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Transforming primary health care during the pandemic

POPULATION HEALTH MANAGEMENT: MEETING THE NEEDS OF THE VULNERABLE DURING COVID-19

Authors: José Cerezo Cerezo (*Health Policy Analyst,* WHO European Centre for Primary Health Care and WHO Barcelona Office for Health Systems Financing) and **Nigel Edwards** (*Chief Executive*, Nuffield Trust, United Kingdom).

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MOTIVATION

The development of scaled-up primary care and the adoption of a population health management (PHM) approach in England (United Kingdom) (Box 1) has been part of a long-term shift in policy to meet the challenge presented by the rapid growth in multimorbidity and disability driven by improved survival (3) and ageing. Appreciation of the importance of wider determinants of health, serious inequalities in health and the need to meet the needs of patients more comprehensively has been growing. Three-way integration between primary and secondary care, physical and mental health and between health and social care, combined with PHM, more networked and larger-scale general practice, personalized care, prevention and wider cross-sectoral work to improve population health, was identified as being necessary (4,5). Policies also aimed to create a more efficient system to reduce pressure on hospital emergency departments and the growth in hospital utilization.

COVID-19 has accelerated a number of changes in relation to more networked multidisciplinary primary care services with access to rich information about the populations they serve, and has supported the National Health Service (NHS) to respond strongly to the pandemic.

This vignette provides a detailed description of how PHM approaches have been effective, with examples that illustrate context-specific enabling factors that need to be considered when adopting PHM approaches in countries. More information about PHM experiences in England can be found in the *Advancing population health management report* published by NHS Clinical Commissioners in 2020 (6).

REACHING THOSE MOST IN NEED THROUGH PHM IN BERKSHIRE WEST

NHS Berkshire West (BW) Clinical Commissioning Group (CCG) is made up of 47 member general practices responsible for commissioning NHS services (planning, designing and purchasing) for a population of 550 000 people.

Prior to the COVID-19 pandemic, BW CCG became a testing site for an NHS England development programme for PHM that led to the creation of a successful model for improving care for people with type 2 diabetes. Through PHM, two population groups of patients at very high risk of complications and hospital admission and who were making poor use of the standard NHS service offer were identified. This allowed the service delivery model to be tailored to meet their needs more effectively.

The mechanisms created to achieve these changes (rapid identification of high-risk patients and tailored services) became useful in rapidly responding to the COVID-19 pandemic, as data systems and an integrated group of system partners already were in place at each local level. This vignette describes an approach taken in Wokingham locality (which includes 13 practices working as four primary care networks (PCNs) in one of the three areas that make up BW). Within hours of lockdown, the PHM team began reaching out to their local networks to plan an approach and ensure that no one was left behind. Multidisciplinary and intersectoral teams meet every two weeks and are the backbone of PHM at local level. The teams are composed of the following personnel who are employed by a number of local organizations:

- a PHM leader — also known as the PHM ambassador (a clinician, nurse or pharmacist);
- data analysts;
- acute and community trust representatives (including, for instance, nurses or physiotherapists delivering a range of home-care services);
- patient representatives;
- local authority representatives (including links with social services);
- representatives of the voluntary sector; and
- administrative staff.

The PHM team's aim was quickly to identify groups in vulnerable situations and find out what support and care they required. Starting with general practice patient records, analysts created and analysed a combined database that included linked data from different sources on issues such as residents needing assisted bin collections, sheltered housing, care needs, and food and medical supplies. This resulted in the identification of around 2500 residents who needed to be prioritized in the first wave. Within days, these residents received need-assessment phone calls from health and social care teams. Fear of loneliness emerged as one of the most important concerns for the population, so befriending services and checking calls rapidly were put in place through reaching out to the voluntary and social sectors.

Action was taken quickly without waiting to develop a perfectly defined patient cohort. Rapid improvement cycles, along with fluid communication with patients and community representatives, enabled the PHM team to learn and make improvements as implementation moved forward. This allowed teams quickly to identify and offer support to other high-risk cohorts, including those particularly struggling to cope with the impact of lockdown. For example, using the PHM datasets enabled families with new-born babies who had lost their support network as a result of the pandemic to be identified. Calls were set up to check the parents' mood and how they were coping, and online group sessions were run for this group with support from local health visiting teams.

After the first wave, the PHM team developed a new project to identify future areas of expected health and social care service needs. They noticed a substantial increase in current and forecasted need for mental health services. A decision was made to build on BW's existing proactive and preventive approach, which is based on fostering healthy communities, to manage future demand. PHM intelligence allowed matching of the intensity and scope of services provided to the level of need of communities with different characteristics and determinants of health. For instance, a more pronounced increase in mental health issues was observed in one neighbourhood that is characterized by higher deprivation, greater job losses and growing financial problems. In response, targeted services were designed in collaboration with a local branch of a national mental health charity, offering one-to-one sessions to anyone experiencing mental health, social or lifestyle challenges.

