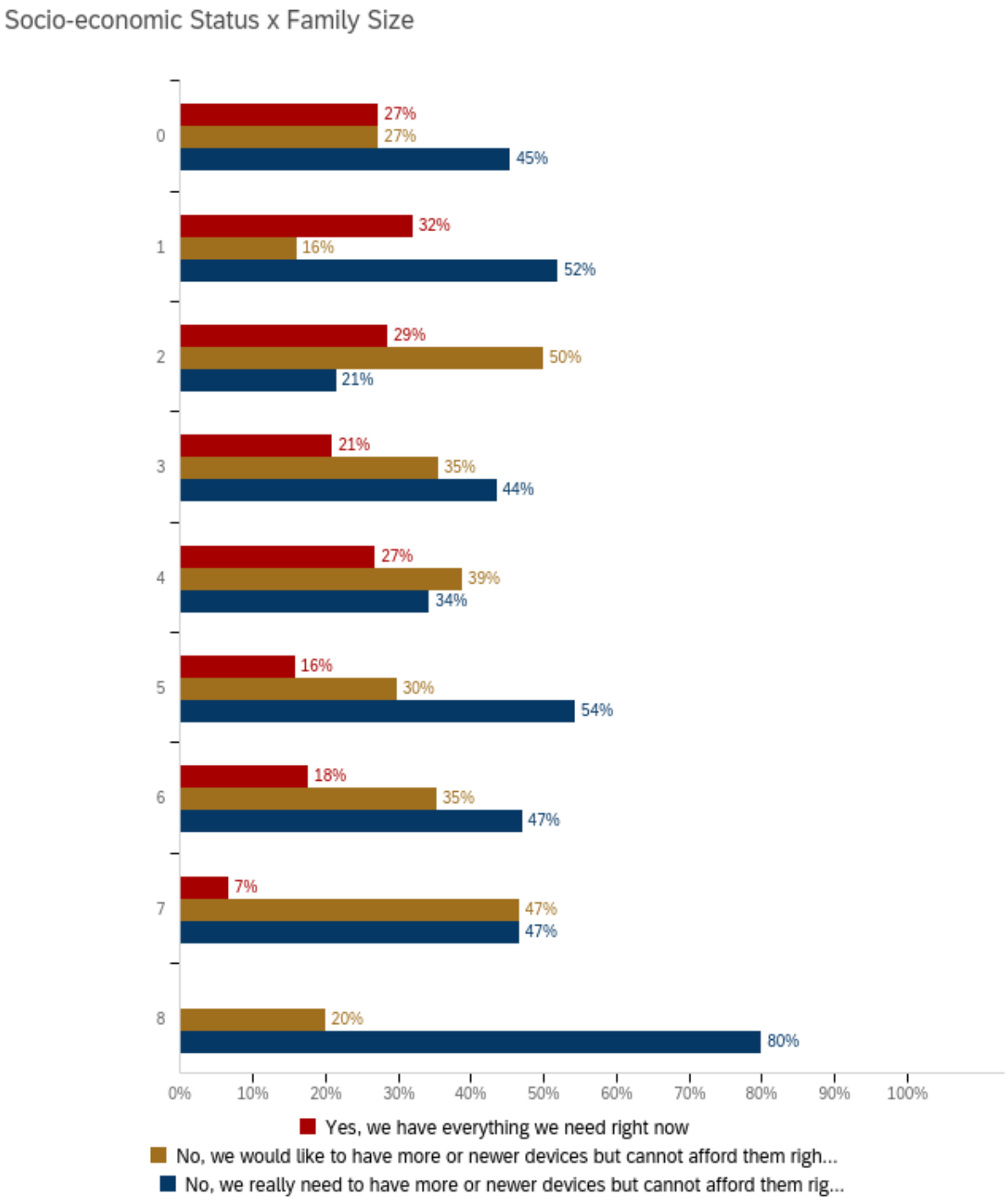
- Graph 10: when it comes to immigration status, participants who entered Canada as economic immigrants were more likely to have their needs met by the devices they own – around half did not need or want new devices. However, refugees, both government-assisted and claimants, had a stronger need and want for new devices – only 1 in 5 refugee participants said that they have all the devices they need. This might imply that the socioeconomic status barrier has a heavier impact on those who come to Canada as refugees.

Graph 10



- Graph 11: as for family size, it is not surprising to see that the larger a family is, the more the need to have more or newer devices rises. This is true for our target group, where 32% of those with 1 other person in their family did not need or want new or more devices, whereas only 7% of those with 7 others in their family indicated the same (red bar in the graph).

Graph 11



Additionally, one participant in a focus group mentioned how distressing this barrier is:

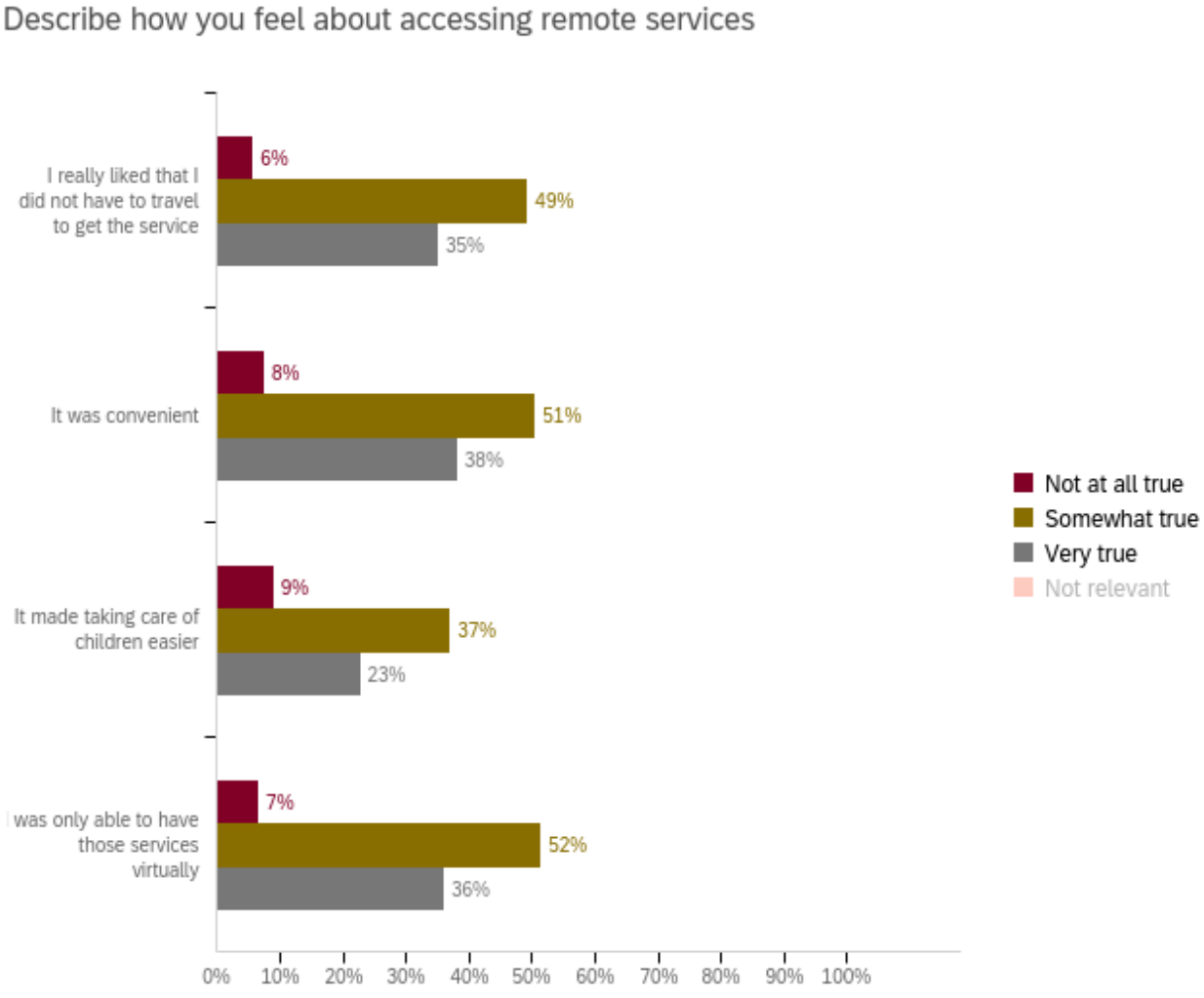
"For the laptops, the schools already provided them (the kids) with the devices. But for me, I needed to update my device and bought a webcam for it to be able to communicate with teachers. If I did not do this, nothing would work. We also faced psychological distress as we needed to check if the devices were working or not. Have you joined the classes or not yet? Is there any problem with the Internet? The technical problem with Rogers (in April 2021) when there was a huge interruption for the internet services almost gave me a heart attack." – 42-year-old mother of 2 kids in Scarborough

Ultimately, the scarcity of devices and the lack of a reliable internet connection is a major stress factor in a household, and it has an impact on the information practices and access to settlement services for newcomer refugee women, hindering their settlement journey.

Geographic

We define this barrier as "a participant's physical location inhibits their ability to access services and information about their settlement journey." From the survey data, we noted that this barrier was not as prominent as the other ones. However, when we asked participants how they felt about accessing remote services, almost everyone (84%) really liked that they did not have to travel to get the service, as the following graph shows.

Graph 7



It is worth noting that remote services made child rearing easier. Hence, it is possible to infer that far distances could impact newcomer and refugee women's access to in-person services, and so remote service

delivery could help alleviate this barrier and increase their access to services. During the focus groups, one participant remarked that:

"Even though I live far away, I was able to take a course. Being online helped me join courses, meet people, learn about nice experiences, and make new friends. With online services, you get many opportunities that I couldn't get if the service was in person." – 49-year-old woman in Milton

In addition to long distances, participants noted that the unreliability, inconvenience, cost and impracticality of transit options in the Greater Toronto Area made accessing in-person services a difficulty, especially in the winter.

