

NHS Pressure – a realistic chance to move the needle through predictive technology



HealthNet
Homecare



AdherePredict

Powered by HealthNet Homecare



Background

Declaring that the NHS is under pressure would hardly draw any surprise glances in a room full of healthcare stakeholders. Admittedly, the ranking of the major reasons driving this pressure may differ but there is no doubt that for most people, an aging population, increased prevalence of chronic diseases, personnel shortage and a funding level that is not proportional to the demand for healthcare, would feature reasonably high on most lists. An additional reason that perhaps is not frequently highlighted as a key/potential future contributor to the pressure is the impact of the changing cost of specialist medicines, especially not in the direction that is immediately apparent to many outside of treatment and clinical service implementation teams. For instance, since 2018, there has been a push for biosimilar uptake in the UK, resulting in growing levels of switching¹, with the spending on such medicines reportedly rising from £6.63 billion in 2017 to £9.45 billion in 2023². This is significant because such medications, which have both clinical and cost-saving benefits for patients and the health system respectively, often require relatively more monitoring by prescribing teams, and thus potentially adding to the pressure on an already stretched workforce.

From Hospital to Community-based care; what's new?

Care delivery models that make it possible to treat eligible patients outside of hospitals and within the community environment has clear benefits for patients and the NHS, including increased accessibility to care, reduced hospital admissions, as well as better health outcomes and service capacity; all of which are priorities within the NHS.

Clinical Homecare is one obvious example of an alternative model of care delivery that is capable of relieving pressure on the NHS in a significant way. A recent review of

the Clinical Homecare industry by an independent panel of experts from the NHS and beyond argued that although the number of patients receiving some form of Clinical Homecare support is around 600,000, crucially, there could be as many as 6.8 million people who may be eligible for such support. Shifting that many patients from the hospital to community based support will be a seismic shift for the health sector, with implications for the soaring cost of care and health care professional burnout, and will free up an enormous amount of time for hospital teams. Importantly however, without some serious technological innovation, it will be difficult to make that jump

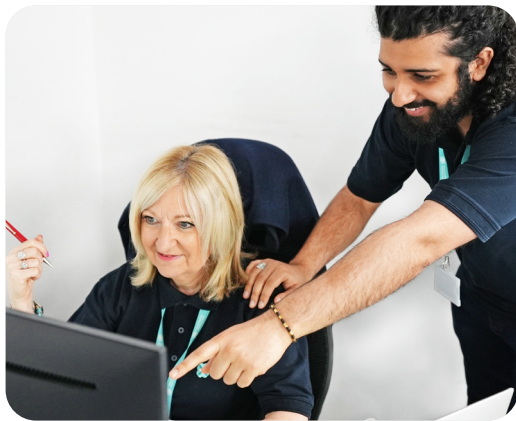
from 600,000 to 6.8 million and to efficiently triage and onboard this many patients to community-based support, quickly and reliably.

“ There is a significant increase in the number of patients being referred to our nurse practitioners for biologic therapy. If we are able to provide support to these patients ‘in between appointments’ based on their predicted needs, with the help of external providers, that would be a very good use of resources.

– NHS Consultant

Introducing AdherePredict

HealthNet Homecare is bringing to market (and a first-of-its-kind in the UK Clinical Homecare space) an AI-based predictive analytics and visualisation platform to be used by secondary care health professionals to support chronic disease patients who are eligible to self-administer their medications out of hospital, and in between routine hospital appointments.



More specifically, AdherePredict utilises machine learning to predict the risk of poor medication adherence, based on patient interactions with their provider, their behavioural patterns, socio economic data, diagnosis data, medication complexity data, prescription pick-up rates etc. The generated predictive insight will support a proactive implementation of community-based support that is designed to improve adherence. Research studies in different therapy areas have shown that a proactive approach is a more favoured alternative for interventions designed to improve medication adherence^{3,4}. So, things work better if you act early. Furthermore, the predicted insight from AdherePredict enables the support that is offered to the patient to be tailored to individual patient risk of non-adherence, thus improving their impact potential. Several authors have opined that interventions that are tailored according to individual patient needs, risk, persona and changing behavioural patterns, have the greatest chance of impacting

negative adherence behaviours³⁻⁵. Importantly, the more patients that are able to be supported via these proactive and better-tailored community-based interventions, the more time is freed up within Trusts.

