



Collaborating with the NHS

ELAROS, Airedale & Bradford NHS Trusts

Development of England's first self-referral pathway into Long Covid services to improve access, address hidden demand and tackle health inequalities



Bradford District and Craven
Health and Care Partnership



Background

Clinicians in Airedale and Bradford NHS Trusts were among the first to recognise Long Covid as a new condition and were quick to establish a specialist Long Covid service in 2020, and were one of 5 pioneers of ELAROS' digital C19-YRS platform in 2021.

In 2024, Bradford were the first Long Covid service in England to open to self-referrals as part of a digital pilot with ELAROS.

This case study focuses on the collaboration between ELAROS and Bradford District & Craven Multi-system Rehabilitation Service and the use of the C19-YRS platform to deliver the pilot study.



Introduction:

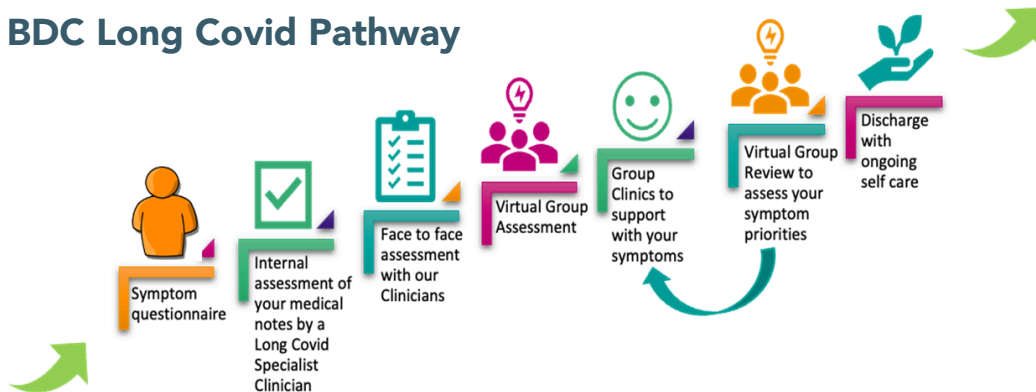
Long Covid is experienced by a sizeable minority of people following infection with coronavirus. Symptoms include fatigue, chronic pain, feeling short of breath, 'brain fog', and heart palpitations, amongst many others. Data published in March 2024 indicated that two million people in the UK were experiencing Long Covid (2).

The impact of Long Covid on quality of life and the economy is substantial, estimated to be £8bn annually (3).

During the coronavirus pandemic, Bradford District Care Trust (BDC), worked closely with the Long Covid research team at University of Leeds to help develop the COVID-19 Yorkshire Rehabilitation Scale (C19-YRS), a paper-based system of collecting data from patients being referred to Long Covid clinics.

In February 2021, ELAROS was engaged to digitise the system resulting in the digital C19-YRS, the world's first validated digital assessment, triage, management, and monitoring system for Long COVID.

BDC Long Covid Pathway



Origin of the self-referral pathway

Self-referral was introduced in Bradford District to address equity of access to health services, to engage people living in the most deprived areas, to address hidden demand and the demographic imbalance seen in many Long Covid services that was not reflective of the patient population in the region. BDC worked jointly with ELAROS to develop the self-referral portal based upon the C19-YRS. The service was launched in 2024 as a pilot study.

Self-referral, how does it work?

The self-referral pilot was promoted to people through letters, public health messaging and by advertising the service in communities and GP practices, targeting areas of deprivation.

Patients were invited to download the C19-YRS app. Following the completion of a pre-screening questionnaire, if the patient met certain acceptance criteria, including whether they had experienced Long Covid symptoms for more than four weeks, they were referred onto the Long Covid Pathway.

The C19-YRS app was used to collect patient reported outcomes measures (PROMs) from patients upon referral and throughout their time on the Pathway, enabling them and clinicians to monitor and review their progress throughout their journey.

Impact and outcomes following the introduction of self-referral into Bradford's Long Covid Service

Gender

Pre self-referral 66% of the referrals were from women. Gender distribution during the pilot study was 50:50.

Pre-self-referral BDC Long Covid services tended to be skewed towards supporting middle age working women from white backgrounds.

This may be reflective of findings that indicate being female is among several risk factors for the development of Long Covid.

Additional risks include having poor general health, being overweight or obese, living in deprived areas, lower rate of vaccination plus, being hospitalised with Covid (4).

Deprivation

Pre self-referral the majority patients self-referred from areas of multiple deprivation 2 (IMD2). Since self-referral, the majority of patients were from more deprived areas, IMD 1.

