# PHM: next steps

**Despite the major focus on Covid-19 over the past 18 months, some health economies have continued to make progress with the development of proactive models of care, informed by the analysis of wide-ranging datasets. Steve Brown reports**

The *NHS long-term plan* envisages new integrated care systems that move away from the delivery of reactive care towards a more proactive approach. This will see systems focusing on whole populations, not just those who are sick right now, and using population health management (PHM) techniques to deliver better outcomes and address health inequalities, while making the best use of scarce resources.

It is an ambitious aim. But the potential benefits are huge. In principle, the approach will enable systems – working in partnership with bodies outside of health – to address the wider determinants of health and health inequalities. It is estimated that healthcare only accounts for 20% of a person's health outcomes and a much greater impact can be achieved by looking at some of the causes of poor outcomes, such as housing, employment, education and environment. But even just within health, it should mean systems can focus on the best way for health services to anticipate and meet the needs of its communities.

Andi Orlowski, a director at the Health Economics Unit, within the Midlands and Lancashire Commissioning Support Unit, and an adviser on population health for NHS England and NHS Improvement, believes it is right for the NHS to have such a central role.

While it may only be responsible for part of a person's health outcomes, the health service sees the consequences of the failure to intervene sooner or to tackle wider determinants of health.

'Maybe our big role is actually highlighting the poor outcomes that come from this and creating the business case,' he says. However, he suggests it will be important that this central role does not lead to an over-medicalised response – real success will often be actions that avoid healthcare interventions. And he believes longer term financial settlements may be needed to enable the NHS to invest now in interventions that may have a longer term pay back.

Data is the backbone of PHM and, by using historical and current data about people's health and service use, systems are able to design care provision effectively around their own populations, as well as help eliminate health and care inequalities at the source. It typically starts off with segmentation and stratification and makes use of other analysis tools, such as impactability modelling and theographs (*see PHM: a quick guide, right, and Making an impact, page 23*).

Since publication of the *NHS long-term plan*, the NHS has been preoccupied with responding to Covid-19 and maintaining other services as much as possible. However, the pandemic has also increased the focus on health inequalities and many health economies have managed to continue to make progress with PHM ambitions.

NHS England and NHS Improvement run a PHM development programme and to date 39 systems have been involved in three waves.

Phil Walker, deputy director of PHM at NHS England and NHS Improvement, acknowledges that many parts of the country are at different stages, but adds: 'It's incredibly rewarding to see the focus ICSs are placing on putting the building blocks of PHM in place and how this is enabling the design of new proactive integrated care models for at-risk population groups.'

The national bodies plan to look at 'how linked data and predictive population health analytics can drive insight into future use of collective resource and new payment models across place-based partners', he says.

Leeds is arguably one of the more advanced systems in terms of PHM. A city-wide report, *System blueprint for population health management,* was published four years ago. And the clinical commissioning group more recently was one of the first four areas to go through the central PHM development programme.

This year the CCG published a draft of its *Left shift blueprint* setting out the improvement it wants to see for outcomes over the next 10 years

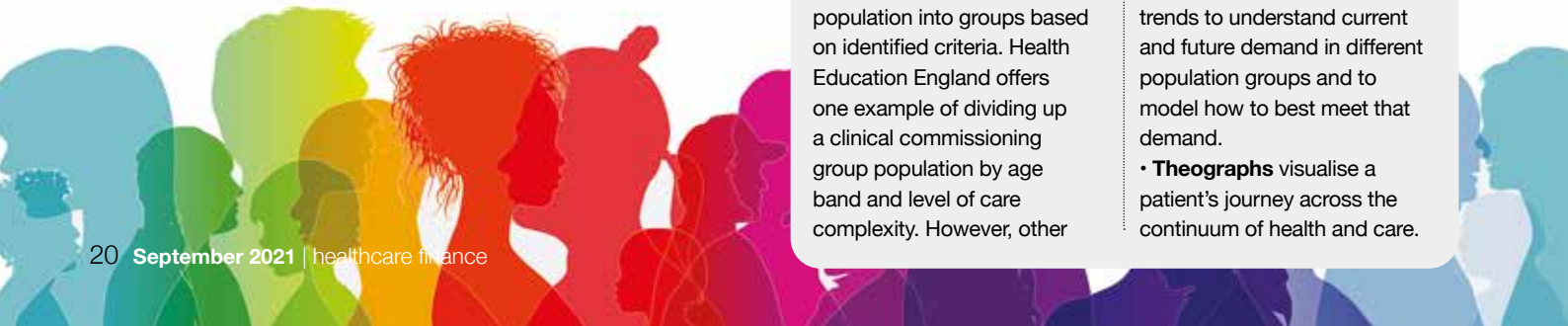
## PHM: a quick guide

Population health management has five aims: enhancing experience of care; improving population wellbeing; reducing costs; addressing health inequalities; and increasing workforce wellbeing.