"*The weather was so hard on me to adapt and move around. The bus dropped me off at the location and I could not find where to go. Snow is everywhere."* – 37-year-old woman in Etobicoke

Transit was also time-consuming. Nevertheless, participants were still willing to commute if it meant accessing the correct information or learning a new skill. Ultimately, participants agreed that having remote options for services made it more accessible, especially during times of the year when the weather is not ideal.

Additionally, we heard from a key informant that:

"Rural areas are very scattered, so remote services are needed. However, there's a barrier of connectivity: low internet speed, very limited even for our offices, and if clients want better speed, they need a dedicated fibre, which is around $600 a month. Without that, if you have 2 devices streaming, it's impossible to do anything."

Archetype #2:

	Salma, 41
Biography	Salma is a mother of 3 kids aged 8, 12 and 14. She arrived to Canada with her husband and kids in 2019. She works at a supermarket. Her biggest issue when she first arrived was the lack of reliable transportation coupled with the cold weather. She improved her English language skills through classes offered at her settlement agency. Although she has no issue with accessing services online, during COVID her biggest struggle was the fact that her whole family shared two laptops - both offered from the school. The priority was for the kids to access school through the laptop. The poor internet connection made it difficult to connect all devices (including smart phones). So, she heavily relies on her smart phone to access services, which increased the cost of her data plan. She faced a lot of psychological distress, as she felt responsible to ensure that the devices were working well so that the kids can continue learning. Nevertheless, she prefers online services. It is easier, faster, and practical. She saves money, too. But if she was going to learn something (a language or skill), she'd prefer in-person.
Year of Arrival	2019
Immigration Status	Refugee resettlement
CLB English Level	5
Digital Literacy	Basic - when seeking information, Salma prefers to search google first then asks her friends who have been in Canada before her and have the same experience as her. After that, she searches on Google again. For government-related information, she believes that the best way to get info is through the official website (canada.ca), where she gets all the necessary, detailed and required

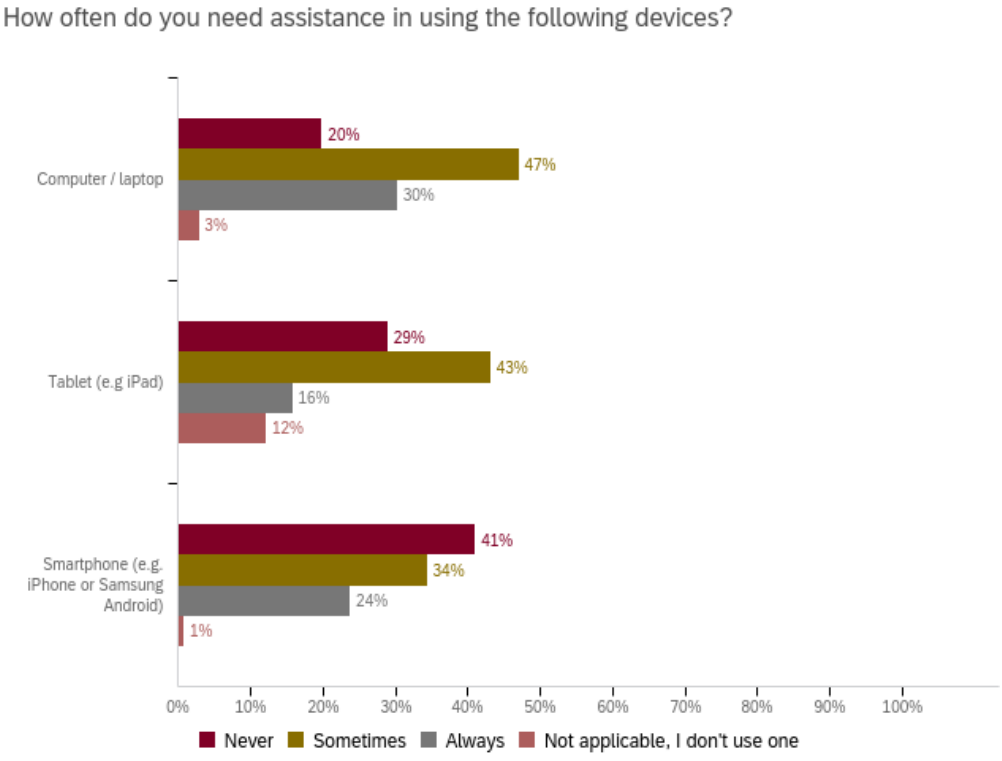
	documents. When receiving information, she prefers emails as she can stay for hours on the phone and get nothing. Email is quicker and she can go back to the email to access the information anytime if she forgot something.
Geographic Location	Suburb

Digital Skills

We define this barrier as "a participant's lack of digital literacy inhibits their ability to access services and information about their settlement journey."

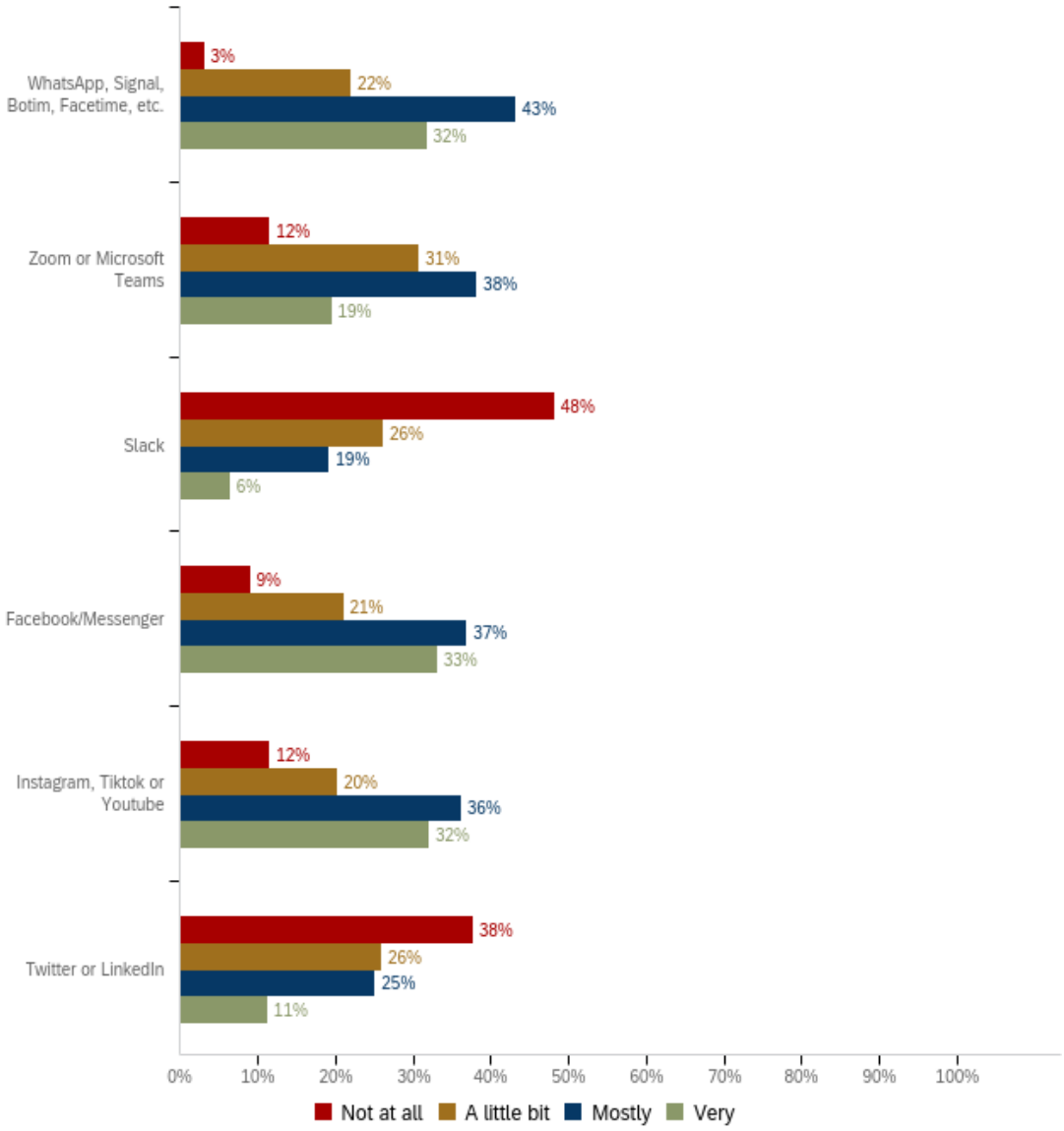
From the survey, we found that 3 out of 4 participants knew how to use a smart phone with some or without any assistance. Accordingly, it was not surprising to observe that focus group participants were generally literate enough to search online and use some social media platforms like Facebook and WhatsApp. The following graphs show how often participants needed assistance in using a certain device (graph 8) and how comfortable participants are in using a certain application (graph 9).

Graph 8



When it comes to devices, graph 8 also shows that computers are the devices that newcomer refugee women need the most assistance in using – around a third of participants always need this type of assistance.

Graph 9: how comfortable are you using the following platforms?

