

Tackling the Digital Divide: The Digital Exclusion Risk Mapping Tool

Summary

Digital inclusion is essential for modern living and ensuring health and wellbeing equality.

To address concerns about digital exclusion in Essex, ECC's Digital Inclusion team sought local insights, given the limited national data. ECC's Data and Analytics team discovered that 20% of Essex's population is already digitally excluded, with factors like infrastructure, affordability, and digital literacy contributing to this divide. Insight identified that more people are falling below the national Minimum Digital Living Standard, and the number of digitally excluded individuals is projected to rise.

Without internet access, basic digital skills, or the ability to afford devices, Essex residents face being excluded from valuable digital services. To address this issue, an engaging visual was created to illustrate the county's digital divide, enabling ECC to engage key partner organisations in meaningful discussions on how exclusion limits residents' access to essential services. Additionally, a self-serve tool was developed to support Essex organisations to inform the design and delivery of inclusive services.

The Digital Inclusion Mapping Tool, an interactive dashboard available through Essex Open Data, allows dissemination of the insight across wider audiences, enabling users to pinpoint at-risk populations at LSOA level, search and filter maps based on digital infrastructure and demographic data.

Methodology

Existing academic literature on digital exclusion identified three key barriers to digital connectivity: accessibility (the presence of internet, mobile infrastructure, service provision), affordability (financial means to pay for services or devices needed to connect), and ability (digital literacy). This insight guided our data procurement efforts.

Data sets were obtained from Think Broadband, Digital Essex NGA, OfCom, Department for Work and Pensions, Experian, ONS Census, Superfast Essex, NHS and GP Practices. The data sets each contained metrics that allowed us to directly or indirectly quantify associated risk of digital exclusion through a range of demographic, deprivation, connectivity, and skills related measures. Examples of data include download speeds, Universal Credit claimants, residents in hardship, residents with disabilities, the provision of digital connectivity resources and residents with digital qualifications.

Using geospatial features, the above data sets were overlaid on an interactive map which allows users to identify locations in which multiple digital exclusion risk factors intersect. This allowed the team to understand the distinct basket of risk factors prevalent in every LSOA in Essex and to design tailored campaigns and interventions to engage with; and support residents based on their unique needs.

Wow factor

Publishing the tool on Essex Open Data enabled everyone to access, use and share insight, empowering stakeholders to act and maximising impact. Partners said the dashboard is easy to use and the map provides a powerful visual to communicate insight. Within the first 90 days the tool was accessed by more than 200 unique users.

Synopsis

The project objective was to generate insight that identifies communities that are falling below the national Minimum Digital Living Standard, and by creating an interactive map to communicate the insight we have enabled users to pinpoint at-risk populations at LSOA level, search and filter maps based on digital infrastructure and demographic data.

Having a mapping tool available on an open data website has enabled us to conduct live demonstrations to an array of interested audiences, from key stakeholders that commissioned the work, to partners, community and voluntary sector groups and data professionals, maximising the sharing of insight, promoting opportunities to inform decision-making and sharing learning.

“Brilliant. The best tool we have to visualise digital exclusion risk” said Jess Flack, Digital Inclusion Lead, Essex County Council (ECC)

The mapping tool has been used by the Digital Inclusion team and partners to inform the following:

1. The UK will be switching off its long-standing analogue telephone network by December 2025, replacing it with a digital. Using the map to identify which areas in Essex will be at risk of digital exclusion, and overlaying additional mobile connectivity data, has enabled ECC's Digital Inclusion team to open conversations with internet service providers (ISPs) to advocate on behalf of vulnerable local geographies.
2. The affordability insights have informed discussions with ISPs to introduce a social tariff to meet residents' affordability requirements.
3. Strategic housing teams have used the tool to consider the digital barriers faced by social housing tenants in the planning of future housing provision.
4. Using the map, Rochford District Council has gained insights into the skill levels across its population, conducted gap analysis of place-based digital inclusion services to inform operational service delivery and drive improvement.
5. The tool is serving as a valuable resource for Equalities and Impact Assessments, enabling users to identify and mitigate the risk of exclusion. ECC's Waste Management team utilised the tool to inform a formal consultation on the county's new waste strategy, ensuring face-to-face and written consultation was conducted in areas that were identified as digitally excluded.
6. A best practise tool kit is being developed by ECC to engage with offline residents, with the potential for national dissemination to other local authorities.
7. Collaboration between the Digital Inclusion team and the LGA is underway to create a toolkit for developers of innovative healthcare apps. This toolkit will address digital exclusion risks, incorporating the DERI to provide an understanding of place-based digital exclusion risks and the support residents can access to develop an understanding of how to use the app.
8. The NHS is using the tool to support its initiative to move 90% of residents online to the NHS app.
9. The United Nations Development Programme team has cited this as a best practice approach in its 2024 international playbook “From Access to Empowerment: Digital Inclusion in a Dynamic World”, <https://www.undp.org/policy-centre/singapore/publications/digital-inclusion-playbook-20>

10. Community volunteering services have also used the tool to identify local places needing additional digital inclusion support, enhancing delivery of services and informing funding bids for provision of additional support.

What should LARIA members learn from your award entry?

Peers can learn valuable lessons from our work with the Digital Inclusion Mapping Tool, particularly in how to leverage open data and interactive dashboards to inform decision-making. By hosting the tool on Essex Open Data, we ensured it was accessible to a wide range of audiences, including stakeholders, community groups, and data professionals. This not only promoted the use of insights generated by the tool but also fostered collaboration among different sectors.

The interactive map allows users to identify areas at risk of digital exclusion, filter data based on digital infrastructure, and understand demographic trends. This has been instrumental in strategic decision-making, such as designing policies, enhancing communications, and developing services tailored to specific communities. For instance, the tool enabled the Digital Inclusion team to advocate for vulnerable areas in discussions with ISPs and contributed to creating social tariffs for affordable connectivity.

Furthermore, it facilitated knowledge exchange between local authorities and partners, informing operational improvements. The tool's ability to overlay affordability and connectivity data has also informed strategic housing plans and influenced efforts like the NHS's digital transition and the development of healthcare apps. Peers can replicate these approaches to enhance digital inclusion and data-driven service delivery.

Is there a published report or background information on your study publicly available?

<https://data.essex.gov.uk/dataset/v8dw1/barriers-to-digital-inclusion-in-essex>