It uses wide-ranging data to target tailored interventions to improve the health of specific populations and cohorts. And it has a particular focus on addressing the wider determinants of health, not just health and care.

A number of tools are used to understand population need and to think about interventions that would improve outcomes for different population cohorts. Health Education England describes these as follows:

- **Segmentation** divides a population into groups based on identified criteria. Health Education England offers one example of dividing up a clinical commissioning group population by age band and level of care complexity. However, other models, such as Bridges for Health and variations on it, break populations down by healthcare needs, with different segments for cohorts such as: healthy; acutely ill; chronic conditions; and frailty.
- **Risk stratification** helps to understand who within each segment has the greatest risk of an adverse health event. Most people are not in the highest risk group and their care may already be optimised. It may be more effective to concentrate on the rising risk population.
- **Impactability** explores how much different cohorts will benefit from a range of interventions.
- **Financial risk (actuarial) modelling** uses data and trends to understand current and future demand in different population groups and to model how to best meet that demand.
- **Theographs** visualise a patient's journey across the continuum of health and care.



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across nine programme areas, from healthy populations to end-of-life care. PHM is identified as the key approach that will be used to address the needs of specific population groups and develop pathways that deliver better outcomes and value.

Jenny Cooke, director of population health planning, joined the CCG at the beginning of the year to take this work forward. 'For Leeds, the journey is about moving away from PHM as "something we do" – a specific project around a specific geography and a specific population – to the way in which the whole system organises itself,' she says.

As part of the earlier development programme, four of the city's 18 local care partnerships (LCPs) were supported to test out the PHM approach and tools in areas related to the city's frail population – a previously identified priority for the city. LCPs are teams of people from general practice primary care networks, the NHS, city council and third sector services working together to improve health and care delivery for their communities.

These four projects provided proof of concept, with the approach of population segmentation, data analysis and impactability modelling leading to pathway revisions for different subsets of the frail population. In one area, the focus was on frail elderly with dementia in care homes, while in another the spotlight was on people with moderate frailty, balance issues, sleep disturbance and nutritional deficits.

Following the pilot programme, the approach was rolled out across all of the city's 18 LCPs and Ms Cooke says there are numerous examples of changes to pathways that have improved outcomes and patient experience. For example, local teams looked at a sub-cohort of people living with frailty, who were predicted to be at most risk of deterioration in health. Dementia, mobility and nutrition were all identified as contributory factors that compounded this risk and an anticipatory care model was introduced to support this group. This involved referrals to 'live well' consultations, and individual medical consultations in clinic and home visits led by an occupational therapist.

Ms Cooke says this programme was a good example of Leeds taking forward targeted work on specific populations. But it was outside of the normal planning process. 'The learning from that phase was that it was very much done as a separate project on top of the day job,' she says.

## Population-focused boards

While the sub-population specific approach to PHM is still important, the aim is now to focus more on whole segments of the population, with the ability to drill down where necessary. This will see city-wide population-focused programme boards set up for each of nine programmes identified in the *Leftshift blueprint*. For example, there will be boards for: children; adult mental health; and long-term conditions.

Building on existing groups and structures, these boards will bring together all the partners with an interest in their particular programme area. They will increasingly take on responsibility and accountability for the outcomes of that population. They will scrutinise wide-ranging data relating to their specific populations, monitoring agreed outcomes and able to spot if any LCPs look like they have specific challenges. At this point, neighbourhood teams would get involved, adding their understanding of the causes of any problems and addressing any issues.

This is all happening amid wide-ranging conversations on governance and structural arrangements as part of the move to integrated care boards (ICBs) and integrated care partnerships (ICPs). One of their first moves would be to develop clear outcomes for their specific populations where these do not exist, and understand spending patterns and how these could change to deliver the desired outcomes.

