NHS Confederation

Assessing digital inclusion in the NHS

How ready are we for the NHS App?

March 2026

Rezina Hakim
Beth Wheatland
Tom Campbell

About us

NHS Confederation

The NHS Confederation is the membership organisation that brings together, supports and speaks for the whole healthcare system in England, Wales and Northern Ireland. The members we represent employ 1.5 million staff, care for more than 1 million patients a day and control £150 billion of public expenditure. We promote collaboration and partnership working as the key to improving population health, delivering high-quality care and reducing health inequalities.

From April 2026, the NHS Confederation and NHS Providers are coming together to form The NHS Alliance. One organisation, one membership, uniting, representing and supporting healthcare leaders to improve the NHS and health of the UK.

For more information visit www.nhsconfed.org

Contents

Key points

- Integrated care boards have a statutory duty to reduce inequalities in access and outcomes. To support them, our digital exclusion index provides clear insight into where digital barriers are greatest and which interventions are most likely to address them.

- A digitally enabled NHS is only possible if people are proactively digitally included. This index equips national and local leaders with data to help target action so the NHS App and wider digital services can drive equitable, sustainable improvements in health outcomes.

- Our analysis reveals geographic patterns: many rural and coastal areas have higher levels of digital exclusion, while large urban centres tend to have lower barriers. These patterns are not random but reflect structural, demographic and environmental factors that shape who can engage with digital care.

- The government's ambition for the NHS App to become the universal front door to the NHS by 2028 can only be met if digital inclusion is prioritised as a core enabler. Without action, digital transformation will proceed unevenly and risks widening existing inequalities in access, outcomes and experience.

- Ensuring patients have options in how they access NHS services is vital for equitable digital transformation. This means that non-digital alternatives, such as telephone and face-to-face routes, must remain as available options to avoid widening inequalities.

- High levels of digital exclusion sustains analogue demand (such as phone calls, face-to-face contacts and manual processes), which limit the efficiency gains digital programmes are intended to deliver, and places additional strain on an already stretched health service.

- Our index draws on three case studies which illustrate different system approaches to tackling digital exclusion, from community-led delivery models to system-wide arrangements:

  — Case study: Nottingham and Nottinghamshire ICB found that digital exclusion is closely tied to health inequality, with challenges ranging from urban data poverty to low digital confidence in rural and older populations.

  — Case study: Greater Manchester ICB highlights how large-scale, locally embedded programmes, coordinated through a regional taskforce and delivered via community venues, can significantly improve digital access and reduce inequalities.

  — Case study: Sussex ICB demonstrates the importance of system-level enablers, embedding digital inclusion into governance, commissioning, procurement and workforce development to create sustainable, accountable and community-informed change.

Background

Digital inclusion is defined by the government's Digital Inclusion Action Plan as: 'ensuring everyone has the access, skills, support and confidence to participate in and benefit from a modern digital society'. It underpins the ability of the NHS to deliver on its digital ambitions. Without it, large parts of the population are unable to engage with digital health tools, widening rather than narrowing digital and health inequalities.

Digital exclusion remains a significant challenge to delivering a digital-first NHS, where accessing NHS services is by means of using the internet and electronic devices.

Around 1.6 million people in the UK are not using the internet, including 13 per cent of those aged 60-69 and 5 per cent of those aged 50-59. It is estimated, around 23 per cent of the population may struggle to interact with online services. These challenges have an impact on access to health services and outcomes. The Good Things Foundation found that 33 per cent of those who are offline find it difficult to interact with NHS services and those who cannot use digital technologies are likely to have worse health outcomes.

This challenge is particularly important in the context of the government's ambition to make the NHS App the front door of the NHS by 2028, alongside the development of a digital-by-default model of neighbourhood health. Digital tools offer significant opportunities to improve population health, understand patient needs, and reduce unwarranted variation in access and outcomes. However, these benefits can only be realised if people are able to use them. If digital exclusion persists, the shift towards digital-first models risks deepening existing digital and health inequalities rather than addressing them.

Digital exclusion is shaped by multiple, overlapping factors, including access to devices and connectivity, digital skills, demographic characteristics, and contextual vulnerabilities. Understanding these drivers is essential for designing effective interventions and for ensuring that national policy ambitions translate into equitable outcomes on the ground.

Against this backdrop, it is vital to understand the current state of digital inclusion across the country. While we recognise that there is even greater variation in circumstances and factors driving exclusion at local levels below integrated care boards (ICBs), the changes driving this agenda are being shaped at the ICB level. This digital index and accompanying analysis focus on ICB-level development to reflect this.

About this report

This report provides NHS senior leaders with an ICB-level overview, using this digital exclusion index to highlight variation and identify priority areas for action.

It also lays the groundwork for how national and local partners can work together to ensure that digital transformation is inclusive, sustainable and aligned with government objectives.

It also draws on three case studies, Nottingham and Nottinghamshire, Greater Manchester, and Sussex, which illustrate different system approaches to tackling digital exclusion, from community-led delivery models to system-wide governance and procurement reform.

The remainder of the report uses these examples and the data from the digital exclusion index to highlight common themes, practical enablers, and recommendations for national leaders on how digital inclusion should be approached in policy, strategy and frontline service delivery.

Digital exclusion index and the main drivers of exclusion

This digital exclusion index, developed by the NHS Confederation, identifies where people may face barriers to access digital health services, including the NHS App. It is mapped onto the newly merged ICB footprints that take effect from April 2026 to align with the geographies at which services will be planned and commissioned. It is structured around four dimensions that together reflect the main drivers of exclusion from digital services.

Four dimensions of digital exclusion

Research has shown that digital exclusion is driven by multiple factors, including access to devices and connectivity, digital skills, demographic characteristics and contextual vulnerabilities. Informed by publicly available data, the Good Things Foundation research and NHS England's digital inclusion guidance, the dimensions we have generated capture the following structural and individual barriers to digital engagement:

- access
- skills
- demographics
- contextual factors.