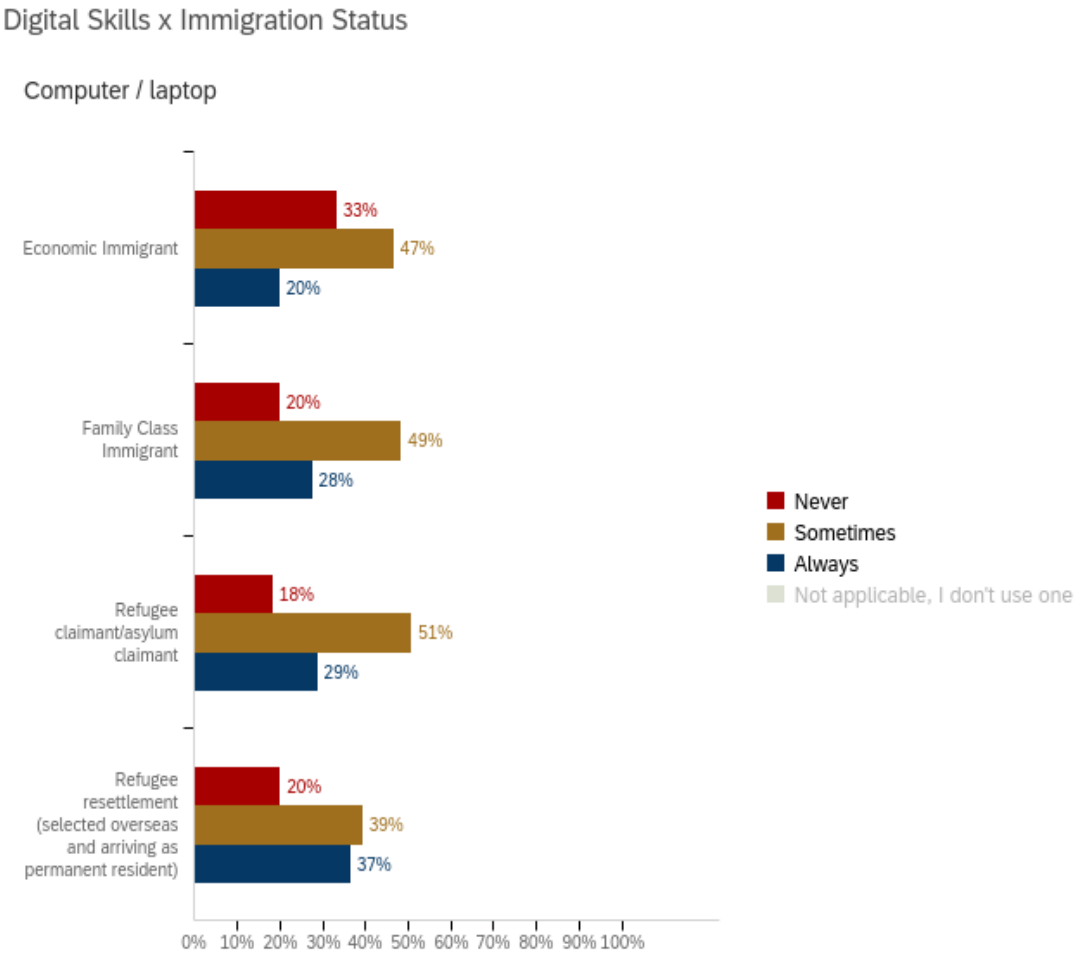


Given the results of graph 8, it is not surprising to see that in graph 9 the applications that women found most comfortable are mostly smart phone-based, such as WhatsApp, Facebook Messenger, Instagram and TikTok. From these graphs it is clear that participants found the most difficulty in using a laptop.

In order to gain a fuller insight on digital literacy in the community, we cross-tabulated "how often do you need assistance using a computer/laptop" with immigrant status and education.

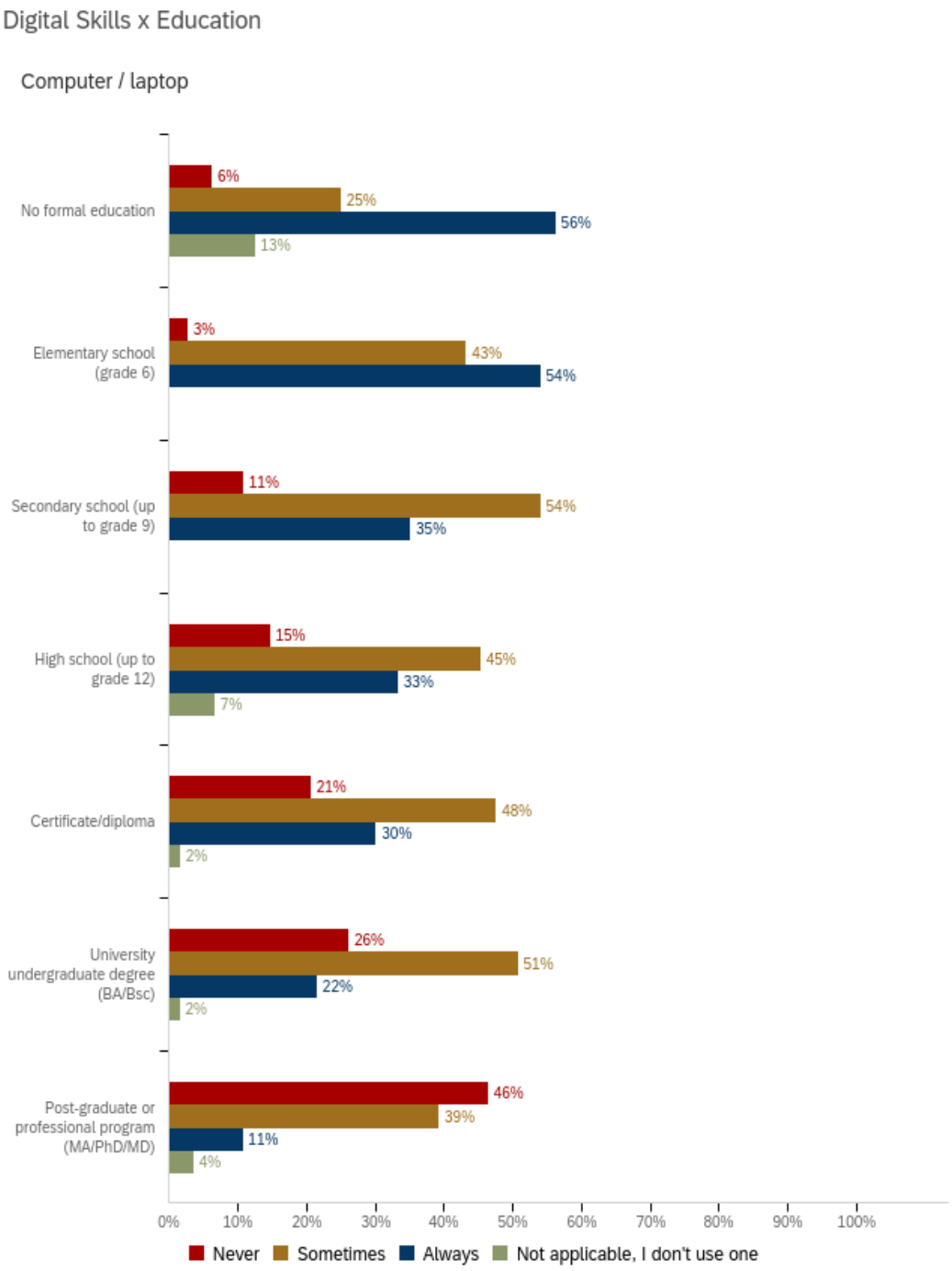
- Graph 10: economic immigrants are more likely to not need assistance using a laptop than refugees. More than a third of GARs (37%) always need assistance using a laptop. Most refugee claimants (51%) will sometimes require assistance to use a laptop.

Graph 10



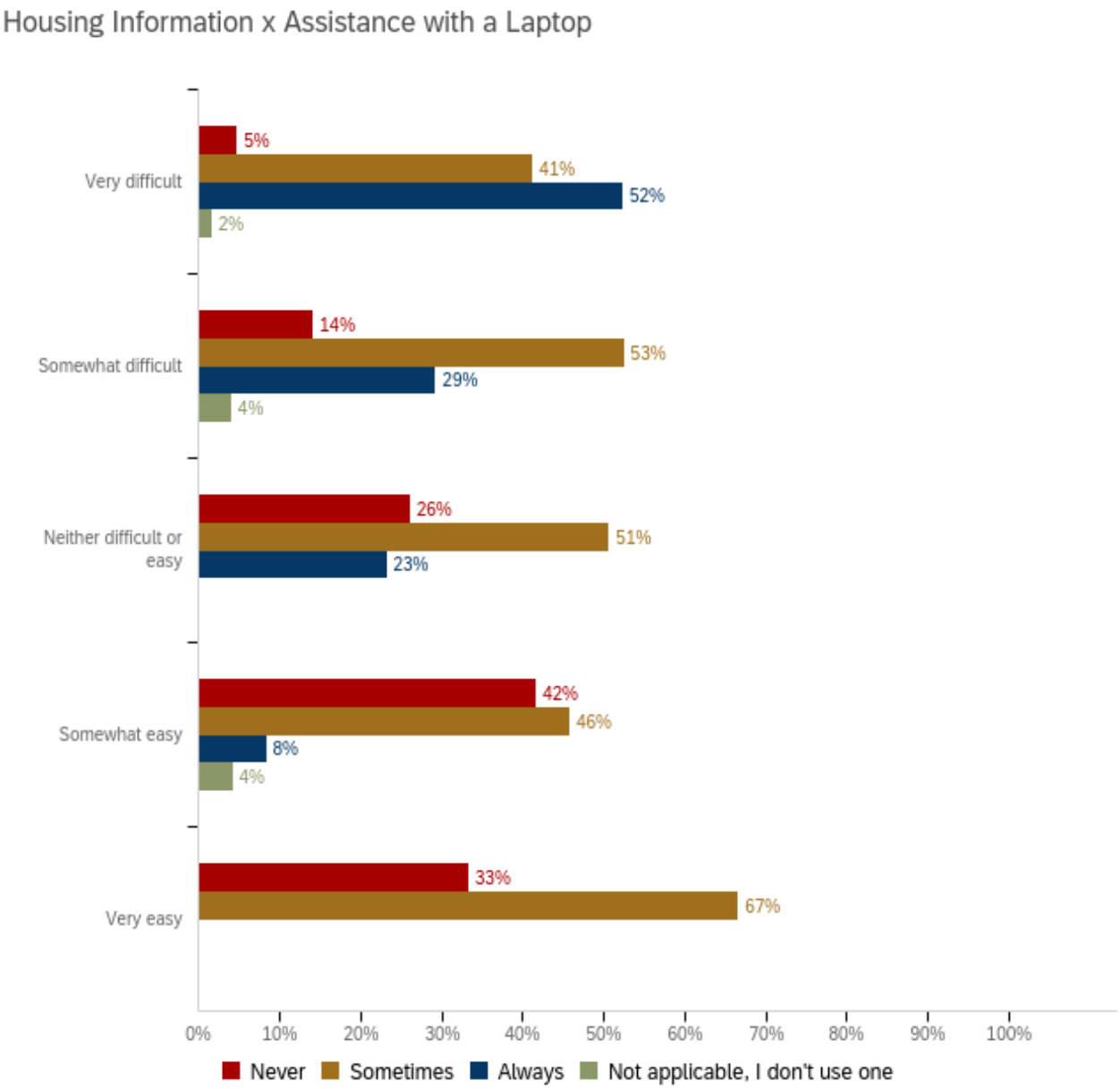
- Graph 11: the education variable illustrates that those with higher levels of formal education tend to need less assistance in using a laptop. Nonetheless, among those with a bachelor's degree, only a quarter never need assistance using a laptop, whereas 51% sometimes need assistance, and 22% always do. In the focus groups, participants with higher levels of education noted how their degrees were completed in their countries of origin without needing to use a computer or laptop.

