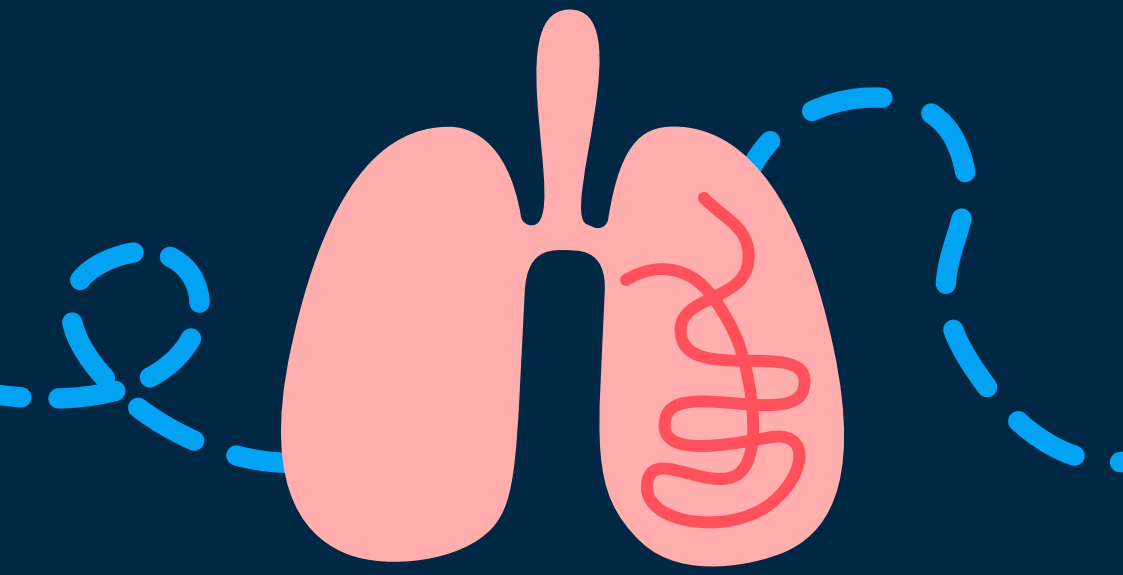
How digital technology can facilitate COPD management

A Livi short report



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Introduction

There are an estimated 1.2 million people living with diagnosed chronic obstructive pulmonary disease (COPD) in the UK today.[1] Without close monitoring and management, breathing difficulties experienced by individuals with COPD can increase, leading to flare-ups and in severe cases, heart failure. Timely interventions and ongoing management are crucial.

Accounting for an estimated one in eight emergency hospital admissions in the UK according to NICE, COPD is one of the most costliest conditions to manage within the NHS. And as a clinical area of focus within CORE20PLUS5, it remains a major priority for tackling health inequalities in the UK.

Over the past two years, NHS organisations have increasingly turned to digital technology and remote monitoring to complement traditional care pathways. We look at just some of the ways these tools are being utilised across the health system in our Livi Short Report.

Virtual wards

COVID-19 necessitated an evolution in COPD management. To support this high-risk patient group through isolation and successive national lockdowns, respiratory care teams adopted new ways of working at-speed, enabled by digital health technology.

According to NHS Confederation:

> *"This has prompted them to re-examine how they deliver services and to see novel, often digital, approaches to health-care provision. This has already precipitated a raft of changes to treatment options for people with COPD and new ways of reaching regular COPD patients."*[2]

So, what are these approaches?

At a base level, online and telephone consultations combined with digital monitoring have provided platforms for clinicians and patients to interact and remotely monitor COPD outside of a hospital or doctor's surgery. These platforms have supported increased adoption of 'hospital at home' initiatives, with an estimated 80 virtual wards in operation across 51 trusts today.[3]

While not a new concept, such programs have reportedly reduced COPD and asthma readmissions by 26% in some instances, releasing efficiencies, clinical capacity and hospital beds.[4] And a recent study on integrated approaches to virtual wards for COPD management revealed a 54% mean reduction in admissions and 4.5 fewer occupied bed days per patient each year.[5]

This type of support has provided welcome assistance at a crucial time for stretched services, so much so that the UK government has set a target for integrated care systems of 40-50 virtual beds per 100,000 population by December 2023.[6] Further additional virtual spaces also earmarked within the recent NHS winter plan.