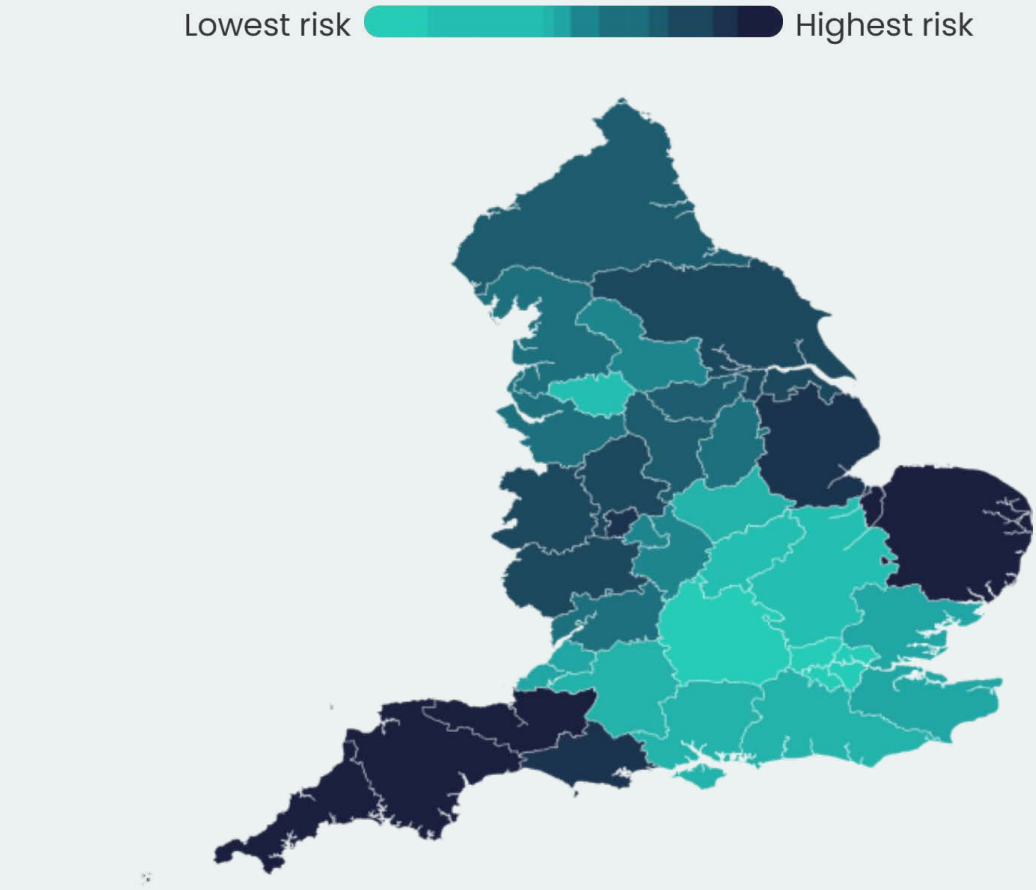
The maps on the following pages, show extent to which the dimensions affect different areas, with areas scoring high being at high risk of digital exclusion.

For interactive, annotated version of these maps, please see our online report at **www.nhsconfed.org/assessing-digital-inclusion-in-the-NHS**

Overall exclusion reveals a coherent national pattern of digital exclusion, while the four underlying dimensions in the maps that follow help explain the variation within it. ICSs that rank high on the overall index, have higher scores on at least two of the underlying dimensions, suggesting that multiple factors are contributing simultaneously to their levels of digital exclusion.

Some areas appear consistently higher or lower across several dimensions, suggesting a clear geographic relationship in those parts of the country. In other areas, differences between dimensions account for why an ICB's overall position is higher or lower, with each dimension adding a different aspect to the picture. Any programmes to tackle digital exclusion must take into account these highly localised drivers of exclusion.