This will increasingly become a very real exercise as from autumn each programme board will be given a budget. Initially this will effectively be an indicative budget, but in future the aim is for it to be a real delegated budget and the programme board will control how it is spent. 'They are the experts for their population, so they should be able to make decisions collectively about the population and how the money is used,' says Ms Cooke. 'That is a real cultural change from the first phase of the PHM work in Leeds. At that stage, there was lots of multidisciplinary design, but the decisions on how to pay for the redesign then went back to the CCG. Under the new approach, there will be a much more joined-up conversation.'

## System support

'What do we mean by population health?' asks Tracey Cotterill, software supplier Civica's managing director of population health intelligence (PHI). 'No two integrated care systems would give the same definition.'

Until recently she was a finance director in the NHS, most recently at Great Western Hospitals NHS Foundation Trust, so she is well qualified to give an inside view.

'There is an overarching view of what we mean in principle by it, but different local areas are putting a different perspective on it relative to their local population's needs or where they see the pressures in the system,' she continues. So, while in principle it is about whole populations, for many health systems there is a micro view about 'which cohort should we focus on'.

At the heart of the approach is data and analysis – lots of it. John Doran, the company's head of solutions strategy for the PHI business unit, says the NHS already has rich data at its fingertips. This includes an improving database of patient-level cost information – putting the service well ahead of many other sectors.

However, Ms Cotterill, says this data can be massively enhanced by bringing in feeds from other parts of the public sector. 'I've compiled a list of the types of metrics that an integrated care system might want to measure to see if population health interventions are being successful – and it is a really long list.'

Helping systems to work with these massive data sets – from across the NHS and other public services such as housing, police and social care – is where the company can help, building on its experience with massive patient-level data sets for costing.

The aim is to provide a 'bird's eye to worm's eye' view, says Mr Doran – exploring what is driving resource consumption at broad population level but being able to drill down in to place or even lower.

Ms Cotterill says using artificial intelligence and machine learning tools, the system can provide insights that healthcare practitioners may never have thought to look for. 'With traditional business intelligence tools, you have to ask the right questions to get the right answers, but new systems can provide this demographic insight without being asked,' she says.


Jenny Cooke

This won't happen overnight and there are major hurdles to overcome. Just setting indicative budgets is a pretty tall order when the whole CCG and local providers don't even know their funding for the second half of the year, let alone for future years.

And currently programme budgets will be set on commissioning spend. Ms Cooke acknowledges that the real goal has to be having budgets broken down by the actual costs of delivery at citizen level. This would then enable programme boards to understand the real impact of, for example, taking activity out of the acute sector and meeting the demand in a different way in the community – taking account of a provider's unmovable fixed costs.

But while good patient-level costs exist for acute activity (*see Making it real, Healthcare Finance March 2021*), there is still some way to go before there are comprehensive costs for whole pathways, including community and mental health services and, ideally, social care services.

## Simulation test

However, there are plans to test out how the system could work. As part of its ICP development work, Leeds is planning to run a simulation event on frailty. This will effectively test out how a programme board might operate. Using as much real data as possible, the event will throw a number of scenarios and questions at the frailty board. Any lessons coming out of this will inform the establishment of the other boards.

Back in real life, the frailty programme board will have a number of decisions to grapple with too. Several initiatives on frailty – including a virtual frailty ward – have been based on non-recurrent funds and the programme board will take the lead role in thinking through what to do once that funding runs out, as well as deciding how to invest any further funds coming through NHS England.

There is a big agenda ahead, including getting better alignment between the city's eight-part segmentation model and the nine blueprint programmes. Ms Cooke is keen to make rapid progress, but is realistic about what can be achieved given the current workload, which has clearly increased as a result of the Covid-19 pandemic.

There is huge pressure on clinicians as services look to address a major backlog of care, while continuing to deliver Covid care in an environment of continued high infection prevention and control. And many will not be familiar with the concept of a population health approach (although those that have been involved to date are enthusiastic). But Ms Cooke says the recovery programme in some ways offers an opportunity for a new start. In many areas, the aim is to build back better, not simply return to old ways of delivering services. So now could be exactly the right time to make the switch to population health.

She adds that the vaccination programme – bringing staff and agencies across the city together around a clear outcome, changing approaches for different population groups and monitoring the impact – is a perfect example of population health management in action. It quickly highlights what can be achieved.

While programme boards managing their own budgets in a way that improves the outcomes for their population is a definite goal, she has more modest ambitions for year one. 'Success in year one would be getting a good, shared understanding across all programmes of what is currently being spent and what that delivers, along with the needs and assets of the population, and shared sense of outcomes,' she says. 'Until we really understand this, we shouldn't be making decisions and recommendations – we'd just be making guesses.'