Reach Alliance

Brent's Digital Transformations for Inclusive Health in London

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UCL

center for inclusive growth

The Reach Alliance

The Reach Alliance is a consortium of global universities — with partners in Ghana, South Africa, Mexico, Canada, United Kingdom, Australia, and Singapore — developing the leaders we need to solve urgent local challenges of the hard to reach — those underserved for geographic, administrative, or social reasons. Working in interdisciplinary teams, Reach's globally minded students use rigorous research methods to identify innovative solutions to climate, public health, and economic challenges. The UN's Sustainable Development Goals (SDGs) provide inspiration and a guiding framework. Research is conducted in collaboration with local communities and with guidance from university faculty members, building capacity and skills among Reach's student researchers.

The Reach Alliance was created in 2015 by the University of Toronto's Munk School of Global Affairs & Public Policy, in partnership with the Mastercard Center for Inclusive Growth.

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Note: Authors are listed alphabetically with the faculty mentors listed last.

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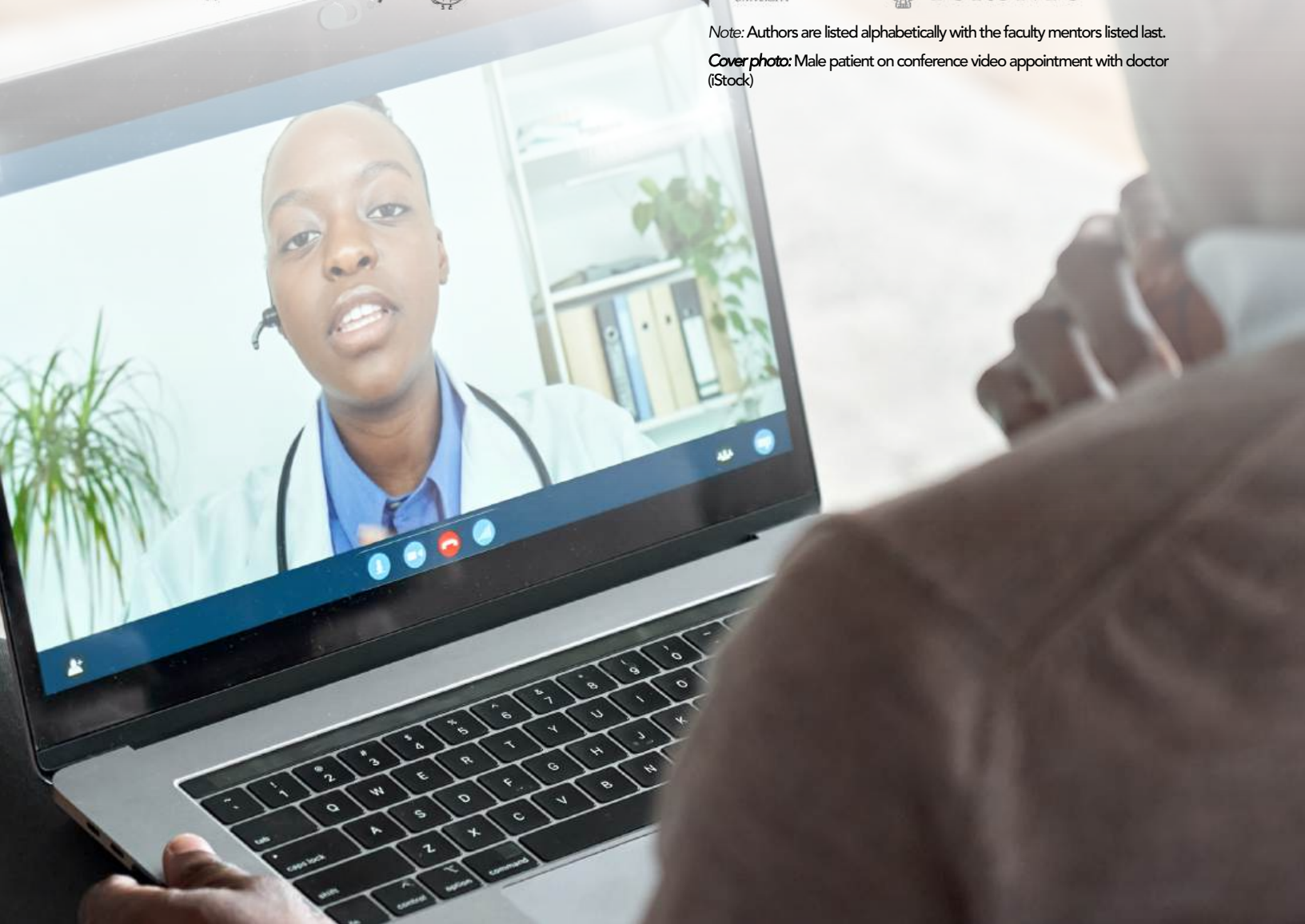

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Figure 1. A direction sign for the NHS COVID-19 vaccination clinic in Brent, UK

Executive Summary

The UK health system has experienced multiple structural changes over the last couple of years. The COVID-19 pandemic catalyzed a global shift toward digital healthcare solutions, driven by the need to reduce infection risks associated with traditional in-person care.[1] This digital transformation is part of different tools aiming to support attainment of the United Nations Sustainable Development Goal 3 (SDG 3) of ensuring healthy lives and promoting well-being for all. In the United Kingdom, the National Health Service (NHS) has rapidly adopted telemedicine to protect vulnerable patients and healthcare workers.

However, the global transition to digital health has not been without challenges, particularly in terms of equitable access. Disparities in technology access and digital literacy have hindered progress, especially in low- and middle-income countries working toward SDG targets.[2] While the global implications of this digital shift have been widely studied, there remains a gap in understanding its aftermath in local, socially diverse settings, even in advanced economies. Our research took a special interest in the Greater London area, building on recent studies on tackling health disparities.[3] The borough of Brent — with nearly 90 or more languages spoken and almost 40 per cent of residents not speaking English as their first language — illustrates the complex interplay between digital access,

1 Julia Shaver, "The State of Telehealth Before and After the COVID-19 Pandemic," *Primary Care* 49, no. 4 (2022): 517–30.

2 Linda Hantrais, Paul Allin, Mihalis Kritikos, et al., "COVID-19 and the Digital Revolution," *Contemporary Social Science* 16, no. 2 (2021): 256–70.

3 Julius Mugwagwa and Maria Kett, "Tackling Health Disparities Through Social Innovation: A Multistakeholder Coalition for Inclusive Health in Brent, London (SI2H)," UCL, Brent Health Matters, 2023; Alexandra Gomes and Ricky Burdett, "Spatial and Visual Comparison Analysis of Health Disparities in London Neighbourhoods: The Case of Southwark and Lambeth," *Journal of Hospital Management and Health Policy* 8, March (2024).

community initiatives, and health outcomes in a postpandemic world.[4]

We examine how the postpandemic transition toward digital healthcare can be structured into an integrated, inclusive, and comprehensive system that benefits the wider population and addresses existing health inequalities and emerging digital health barriers. Our research looks at how barriers (like platform design, access infrastructure, trust, cultural norms, and language barriers) hinder the adoption and use of digital healthcare services in the socioeconomically and ethnically diverse borough of Brent. We employ the social determinants of health framework and align our analysis with the objectives of the UN SDGs, particularly SDG 3's focus on equitable health access.[5] We identified emerging and recurrent barriers to digital healthcare accessibility, quality, and provision: communication challenges, digital exclusion, and a fragmented infrastructure, leading to the current observed digital health disparities.

SDG 3 Good health and well-being — Ensure healthy lives and promote well-being for all at all ages.

COVID-19 and Digital Transformation: Effects on Healthcare Access in the UK

The COVID-19 pandemic prompted significant changes in UK primary care, notably through the rapid adoption of digital technologies. Instead of traditional face-to-face consultations, many healthcare experiences now begin with virtual interactions such as telephone, video, and online form-based communications, including e-consultations.[6] Where these new measures are considered initial steps prior to an in-person consultation, they are proving to be additional barriers for primary healthcare's accessibility, and its effects are different across England. Studies have shown telemedicine's positive outcomes, particularly in managing conditions like diabetes and pregnancy, where patients express satisfaction.[7]

However, digitization can disproportionately disadvantage marginalized groups due to barriers such as lack of access, motivation, and digital skills and education.[8] Indeed, as Knights and colleagues found, digitization can intensify existing structural inequalities by amplifying differential access and digital literacy, varying capacity to benefit, and differing motivations for usage.[9]

While the digital transformation of healthcare has shown promise in enhancing accessibility and efficiency, particularly during the COVID-19 crisis,

4 "Joint Health and Wellbeing Strategy: Tackling Health Inequalities," Brent Council, 2023.