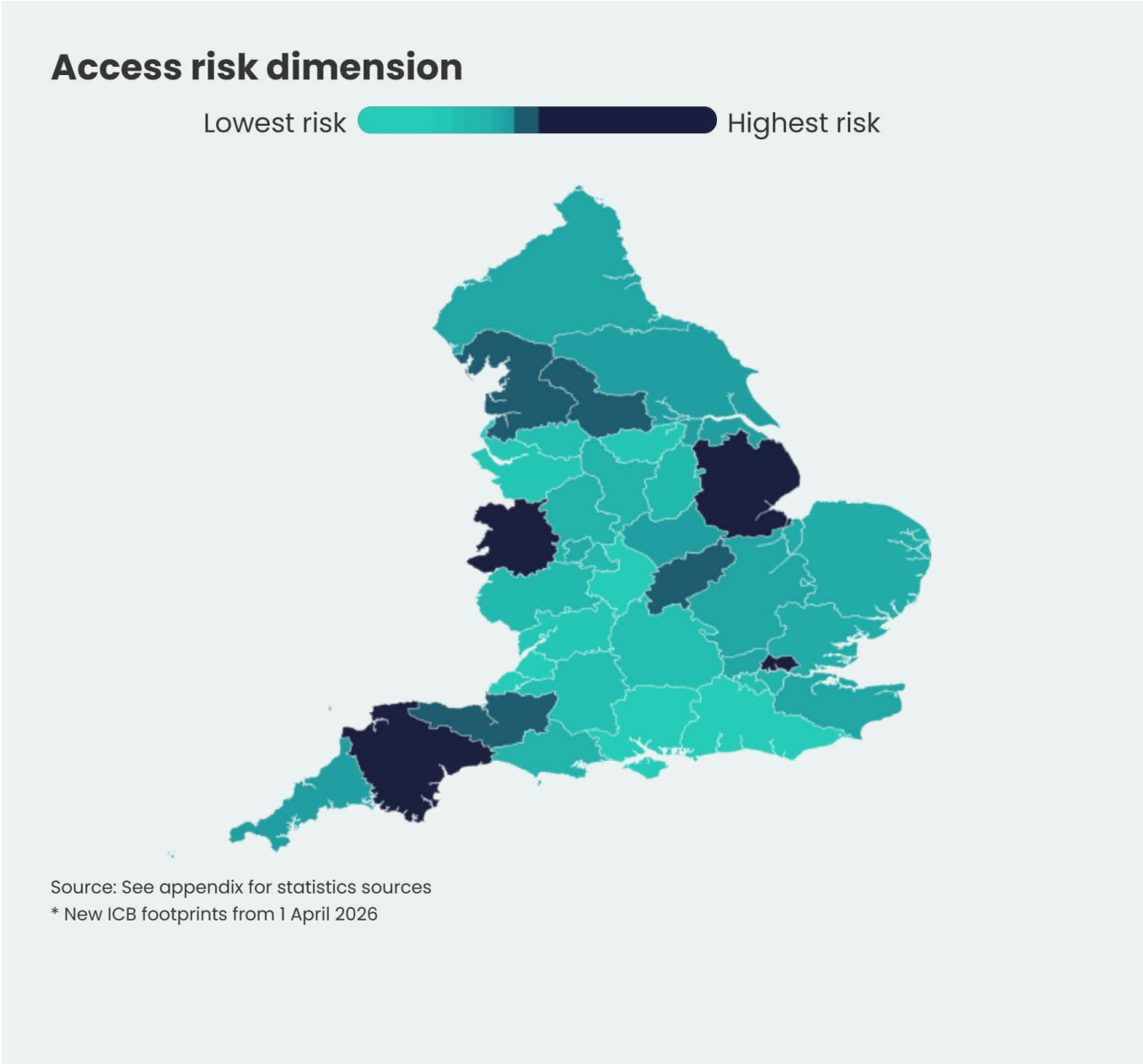
Digital skills risk dimension



Source: See appendix for statistics sources
* New ICB footprints from 1 April 2026

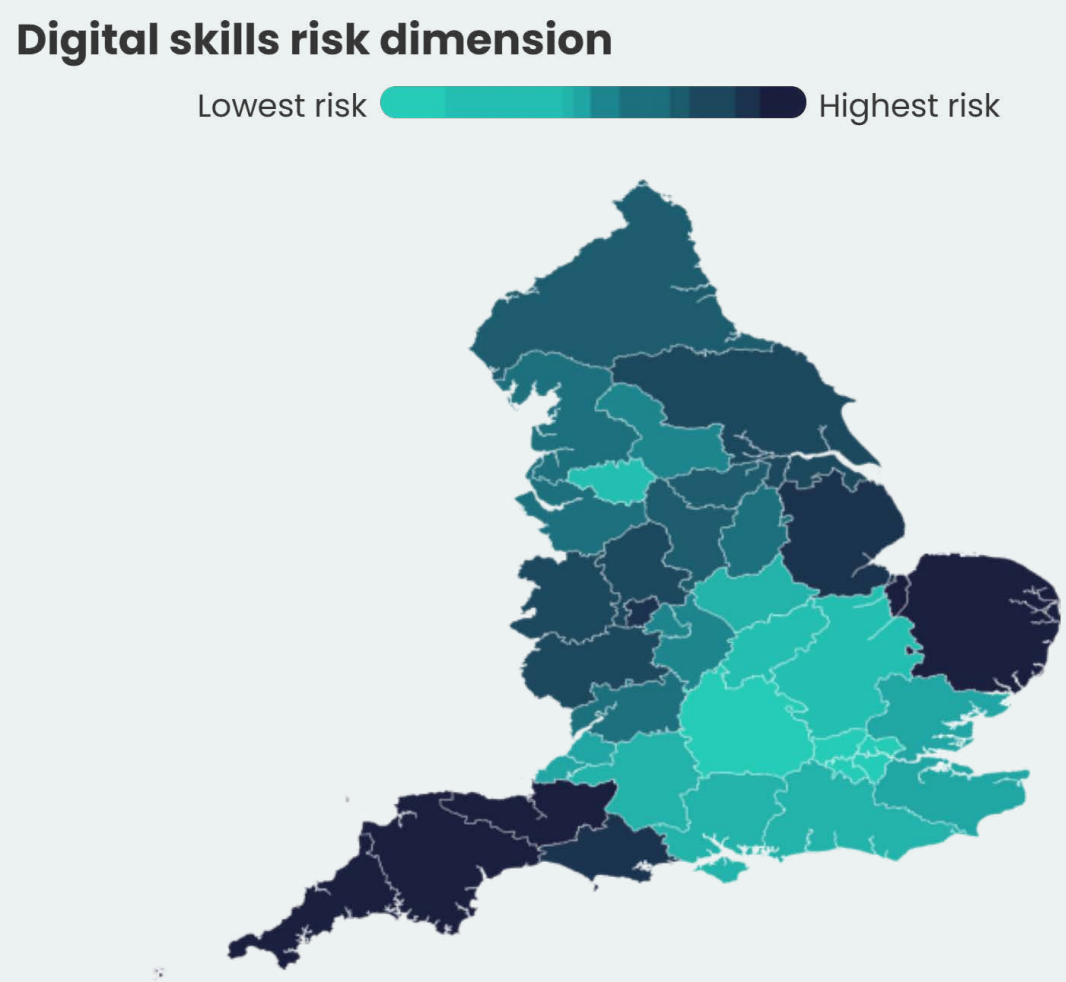
1. **Access** captures the practical ability to engage, by combining connectivity with a measure of NHS App usage.

   Access shows a more dispersed pattern compared with the other dimensions. Only three ICBs have notably higher access scores, linked to constraints in connectivity or low levels of current NHS App usage, but these are spread across England rather than concentrated in one region.



2. **Skills** reflects people's capability and confidence to complete digital tasks and is measured using a digital propensity indicator.