Graph 11



Finally, in order to understand the impact of low digital literacy skills on accessing information, we cross-tabulated the results of those who needed assistance using a laptop with a question about how easy or difficult it is for them to access information on housing. We chose housing as an example because it was consistently the most important area of information for participants:

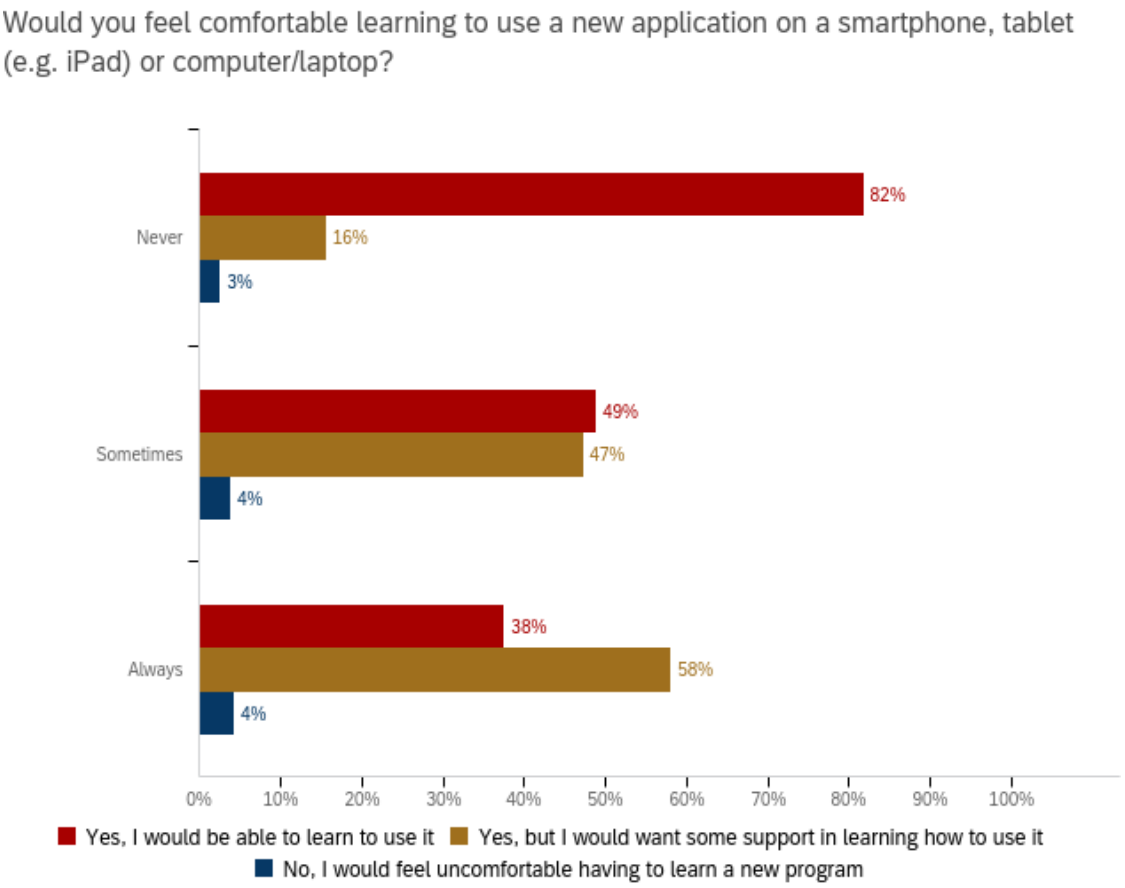
Graph 12



Graph 12 clearly indicates that the more assistance a newcomer woman needs to use a laptop, the more difficult it is for her to access information about housing. Thus, this implies that the lower someone's digital literacy skills are, the more difficult it is for them to access information. This shows the impact of the digital literacy barrier for newcomer refugee women who are trying to access services and information in their settlement journey.

To understand how participants would want to maneuver around their limited digital literacy skills, we asked them how comfortable they would be learning a new application. We cross-tabulated the results with their computer skills, and found that most participants (96%) across the board would want to learn a new application, even if it requires some assistance in the process:

Graph 13



Among those who never need assistance using a laptop (top bar set), 82% said they would be able to learn a new application on a computer. Among those who always need assistance using a laptop (bottom bar set), 58% would be able to learn with some support. Across the board, only 3-4% of participants would not feel comfortable learning a new program.

Although this is an encouraging result from the survey, we were able to understand the reasons behind the discomfort of the 3-4% of participants through the focus groups. Some participants who were not interested in upskilling digitally said that it is because of their lack of trust in information they find on the internet. When asked by the facilitator what would help build trust, some said that audio-visual interactions with someone might help, but it is more important to have trust that the person you are speaking to is an expert in what they are talking about. Reading information online would not help them build their trust in the Internet because they do not know how to verify the source. One participant noted:

"Even if the internet can provide you with a lot of information, this country loves details but if you miss one of the details you will be in trouble. As one of the sisters has said before, for immigration issues, like applying for citizenship and medical issues, it is a must to ask specialized persons. I don't prefer to search in such matters because when you follow the internet, you feel like they understand different things. Even the written language is different from our language." - 47-year-old woman in Scarborough

Another mentioned that:

"Participant: I mean searching online through the websites, you can't get all that you need online.

Facilitator: so what would you do then?

Participant: Then I have to ask people. Sometimes people don't know, too. They also won't give you the correct answer. You don't get full and complete information."

From these interventions, it became clear that for some participants, there is a lack of trust in what is presented on the Internet, with the biggest fear being the consequences of acting on wrong information delaying their settlement journey even more. This is why, for them, they prefer confirming information with a specialized person (even if virtually) rather than confirming it on their own through an Internet search:

"Facilitator: So how do you prefer to get information? *Participant: From its master. As they say, give the bread to the baker."*

Indeed, some women came up with a verification system on their own:

"I prefer to reach out to settlement organizations who are well experienced with my issue. If I could not find one, I would go to an official and credited website. Not only Google. Facebook, or groups because each case is different. Sometimes, I receive misleading information. Therefore, I prefer to go to an organization and talk, ask and discuss my issues with its employees. The second option is the official website for my PR, Passport question or anything else."

Stakeholders across the settlement sector are becoming increasingly aware of the trust issues that newcomer refugees have with online sources of information. One key informant noted that:

"there are heightened concerns because of the migration experience - coming from places that are highly tracked or authoritarian, there are more barriers to building trust. They want to see that service providers understand that concern as well. For example, using facial recognition software might cause concern. People are very aware of the surveillance apparatus."

Ultimately, digital literacy is a complex barrier that has several intersections with different barriers, depending on a newcomer refugee woman's background. This barrier has a significant impact on the quality and length of a person's settlement journey in Canada. Additionally, misinformation in different forms emerged as a theme, and some form of intervention to tackle that should be included, in addition to the four barriers.

Archetype #3:

	Hind, 36
Biography	Hind is a widowed mother who arrived to Canada only 6 months ago with her four kids (2, 5, 8, and 10) through the refugee resettlement program. Housing and schooling were the most important areas of information for her in the first few months. She depends on Google and asks friends to verify information. She enjoys virtual services and uses email. She created her first ever email account a few weeks after she moved here and she loves it. She prefers email because if she is communicating with someone who doesn't know Arabic, she can read and translate their emails, and vice versa. It is better than phoning and calling as she can't guarantee she'll connect with an Arabic speaker. Her new family doctor informed her that the communication will be through the email and if anyone gets sick, she can email him directly.
Year of Arrival	2022
Immigration Status	Refugee resettlement

CLB English Level	4
Digital Literacy	Hind has a basic grasp of digital skills. Because of her family situation (single mom), she has to challenge herself and learn. The email was hard on her at the beginning but she learned how to use it and loves it now. In order to better communicate with people in-person, she uses the Google Translate app's microphone feature, where she speaks into her phone and it translates her spoken Arabic to English. That's how she communicates with bus/TTC operators. When she befriends people who speak English, she translates her text message interactions with them. She's improving her English language skills through this because her English vocabulary is expanding. Hind turned a challenge (language) into a learning experience through a digital tool. Despite her ability to depend on digital tools, she would still prefer in-person services/trainings because she can focus more. If she's online at home, she'll be too distracted by the kids.
Geographic Location	Urban