5 Angela Donkin, Peter Goldblatt, Jessica Allen, Vivienne Nathanson, and Michael Marmot, "Global Action on the Social Determinants of Health," *BMJ Global Health* 3, no. S1 (2018).

6 Felicity Knights, Jessica Carter, Anna Deal, Alison F. Crawshaw, Sally E. Hayward, Lucinda Jones, Sally Hargreaves, "Impact of COVID-19 on Migrants' Access to Primary Care and Implications for Vaccine Roll-Out: A National Qualitative Study," *British Journal of General Practice* 71, no. 709 (2021): e583–e595.

7 Lauren M. Quinn, Melanie J. Davies, and Michelle Hadjiconstantinou, "Virtual Consultations and the Role of Technology During the COVID-19 Pandemic for People with Type 2 Diabetes: The UK Perspective," *Journal of Medical Internet Research* 22, no. 8 (2020); Lauren M. Quinn, Oluwafumbi Olajide, Marsha Green, Hazem Sayed, Humera Ansar, "Patient and Professional Experiences with Virtual Antenatal Clinics During the COVID-19 Pandemic in a UK Tertiary Obstetric Hospital: Questionnaire Study," *Journal of Medical Internet Research 23, no. 8 (2021).*

8 Geoff Watts, "COVID-19 and the Digital Divide in the UK," *The Lancet Digital Health* 2, no. 8 (2020): e395–e396.

9 Knights et al., "Impact of COVID-19 on Migrants' Access to Primary Care."

it is crucial to recognize and address its negative impacts among marginalized populations that face unequal access, digital literacy, and language or behavioural barriers. We aimed to understand the intersection between health and digital inequalities in Brent. We first looked at the current health system reform, its national objectives and implications, as well as its digital considerations.

Integrated Care systems (ICS)

Brent is a borough located in West London, supervised by 57 councillors divided among its 22 wards. These local governments are responsible for ensuring that the provision of accessible and quality Health and Social Care services meet local needs. They accomplish this by promoting the borough and developing local policies and strategies, in addition to the National Health System (NHS). Prior to 2022, the national government was responsible for both the Health system and Social Care system, which cover the services provided by the NHS. However, the Integrated Care Systems (ICS) were formally established as an innovative strategy by the *Health and Care Act* of 2022. They aim to merge healthcare and social care sectors to enhance service quality and efficiency in England. This reform responds to evolving healthcare needs and addresses postpandemic challenges, from long backlog and hospital waiting times to crumbling NHS buildings and grounds, as well as shortages in both sectors. Key to ICS is the development and promotion of shared digital platforms such as the NHS App and NHS website, that are supposed to enable comprehensive data access for informed decision making by local leaders, caregivers, and individuals receiving care.

This national restructuring of the health system also focuses on a new governmental process of leadership, supporting and working directly with leaders to disseminate NHS services.[10] However, the 2023 report delivered by the House of Commons provided insights on the long-term implementations of ICS, critiquing current "paralysis of analysis" caused by the absence of both an authoritative body and an accountability framework.[11] This "paralysis" delayed decision making and the implementation of actions that could prove useful to overcoming short-term as well as long-term issues.[12]

Brent Strategies

Amid the ICS reform, the Brent Health and Wellbeing Board (BHWB) was established, made up of a number of key partners such as Brent Council (including councillors, Public Health, Adult Social Care, and Children and Young People departments), NHS Brent Integrated Care Partnership Executive Committee, NHS Northwest London Clinical Commissioning Group, NHS Northwest London Integrated Care System, Nursing and residential care, and Healthwatch Brent. These entities were tasked with a statutory duty to produce the Joint Health and Wellbeing Strategy (JHWS) for the local population, as outlined in the *Health and Care Act 2022*.[13] The strategy identified these barriers to keeping residents healthy: financial constraints, work/caring constraints, lack of motivation, language barriers, and digital exclusion. The Brent Council introduced initiatives to enhance residents' digital experience, focusing

10 "Joining Up Care for People, Places and Populations," Department of Health and Social Care (2022).

11 Patricia Hewitt, "The Hewitt Review: An Independent Review of Integrated Care Systems," Department of Health and Social Care (2023).

12 "Introducing Integrated Care Systems," House of Commons Committee of Public Accounts, 2023.

13 "Health and Social Care Act 2021," UK Public General Acts, 2021.

on improving access, connectivity, and digital skills in alignment with Brent's Digital Strategy. Additionally, the strategy addresses data use to better understand the population.

However, there is limited integration between the digital and health strategies, which creates a significant gap. For example, while digital skills are being developed for residents, the strategy overlooks key operational aspects within the healthcare system, such as improving the digital competence of physicians or addressing workload issues and call backlogs in medical services. This lack of alignment between health and digital strategies highlights a missed opportunity to enhance the overall efficiency and operational capacity of Brent's healthcare services through digital innovation.

The general practitioner access report published by Healthwatch Brent underscores patients' dissatisfaction with several aspects of their experience. These include extended call-back times, dissatisfaction with assessments during telephone consultations and diagnosis, privacy concerns, assessment duration, and communication difficulties. As a result, following the COVID-19 pandemic, Brent Health Matters, our partner organization, was founded to mitigate health disparities in Brent.

Social determinants of health in Brent.
To tackle the prominent research gap in the operational capacities and impact of the current digital reforms, we used the social determinants of health (SDH) framework to identify barriers to healthcare provision and accessibility broadly, as well as the emerging social implications and digital health disparities in Brent. Social determinants of health refer to the social and economic circumstances of an individual and how they may affect their short-term and long-term health. They specifically look at socioeconomic and structural factors throughout an individual's lifetime, for instance, social and physical environment, employment and work conditions, and social networks such as social support, education, and healthy behaviours.

Brent is one of 32 boroughs in London, managed and supervised by the local authorities, in charge of disseminating local services. As the "seventh most under doctored in London" and with the "most patients per nurse," Brent faced multiple challenges during the pandemic, one of which was strong vaccine hesitancy resulting from lack of effective coordination and communication.[14] The health crisis highlighted health disparities at a national level, but also emphasized the strong impact of social determinants for health and their intersectionality manifested at the local level. The borough's rich cultural diversity, with 31 per cent of the population identifying with a non-UK national identity and 37 per cent not speaking English as their first language, underscores the influence of ethnicity and language barriers.[15]

High levels of income and employment deprivation indicated by Brent ranking as the "fourth most deprived borough" highlight the socioeconomic nature of SDH. The prevalence of social isolation and loneliness, with approximately 27 per cent of residents living alone, also clarifies forms of social deprivation that are known to negatively impact health and well-being.[16] Brent's significant proportion of young residents and a large immigrant population, who may differ in health needs and barriers, further underscores the possible interconnectedness of SDH with the built environment and material resources of the community. Understanding and addressing these factors and how they may manifest in

14 "Tackling Health Inequalities in Brent," Community and Wellbeing Scrutiny Committee, 2023.

15 Brent Health Matters Dashboard.

16 "Tackling Health Inequalities in Brent."

Figure 2. Social determinants of health (CDC)

the adoption of digital health innovations are essential for promoting health equity and improving overall health outcomes in Brent.

Based on current available research, we have established that there is a knowledge gap on the operational capacity of Integrated Care Systems, in both their physical as well as digital application, in the postpandemic setting. Critiques of the 2022 reform highlight the absence of accountability in its leadership, as well as diverging national interests toward NHS budgeting or workforce shortages and local prioritizing of specific resident needs. Although they record patient feedback and experiences, these reports lack clarity on the subsequent actions taken to improve services, highlighting the lack of accountability and responsiveness to patient needs, both at the local and national level.