Addressing hidden demand from the areas of deprivation was a key objective of the pilot study which has reached areas of greater deprivation than previously.

Ethnicity

Pre self-referral 63% of patients were White British with 26% Asian/Asian British. Since self-referral, there has been an increase in Asian/Asian British patients accessing the pathway by 38%.

Prior to self-referral, the majority of the patients accessing BDCs Long Covid service were White British and not reflective of the population in the region.

Addressing the ethnicity imbalance in the Pathway was achieved through self-referral.

**Clincian
feedback on the
use of the app.**

"Using an app to collect PROMs streamlines data collection, reduces admin burden, enables real time insights and supports evidence-based decision making for better health outcomes"

**Patients'
feedback on the
use of the app**

"Completing my outcome measures on the app was so easy. I could do it in my spare time"

Bringing attention to patients with multimorbidity and mental health problems

The self referral pilot allowed for initial voluntary screening of multimorbidity which provided BDC's team with lessons and guidance on how the service would need to adapt to serve a more complex cohort.

Whilst this functionality helped to engage a more diverse patient population, it also identified the mental health issues reported by patients on the C19-YRS app. This led to the inclusion of a mental health triage functional the front end of the pathway to allow for prompt intervention for distressed patients

Changes in patient outcomes

Data collected on the C19-YRS app during the pilot study showed that patients had made improvement in overall health, symptom severity and disability score.

Furthermore, daily living, anxiety, pain, cognition and fatigue were among the most improved measures (5).

Patients' feedback before the introduction of self-referrals

1. "Our GP is extraordinarily difficult to get through to and it's very difficult to talk to anybody except the receptionist"
2. "When I spoke to the doctors about feeling rubbish, they said 'oh well it will just be Long Covid but we don't do anything about it'"

Patients' feedback after the introduction of self-referrals

1. "Thank you for today. I feel valued and that I matter and that I am not just a daft old woman"
2. "I am so grateful for a service like this"

Outcomes from the Long Covid & Vocational Rehabilitation Pathway

Bradford Districts & Craven Health & Care Partnership | Multisystem Rehab Service



"Introducing a self-referral pathway into our Long COVID service has significantly enhanced patient outcomes and equity of access. Patients involved in the pilot have reported improvements in overall health, including reductions in anxiety, pain, cognitive difficulties, and fatigue. This approach has enabled us to reach individuals in the most deprived communities, ensuring fair access to care. As a result, we have seen an increase in referrals and successfully engaged more patients who might otherwise have faced barriers to support.

ELAROS has supported the streamlining of our Long COVID service. C19-YRS is simple to use, truly paperless, and has enabled self-referrals. With comprehensive PROMs, rapid data access, and responsive support for adjustments, it promotes patient independence and supports clinicians to focus on rehabilitation." - **Abigail Howe, Clinical Assessor**

Benefits of self-referrals

- Improved patient access and reduced health inequalities.
- Reached Long-Covid patients in the most deprived communities
- Increased early disclosure of emotional distress and risk factors
- Highlighted the multimorbidity in the self-referral cohort which has provided the BDC team with lessons and guidance on how the service may need to adapt to serve a more complex cohort.
- Reduced A&E attendance five-fold
- Reduced GP workload

The implementation of the self-referral pathway at BDC highlights the ongoing challenges faced by people experiencing Long Covid, including their experience of accessing health services. Following the pilot study, the BDC self-referral pathway was expanded to include Airedale NHS Foundation Trust and Bradford Teaching Hospital.

The C19-YRS platform has collected valuable data on the legacy of Long Covid, demonstrating that it is a long-term condition once it persists beyond two years. C19-YRS can be configured to support other long-term conditions including ME/CFS, neuro-rehabilitation, respiratory conditions, occupational and mental health.

About ELAROS

ELAROS is a globally connected digital health SME based in Sheffield, UK, that was incorporated in 2010, backed by private investors and with four NHS organisations as shareholders.

ELAROS is a health company rather than a technology company. Its work is collaboration driven and unmet needs led, rather than technology push.

The company is agile, small enough to respond quickly but big enough and connected enough to be able to deliver nationally and internationally.

"Ideas and opportunities come from everywhere and nowhere in particular. It's all about being proactive" Professor Paul O'Brien, CEO ELAROS.

About autonom-e

A nationally recommended, customisable digital solution for the remote assessment, triage, monitoring, management, rehabilitation and education of patients with a range of long-term conditions.

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