Digital Capacity of Service Providers

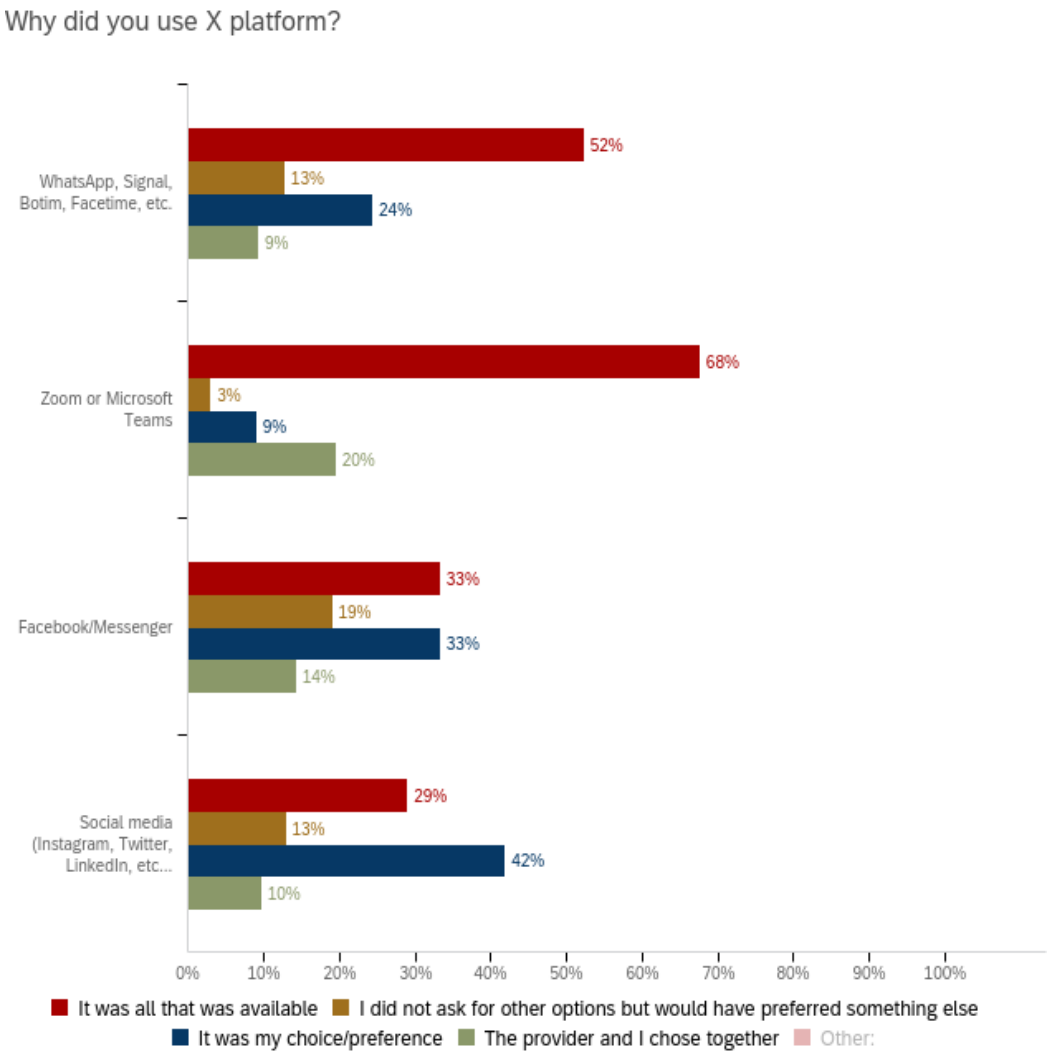
Finally, although we did not ask any survey questions directly about the capacity of settlement agencies to respond to the needs of the target group, an emerging theme related to how "remote service delivery is not as effective in meeting the needs of newcomer and refugee women" came up during the focus groups. Indeed, the majority of participants across focus groups said that they prefer in-person services. When asked why, many indicated that the delivery of services remotely is not consistent with the delivery in-person. Some even mentioned that their service provider was not digitally savvy enough. Accordingly, we conducted key informant interviews because service providers would be better able to speak to their internal organizational capacities.

From the interviews, we found a general sense that the sector is not properly and consistently equipped and supported to provide remote services. The pandemic posed a challenge for many settlement agencies who were forced to transition to remote services without proper guidelines and consistency across the sector. This meant that some settlement agencies were offering services that others were not, and this contributed to inequitable service delivery across the sector. One interviewee remarked that:

"not all staff are tech savvy, they do have issues with using technology, and this requires funding and training and guidelines, so it gets frustrating."

The frustration on the client's side could also be noted from the survey. When asked what method of service delivery was chosen and why, a substantial number of participants indicated that it was the only method available (red bar).

Graph 11



Across the board, around a third of participants (or less, depending on the platform) said that the platform used was their choice. This lack of options could be seen as a limitation by service providers, who do not have digital service delivery guidelines and standards.

Ultimately, the four barriers we identified - language, socioeconomic, geographic, and digital literacy - negatively impact the settlement journey of newcomer and refugee women. Particularly, the intersection between language issues and socioeconomic status strongly correlates with a lack of digital literacy skills. Accordingly, Josoor's prototype effectively targets these barriers in order to improve the settlement experiences and information practices of Arabic-speaking and/or sub-Saharan African refugee and vulnerable newcomer women in Ontario.

Although we are confident in these results, we encountered two limitations that could be worth exploring further in subsequent research projects. First, we had difficulty in recruiting participants from two sub-groups: privately sponsored refugees (PSRs) and sub-Saharan African. For the former, it was difficult to get PSRs to fill out a survey or join a focus group, as they felt as though it could cause tension with their sponsor (especially if they still depend on them). For the latter, we were able to secure 50 survey responses from those from sub-Saharan African backgrounds, but we had difficulty in recruiting more. This is likely due to the names of the lead organizations in Josoor being "Arab." We tried to mitigate this by connecting

with several sub-Saharan African-serving settlement agencies across the GTA. The second limitation we encountered was with the geographic barrier. We initially wanted to compare responses between those who live in urban versus rural areas; however, the smallest region where GARs live is in Leamington, Ontario, which is not considered rural. Accordingly, we pivoted to comparing experiences of those in urban versus suburban areas. Nevertheless, the differences between both were not as remarkable, with regards to the scope of this report. These limitations are crucial to acknowledge, but they did not have a significant impact on Josoor's findings and prototype.

Therefore, the four barriers intersect and interact with each other for each participant, as well as service providers. With our mixed-methods approach, we were able to understand the implications of each one to create an intervention (prototype) that tackles the barriers through a trauma-informed approach.

Josoor's Prototype: A New Approach

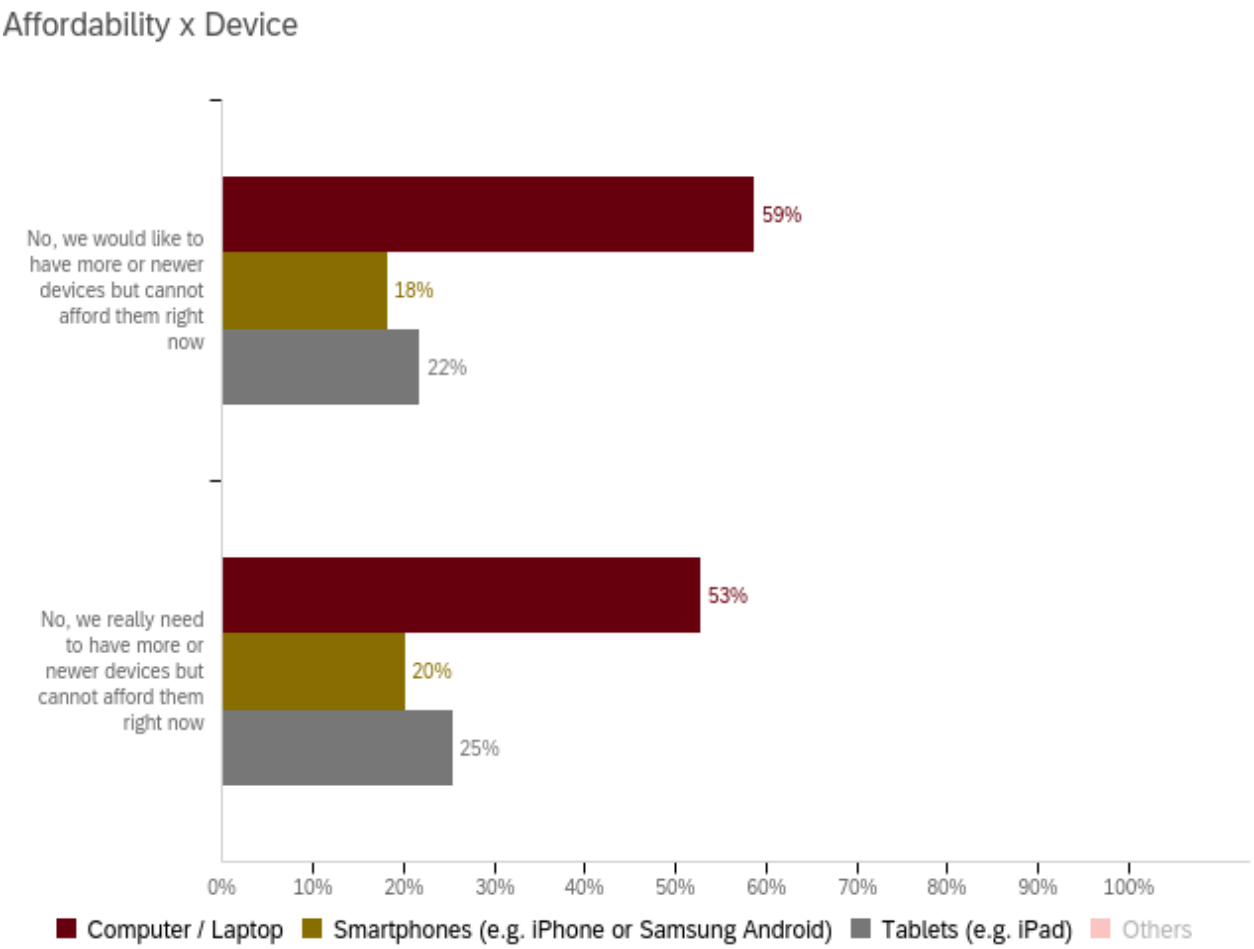
To develop the framework of the new approach, we established a Designed Committee: four members of the settlement sector and the three principal researchers. They reviewed the collected data, and provided input, suggestions, guidance, and advice for the framework of the new approach/prototype.

Josoor's prototype has been holistically designed to be evidence-based, community-based, and a value-added to clients. The prototype's four components combat at least one of the barriers and mitigates them so that a client's access to settlement services and information increases.