There is also a notable absence of studies focusing on the experiences and strategies of street-level bureaucrats, such as primary healthcare providers and unique socioeconomic and demographic dynamics. Where the efficiency of the new system remains undetermined, evidence shows that Brent is susceptible to some of the pandemic's main challenges and barriers to healthcare accessibility. For instance, during the pandemic, Brent experienced one of the lowest vaccine rates and high vaccine hesitancy. In the absence of combined objectives for health and digital strategies and proficient surveillance and monitoring at a local level, the main drivers for emerging digital health disparities in Brent remain unclear.

Our Research Approach

To develop comprehensive insight into Brent's healthcare accessibility, we used a number of methods to collect and analyze relevant data, including an initial scoping and mapping, a literature review, and semi-structure interviews. We were interested in both quantitative and qualitative data, with a slight inclination toward the latter for stakeholders' views on how digital tools were impacting access to health.

We began by scoping the London Borough of Brent's demographic, health system, health issues, and past or current initiatives. This enabled us to not only better understand the national and regional functioning of the Health and Social Care System but also to identify the prevalent issues within it.

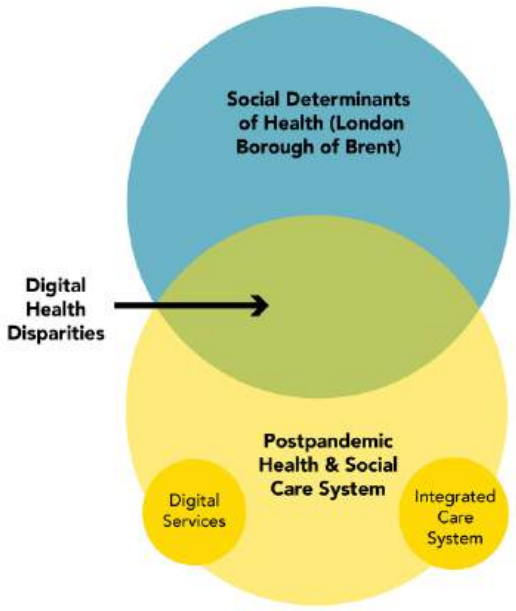

Figure 3. Identifying the scope of Brent's digital health disparities

Literature Review

Our literature review of both academic and grey literature identified potential digital health disparities in Brent according to social and structural considerations, particularly through the lens of social determinants of health within Brent's postpandemic Health and Social Care system. We used this research to determine and finalize our stakeholder mapping.

Semi-Structured Interviews

Semi-structured interviews were crucial to further identify potential barriers to accessibility, quality, and provision of digital healthcare in Brent by speaking to valuable stakeholders in the (digital health) ecosystem. We interviewed 10 participants, who we chose through purposive and snowball sampling (initiated by reaching out to stakeholders identified in our initial scoping and the literature review). The first participants were selected from both the health ecosystem, the digital realm, and the community outreach services to promote diverse opinions and interests in the data collection. While we prioritized specific research questions, the interviews were flexible enough for the interviewee to share additional information they might find relevant. We had hoped to interview residents as part of the project, but we were unable to secure the necessary ethics clearance, which would have required significantly more time. Additionally, we aimed to speak with more ground-level bureaucrats, such as general practitioners (GPs) and digital champions, but due to time constraints and their demanding workloads, this was not feasible.

Qualitative Analysis

Once we collected information from these interviews, we used thematic coding to identify the barriers to digital healthcare access, quality, and provision, and that lead to current disparities in Brent's healthcare system. Using the MAXQDA software, we first clustered information from the transcripts and recordings. Then we used thematic coding to identify key themes and categorize specific quotes and ideas that the participants shared by topic. Finally, through the selection, reduction, and categorization of data, we finalized our findings.

Digital Health Disparities in Brent

Brent Demographics

Brent stands out as the second-most diverse borough in London. This diversity is reflected in its dynamic population, which includes a significant number of students, particularly around Wembley Park, contributing to a transient demographic. The borough is linguistically rich, which sometimes poses challenges for non-English speakers. As one of our interviewees noted, "in such a diverse borough, there's something like 90 languages or more" which also highlights the potential for language barriers.

Related to these languages, Brent's ethnic and cultural landscape is diverse. Our research participants highlighted concentrations of people from Black and Minority Ethnic (BME) backgrounds, including those from Eastern Europe, alongside established Somali, Afro-Caribbean, and South Asian communities. The borough was also recognized for attracting significant economic activity, particularly around Wembley with its famous arena and stadium.

Our participants also emphasized this diverse make-up, stating that "64 to 67 per cent of people come from a global majority background," and they acknowledged the presence of various other community groups, including Somali and Caribbean, particularly in the southern part of the borough.

General Service Landscape

Healthcare — Brent Health Matters and public healthcare. The healthcare service landscape in Brent mirrors that of greater London, featuring a network of primary care providers such as general practitioners (GPs), community health services, and specialized clinics. While the general UK-based NHS and public health services are designed to provide comprehensive care, they may not fully address the specific needs of Brent's diverse communities. The COVID-19 pandemic brought these disparities to light and led to the establishment of Brent Health Matters, an initiative aimed at addressing health inequalities within the borough.

By initiating conversations and raising awareness, the initiative has encouraged residents to consider disparities in health outcomes and life spans among different populations. The Brent Health Matters team aims to resolve these differences by promoting the idea that every service in Brent should have its own agenda for tackling health inequalities. Brent Health Matters employs health educators from various organizations who are well-positioned to engage the community by recruiting volunteers and providing education. Their ultimate goal is to reach a point where such a specialized team is no longer necessary because health inequalities have been effectively addressed across all services.

Brent Council and Brent Health Matters have actively embraced co-production and co-creation by developing programs that directly incorporate community feedback and needs. A strong example of this is the B3 program, a peer-led drug and alcohol user group in Brent. B3 was co-created with the community, addressing key issues identified by service users. It raises awareness around drug and alcohol misuse through education and information, provides a voice and support network for users, and works to improve services in Brent by engaging the community in partnership efforts, training, and feedback.

Co-production techniques of consultation and involvement that have proven effective in Brent programs, such as B3, include reimbursing participants for their time, scheduling meetings during evenings or weekends to accommodate those who work, and clearly communicating the program's end goals. Keeping presentations

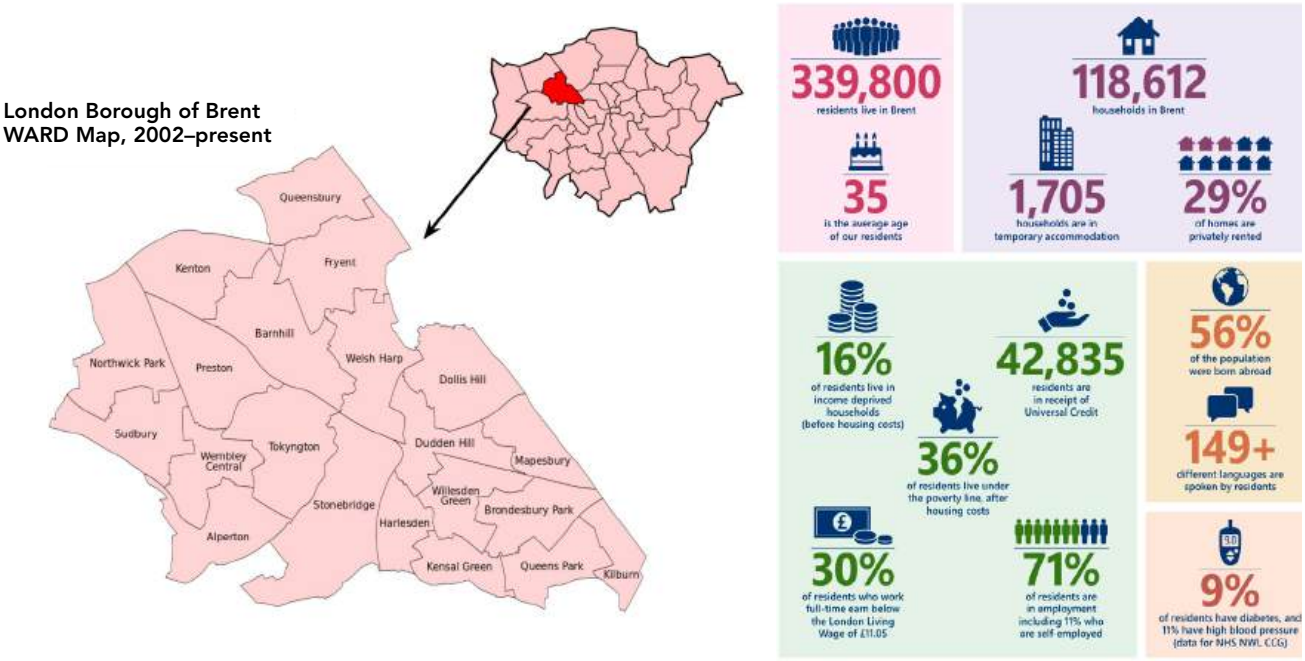

Figure 4. Brent Borough demographics

simple ensures that all participants, including service users, feel confident sharing their views without feeling overshadowed by professionals.