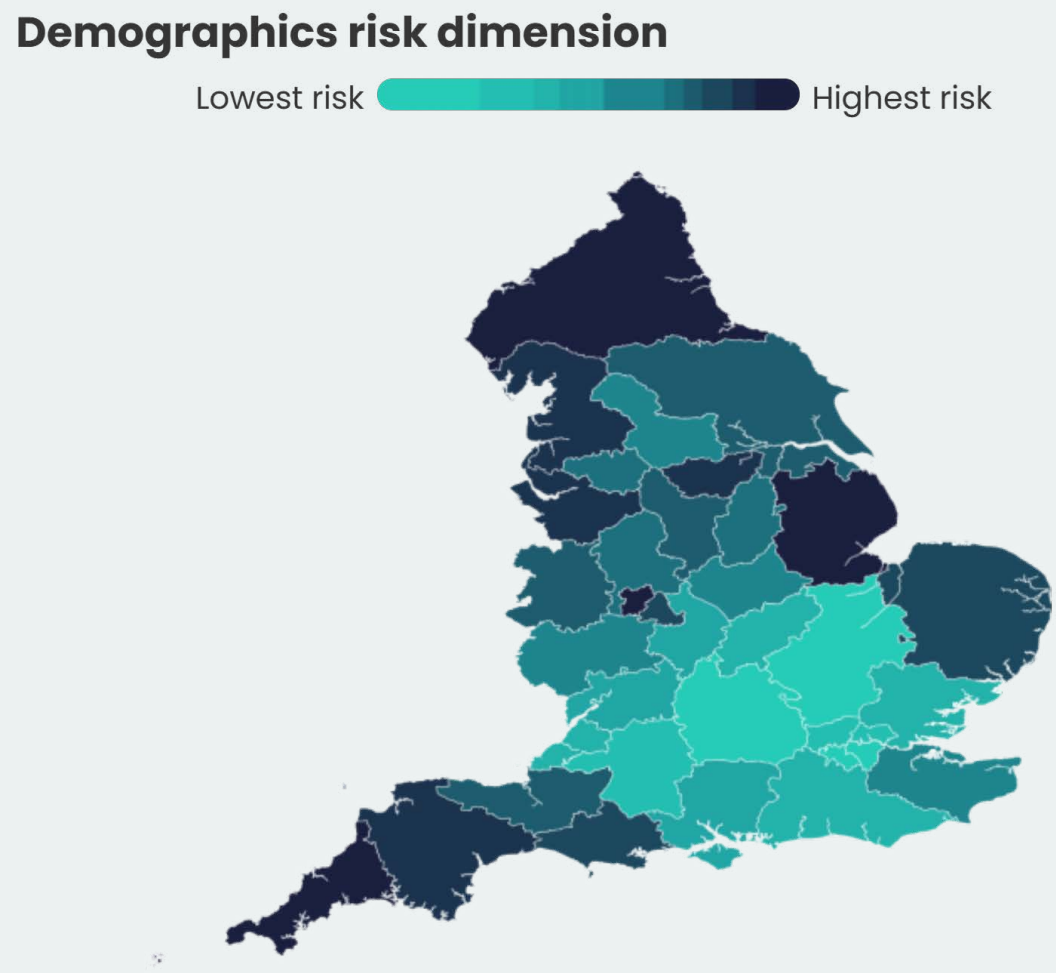
   Skills shows a clearer regional pattern. Higher barriers appear in many rural and coastal ICBs and are likely to reflect lower digital confidence and fewer opportunities to build digital skills. Many large urban areas, particularly in the South East, fall towards the lower end of this dimension.



Source: See appendix for statistics sources
* New ICB footprints from 1 April 2026

3. **Demographics** represents population characteristics associated with higher risk of digital exclusion, including older age, disability, lower English proficiency and deprivation.

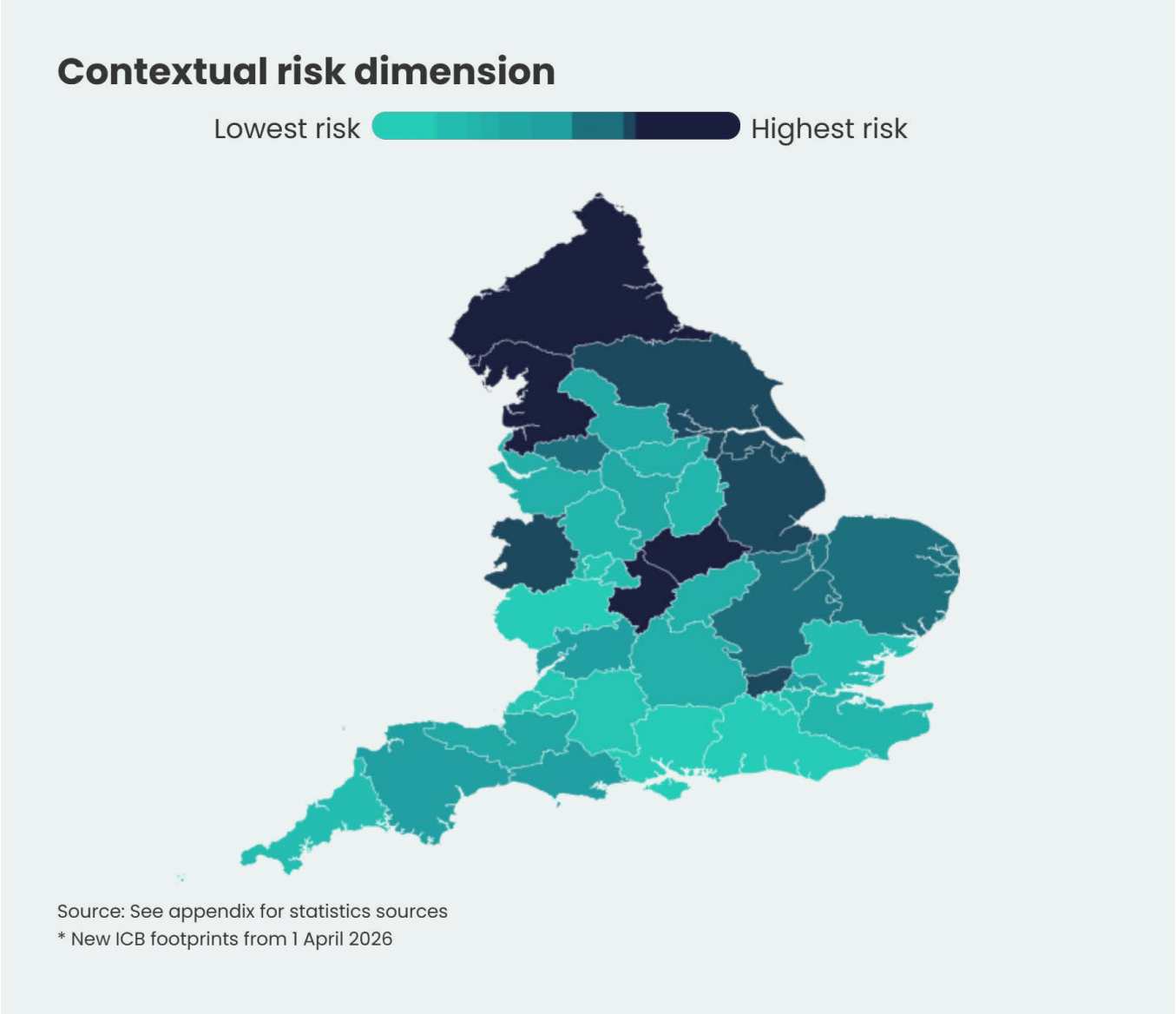
   The demographics dimension shows a distinct pattern, with the highest scores concentrated mainly in the North of England and parts of the South West. These areas tend to have older populations, higher levels of disability, lower English proficiency or higher deprivation. Several metropolitan ICBs, including those around Greater Manchester and the West Midlands, fall into the mid to higher range on this dimension, which shows that demographic risk is not specific to rural places.