Hardware

Provision of a laptop: when we asked participants whether they are able to afford more devices (graph 7), we followed-up by asking those who needed devices but could not afford them "what device do you need the most?":

Graph 14



Most respondents who needed or wanted a new device indicated that they needed a laptop. During the focus groups, we found that the biggest ask regarding hardware was an easy-to-use laptop and a stable internet connection.

It is worth noting that graph 8 indicates that a sizable percentage of participants (41%) were already comfortable with using a smart phone without assistance, so there was a consideration of having participants use their own devices to increase their digital literacy instead of providing a laptop. However, when analyzing the data holistically, the participants are comfortable with phones because that is the device that they can afford the most, and so it is also the device they know the best. Moreover, knowing that Canada's digital environment is accessed through a computer/laptop more than a smartphone,[9] the decision was made to provide a laptop to help the target group better access information and services.

- Accordingly, **this component of the prototype is alleviating the socioeconomic barrier by providing a laptop to clients.**

[9] https://www.statista.com/statistics/914496/canada-devices-used-for-internet-access/

Connectivity

Provision of internet connection: as illustrated in graph 9, among those who do not have a reliable and stable internet connection, most say that they cannot afford the services that are reliable because they are too expensive. As well, from the qualitative data, we heard that reliable internet connection in areas that are less densely populated tend to be more expensive.

- Accordingly, by providing an internet connection, **this component tackles the socio-economic and geographic barriers faced by respondents.**

Digital Literacy Training

Conducting training sessions on how to use a laptop: during the focus groups, we heard a recurring sentiment that if some training was provided, then participants would want to use a laptop to access information and services. This was also corroborated by the survey, as graph 13 indicates that a majority of participants would be comfortable learning a new application, if provided with support. This "support" is included within the digital literacy training, as the training is conducted in both English and Arabic.

- The training itself was designed by Humber College and TechServe TO, and follows 8 modules:
    i. 1 on 1 lessons to get set-up/tech skills (45 minutes per person, 1 on 1)
    ii. Using Internet Browsers (Google Chrome, Searching the Internet)
        1. How to download apps including translation app
        2. How to download items from the internet (e.g. documents)
    iii. Joining a Zoom meeting / Zoom key features
    iv. Basics of Cybersecurity
        1. Device privacy settings covered, as requested
    v. Using email (gmail)
    vi. How to search for jobs online (e.g. common job board websites), Introduction to LinkedIn
    vii. How to access Service Canada / Service Ontario + Filling out Forms
    viii. Facebook and Instagram (introduction)
- By providing digital literacy training in English and Arabic, **this component alleviates the digital literacy barrier and the language barrier.**

- This component was the subject of discussion at the Josoor Workshop in November 2022. Participants and service providers were able to offer their input on the curriculum and pedagogy; however, not all the feedback was integrated into the curriculum due to circumstances beyond the scope of this report.

Digital Service Protocol

Adopting this framework of digital service delivery when servicing clients remotely: This component addresses and mitigates the technology capacity limitations of service providers when delivering remote services. Based on the data, we have identified a framework for effective remote service delivery to build the capacity of service providers to deliver remote services where clients do not feel a major difference between in-person and remote service delivery:

Framework

1. **Training for Settlement Counsellors**
    a. Digital Literacy Training - Coaching
        i. All settlement counselors receive digital literacy training, similar to that provided by Humber and TechServe.
        ii. Download screen sharing applications like AnyDesk to assist clients with any troubleshooting issues or assisting in filling out forms.
    b. Digital Navigator Training
        i. All settlement counselors receive a digital navigator training, developed by a specialized digital navigator trainer.
2. **Intake/digital assessment form for client**
    a. Participants preferred that the first stage of interaction be in-person. This could be a place to ask questions, have an introductory meeting, and discuss the service with someone.
    b. Within ACCT's existing Client Intake Portal, the following section will be added:
        i. In Contact Information, add Arabic as a language preference.
        ii. Within service information, the following questions will be added in order to know what customized services clients are interested in:

1. *How often do you need assistance in using a laptop? (Never, sometimes, many times, always)*

2. *How often do you need assistance in using a smartphone? (Never, sometimes, many times, always)*
3. *CLB English level? (1-12)*
4. *How comfortable are you using the following?*
    a. *WhatsApp*
        i. *Not at all*
        ii. *A little bit*
        iii. *Mostly*
        iv. *Very*
    b. *Zoom*
    c. *Microsoft Teams*
    d. *Facebook Messenger*
    e. *YouTube*
    f. *Instagram*
    g. *TikTok*
    h. *Google Translate*
5. *In general, please select the time of day you would prefer to receive services.*
    a. *Morning (9-12),*
    b. *Afternoon (12-4),*
    c. *Evening (4-7)*

In addition to the intake form, the following questions will be added to build the client's settlement plan:

1. *What are some of your settlement goals?*
2. *What do you want the most information about right now for you and your household?*
    a. *Housing*
    b. *Employment*
    c. *Language classes*

d. *Other education for me*

e. *Education for my children*

f. *Health*

g. *Immigration for family members*

h. *Banking or government issues*

i. *Transportation*

j. *Shopping*

k. *Household management*

l. *Other: _____*

3. *What sorts of programs or classes do you think you'd want to enroll in? (List current programs and activities)*

4. *What are your worries about the settlement journey? What are some of your priorities?*

3. Policies and Procedures for Remote Service Delivery

a. Trauma-informed care

i. Empathy: service must be trauma informed. During the Workshop, one participant said "you have to understand that I'm a person who is lost, worried, stressed, so you have to be patient with me. I need to be treated with dignity, even if I'm nervous, I can't control my nervousness. Mental health is important." This could be as simple as starting the call by doing a wellness check in, such as "How are you feeling today?"

b. Client-centric Language

i. In the Workshop, participants noted that they did not want full conversations in Arabic; instead, they wanted service providers to slow down, use simpler language in English, provide a glossary of key words, and an email follow up with points discussed. This is seen as an opportunity to learn the language. Patience is key.

ii. Additionally, learning and using Google Translate's microphone feature can help clients learn the language through their settlement journey, as one participant in the focus groups noted: *"I have not faced challenges as I use the translation application. Friend's family communicates with me through WhatsApp in English. I translate her messages and respond to her in English, too. This challenge was good to me as I started learning*

English while responding in English. I read and translated her messages. I learned many words from translation."

c. Camera

   i. When asked about the usage of a camera for remote services, participants in the Workshop said that it depends. For example, those who wear the Hijab saw turning on the camera as inconvenient. However, the service provider should always turn on their camera when possible - turning on their camera gives clients more comfort to know who they are talking to.

   ii. In order to ensure privacy and confidentiality, the service provider and client should agree on a secret word with the client that can be used, if you're trying to confirm their identity while offering remote services.

d. Timing of service delivery:

   i. Depending on the commitments that each client has, service providers could offer some flexibility in the timing of their service delivery. For example, in the Workshop we heard that those who have children under 18 prefer services between 10 and 3.

Phase 3: pilot study – May 2023 to February 2024

The effectiveness of the new 'Approach' was tested through a randomized controlled trial consisting of three groups.

Group	Intervention	Partial Intervention	Control
Intervention	Received a laptop, internet access, 15-hour digital training and modified services with their designated settlement service provider. In addition, the digital service protocol was adopted in their settlement journey	Received modified services with their designated settlement service provider. The digital service protocol was adopted in their settlement journey	The control group. No intervention

The Partial Intervention Group has been added to evaluate the change solely on the service provider side. We recruited 69 women and assigned 23 randomly to each group to be observed for the next 9 months. All participants conducted a baseline survey before the start of the program and were evaluated every 3 months after that for a total of 3 additional surveys. All surveys were

collected over the phone by research assistants who reached out to the women at the end of every testing period (after 3 months had passed).

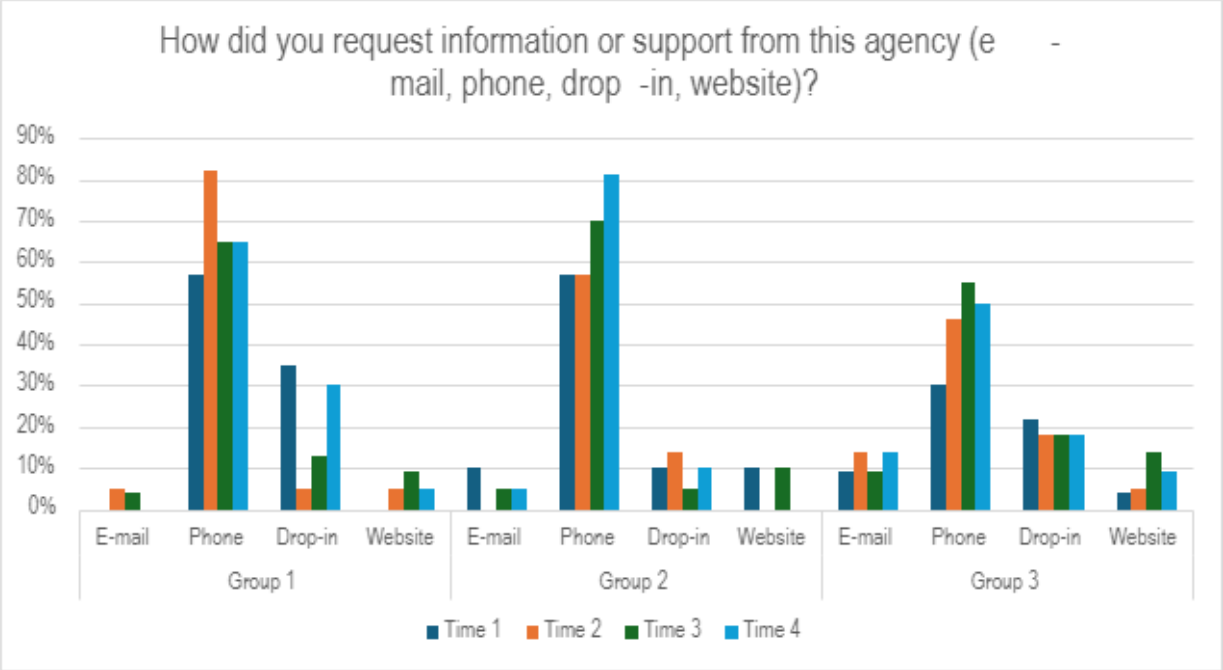
To evaluate the effectiveness of the new 'Approach', during the testing period: The Control Group accessed services through the regular stream of settlement and integration services, while The Intervention Group received a customized service that included digital devices, digital literacy, and access to settlement services through preferred online platforms; and The Partial Intervention Group received services according to the new 'Approach' but did not receive devices or digital training.