The Public Health department of Brent Council is developing a new model of "social prescribing" to address nonclinical issues such as social isolation, stress, and financial difficulties that often lead people to visit GPs. By expanding social prescribing beyond GP settings to include local authorities and community services, the initiative aims to provide equitable access to support for those not registered with GPs or who do not typically seek GP services. This model aims to connect individuals to local activities and resources that improve health and well-being, focusing on what matters to the person.

Community engagement — Brent Carers Centre, VCOs, etc. Brent Council has adopted a community-oriented approach to engaging its diverse population, recognizing the critical role of community involvement in effective service provision, particularly in areas such as health, social care, and public well-being. To ensure meaningful outreach, the council employs community coordinators who act as liaisons between the council and local residents, facilitating communication and trust. Because many council staff members come from the local community they are viewed as trusted intermediaries, enhancing the council's ability to connect with residents. The elderly population is another key focus, with specific initiatives like well-being cafes and dementia cafes aimed at addressing both the health and social needs of older adults. These programs provide critical health education, but they also create spaces for social interaction, leading to noticeable improvements in health outcomes.

Brent Council partners with voluntary and community organizations (VCOs) like the Brent Carers Centre to provide support services. These organizations deliver programs such as diabetes education and digital inclusion,

while also fostering social well-being through community events and social support networks. Brent Carers Centre is a charitable organization formed as a consortium of four other community organizations. They recruited community champions — individuals from within the community who play a key role in disseminating health-related information and fostering engagement. Collaboration with a wide range of groups, including faith-based organizations and ethnic communities such as the Somali, Romanian, and Brazilian populations, ensures that the council is trying to effectively reach underrepresented and vulnerable groups in the borough.

Brent Health Matters facilitates a diabetes program that conducts health and well-being events, bringing health checks directly into the community, including targeting asylum seekers and refugees by providing services at hotels. They assist individuals in registering with GPs by employing multilingual staff to address refugees' concerns about ID requirements. They have partnered with numerous organizations to run approximately 200 events, and offer a helpline for health or care questions, including assistance with GP registration.

These programs provide critical health education, but they also create spaces for social interaction, leading to noticeable improvements in health outcomes.

State of digital inclusion. Prior to the pandemic, Brent Council, as an early adopter of digital transformation, strategically invested in digital roles to enhance inclusion within the community. The Digital Transformation Team led these efforts, focusing on key areas such as digital inclusion, connectivity, and automation, ensuring that residents could better access services and resources online. This foresight enabled flexibility during the pandemic and allowed for the development of these roles over the next three years without the usual constraints of traditional restructuring processes (that other local authorities, lacking similar investment in their digital transformation teams, struggled to achieve). This proactive approach ensured that resources were available to adapt swiftly to the evolving digital landscape, positioning the organization ahead of others in terms of digital transformation.

One of the initiatives born from this investment was the Digital Champions Program, which aimed to bridge the digital divide by providing hands-on support to individuals. It focused on equipping people with essential digital skills, including how to use smartphones and other devices. The "digital champions" are community members who have received face-to-face training to engage and provide support. They help others with "anything digital." The program has been particularly successful in reaching older demographics, with the majority of participants being over the age of 50. Around 200 volunteer digital champions have been involved, especially in areas with high levels of digital exclusion.

In this context, the council has been proactive in providing community grants, expecting volunteer organizations to independently run their projects. Some of these organizations have opted to focus on digital initiatives. For example, the council conducted digital drop-in sessions in partnership with community organizations and hosted these sessions in local libraries. They have also run sessions where community organizations opened

them up to their residents, with the structure of the sessions depending on the cohort of participants.

Barriers to General Healthcare Accessibility/ Engagement

Before, during, and after the COVID-19 pandemic Brent residents have faced barriers to the general healthcare system, particularly in regard to the more traditional forms of provision, accessibility, and quality. Where some of these barriers have been defined in the literature, they reappeared throughout our field work. These barriers to healthcare accessibility vary among residents and social determinants of health and include distrust, language and communication barriers, and cultural sensitivity barriers.

Distrust. End users and Brent residents distrust the healthcare system and practitioners. We identified multiple levels of and reasons for distrust and communities and community leaders recognize the possibility of interaction and intersectionality between these levels of distrust. General distrust toward the healthcare system was apparent prior to the most recent digital transformation and, according to one interviewee, is caused by "inadequate provision of healthcare" reflected in a "general atmosphere of neglect from the central government." Not only does this exacerbate inequalities but it also manifested in high levels of vaccine hesitancy during the pandemic, as well as prominent disease rates in comparison to other London Boroughs (i.e., tuberculosis and COVID-19 deaths).

Misinformation is a root cause of distrust among vulnerable populations, particularly undocumented migrants who fear deportation when they seek healthcare. The LGBTQ+ community also experiences trust issues toward the health and social care system, particularly gay men impacted by human immunodeficiency virus (HIV). Concerns over legal status and social norms contribute to this spread of misinformation and distrust in receiving healthcare services, putting vulnerable populations at risk.

Language and communication barriers. One interviewee in the healthcare sector claimed that there were around 90 different languages or more spoken in Brent and that many residents struggled to access primary healthcare services because of language barriers. Where English is not the first language of many of the services' end users, some struggle with written and/or spoken English. They need adequate translation services to mitigate language and communication barriers that threaten all levels of healthcare accessibility.

Cultural sensitivity barriers. Practitioners and decision makers identified behavioural norms as another prominent barrier to healthcare accessibility. Differing social and cultural expectations toward the provision of healthcare sometimes lead to misunderstandings and miscommunications between patients and practitioners in healthcare settings. Cultural differences also sometimes led to diverging expectations for healthcare services and quality.

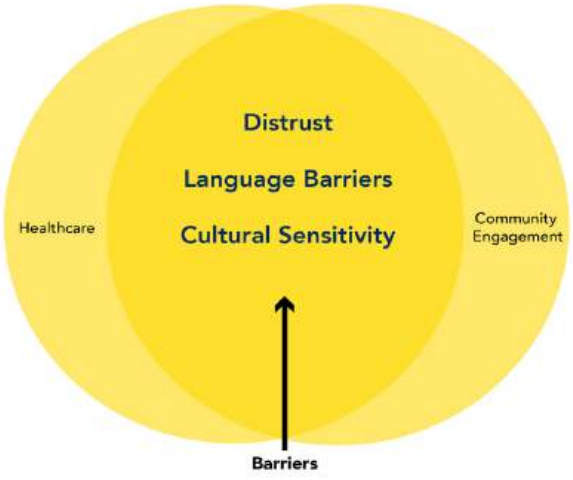

Figure 5. Barriers to general healthcare accessibility

One of the participants working closely with the African Caribbean community gave an example of an initiative introduced to tackle this issue. Through engaging activities with the communities in Stonebridge, an area of high deprivation, healthcare professionals were able to explain their services in a more welcoming way, instigating more interest and interaction among surrounding Brent residents. This was primarily done by participating in the local pop-up markets where they hung banners and handed out leaflets.

How SDHs Manifest in the Global Pandemic Context

With these pre-existing barriers posing serious issues to healthcare accessibility, the COVID-19 pandemic played an unfortunate role in emphasizing disparities within Brent's general Health and Social Care system. Disparities were specifically apparent in preventative healthcare services where mental health and cancer screening were affected and vulnerable populations were unable to receive adequate and efficient services due to restrictions for in-person appointments.