Source: See appendix for statistics sources
* New ICB footprints from 1 April 2026

4. **Contextual factors** capture conditions that can limit access regardless of skills, including homelessness, asylum support and rurality.

Contextual scores vary across England for different reasons. Some rural and coastal ICBs show higher contextual barriers due to isolation and connectivity challenges. Several urban systems also have higher contextual scores due to higher rates of homelessness or people seeking asylum. This means that different environments can display similar levels of contextual risk but for very different underlying reasons.



National pattern of digital exclusion

Cluster analysis, reveals four distinct patterns of digital exclusion across ICSs, each with different drivers of risk and implications for intervention. Rural and coastal areas tend to experience the most significant barriers, often due to limited connectivity, lower digital confidence, and demographic characteristics such as older age profiles. Many of these areas sit above the national median across several indicators.

Cluster 1: **Higher overall scores**

- Higher overall scores driven by higher values in skills and demographics dimensions.
- Typically, more rural locations.
- Would benefit from interventions aimed at improving digital skills especially among groups that often face greater barriers. This includes people over 65, those with disabilities, individuals with lower English proficiency, and communities experiencing higher levels of deprivation.

Cluster 2: **Near average scores across most dimensions**

- Digital exclusion scores close to the national average.
- No single dominant source of risk.
- Found across varied geographies.
- They would benefit from a range of interventions that improve digital skills as well as connectivity.

Cluster 3: **High access scores and moderate skills scores**

- Higher access scores, and moderately challenging skills scores.
- Need interventions that address both access including connectivity and improve digital skills.

Cluster 4: **Lowest overall scores**

- Found in urban areas.
- Lower digital exclusion scores driven by lower demographic risk fewer barriers to access and stronger digital skills.

What this means for the wider shift to digitisation and the NHS App

Digital transformation is a defining expectation for the NHS, with the NHS App positioned as the front door to the NHS for citizens. The 10 Year Health Plan makes clear that the long-term shift from analogue to digital sits alongside two other major system shifts – moving care from hospitals into communities and shifting the model from sickness to prevention – all of which rely on people being able to confidently access and use digital tools. Our analysis of digital exclusion across England demonstrates that this capability is unevenly distributed, with important implications for how the NHS App will be adopted and how digital transformation will land across different communities in England.

Our analysis shows that digital exclusion is not synonymous with deprivation. While deprivation does play a role, the patterns in the data make clear that digital exclusion is shaped by a broader set of factors specific to digital engagement. As a result, some highly deprived areas do not experience high digital exclusion, and some areas with high digital exclusion do not appear deprived on the Indices of Multiple Deprivation. This confirms that digital exclusion is a distinct challenge, not merely a proxy for socioeconomic disadvantage. However, where deprivation and digital exclusion do overlap, the combined effect creates conditions where health inequalities can deepen further.

Digital exclusion compounds existing health inequalities and inclusive digital healthcare requires deliberate action on accessibility, including improving device and connectivity access, digital skills, trust-building and ongoing analogue alternatives so as to provide choice and alternatives where digital access is not universal.

These variations are directly linked to the likely impact and rollout ambition for the NHS App locally. The government's ambition that 'by 2028, the App will be a full front door to the entire NHS' and that patients will be able to get instant advice for non-urgent care; book tests directly; manage medications; leave service feedback and various other patient interactions, underpins digital in the NHS as the vector of modern care.

Where people and communities are unable to use the NHS App, they will continue to depend on telephone lines, in-person reception desks, and manual administrative processes. This not only limits the efficiency gains expected from digital transformation, but also creates additional strain on an already overstretched workforce, who are forced to operate and maintain parallel systems that are unintended consequence of digital exclusion, rather than providing dual and hybrid systems that are thoroughly planned and developed as such.

While the ambition for digital health approaches can deliver much expected long-term system benefits, immediate implementation challenges including investment, capacity and system readiness must be addressed. The government's own engagement exercise for the 10 Year Health Plan recognises that both public and the NHS workforce value innovation but expect choice, and they want assurance that high-quality non-digital options will continue for those who need them.

At the same time, the findings show where the NHS system/architecture/machinery must build the foundations that make digitisation viable. Digital inclusion becomes not a parallel agenda or a hangover from transformation, but a crucial precondition for effective and sustainable digital transformation.

Supporting ICBs' role to improve digital inclusion

In their role as strategic commissioners, responsible for delivering the vision of the 10 Year Health Plan, ICBs are positioned to improve digital inclusion across their population, enabling more digitally inclusive services and supporting ongoing efforts to reduce health inequalities and improve health outcomes. NHS England's digital inclusion framework states explicitly that ICBs must take steps to address barriers to digital health, and NHS England's legal-duties reference sets out the inequalities and equality duties that apply to commissioners.

ICBs play a central role in translating national data sets and findings to support organisations understanding of their local area. The geographic variation identified in our research should be used along with accurate, comprehensive, evidence-based, local data sets across the NHS and local government, to support designing targeted digital inclusion programmes and interventions. Our index shows the distribution of access, skills, demographic and contextual scores signalling where investment in connectivity could have the greatest impact, where digital skills support can be prioritised, where demographic vulnerabilities require tailored communication and engagement, and where contextual barriers can support commissioning decisions.

The Strategic Commissioning Framework makes it a requirement where a continuous, evidence-based cycle is adopted: understand context, develop long-term strategy, deliver through the payor function, and evaluate impact to improve population health, reduce inequalities and ensure equitable access to consistently high-quality care. Our research and index, along with wider local datasets available to ICBs, complements the 'understand the context' stage which can support ICBs to carry insight through the remaining stages of the strategic commissioning cycle.

Case studies

The following case studies are examples of overcoming barriers to digital exclusion.

Digital inclusion in Nottingham and Nottinghamshire

Recognising the link between digital exclusion and widening health inequalities, Nottingham and Nottinghamshire ICS became an early leader in making digital inclusion a system-wide priority. Beginning in 2018, long before the pandemic accelerated the shift to digital care, the ICS analysed local and national data to understand who was being left behind. The findings showed a clear divide: urban communities struggling with acute data poverty and affordability issues, and rural areas where older adults lacked the confidence or skills to engage digitally. Digital exclusion also mirrored entrenched health deprivation, leading the ICS to make it a standalone priority in its digital strategy.