We collected the baseline survey in May of 2023 and subsequently evaluated the progress of participants through collecting surveys in September 2023, December 2023 and February 2024. This will help us measure, and evaluate the effectiveness of the new approach by comparing the newcomer and refugee women's experience in accessing settlement services between the three groups over the 9-month time period.

Findings

The most accessed service across all three groups was English training followed by education then housing. Across all three groups, 60% of participants accessed services from ACCT with the Control Group being the one who accessed services from other agencies the most. This is consistent with expectations since the Control Group did not receive any intervention and were asked to access settlement services as they usually would. Overall participants were satisfied with the services they received during the 9-month period. When asked how they accessed information or support from settlement agencies we found that participants in all three groups preferred using the phone over any other method and that finding was consistent over time. It was interesting to note that at Time 1 (baseline) participants in the Intervention Group never used technology (e-mail or website) to request information or support while participants in the Partial Intervention Group and the Control Group were already using both those methods. There is an increase in the percentage of those who use technology (e-mail or website) in the Intervention Group over time while that stays consistent in the Partial Intervention and Control Groups (see Figure 1). This increase can be attributed to two main things the availability of laptops and the internet during the testing period since they were provided by the intervention to the Intervention Group as well as the digital training that they received as part of the intervention. When requesting information or services the Intervention Group participants found it the easiest to make the request at Time 4 (an increase from Time 1) while the Control Group found it the hardest across all 4 time periods, consistent with there being benefits in the intervention.

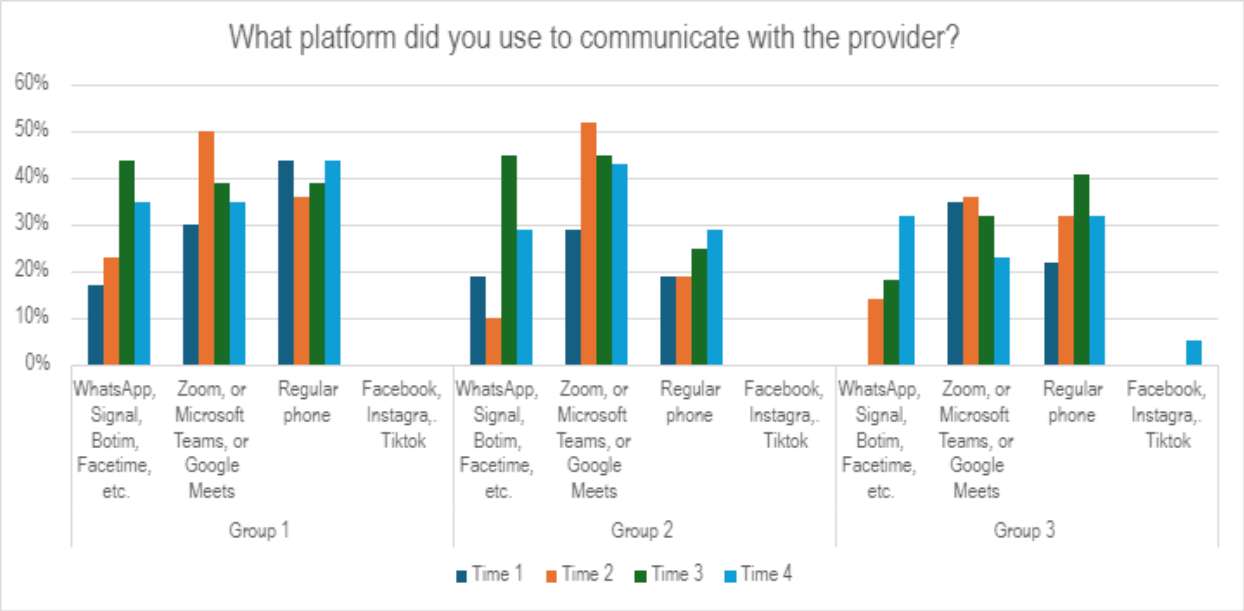
Figure 1:



nb: Group 1=Intervention; Group 2 = Partial Intervention; Group 3 = Control

At Time 1, when the Intervention Group was asked what platform they used to communicate with their service provider, the phone was the most common method of communication followed by Zoom/Teams/Google Meets then WhatsApp. Phone was the most common method of communication at Times 1 and 4, but the methods of Zoom/Teams/Google Meets and WhatsApp improved steadily over time. This is a strong indication of the clients' comfort increasing over time when it came to using technology to communicate with their service provider. However, in the Partial Intervention Group at Time 1, Zoom/Teams/Google Meets was the most common platform used for communication followed by WhatsApp and the phone. This suggests that there may have been differences between the groups at baseline, such that the Partial Intervention Group may already have had a good comfort with technology before the start of the study. All three forms of communication improved over time, however Zoom/Teams/Google Meets remained the most commonly used platform for the Partial Intervention Group. When comparing WhatsApp use between the Intervention and Partial Intervention Groups, we can see that there appeared to be larger change over time in the Intervention Group (see Figure 2).

Figure 2:



nb: Group 1 = Intervention; Group 2 = Partial Intervention; Group 3 = Control

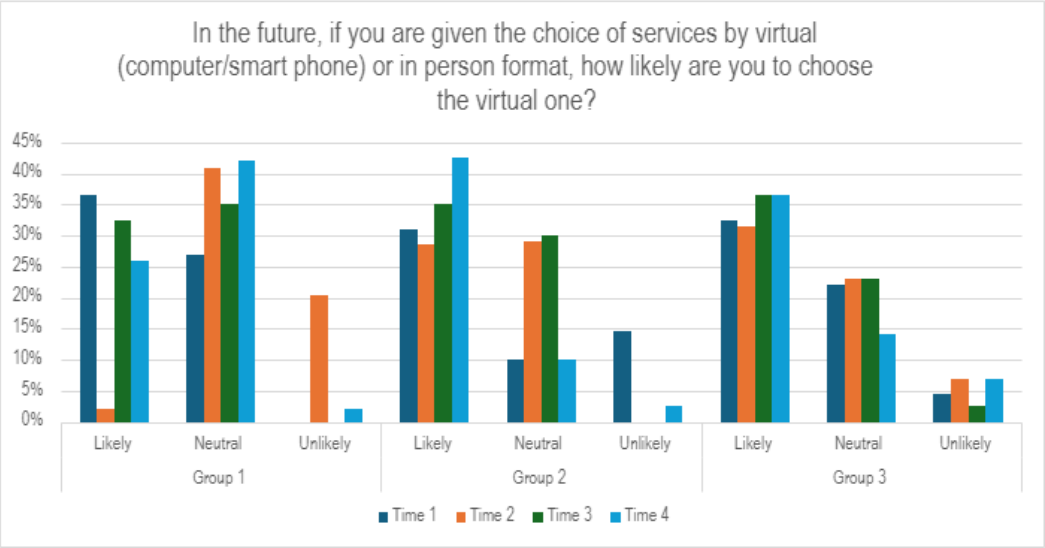
Consistently over time, the Intervention Group found it easier than the Partial Intervention or Control Groups to log into sessions, with the Control Group experiencing the most difficulty accessing meetings online. This may suggest that Group 1's ability to access online services was improved over the course of the intervention. When reporting on if they asked anyone for help during the sessions, most participants across groups and over time reported that they did not ask for help and by Time 4 the Intervention Group reported needing the least help, even though it was a small percentage difference (78% said no for the Intervention Group compared to 76% for the Partial Intervention Group and 73% for the Control Group). These two variables specifically show an improvement in technology use and an increase in comfort level for the Intervention Group that persisted through the duration of the study. When asked about experiencing technical problems after joining the sessions the Intervention and Partial Intervention Groups reported significantly more problems at Time 1 compared to any other time. The Partial Intervention Group experienced absolutely no problems by Time 4 while the Intervention Group experienced some problems, with dropped calls or turning on audio or video. As noted earlier, however, the ability of the Partial Intervention Group may have been higher from the very beginning. The Control Group continued to experience technical problems throughout the testing time period. All three groups also reported having a problem with background noise during the sessions to varying degrees at Time 1, 2 and 3 however none of the groups reported that problem by Time 4.

Overall participants in the Intervention and Partial Intervention Groups were more satisfied with the services they received compared to the Control Group, with 3% of those in the Control Group being dissatisfied with the services they received by Time 4 compared to 0% from both other groups. This suggests that the training of the staff may be a critical component in ensuring successful delivery of digital services. Similarly, the Intervention Group also showed a steady

increase in understanding the information they received from the sessions over time, especially compared to the Control Group, who were the least confident in understanding the information they received from the sessions over time.

Participants were asked if a different device (e.g. computer instead of phone) would have made it easier, the same, or harder to access a session. Participants in the Control Group were 2 times more likely to say it would be harder to use a computer compared to a phone relative to the Intervention and Partial Intervention Groups (see Figure 3). Thus, those in the Control Group appeared to be less comfortable using technology than the Intervention and Partial Intervention Group by the end of pilot study period.