Digital questionnaires and pulmonary rehabilitation

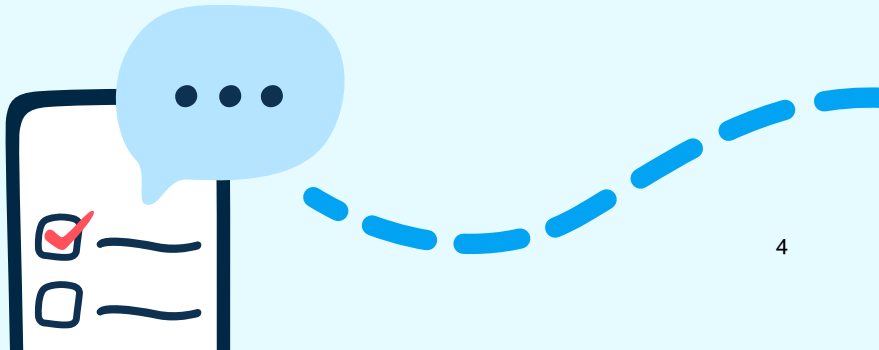
In primary care, digital questionnaires have facilitated periodic reviews of COPD patients. These questionnaires offer the ability to not only capture and assess patient symptoms prior to an appointment, but also flag potential high-risk cases to clinicians for a more proactive and preventative approach.

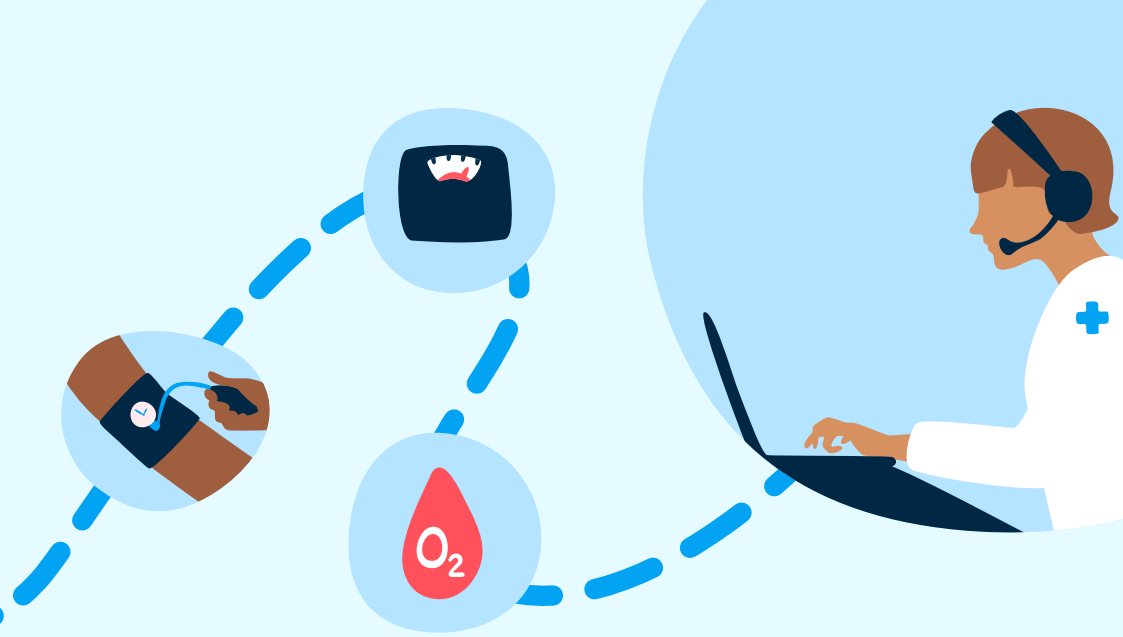
Teams are utilising SMS messaging to deploy questionnaires as a new means of driving engagement. Indeed, a case study from NHSX details how one practice that adopted this approach reported a patient completion rate of 90% in comparison to traditional letters which were previously ignored.[7]

