Left behind by design: Who's missing from digital respiratory care?

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Digital technology aims to improve access to healthcare. However, for certain individuals with respiratory conditions, it may introduce additional barriers rather than eliminating existing ones.

Consider the case of Evelyn, a 74-year-old living alone with a 12-year history of chronic obstructive pulmonary disease (COPD). Her GP practice now uses an online triage system. Appointment reminders are sent via text, repeat prescriptions are ordered through an app, and annual reviews are conducted by phone or video. However, Evelyn's mobile phone is outdated, she lacks home internet access, and she has forgotten the password to her email account. Recently, she missed her review because the reminder was sent to an obsolete phone number. When she attempted to call the practice using her landline she was instructed to book online.

Cases similar to Evelyn's are frequently encountered in primary care. Clinicians often experience patients who have difficulty using smartphones, miss appointments due to undelivered SMS reminders or feel overwhelmed by online triage systems.

The NHS Ten Year Plan, *Fit for the Future*, articulates a transition "from analogue to digital", with the NHS App intended to serve as 'the full front door to the entire NHS' by 2028.[1] The accelerated shift to digital healthcare, particularly during the COVID-19 pandemic, has yielded benefits such as increased convenience, efficiency and expedited access for many people. However, this transition has also intensified disparities. Respiratory care, like many chronic illnesses, relies on self-management, remote monitoring and regular reviews and is particularly affected by this digital divide.

The Access Gap: Barriers Created by Circumstance

There is a common assumption that all individuals possess smartphones or internet access; however, this is inaccurate. According to Age UK, 6% of people aged 75 and over and 4% of those aged 65–74 lack the necessary skills to function in a digital society. Among individuals aged 65 and over who live alone, approximately 30% (1.4 million people) use the internet less than once a month or not at all.[2]

Where you live also matters. In rural areas 4% of homes lack adequate broadband access, rising to 6% in remote rural settlements, compared with less than 1% in cities.[3] Mobile coverage is equally uneven. For people in temporary housing, hostels or sleeping rough, a stable phone number or smartphone with data is a luxury.

For individuals with respiratory conditions, these access gaps have tangible consequences. They are unable to view instructional videos on inhaler technique, receive prescription reminders, participate in online pulmonary rehabilitation or complete review forms digitally. At each stage the healthcare system presumes access to resources that many patients simply do not have.

Digital pulmonary rehabilitation programmes such as myCOPD and SPACE for COPD offer genuine potential to extend access, particularly for patients facing travel or mobility barriers. However, NICE's early value assessment for these technologies explicitly flagged digital literacy, age and device access as equality considerations, noting that patients unfamiliar with technology or without internet access may require additional support.[4]

The Capability Gap: Exclusion Resulting from System Design

Access represents only one aspect of the challenge. Having a smartphone does not guarantee the ability to use it for healthcare purposes. One in five individuals aged 65 and over (approximately 2.4 million people) rarely or never use the internet. Among those aged 75 and over, almost half are unable to complete basic digital tasks.[2] Only two-thirds of this population use a smartphone. For individuals with memory impairments, learning disabilities or dementia, these barriers are even more pronounced.

Physical barriers compound this: age-related impairments, such as reduced vision or limited dexterity, can make touchscreens and apps inaccessible even when a device is available. Age UK data shows that, among older people in England who do not use the internet, reduced vision and health-related physical limitations are cited as distinct barriers, separate from lack of skills or interest.[2] The exclusion risk also steepens sharply with advancing age: Ofcom's research on digital disadvantage confirms that older age is a significantly stronger predictor of being offline for the over-85s than for those aged 65–84.[5]

This challenge is set to grow. The Health Foundation's Health in 2040 projects that 9.1 million people in England will be living with major illness by 2040, up from 6.7 million in 2019.[6] If respiratory services are not designed with this in mind now, the gap will only widen.

Intersecting Barriers: Where Access and Capability Gaps Overlap

Many patients face multiple barriers at once. An older Urdu-speaking woman with COPD may struggle with language, cost and digital confidence simultaneously. A young man with asthma who is recently homeless might have a smartphone but no data and nowhere quiet for a video call.

Respiratory disease is strongly linked to deprivation: those in the most deprived communities are 2.5 times more likely to have COPD,[7] and these are the same communities where digital exclusion is most prevalent. For these patients, the digital divide is not an inconvenience; it is a clinical risk.