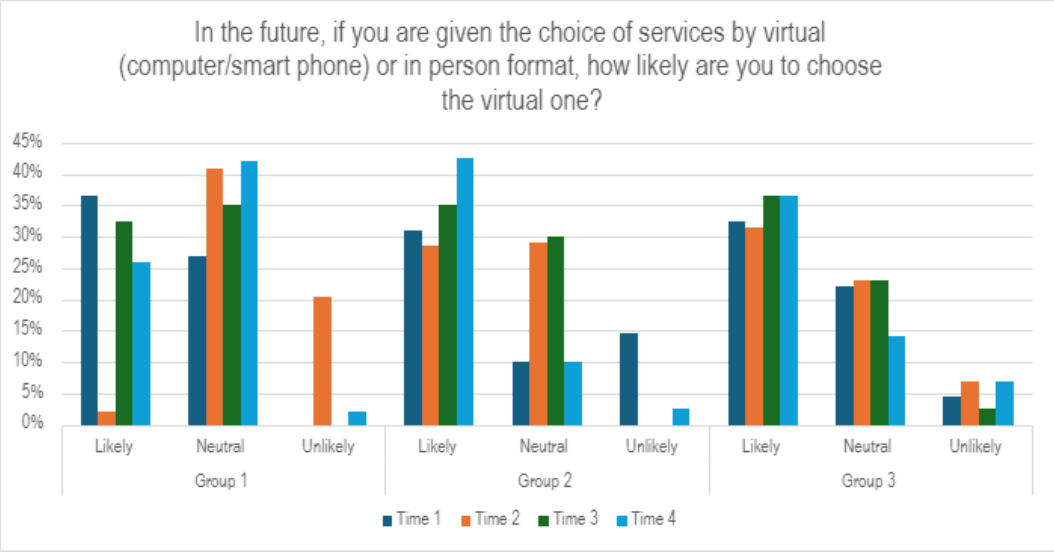
Figure 3:



nb: Group 1 = Intervention; Group 2 = Partial Intervention; Group 3 = Control

The Partial Intervention Group indicated that they would be the most likely to choose virtual services in the future if they were offered, relative to either the Intervention or Control Group, however this could be due to the fact that almost half (44%) of participants in the Intervention Group were neutral about receiving in person or virtual services compared to 10% of those in the Partial Intervention Group. Neutrality in this case could indicate comfort since it shows that those in the Intervention Group don't have a preference for in person services anymore. The Control Group's choices did not change much over time and instead saw a slight increase in those who are unlikely to choose virtual services between Time 1 and Time 4 (see Figure 4). When making this choice all participants across the three groups indicated that convivence and distance were the factors that contributed to that decision the most.

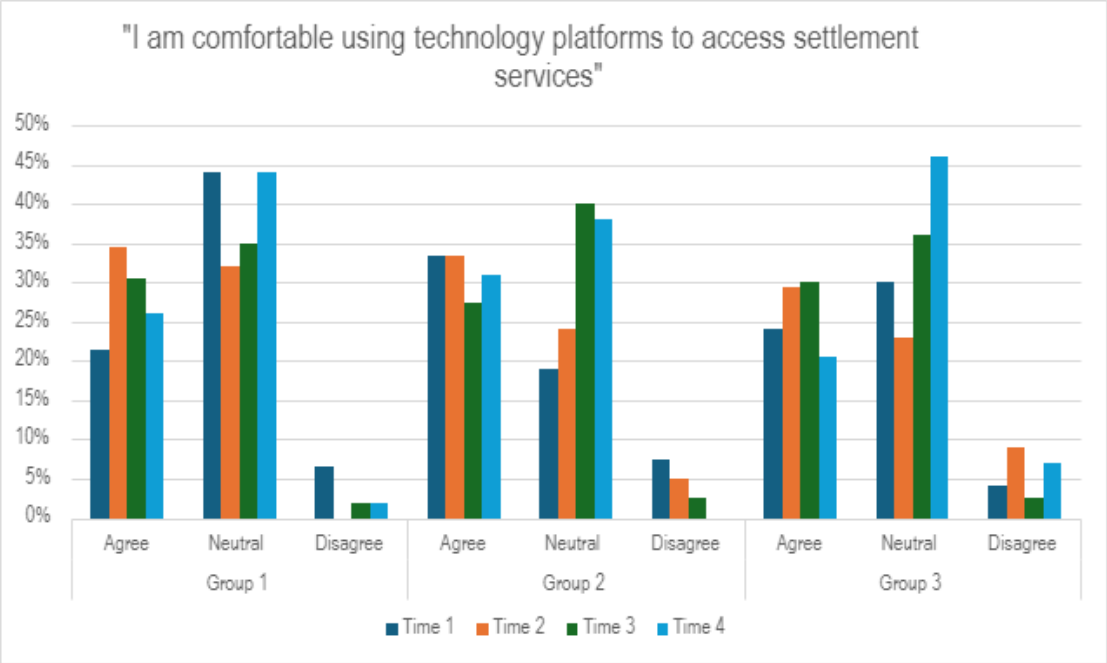
Figure 4:



nb. Group 1 = Intervention; Group 2 = Partial Intervention; Group 3 = Control

Three final questions were asked of the participants across the groups to get an understanding of their comfort with technology over time. By Time 4, the Intervention Group was the least likely to report that they needed help using technology. This is consistent with an increase in confidence and knowledge while using technology to access services or communicate with service providers. While there was a decrease in help needed using technology in both the Intervention and the Partial Intervention Groups, the Control Group reported needing *more* help using technology by Time 4 compared to Time 1. The Intervention Group reported that they were more comfortable using technology to access services at Time 4 compared to Time 1, while both the Partial Intervention Group and the Control Group were less comfortable using technology to access services over time. It is worth noting that while the Partial Intervention Group reported a decline in comfort over time they had the highest comfort level using technology at Time 1 compared to the other two groups (See Figure 5). Finally, when asked about their satisfaction with hybrid/remote settlement service delivery, both the Intervention and Partial Intervention Groups had a greater increase in satisfaction by Time 4 compared to Time 1 relative to the Control Group, who reported a very slight increase in satisfaction, reinforcing again that training the service providers can have a strong positive impact on client satisfaction.

Figure 5:



nb. Group 1 = Intervention; Group 2 = Partial Intervention; Group 3 = Control

Participant's Qualitative Reports

A subset of participants were brought together in a group setting after the end of the data collection period to share their thoughts on their experiences in the Josoor pilot study. 22 women participated; 10 from the Intervention, 8 from the Partial Intervention, and 4 from the Control Groups. Across all three groups, participants mentioned that they were thankful to be a part of the study as it was a great place for them to connect to their community and receive the help and support that they needed.

When it came to feedback from the Intervention Group, multiple participants mentioned that this program allowed them to improve their level of comfort and knowledge in using technology. Participants noted that they appreciated receiving the services and communications in Arabic, which allowed them to connect much more with this experience. They also mentioned that the training helped improve their comfort with online sessions and helped a great deal with their computer skills, which is why they would like others to experience it as well. One participant mentioned that she learned to do so much on the computer and is now able to express herself freely online. She does not face the same barriers in joining Zoom sessions. In addition, with the comfort that came with time and training she is able to communicate online in a group more easily.

When it came to whether they preferred online or in person sessions, the feedback was mixed. Across the Intervention Group, some said they still prefer the personal touch of an in-person meeting and others said that they preferred the convenience of an online session, especially when distance and weather are taken into account. One participant mentioned that she preferred in-person sessions over online for computer skills training and any meetings that required the exchange of sensitive information or the signing of documents, whereas she would prefer online sessions for employment and English classes. Online sessions were also much more convenient for stay-at-home mothers who could not leave their children at home alone in order to attend in-person sessions.

Some participants mentioned that while knowledge and trust in technology improved with this program, they faced barriers further down the line when they got referred outside the organization for more help. Also mentioned was that one of the most helpful aspects of the program was the flexible sessions that took into account the participants' availability. Many participants reported that they could not attend sessions during work hours and preferred evenings or weekends. Participants also mentioned the importance of the equipment being provided for them, and the significant improvements they are experiencing in their lives because they have a laptop to use. They expressed their sadness at giving the laptops back after they have come to rely on them for everything and not just accessing services online. They mentioned that they have begun to rely on the computer and now that they have to return it, they feel like an important tool that has had a positive change in their lives is being taken away from them. One participant said it felt like someone took away her cane and now she can’t walk anymore.

The Partial Intervention Group were really grateful for the availability of customized services as many of them were either mothers with a very restricted schedule or unusual work hours. This flexibility meant that they were able to express their preferred time and method of services to their designated service provider and received services based on their preferences. Those who lived a far distance away from the center mentioned preferring online services to in-person ones, however a theme that emerged with the whole group was that the home environment played a large role in their ability to access services online. Participants mentioned that because of their busy home environments they were unable to focus on the sessions and did not feel like they benefited from them as much as they would have liked to. The Partial Intervention Group did express that they wanted the technology and training that the Intervention Group received and admitted to feeling neglected in comparison. One participant said that she found learning about computers and technology to be one of the most important sessions she attended, however she could not participate in it and learn because she did not have a laptop.

Conclusion

Overall, trends suggest that several elements of the intervention were impactful in improving participants' skills and knowledge with technology. The biggest difference was observed when comparing the intervention groups to the control group. Those differences were seen in the Intervention and Partial Intervention Groups being more comfortable using technology to communicate with their provider and finding it easier to log into sessions than the Control Group, and being more satisfied with using hybrid and remote services. The Intervention Group was the most flexible in using different devices and was the most independent and self-sufficient when using technology. These are all indicators that the new 'Approach' was able to improve participants' comfort, skill and knowledge in using technology. There is evidence to suggest the customized services delivered by a dedicated service provider also led to improvements in accessing services online, as shown by the fact that data from the Partial Intervention Group mirrors data from The Intervention Group in terms of improvements. One limitation to this pilot study is that since the sample size is small, identifying the significance of the differences between groups is not possible. Moreover, the groups were not equivalent in their abilities at the baseline, with the Partial Intervention Group starting off with more skills and this made it more difficult to make comparisons. In addition, the small sample size makes differentiating between the level of impact that a full intervention has and a partial intervention has, very limited. However, these findings emphasize that providing the new approach across the services is itself a benefit, even without the intensive digital training and computers for the Intervention Group, and in this way, this new Approach has shown itself to be an important innovation in enhancing service delivery to newcomer women.

One final point to note is that there seemed to be benefits to having a computer that go beyond this study which were only captured in the qualitative reports from the participants. It suggests that the intervention may have had far reaching consequences beyond accessing settlement services and that access to technology, along with appropriate training, can greatly empower the women in this community. This is an unexpected but important outcome to this intervention that warrants further study.