As a result, Brent was one of the highest-impacted boroughs in London to experience the pandemic's negative consequences in its healthcare provision, quality, and accessibility. The borough's COVID-19 death rates were some of the highest in the country and concentrated in Brent neighbourhoods. The council described how there had been 46 deaths on only one street. New initiatives and organizations were developed to tackle these inequalities among boroughs and specifically high-risk communities. For example, Brent Health Matters was developed to address these disparities and provide a community-centred response.

Pandemic Response: A Digital Shift

Rapid Initial Response

The COVID-19 pandemic forced a rapid adaptation to digital tools within the healthcare sector. Even simple tools like "QR codes" became essential for facilitating safe interactions and sharing information. The shift also extended to specialized areas like physiotherapy, where sessions transitioned to remote formats with therapists observing and guiding patients' movements through digital platforms.

The push toward digitization in healthcare, while accelerated by the pandemic, also highlighted challenges in its implementation. Efforts to bridge the digital divide faced significant barriers in reaching clinically vulnerable individuals with technology — especially when people didn't have laptop computers. There was also the issue of finding the right balance between online and face-to-face healthcare delivery, which emerged as a crucial consideration in ensuring equitable access and quality of care.

Digital Acceleration

Where face-to-face healthcare interactions were no longer encouraged, the need for digital alternatives skyrocketed. The resulting shift is evident in the current landscape, where we saw heavy reliance on remote diagnosis and digital booking systems. This shift from predominantly face-to-face care to a hybrid or even fully remote model underscores the pandemic's profound impact on healthcare delivery.

Allocation of Resources

Despite initial clinician reluctance, the ICS and NHS directed significant resources toward digitizing healthcare services, with local boroughs such as Brent Council collaborating to implement

these digital initiatives as the pandemic accelerated the need for digital solutions. For example, there was an increase in funding flow to facilitate the adoption of digital health provision and accessibility. One ongoing initiative provided free devices or 12 months of free connectivity to any resident who had less than GBP 6,000 (approximately CAD 10,800) worth of savings or who was identified as digitally excluded. This resulted in helping over 2,500 households gain access to laptops or connectivity.

During the pandemic, Brent Council facilitated easier access to approximately 11,000 social housing properties by digitizing key processes, such as introducing electronic signing for leases, which improved efficiency and reduced delays. Collaborative efforts also took place to increase high-speed internet coverage for eligible individuals in social housing.

Collaborative initiatives with private providers also promoted quality training and resources for council staff and front-line teams, including digital champions, social workers, housing officers, and health outreach workers. Through these public-private partnerships, council staff were offered training material as well as digital skills training sessions. For Brent residents, digital volunteer experts and private professionals gave support to facilitate the digital shift. This included library drop-in sessions and events hosted by community partners.

Adoption and Community Engagement

Normalizing digital tools for communities. Many healthcare services have transitioned to a digital-first approach, including GP appointments and record keeping. Additionally, there has been an increase in digital resources, such as instructional videos guiding patients for appointment preparation, further embedding digital technology into everyday healthcare practices.

Operational capacity and workload pressure. Service providers' increased workload following the pandemic led to a greater reliance on digital solutions, such as using text messaging instead of phone calls. For example, council housing services have been overwhelmed, and people searching for housing face extensive waiting lists — some up to 15 years. Limited resources hinder the council's ability to engage with communities and address additional needs, such as helping residents register for services online, create email accounts, and navigate digital portals for housing applications or social services. These extra registration steps add complexity and further strain the council's capacity. Because departments are frequently focused on managing immediate crises, finding the capacity to offer further outreach or support is a significant challenge. This strain has been compounded by the high demand from residents for services such as housing assistance, social care, health support, and digital access, leaving teams overburdened and struggling to keep up with the growing list of tasks.

COVID-19 exposed and amplified existing gaps in the healthcare system, particularly in relation to information technology infrastructure. Initially, there was skepticism about the use of digital services for both health and council functions, with even clinicians and staff expressing reluctance to embrace these technologies. However, through collaborative efforts in the post-COVID period, people's trust was gradually restored, and the shift to digital solutions gained momentum.

Digital Transformation Barriers During the Pandemic

Acknowledging the presence of barriers to more traditional forms of healthcare accessibility and provision, we looked to understand the emergence of new barriers in the realm of healthcare digitization but also its impact on these pre-existing barriers.

Digital Literacy and Skills

Through our conversations with various experts and professionals working in the digital sector of Brent's healthcare industry, we identified poor digital literacy as a recurrent barrier to accessing healthcare services. Insufficient training for people to use digital tools and services provided during the pandemic were prominent barriers to healthcare accessibility.

For example, senior residents often struggle with understanding how technology works and need additional support. They may also own outdated devices that restrict their accessibility to newer apps and other healthcare platforms. Where additional technical support has been implemented by community organizations in Brent, they struggle to reach those most vulnerable, and the applicability of these services may not be relevant to all cohorts of residents.

Sometimes language combines with generational issues to pose a bigger threat to the adoption and accessibility of digital services in the health sector than stand-alone challenges. During our field work, a professional working in the digital strand indicated that young people often find themselves at risk of being overlooked in digital exclusion discussions and therefore do not get the help they need. Many interviewees also emphasized the gap between speaking and writing English and how they do not necessarily go hand in hand, becoming a huge barrier to digital adaptability. Where these challenges can affect residents in many different ways, initiatives aimed at reducing these gaps should be developed comprehensively and in acknowledgement of Brent's demographic landscape.

Motivation and Relevance: Digital Hesitancy

Behavioural norms of engagement can also negatively affect the applicability and adoption of quick digitization in the healthcare system. These barriers manifested themselves in the lack of human interaction and overloaded digital platforms.

Social and cultural differences can lead to misunderstandings and miscommunications in healthcare settings, particularly affecting vulnerable populations who need more hands-on support. Many participants noted that digital services are unable to replicate the nuances of face-to-face interactions for particular health issues. This is especially the case for mental health services, where screenings, assessments, and long-term care are difficult to implement remotely. In the absence of in-person interactions the alternative digital replacements prove to be barriers in themselves.

Many participants also acknowledged that the integration of multiple platforms in the digitization process for different health services can exacerbate difficulties in accessing healthcare services for patients and families. In these fragmented landscapes, health services can be overwhelming for people which affects overall accessibility and quality. For example, some users have reported difficulties when trying to book appointments through the NHS app, only to be redirected to their GP's separate app like "Patchs" or other primary healthcare provider apps.

Persisting Healthcare Challenges

Despite advances in healthcare and a push toward digitization, health inequalities persist in the borough of Brent. A complex interplay of factors contributes to these inequalities. We considered the intersection of Brent's specific socio-health determinants and the challenges that the health system faces after the pandemic.

General Barriers to Healthcare Access

The complexity and fragmentation of the healthcare system often creates significant barriers to access. Patients often express frustration at having to "repeat their stories to different staff," highlighting a lack of seamless communication and coordination within the system. The slow adoption of effective digital solutions by the NHS and other health services exacerbates these challenges, often leaving individuals to rely on solutions provided by charities or the private sector. While the private healthcare sector in the UK is smaller compared to the NHS, it still plays a significant role, particularly in offering quicker access to services and specialist care. However, having to pay for private care can be a significant obstacle for many people because private healthcare is often expensive and not an option for those facing financial constraints.

Patients often express frustration at having to "repeat their stories to different staff," highlighting a lack of seamless communication and coordination within the system.

Some individuals aren't motivated to engage with health services. This often stems from a perception that these services are "not relevant to their immediate needs." Addressing this disconnect and finding ways to motivate individuals to prioritize their health and engage with available services is crucial. As one interviewee put it, "there are a lot of people who don't access GP services ... They're not registered with GP services, or they don't go to Accident and Emergency."[17]

Community Engagement Barriers

Limited language skills can create barriers to accessing health services in Brent. Many health facilities lack adequate translation services, often forcing residents to rely on family members for interpretation, which can compromise both privacy and accuracy. Low literacy levels in both native languages and English further hinder individuals from understanding health information and instructions, even if they can speak or comprehend English.