“**Providing tailored support for secondary care patients through homecare would be quite innovative, especially if this support is initiated and informed by this [AdherePredict] technology and delivered directly to the patients.**” – Secondary Care Medicines Optimisation/Lead Homecare Pharmacist

How could AdherePredict move the needle on NHS pressure?

The capacity argument

“**Adherence is such a multifactorial issue which sometimes takes a very simple intervention to get it better and at other times requires complex interventions. However the big bottleneck to tackling this issue is capacity or staffing in hospital**” – NHS Consultant

Up to 50% of chronic disease patients are thought to be non-adherent to their medication⁶, often resulting in treatment complications, re-hospitalisation and reduction in quality of life⁷. This effect of this on the health system can be further compounded by staffing shortages, not only in primary care and nursing, but also with specialist roles - such shortages limit the capacity to provide ongoing, consistent care for chronic disease patients. Clinical Homecare is one viable way of relieving the pressure on NHS resources. It is estimated that the equivalent of 15 NHS Trusts worth of day case elective capacity is delivered each year by Clinical Homecare providers in the UK⁸.

AdherePredict offers great value in this dynamic as, based on the non-

adherence risk prediction, it gives NHS stakeholders an indication as to what level of community-based support to refer a patient to and an opportunity to potentially reallocate limited routine hospital appointment slots. With a one-click referral functionality, it is designed to significantly reduce the admin burden of managing a large number of referrals to community-based support, including for specialist treatments that have additional monitoring requirements.

“**It would be good to explore the possibility of a pilot project in patients who are transitioning between two biosimilars, to see if there is an opportunity to make this transition safely without a significant increase in resource utilisation. I can see AdherePredict contributing to this**” – NHS Consultant

The funding argument

Identifying cost-saving opportunities in healthcare delivery whilst not compromising on care quality and patient satisfaction is quite the challenge but is the reality we face. The recent Lord Darzi report following an independent investigation of the NHS in England, highlighted austerity in funding and capital starvation as one of four heavily inter-related challenges facing the NHS⁹. Additionally, it has been reported that, when adjusted for a growing and ageing population, NHS England's budget is due to be 1% lower in 2024/25 compared with the previous year¹⁰. Studies across different health care systems and therapy areas have suggested that chronic disease management in the community setting (including primary care and at home) is associated with capacity benefits for secondary care, cost-savings for the health system and improved clinical outcomes for patients¹¹⁻¹³. Similarly, the annual value delivered to the UK health economy through Clinical Homecare is believed to be approximately £264m⁸.

We argue that the cost-saving and overall impact of community-based interventions can be enhanced by leveraging AdherePredict in making these interventions more proactive and better tailored to individual patient characteristics. The identification of patients who are likely to become non-adherent allows early deployment of personalised interventions – by doing this, we increase the chance of preventing the development and/or deterioration of ‘negative adherence behaviours’ later in their treatment journey.

“Encouraging patient treatment adherence, coupled with educational support, can contribute to long-term sustainability and align with NHS budget considerations because a return on investment could be demonstrated that would lead to sustainable funding of AdherePredict.”
– ICB Medicines Optimisation Lead

A tailored approach to supporting patients is certainly more cost-effective than a mass targeted approach, because relatively greater investment is made towards the patients with the greatest risks, rather than a blanket high investment for all patients. Such approach makes these tailored interventions more affordable, not only for Pharma (who sponsor most Clinical Homecare services today) but also for NHS stakeholders who wish to self-fund such services.

Conclusion

Through advanced analytics on predicted adherence trends and by streamlining medication management, the AdherePredict platform can assist healthcare professionals in addressing potential issues proactively, and ultimately improving the overall efficiency, cost-effectiveness and quality of community-based services.

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