What the system did

A key early insight was that digital exclusion was not just a health issue. Health-led approaches failed because communities saw them as focused narrowly on NHS apps rather than broader digital needs. In response, the ICS created a digital inclusion board, bringing together NHS organisations, local authorities and the voluntary sector as equal partners. This shared governance aligned priorities, reduced duplication and helped shift culture across the system.

COVID-19 accelerated the work, making digital access essential. The ICS rapidly adapted from face-to-face to remote support, ensuring vulnerable people could still access services. To enable this, a grant scheme funded trusted community organisations to deliver tailored support, such as

Continues...

device-lending, one-to-one skills help, and small group workshops. The Carers Federation, for example, enabled isolated older adults to borrow devices and learn digital skills in supportive environments.

The ICS also invested in digital health literacy, co-designing training for digital champions with the Patient Information Forum. Champions provided peer support in local settings. Evaluation remained central, with KPIs tracking outputs and capturing stories of social and health impact.

Results and benefits

The programme significantly improved residents' ability to engage digitally, supporting everyday tasks such as staying connected, accessing services, online banking and using tools like the NHS App. Many experienced reduced isolation, increased independence and greater confidence.

Partnership working also strengthened. The digital inclusion board fostered shared culture and coordination across NHS, local authority and voluntary partners. Digital champions offered trusted and culturally sensitive support, helping bridge gaps between communities and services.

Although financial savings are hard to quantify, the ICS has seen improved digital engagement and reduced pressure on frontline staff.

For more information, visit: **digitalnotts.nhs.uk/digital-inclusion/**

Greater Manchester Digital Inclusion Agenda for Change

In Manchester, digital inclusion is addressed first and foremost, through the Greater Manchester Combined Authority (GMCA). Manchester's combined authority's agenda for digital inclusion, launched in 2020, aims for GM to be 100 per cent digitally enabled, and for all residents to have access to the essential skills and support to benefit from the digital world and technology. The Digital Inclusion Agenda includes various

Continues...

programmes of work that promote inclusion in partnership with local organisations, including the NHS. Key to the agenda is the Digital Inclusion Taskforce, made up of over 250 members bringing together, industry, voluntary, community and social enterprise sector (VCSE), public sector, local government, schools and the NHS.

Local context

- 41 per cent of people aged 75+ and 27 per cent of disabled people report a lack of confidence in independently accessing online services.
- Up to 1.2 million people in GM are limited digital users or non-users.
- 32 per cent experience some form of digital exclusion.
- The GMCA conducted analysis that showed not improving basic digital skills in Manchester over the next ten years would cost the economy £70 million.

What the system did

The Digital Inclusion Agenda for Change was developed to coordinate and scale digital inclusion activity across Greater Manchester. The programme focuses on four core outcomes:

1. Confidence, skills and motivation.
2. Affordability, accessibility and connectivity.
3. Strengthening system-wide approaches and developing sustainable outcomes.
4. Empowering communities and places.

Example programmes

Starting Point – building Stockport's local community and skills network

- Digital skills support is delivered across multiple community venues, with a focus on neighbourhoods experiencing higher levels of deprivation or with older-than-average populations.

Continues...

- Targeted interventions are used to address digital exclusion and its links with health inequalities, cost-of-living pressures and lower educational attainment among young people.
- An average of 38 funded skills sessions are delivered each month, supporting more than 200 residents. Provision includes access to the GM Databank, a dedicated digital helpdesk and device-loan schemes.

Manchester's Digital Health Hubs

The 2022 NHS GP Patient Survey30 highlighted a significant access challenge with 47 per cent of respondents struggling to contact the NHS via phone, an increase of 15 since 2021. In response, Manchester's Health Hubs were formed in July 2023 in the areas of Wythenshawe, Northenden and Brooklands:

- Manchester City Council partnered with community centres and libraries to train staff in supporting residents to use the NHS App and other digital health tools.
- Staff delivered drop-in sessions offering practical demonstrations of NHS App's functionality, alongside internet and Wi-Fi access, free SIM cards with data, one-to-one and group digital support, and device-lending and provision schemes.
- The programme's success has led to further hubs opening across the city, expanding access to digital health support for more residents.

Programmes such as Starting Point and the Digital Health Hubs demonstrate that locally embedded, partnership-driven models can significantly improve digital access and reduce inequalities.

For more information, visit: **www.greatermanchester-ca.gov.uk/what-we-do/digital/digital-strategy/empowering-people-and-communities/digital-inclusion-agenda/**

Continues...

Sussex digital first programme

Sussex ICB identified that digital exclusion was limiting access to care and disproportionately affecting neurodiverse people, those with sensory impairments, residents with limited English and communities **facing** financial or rural barriers. Fragmented support and limited funding further challenged progress in addressing these structural issues.

What the system did

Sussex ICB began strengthening its approach to digital inclusion through the digital first programme, which funded NHS ambassadors to provide digital support in libraries, GP practices and community settings. Although the programme ended, it established a model of effective engagement. To better understand risk, Sussex ICB developed a geographic digital exclusion dashboard using indicators such as income, housing and rurality.

The ICB created a people's panel to give residents a formal advisory role on issues including digital strategy, data safety and AI. Healthwatch, VCSE partners and local authorities helped embed this work through shared forums and ongoing collaboration.

Digital inclusion was embedded into system processes through a multi-sector Digital Inclusion Network that included NHS providers, local authorities, VCSEs and patient representatives. The network co-developed strategy and principles, including the Digital Inclusion Framework and a workforce digital skills subgroup developed training and capability tools and helped organisations to consider digital inclusion.

Commissioning and procurement processes were strengthened by updating the quality impact assessment and equality and health inequality impact assessment to ensure strategic commissioners fully considered the impact that service changes or new services may have on people who are disproportionately affected by digital exclusion. Within the procurement social value assessment, it was agreed to strengthen the focus on digital exclusion by:

Continues...

- **Defining specific evaluation criteria** – including tender questions that assess how suppliers plan to address digital exclusion.
- **Setting measurable targets** – requiring suppliers to propose clear, measurable commitments, such as delivering digital literacy training to a specified number of service users and offering alternative access routes (for example, in-person consultations) for those unable to engage digitally.
- **Introducing monitoring and evaluation** – establishing KPIs linked to digital inclusion efforts, ensuring suppliers are held accountable for their commitments throughout the contract duration.