Cultural differences can also significantly affect communication and understanding in healthcare settings. These differences range from varying perceptions of health and illness to distinct communication styles and expectations of treatment. As one stakeholder noted, "Not many people understand that holistic healthcare is part of some cultures ... The African Caribbean community likes to talk about holistic health." Holistic healthcare refers to a comprehensive approach to health that addresses the physical, mental, emotional, and spiritual well-being of an individual, rather than

17 Accident and Emergency is the part of the NHS hospitals that deals serious injuries and life-threatening emergencies.

focusing solely on treating specific symptoms or conditions. This underscores the importance of cultural competence in healthcare. A one-size-fits-all approach to accessing care often overlooks the unique needs of diverse groups. Different communities may have varying expectations of healthcare based on their experiences in other countries. For example, Romanian residents in Brent told us that antibiotics are easily prescribed in Romania, creating a different expectation of healthcare compared to the UK's system.

Building trust within communities is paramount to improving access to and engagement with healthcare. Community-based outreach, led by trusted local individuals, has proven to be far more effective than traditional top-down approaches in fostering this trust.

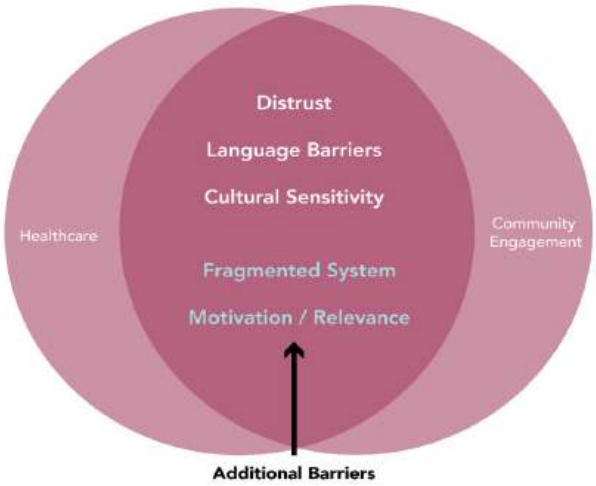

Figure 6. Additional barriers to healthcare accessibility

Digital Services' Long-term Barriers

While digitization can enhance existing initiatives, it can also introduce new barriers. As one of the stakeholders noted, "if everything was digitized, it would be easier, but it would leave a lot of people behind." The concern, particularly among participants, is that the faster the healthcare system moves toward digitalization, "the wider that gap is going to become." Preexisting and persistent challenges in digital access are common and become more pronounced when essential healthcare services transition online.

Access to digital devices and reliable internet is a significant barrier for many households in Brent, particularly in areas with higher deprivation levels. The cost of devices, data plans, and limited infrastructure exacerbate these challenges, leading to disparities in digital accessibility across different regions of the borough.

One of the primary issues is limited access to digital devices. As one stakeholder noted, "some households share one phone between the entire family," illustrating the lack of digital resources at the household level. Many residents are unable to afford smartphones or other essential devices, further limiting their ability to engage with digital services.

- Another significant barrier is internet affordability. Social tariffs are discounted broadband and phone packages designed for people who are receiving government benefits such as Universal Credit, Pension Credit, and some other forms of financial assistance in the UK. These tariffs, sometimes referred to as "essential" or "basic" broadband, aim to make internet access more affordable for low-income households. However, despite their availability, they are not widely publicized, and many eligible people find them difficult to access. For many households, even with these discounts, the cost remains prohibitive, as social tariffs typically range from GBP 10 to 20 (CAD 18 to 35) per month depending on the provider. Many families often have to choose between essential services like broadband or putting food on the table, highlighting the financial strain they face.

- Borough-level infrastructure disparities also contribute to unequal digital access across the South of Brent. For example, areas like Harlesden and Stonebridge have limited high-speed internet connections and higher population density, resulting in greater deprivation compared to the North, where areas like Queensbury and Kingsbury are better served. These infrastructure gaps exacerbate the digital divide within the borough.
- Motivation and relevance are key factors in encouraging digital engagement, especially among individuals like older adults or those wary of data breaches and scams. Many deliberately avoid digital services, feeling they are "not for me," as one participant put it, reflecting on their interactions with residents.

Digital literacy and skills in some populations are a significant barrier to accessing digital services, such as telemedicine or booking appointments. Tasks like turning on a laptop or joining a Zoom call are challenging for many individuals. More advanced skills, such as online banking or booking NHS appointments, and navigating the NHS app for medical records and appointments, present even greater difficulties.

There is also widespread suspicion about using digital technology for personal or important matters, particularly due to concerns about data breaches and scams. This hesitation is especially prevalent among older populations, who often already struggle with digital literacy. Concerns about falling victim to scams or disinformation are common, and much of the educational information is targeted at older adults to help them avoid these risks.

For many, the fear of digital misuse is reinforced by news of data breaches, which receive significant media attention. Individuals often hear stories from relatives warning them not to engage with certain digital platforms or respond to suspicious messages, heightening their reluctance to adopt technology. Outdated devices and a lack of understanding about security updates further complicate the matter. Many users may unknowingly make changes that compromise the security of their devices, leading to even more distrust in digital services.

Figure 7. Digital barriers

Digital Barriers to Healthcare Accessibility

The general challenges to healthcare accessibility — affecting patients, service providers, and the community — overlap with digital barriers, leading to a cascading impact on the quality of services provided. The quality of services can lead to people's increased hesitation in accessing digital healthcare. We highlight digital barriers for both service providers and patients, such as lack of human interaction, language and communication issues, and cultural sensitivities.

Lack of Human Interaction

Digital services cannot replicate the depth and nuance of face-to-face interactions, which are especially important in healthcare settings. This is particularly true for conditions like mental health, where personal interaction plays a crucial role in assessing and addressing concerns. Some health issues are difficult to evaluate remotely, and the absence of direct, in-person engagement can lead to late diagnosis. The increasing reliance on digital platforms, where individuals are expected to access services online rather than calling or visiting in person, can make it harder for healthcare providers to fully understand a patient's needs. This lack of personal connection in digital services may lead to hesitation, particularly among those who feel that certain conditions require more than what a digital consultation can offer.

Language and Communication Barriers

Adopting digital health services is a complex task in a diverse borough like Brent. As one stakeholder noted, "many struggle with written English," and a significant number of people "don't necessarily have high levels of literacy in their native language." While digital services can offer translation, providing effective communication in such a diverse area requires more than just translation support.

- **Digital exclusion and access.** Where every London borough is divided into multiple separate wards, represented by three elected councils, Brent has some of the most digitally excluded wards in the country. Digital exclusion affects various groups, including the elderly, recent immigrants, and those with language barriers, impacting their ability to access online health services. Particularly in low-income households, the cost of healthcare and associated technologies further exacerbates the problem. Residents who are most digitally excluded are those without email addresses and unable to access communication from digital services.
- Digital literacy challenge also extend to service providers and council staff who are themselves adapting to these digital services.

Emerging Challenges

Patients and their families often find it overwhelming to navigate multiple apps — such as the NHS app, GP apps, and other health-related platforms. Moreover, the slow adoption of effective digital solutions by the NHS and other health services has led to a reliance on charity and private-sector initiatives to fill the gaps. This fragmentation leads to confusion and complicates the healthcare experience when patients are frequently required to repeat their information to different staff members, contributing to a perception of a disjointed system.

Digital Services' Benefits and Opportunities

To overcome barriers and reduce digital health disparities, there have been multiple initiatives developed, targeting at-risk populations while also facilitating digital accessibility and engagement. Many interviewees mentioned that digital platforms and services will eventually encourage more community engagement as the shift from traditional forms of healthcare provision continues. New and emerging digital tools are being recognized by healthcare providers and digital experts for empowering end users to take ownership of their health communications and personal health records. This looks promising for leveraging patient engagement and self-care. Current initiatives such as the diabetes program use digital platforms to boost patient engagement and self-care, therefore reducing reliance on healthcare professionals.