People with learning disabilities and those experiencing homelessness face a similarly compounded risk. NHS England's inclusive digital healthcare framework identifies both as inclusion health groups for whom digital exclusion deepens existing health inequalities.[8] In respiratory terms, these are not marginal populations: Homeless Link's 2025 Health Needs Audit found that 81% of people experiencing homelessness report a physical health condition, with asthma and COPD among the most common diagnoses.[9]

Addressing Digital Exclusion in Primary Care

These challenges are not inevitable. Digital transformation can expand access to care, but only if systems are intentionally designed to include those most at risk of exclusion, rather than solely serving individuals who are already digitally connected.

NHS England recently launched the Digital Exclusion Risk Atlas (DERA), an interactive map that scores every neighbourhood in England for its likelihood of digital exclusion. DERA brings together data on connectivity, affordability, digital skills, and demographics into a single index, enabling integrated care boards, Primary Care Networks, and practices to see where risk is concentrated and plan accordingly. The Atlas does not tell us who is being excluded from care; it shows where to look, a useful place to start.[10]

Primary care teams are already under significant pressure, with increasing demands to see more patients in less time. Digital tools were introduced, in part, to alleviate this burden. However, providing

genuine choice for patients requires additional time and resources. Failing to reach digitally excluded patients may result in greater costs, including missed reviews, preventable exacerbations, emergency admissions and widening health inequalities.

The initial priority should be to ensure that digital care is offered as one option among several, rather than as the sole pathway. The following contact methods should be available to all patients:

Contact Method	Description
☐ **Online**	App, website, video consultation, email: where patients have access and confidence
☐ **Phone**	Smartphone or landline: booking, reminders, review calls and prescriptions by telephone
☐ **In-person/ personalised**	Face-to-face appointments, health champions, social prescribing link workers and peer supporters
☐ **Written**	Letters, printed instructions and paper-based correspondence for those without phone or internet
☐ **Pharmacy**	Community pharmacist for inhaler technique, medication review and opportunistic health advice

Community pharmacists are a significantly underutilised resource for digitally excluded patients with respiratory conditions. Fit for the Future outlines a transition for community pharmacy towards becoming "integral to the Neighbourhood Health Service"[1] and, for this patient group, that transition is already clinically meaningful. Commissioned services, including Pharmacy First, Structured Medication Reviews and the New Medicine Service, create genuine funded opportunities for in-person inhaler technique training, medication reviews and opportunistic health promotion without requiring digital access from the patient.

Personal support is equally important. Social prescribers, link workers, health champions and peer supporters, many already embedded in PCNs, can actively identify digitally excluded patients on respiratory disease registers and provide navigation support. Practices should consider digitally excluded patients as an explicit referral criterion for social prescribers, rather than relying on patients to self-identify as struggling.

Recommended Actions for Primary Care Practices

Identify and flag digitally excluded patients

- Ask your clinical system supplier about digital exclusion codes: EMIS and SystmOne have options available.
- Recording this systematically ensures these patients receive appropriate contact methods.

Ensure patients can book via phone and in person, not just online

- Check that your annual review invitations and appointment reminders offer telephone booking as standard.
- If your triage system defaults to "book online", ensure reception staff have clear pathways to offer alternatives.

Train staff to support appointment navigation

- Brief reception and administrative staff on recognising patients who may be struggling digitally.
- Empower them to offer help without making patients feel like a burden.
- A few minutes of support can prevent a missed review and an avoidable exacerbation.

Screen proactively for digital exclusion risk

- Consider adding a brief digital inclusion question to new patient registration and to asthma and COPD annual reviews.
- Treat non-response to digital invitations as a trigger for an alternative contact attempt, not a missed review: non-responders may be digitally excluded, not disengaged.

Designing Inclusive Digital Health Systems

Digital health is a permanent feature of modern healthcare and offers substantial benefits for many patients. However, the effectiveness of such systems should be evaluated by their ability to serve those facing the greatest challenges. Primary care teams are uniquely positioned to address these issues, as they frequently encounter patients who are at risk of exclusion and are familiar with communities where respiratory disease and digital exclusion intersect.

Achieving this requires meaningful co-design[11]: services built without the involvement of digitally excluded people risk compounding the very inequalities they aim to address. The King's Fund has found that users are not routinely involved in digital service design, a critical gap at a time when the NHS is undergoing rapid digital transformation.[12]

While Fit for the Future envisages a digitally transformed NHS, a transformation that fails to include the most vulnerable populations cannot be considered true progress.

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