Results and benefits

Sussex ICB has built a system-wide culture that treats digital inclusion as essential to equitable care. Key outcomes include:

- stronger multi-sector collaboration and clearer strategic frameworks
- better understanding of who is digitally excluded and why
- commissioning and procurement processes that hold suppliers accountable for inclusion
- growing workforce capability through emerging digital skills resources
- sustained community involvement shaping digital policy and tools.

For more information, visit: **www.sussex.ics.nhs.uk/our-work/our-priorities/digital/digital-first-digital-skills-inclusion-project/**

Conclusion and recommendations

Conclusion

The government's ambition for a modernised, digitally enabled NHS largely rests on the premise the NHS App will be the main front door to health and care. By 2028, the NHS App is intended to be the default route through which people book appointments, manage medications, receive personalised advice, access records and interact with services across the system. This ambition is bold and transformative, but it is also wholly dependent on whether people can use the app in the first place.

> Our research underpinning this digital exclusion index and analysis, shows that digital inclusion cannot be an optional consideration – it is the foundational condition that determines whether the NHS App can succeed as the national access point for digitally enables 'analogue to digital' care.

Across England, **digital access is uneven, shaped by overlapping factors of access, skills, demographics and local context. Without deliberate effort to remove these barriers, the benefits of a 'digital first' NHS care will not be realised universally, or evenly**. Instead, the use and uptake of the NHS App risks being concentrated among those who are already digitally confident while other communities fall further behind.

The levers to address this do not sit in one place. The government and NHS England shape the national conditions for digital transformation, from policy and funding to ensuring local systems have the capabilities required to implement change safely and equitably as they deem necessary. **Their role is to set a concerted digital policy direction, invest where structural barriers are greatest, and embed digital inclusion as a mainstream requirement across digital programmes and service transformation in the NHS**.

ICBs are central to translating this national ambition into locally meaningful improvement as part of their role as strategic commissioners to reduce health inequalities, improve population health and commission services that meet local need. While this report provides a useful benchmark and highlights where barriers may be greatest, ICBs will need to draw on far more detailed and locally generated data to fulfil their statutory responsibilities.

While this digital exclusion index provides a useful national benchmark and **highlights where digital inclusion challenges may be more pronounced**, it is **not a substitute for the more detailed local evidence and datasets** that ICBs will need for commissioning decisions. In areas where digital exclusion appears more significant, ICBs may wish to consider how this issue could be addressed, drawing on examples from systems that have already taken steps in this space.

Local government, VCSE organisations and community partners are critical delivery partners where digital exclusion originates in wider determinants of health, such as poverty, language barriers and literacy, which sit beyond the NHS alone. The most impactful digital inclusion programmes, as shown by our case studies, rely on shared governance, pooled capacity and the use of trusted community networks. These partnerships are indispensable for reaching people in the places and ways that matter most.

This report shows that the path to digitisation is possible for the NHS, but only through a digitally included population. Connectivity support, inclusive design, co-production with communities, targeted investment and maintained analogue routes will help the NHS App lay the foundations for continuous improvement.

Digital inclusion must be placed at the heart of national and local planning, not as a parallel programme but as the essential precondition for the analogue to digital transformation. If national bodies, ICBs and local partners work together to remove the barriers highlighted by this index, the NHS App can genuinely fulfil its promise as the universal digital front door to a more accessible, responsive and personalised NHS for all.

Recommendations

The government and NHS England

- The government should **continue to develop a national digital inclusion action plan**, recognising that local authorities and that NHS ambitions depend on wider public infrastructure.

- **Targeted national investment should be directed to areas where the barriers identified in the digital exclusion index are highest**, ensuring that regions with the greatest structural, demographic or contextual challenges have the resources needed to support communities that require both digital tools and in-person services.

- The government and NHS England should also **require that digital first health and care services are co-designed with communities and system partners** to avoid exacerbating health inequalities. This includes ensuring that analogue routes are retained to provide genuine choice, meet diverse needs and enable equitable access during the transition to digital-first models.

- **National programmes should be funded to support connectivity schemes, device-lending models and local digital-first programmes**, which have proven effective in supporting communities to understand and use essential online tools - including the NHS App - where access barriers remain persistent.

- **ICBs should be given the flexibility to adopt a staged approach to NHS App deployment**.

ICBs

- ICBs could consider **prioritising the rollout of the most accessible and high-value NHS App features**, such as appointment viewing, prescription ordering and receiving notifications, **in areas where digital access barriers appear greatest**.

- **Maintaining high-quality non-digital routes**, including telephone and face-to-face options, **will remain essential until** local data shows that **digital pathways are being used confidently and equitably** by all.

- Where local analysis indicates that digital exclusion overlaps with wider determinants of health, ICBs could find value in **exploring joint approaches with local authorities and partners**. Examples from other systems show that communities facing combined challenges, such as data poverty, low literacy, disability, or limited English, will require integrated support that cannot be delivered by the NHS alone.

- **NHS England's forthcoming Digital Exclusion Risk Atlas** (DERA) will provide ICBs with a detailed, **national risk dataset** to deepen their digital exclusion analysis. This report – along with the DERA – offers insight and interpretation that helps ICBs use the data more effectively.

- ICBs could also reflect on **how digital inclusion considerations could be embedded within strategic commissioning processes**, particularly where population health management data highlights persistent exclusion.

- This index can act as a**n informative starting point to prompt further investigation**, helping ICBs decide where more detailed local intelligence is needed to refine interventions and target support.

For wider system partners (VCSE, providers)

Local areas should **sustain and expand digital inclusion networks, boards and taskforces**, such as those established in Sussex, Greater Manchester, and Nottingham and Nottinghamshire, to share intelligence, collaborate on interventions and align funding streams across sectors.

This depends on local partners having access to and using interoperable data platforms which have a read-write functionality. This is **in the gift of the centre to enact and follow through** to make best use of data to deliver at a neighbourhood level.

In parallel, **local digital health hubs**, delivered through libraries, community centres, VCSE organisations and primary care, should continue to offer residents hands-on support with digital tools, connectivity, skills and confidence-building.

Appendix

Methodology

This digital exclusion index identifies where people may face barriers to using the NHS App because of a mix of access, skills, population characteristics and local context at integrated care board level. Results are mapped to the newly merged ICB footprints that take effect from April 2026 so the index aligns with the geographies that will plan and commission services as mergers and boundary changes are implemented.