While pulmonary rehabilitation (PR) has seen a similar digital evolution with virtual PR programs offering an alternative to physical visits to rehabilitation centres, allowing patients to access information, exercise and education digitally.

PR, which is noted to improve quality of life in 90% of patients is only offered to around 13% of individuals with COPD, usually those with severe COPD. To increase access, NHS England has called for an expansion of PR services for mild COPD patients via digital tools. This is in combination with the adoption of population-management approaches in primary care to identify patients from existing COPD registers who have not previously been referred for rehabilitation.[8]

Such guidance echoes calls in some quarters to see pulmonary rehabilitation brought closer to home within primary care with the support of telemedicine.[9]





Self-management

Self-management, a pivotal focus of COPD care, has seen a variety of digital approaches from care teams to drive adherence.

This includes integration of telehealth systems utilising behaviour change-based SMS messaging tailored to individual self-management plans. Patients receive supportive texts while sharing readings on blood pressure, weight and oxygen saturation with their clinician.

A range of patient monitoring apps are also in use that similarly capture symptom information from the patient, and provide a channel for care teams to disseminate further education on self-management.

Some medicines optimisation teams are using these tools to improve use of rescue packs for patients at risk of COPD exacerbation. For example, where patients have received a high number of packs throughout the year, they are given access to an app which provides further education alongside their management plan.

Positive experiences

In relation to digitally supported self-management, patients have cited positive experiences.

A qualitative study[10] of patient perceptions noted a sense of "responsibility" and "purpose" regarding the ability to track symptoms through digital tools. While 5 in 10 COPD patients agreed that digital health technology had the potential to improve self-management skills such as symptom management.

Similar positive impacts were stated regarding anxiety management. In the words of one patient:

> *"Imagine after my diagnosis I'd be given a device to help me see the differences in a good day of breathing against a bad day of breathing? I know that would have eased the worry I had about every little change I was feeling."*

While others explained that having their own data prior to a consultation would help create more meaningful discussions, removing the need for patient recall and burden on the patient to accurately describe symptoms.

Conclusion

Surveying the current landscape illustrates how barriers have broken down regarding use of digital solutions for COPD management over the past few years. There have been benefits for both patients and healthcare providers alike.

With many COPD patients staying at home during COVID, this has coincided with a period that has seen a 50% reduction in hospital admissions for COPD exacerbations globally compared to pre-pandemic times.[11]

This of course belies the impact of COVID-19 restrictions in controlling viral infections. Nevertheless, it may point towards how "more support needs to be provided in patients' homes in future," as noted by NHS Confederation.[2]

Looking to that future, teams can continue to build on new ways of working adopted during the pandemic by exploring how to deliver more integrated care for respiratory patients. Holistic approaches incorporating a wider array of factors are possible.

As to the future role of technology, a new Lancet paper outlines key recommendations including a COPD management algorithm for remote assessment of patients. Certainly, digital solutions will be foundational enabler for future success, and alonsgide timely data can complement traditional patient pathways to tackle COPD.

How Livi can support you

Livi enables greater connectivity between clinicians and patients. We deliver video, telephone consultations and text messaging services which provide channels for increased communication, enabling clinicians to provide regular health information and education to instil a culture of self-management.

Livi's market-leading practice platform, Mjog, helps practices distribute digital patient questionnaires that capture information on a patients' overall health, including questions on common COPD symptoms which can then be relayed to the clinician.