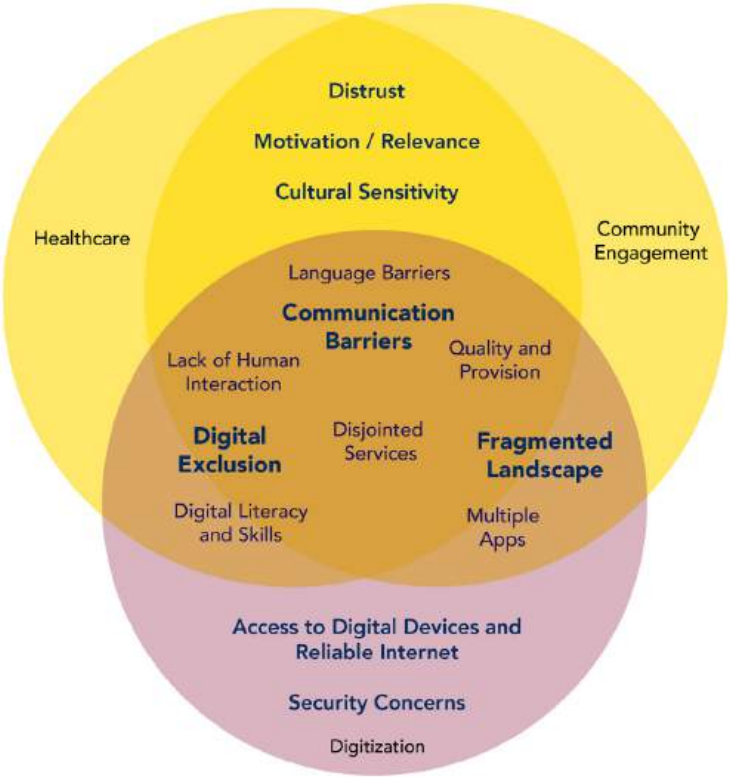

Figure 8. Intersecting digital healthcare barriers

The integration of digital tools in healthcare delivery is not the only evolving phenomenon — internal community engagement is also adapting to the change. Where these new services are arriving at a time of constant digital evolution in different sectors and social norms, they are facilitating the flow of health information and support. For instance, many health professionals acknowledged that "dark socials" — private, hard-to-track online communication channels such as messaging apps and private groups on platforms like WeChat and WhatsApp — are helping communities adapt and connect digitally. This has led to the formation of groups such as Chinese WeChat groups and Somali WhatsApp groups, facilitating community support and communication, especially during the pandemic.

Platforms like TikTok are increasingly being used to share knowledge and engage in debates, showcasing the innovative ways that communities use digital technology. These platforms enable the efficient dissemination of health information, helping to overcome financial constraints and other social barriers to traditional healthcare communications. However, TikTok is also a source of misinformation and disinformation, highlighting the complexity of relying on such platforms for health communication. While they offer valuable opportunities for outreach, they also require careful navigation to ensure the accuracy and reliability of the information shared.

Digitized healthcare provision also enables practitioners to reduce time constraints, so they can treat more patients. This is especially useful for preventative and urgent services, where timely

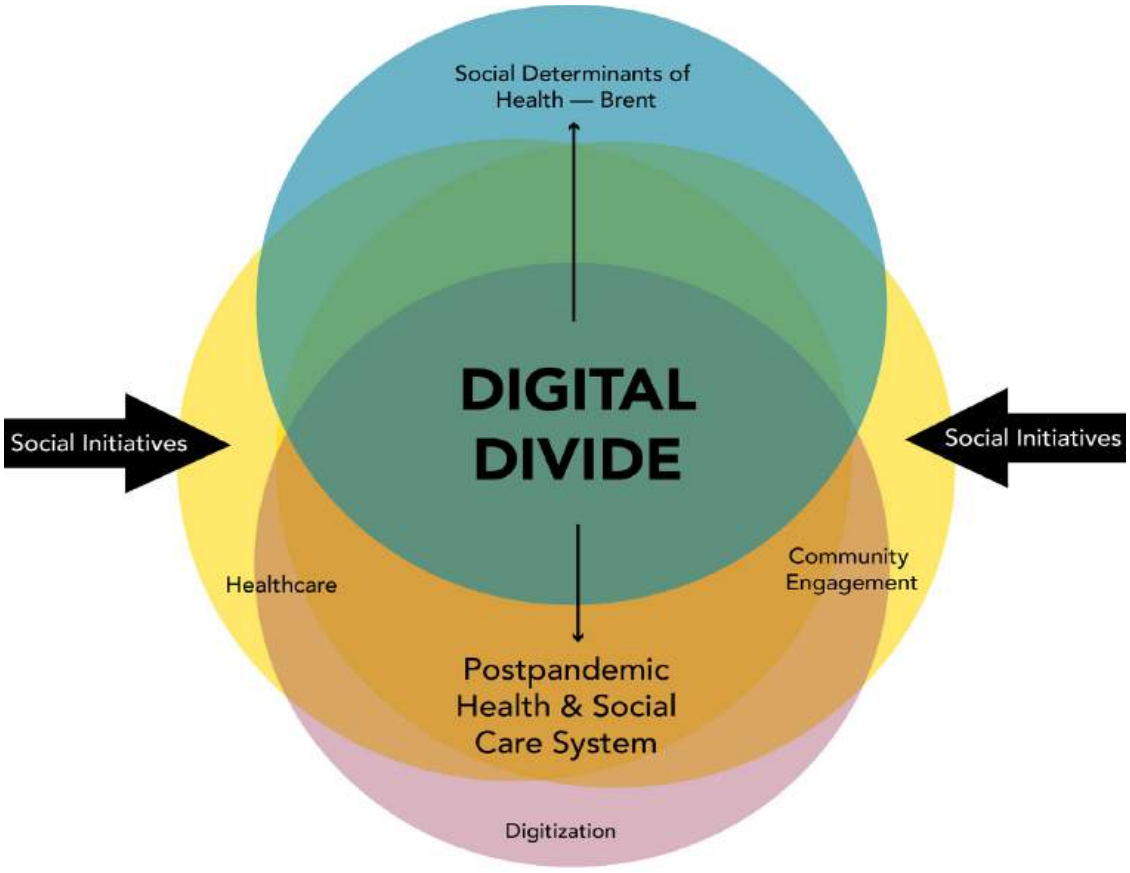

Figure 9. The digital divide: Intersection of digital healthcare barriers

text messages, such as appointment reminders or vaccination alerts, help prevent the spread of illnesses and ensure prompt care.

Many users who were not able to attend and participate in more traditional forms of healthcare provision saw digital health platforms as enhancing accessibility. For example, these platforms are more efficient and convenient for Brent residents to access information outside of traditional working hours. As a result, a new initiative has focused on developing community-targeted digital tools, promoting people-centric engagement according to the digital needs of those involved. This includes integrating a new workforce of digital professionals, such as digital champions to initiate engagement within the neighbourhoods, as well as to support and promote easy access and use among residents. According to the digital strategies report, the initiative aims for 35 per cent of currently digitally excluded residents to increase their digital confidence.

Figure 9 highlights the critical intersection between healthcare, community engagement, digitization barriers, and the social determinants of health, all of which collectively contribute to the widening digital divide in Brent. The borough's diverse population faces numerous barriers, including digital exclusion, communication challenges, and a fragmented landscape in healthcare and social services. These obstacles, layered with socioeconomic disparities,

create significant challenges in accessing digital healthcare solutions, particularly for marginalized or "hard-to-reach" communities.

Although digital innovations were rapidly rolled out during the COVID-19 pandemic, these solutions often cater to more accessible communities, leaving behind those who face systemic barriers. This unequal distribution of access means that while some benefit from the convenience and efficiency of digitized healthcare, a significant portion of the population risks being further excluded. The social determinants of health — such as income, education, and access to technology — further exacerbate the divide. Communities that are difficult to engage with are not inherently "hard to reach," as one interviewee explained, but rather "we are hard to access" because of the structural barriers in place.

Each department and social service provider in Brent faces its own set of challenges, yet all are influenced by the same overarching issues. As generative AI and digital technologies continue to rapidly transform public services, they have become the focal point for innovation and investment. However, Brent's position as a hub for a highly diverse and migratory population means services must balance the need for broad, scalable solutions with tailored approaches. While limited resources make it impossible to create entirely bespoke services for every group, there must be flexibility within core services to address the specific needs of different communities. The intersection of these two growing factors — technological transformation and population diversity combined with the cost-of-living crisis — demands a thoughtful approach to ensure that the benefits of digitization are accessible to all, rather than deepening existing inequalities.

Lessons Learned

Since the pandemic, Brent's health system has been built on a complex infrastructure of services within the health and digital ecosystems, catering to its residents. This has been made possible through an expansive network of government, public organizations, and public-private partnerships. However, due to issues in coordination between current service providers, lack of funding and resources, multiple differing social determinants of health, and a lack of digital centralization with little local applicability, there are barriers to health accessibility, quality, and provision. As a result, distinct health disparities remain among the Brent population, both as remnants of more traditional forms of healthcare as well as in the digitization context.