We bring together recent national datasets for each dimension, standardise them onto a common scale (for example rates, percentages), then combine them into dimension scores and a single ICB-level index. This provides a consistent, comparable view of population-level digital barriers across England. (See below for indicator selection, scaling and weighting).

The index uses four dimensions that together reflect the main drivers of exclusion from digital services:

1. **Access** captures the practical ability to engage, combining connectivity with a measure of NHS App usage.
2. **Skills** reflects capability and confidence to complete digital tasks and is proxied using a digital propensity measure.
3. **Demographics** reflects population characteristics associated with higher risk, including older age, disability, lower English proficiency and deprivation.
4. **Contextual factors** capture conditions that can limit access regardless of skills, including homelessness, asylum support and rurality.

Indicator selection follows three tests. Each measure must:

1. have a clear link to digital access or ability
2. be available at small area or local authority level for aggregation to ICBs
3. be recent enough to be meaningful.

The data is prepared so higher values represent greater barriers or lower likelihood of digital engagement. Normalisation is applied to place indicators onto a common scale, which allows fair combination when original units differ and prevents any single raw measure from dominating the composite. We then construct a score for each dimension from its indicators and combine the four dimensions into an overall index for each ICB. This lets us see not only where digital barriers are likely, but also what kind of barrier dominates in each area.

Where indicators are only available at Lower Layer Super Output Area (LSOA) or local authority level, we aggregate them to integrated care board level using population-weighted redistribution. This assumes that the indicator is distributed evenly within each contributing small area. In practice, this assumption has limited impact because most LSOAs and local authorities fall entirely within a single ICB, and where boundaries overlap, the affected populations are generally small. This approach provides a transparent and practical way to align diverse datasets to a common geography, so the index reflects population-level risk at ICB scale.

Correlation analysis is used to understand the relationships between indicators, reduce the chance of double counting and inform sensitivity checks across the model. Some indicators are correlated in the real world, such as older age and rurality. We keep both as they represent different routes into digital exclusion. For example, an older person in a rural area may face a combination of confidence and connectivity barriers, while an older person in a city can still experience reduced digital confidence even when infrastructure is strong. Likewise, younger rural residents may encounter practical access barriers even when confidence is high. In these cases, the factors describe separate and valid dimensions of risk and removing one would mask important variation. Correlation checks and balanced weighting ensure that no single indicator dominates the score while preserving the factors that matter for understanding local patterns of digital inclusion.

Incorporating an NHS App-use measure into the access dimension may appear circular, since the index is used to inform NHS App rollout. However, there is no reliable device-level metric geographically, and NHS App usage provides the best available baseline signal of real-world digital engagement to sit alongside structural measures such as connectivity. Treating NHS App usage as one of several inputs, with balanced weighting and standardisation, helps anchor the access dimension in current behaviour without letting a single indicator dominate the composite score.

Weighting selection

Weighting is a practical choice that should reflect the problem the index is describing, the evidence available and the need for stable comparisons across places. Three scenarios were developed and tested to explore different emphases using the same indicators and methods. A contextual heavy scenario increased weight on homelessness, asylum status and rurality so the index is more sensitive to place-based barriers that can suppress use even where connectivity and skills are present. A skills emphasis scenario gave greater weight to capability and confidence for systems where infrastructure is available, but uptake remains uneven. A balanced approach distributed weight across all four dimensions so that access, skills, demographics and contextual factors each influence the final score.

After comparing scnarios through sensitivity checks, the balanced approach was selected. This choice supports system-level comparability by reducing dependence on any single type of indicator and by maintaining a clear role for each dimension. It provides a rounded picture of barriers to digital health access while allowing readers to interpret results considering local context.

See the table below, which summarises the dimensions and indicators that comprise the digital exclusion index and their respective weightings.

Weighting table for digital exclusion of the four dimensions

Dimension	Dimension weight (%)	Indicator	Indicator weight (%)
Access	30	NHS App usage	15
		Connectivity	15
Skills	20	Digital propensity	20
Demographics	25	Over 65	8
		Disability	7
		English proficiency	5
		Deprivation	5
Contextual	25	Homelessness	9
		Asylum seekers	6
		Rurality	10

Table note: Weightings ensure that the factors that have the greatest impact on digital exclusion are considered more than those which are relevant, but less impactful.

Statistics sources

Group	Dimension	Indicator/ description	Link
NHS App usage data	Access	Number of NHS App users	https://digital.nhs.uk/data-and-information/publications/statistical/nhs-app-statistics/july-2025
Connectivity	Access	Number of premises unable to receive 2Mbit/s	https://www.ofcom.org.uk/phones-and-broadband/coverage-and-speeds/connected-nations-20252/data-downloads-2025
Group	Dimension	Indicator/ description	Link

Digital skills/ confidence	Skills	Digital propensity score	https://www.ons.gov.uk/peoplepopulationandcommunity/householdcharacteristics/homeinternetandsocialmediausage/articles/digitalpropensityindexforenglandandwaleslsoas/census2021
Older people (65+)	Demographic	% of people 65+ unable to complete all digital tasks	https://www.nomisweb.co.uk/query/construct/submit.asp?forward=yes&menuopt=201&subcomp=
Disabled people	Demographic	% of disabled people	https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/disability/datasets/disabilityinenglandandwales2021
Limited English proficiency	Demographic	% of population with limited English	https://www.nomisweb.co.uk/query/construct/submit.asp?menuopt=201&subcomp=
Deprivation	Demographic	Income score (rate)	https://www.ons.gov.uk/peoplepopulationandcommunity/personalandhouseholdfinances/incomeandwealth/datasets/mappingincomedeprivationatalocalauthoritylevel
Homlessness	Contextual	Total households assessed as owed a duty	https://www.gov.uk/government/collections/homelessness-statistics
Asylum seeker	Contextual	Number of asylum seekers	https://www.gov.uk/government/organisations/home-office/about/statistics
Rurality	Contextual	Total rural and rural-related population	https://www.ons.gov.uk/peoplepopulationandcommunity/personalandhouseholdfinances/incomeandwealth/datasets/mappingincomedeprivationatalocalauthoritylevel

18 Smith Square
Westminster
London SW1P 3HZ

020 7799 6666
www.nhsconfed.org
@NHSConfed

If you require this publication in an alternative format, please email **enquiries@nhsconfed.org**

Registered charity no. 1090329