To find out more about how we can help, visit:

livi.co.uk/nhs-partners

mjog.livi.co.uk

Talk to us: partnerships-uk@livi.co.uk

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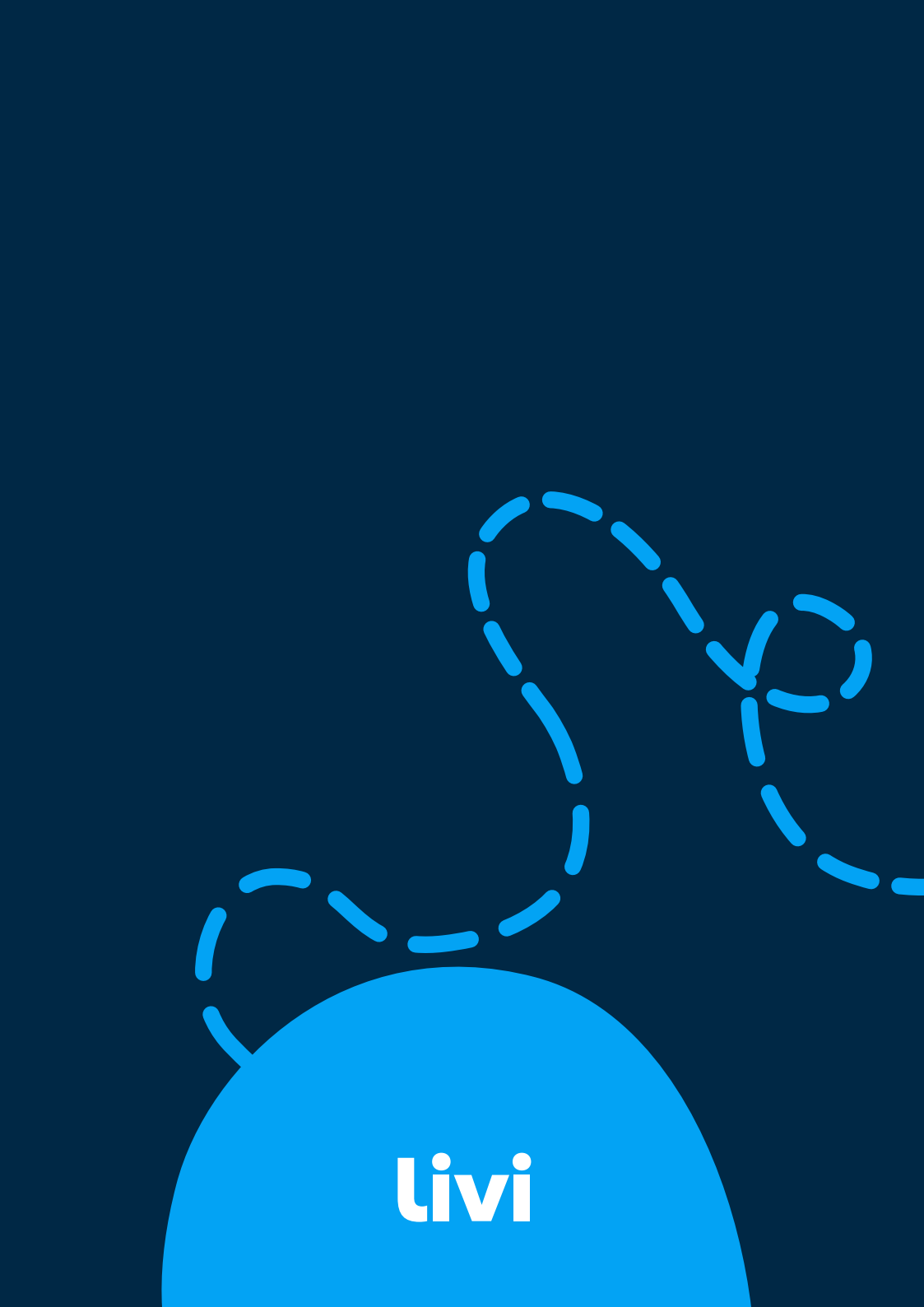
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