With the current changes in integrated care and varying population needs, innovative solutions must focus on providing centralized services through local leadership and representation. Only by acknowledging and identifying differing community needs will decision makers and healthcare providers be able to minimize mistrust, increase digital accessibility, and provide comprehensive, adequate, and targeted health interventions.

Therefore, our recommendations are structured according to a two-sided framework, to improve the robustness and relevance of health service provision and digital tools. They first look at improving the applicability of digital health services, recognizing the need for co-production in the decision-making process, prior to implementation. The second point then looks at the adoption of these digital tools, particularly targeting the communicability of interventions and their short and long-term implementation.

Recommendation Part 1: Co-production

Introduce co-production in the development and implementation of digital health innovations and interventions. This aims to promote adaptability and flexibility throughout the implementation process, while reducing the risk of failure during the developmental period. This learning health systems framework would be community-centric and therefore target challenges brought up in the current fragmented structural landscape, where there is an absence of clear leadership and centralized digital platforms. However, the objective would be to also acknowledge different community needs, improving trust and engagement among Brent's residents.

This could be done through:

1. Leading preliminary workshops focused on distrust among residents to further the research and better understand barriers to their trust and motivation toward the health system and government;

2. Implementing an advisory board constructed of relevant stakeholders, such as representatives from the council, Brent Health Matters, Digital Champions network, Community Champions network, and Health Watch; and

3. Developing a systematic feedback loop between end users and decision makers that is considerate of both short- and long-term needs.

Recommendation Part 2: Adoption

When introducing co-production, it is crucial to consider the various levels and stages of the process, while remaining adaptable and open to learning. Partnerships with community organizations and volunteers, such as digital champions and community coordinators, already offer valuable spaces for learning and engagement. Initiatives like the workshops mentioned earlier can further enhance community participation. Currently, co-production in Brent is primarily at the consultation stage, demonstrated by the council's work on the Digital Champions Program, as well as projects like the diabetes and dementia cafe initiatives. This foundational stage has allowed the council to gather community insights and feedback, helping to shape early interventions.

There is now an opportunity to move to the next level of involvement, where residents can actively contribute to the development and implementation of new policy interventions, programs, and digital healthcare innovations. Key or supporting agendas for the initial workshops could include:

1. Addressing mistrust in the digital healthcare system by involving community members directly in decision making, fostering a sense of ownership and improving engagement;

2. Ensuring that interventions are tailored to the specific needs of diverse demographic groups in Brent, making the solutions more locally applicable and relevant; and

3. Focusing on digital illiteracy and language barriers as key challenges that hinder the successful implementation of digital healthcare initiatives. Exploring translation practices used in other countries to build a foundational database, while waiting for a co-produced technical solution. Drawing insights from case studies in developing countries with similar issues, particularly where Brent's migratory population originates. Trialling potential solutions through private-partner cooperation and using language translators to improve accessibility and engagement across different communities.

Our Limitations

Due to the lack of ethics approval, we were unable to reach out to Brent residents and end users most impacted by digital health disparities. Obtaining ethics approval for working directly with end users would have required a more extensive application process, which would take considerable time, and we were operating under tight deadlines. This lack of ethics approval limited our ability to include those voices in our research, preventing us from delving into certain issues as deeply as we had hoped. We tried to mitigate this by reaching out to different professionals and stakeholders, such as council members, digital and health professionals, and experts but also by reaching out to professionals who are themselves Brent residents and experience the health and housing system on a day-to-day basis.

This limitation means that uncertainty about the different levels of distrust remain and more in-depth research would be needed in this area, particularly based on discussions with the hardest-to-reach or vulnerable populations in Brent. For instance, we can assume that there are certain issues we could not address by talking with professionals alone. Brent has higher rates of late cancer diagnosis than other places in the country — we assume this may result from a level of distrust within the community when accessing healthcare.

Therefore, time constraints limited the quantity of primary information collected. A high-risk ethics application would have enabled us to collect and provide research on distrust among Brent residents but it also has a long administrative process for approval. For future research, we recommend the implementation of workshops with members of different communities in Brent, such as immigrant and LGBTQ+ groups. These workshops should conduct activities to investigate different levels of distrust among the borough's residents toward the health system and how to mitigate them.

Research Team

Bhavisha Darji is a master of public administration graduate in innovation and public value from University College London's Institute for Innovation and Public Purpose. As an Indian designer, she is dedicated to addressing complex societal challenges with a systems-thinking approach. Bhavisha holds a bachelor's degree in service and system design and co-founded Peelpicker, a research-driven startup that patented a low-emission process for creating biodegradable composites from Mosambi peel waste. She also led the Learning Labs Meghalaya Project, using systemic design to improve family planning services in tribal communities by developing culturally tailored solutions.

"Researching the challenges of seasonal migrant workers and the solutions by local NGOs has been both humbling and inspiring. My key takeaway is the critical role of health as an entry point for broader human and labour rights, reinforcing my belief that access to healthcare is essential for securing the rights these workers deserve."

Juliette Henry recently received a master's degree in public administration in health, technology, and public policy at University College London. She completed her liberal arts and science bachelor's degree at Amsterdam University College, and then went straight into working for the life science section of the research publishing company, Frontiers, which fueled her interest in science policy and uptake of this research project. Her interests primarily lie in policy approaches to mitigating antimicrobial resistance and health systems structures, such as Integrated Care Systems.

"One recurring challenge to the provision of quality and equal access to healthcare, pointed out by policy advisors, was the issue of distrusts among Brent residents toward the UK health system — yet the defining cause for this remains complex and uncertain."

Konrad Krämer just completed a master's degree in public administration in health, technology, and public policy at University College London where he focused on the intersection of digital technologies and policy, researching the potential of AI tools for policy advice for the UK Government Office for Science. He has worked at the intersection of politics, digitalization, and communication since 2019 and studied politics in Potsdam and London.

"This was my first time conducting research as part of a group, and I really enjoyed the collaborative process. Engaging with diverse perspectives not only enriched our understanding of the barriers to healthcare accessibility in Brent and the UK in general but also showed me how collective effort can uncover the deeper, systemic issues behind complex societal challenges."

Julius Mugwagwa is professor of health innovation and public policy at University College London, Department of Science, Technology Engineering and Public Policy (UCL STEaPP). He also currently serves as UCL's global strategic academic advisor for Africa and global health thematic director for UCL's Global Governance Institute. He is the convenor and co-lead for STEaPP's MPA in Health, Technology and Public Policy, and was the UCL Reach Alliance faculty mentor for the 2023/24 academic year. With undergrad and postgrad qualifications in biological sciences, biotechnology, and regulatory innovation in the life sciences, he has worked in veterinary research, pharmaceutical R&D, manufacturing, and quality assurance and harmonization of medicines regulatory systems in Africa and Europe. Julius is an accomplished scholar and published author in the areas of global health, health innovation, and health system strengthening, buttressed by his research and teaching interests in the governance and development implications of technologies and innovations. He is currently co-writing a handbook of health and innovation which will be published in 2025.

"This work in many ways captures the reality of dealing with complex societal challenges. The team has done a great job in bringing to the surface the entanglement of technological and nontechnological issues in responding to some of these challenges."

Maria Kett is professor of humanitarianism and social inclusion in the UCL Institute of Epidemiology and Healthcare. An anthropologist by training, she has extensive expertise around inequalities, particularly those around disability. Maria has undertaken community-based and policy-focused research in countries across Africa and Asia and is author of over 140 publications. She recently brought these insights to a short AHRC-funded program exploring health inequalities and community assets in the London Borough of Brent. Maria is also a co-founder of the Global Disability Innovation Hub. She regularly serves as a consultant for numerous bilateral and multilateral donors, including the UK FCDO, the World Health Organization, and the United Nations. Maria is also the programme director for the new UCL MSc Humanitarian Policy and Practice.

"This project adds a lot of important nuance and granular data to the broad work we've been doing in Brent on tackling health disparities. The disparities are a moving target and that necessitates the need for continuous tracking and development of innovative tools to tackle them."

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