Adopting a PHM approach was possible in BW due to several enabling factors, which included having:

- an existing PHM framework with a whole-system database (linking data from different organizations in the locality) and analytical tools and expertise to identify areas for targeted actions;

- a culture of PCNs engaging with patient groups and community leaders — the network of partnerships and working relationships across the health system, social care, local councils, community services and the voluntary sector was key to quickly identifying and offering different types of services to a wide range of high-risk cohorts; the fact that the general practices had already formed networks and had been working collectively helped to ensure expertise and resources were shared;

- a clear and shared understanding across the different parts of the system of the wider determinants of health (such as socioeconomic situations and home environments) and the impact these and the epidemic had on the local population; and

- development work and resources available from the NHS England PHM Academy and having information flows and connectivity with other members of the Academy.

Box 1. What is PHM?
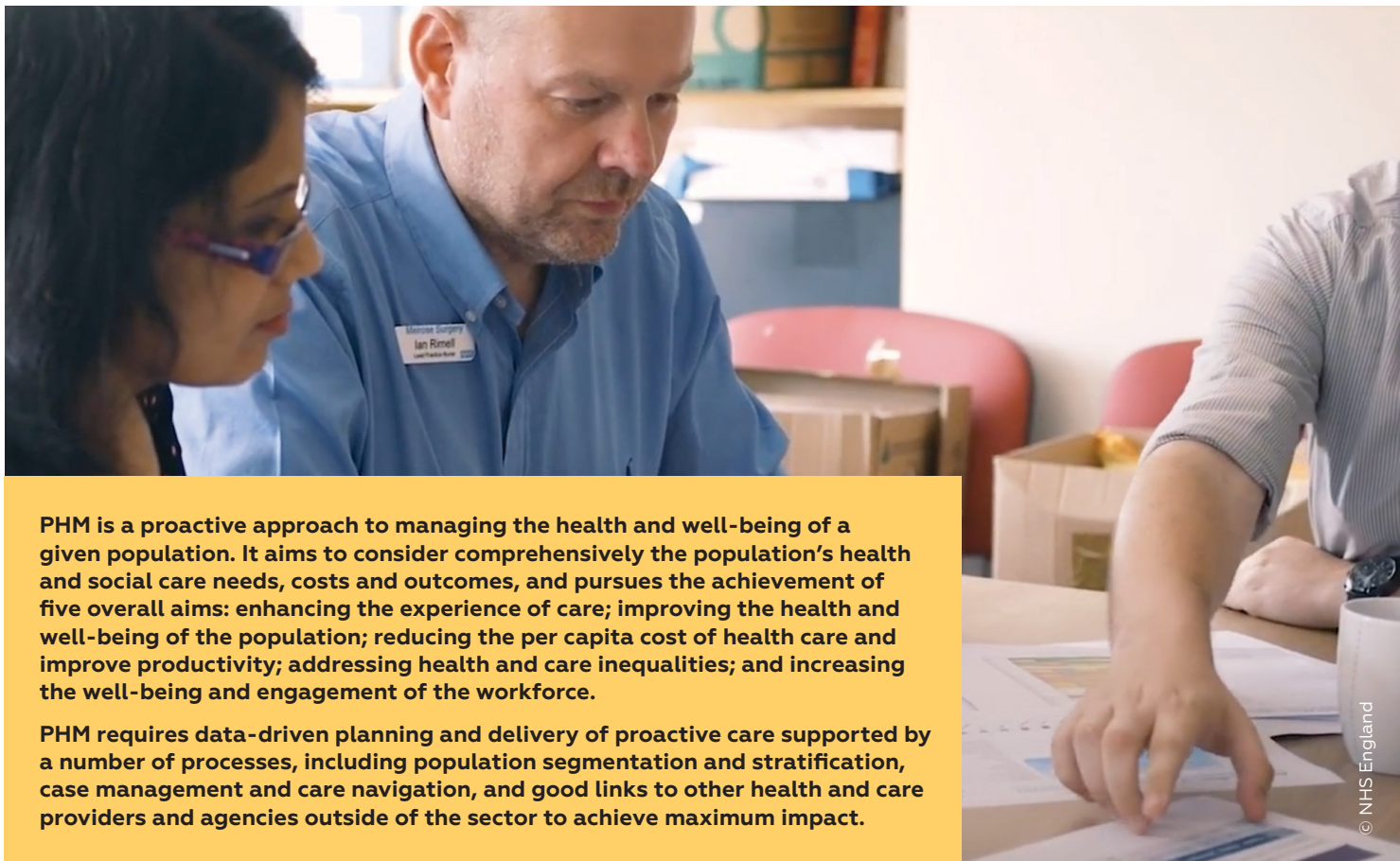
PHM is a proactive approach to managing the health and well-being of a given population. It aims to consider comprehensively the population's health and social care needs, costs and outcomes, and pursues the achievement of five overall aims: enhancing the experience of care; improving the health and well-being of the population; reducing the per capita cost of health care and improve productivity; addressing health and care inequalities; and increasing the well-being and engagement of the workforce.

PHM requires data-driven planning and delivery of proactive care supported by a number of processes, including population segmentation and stratification, case management and care navigation, and good links to other health and care providers and agencies outside of the sector to achieve maximum impact.

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Sources: NHS England et al. (*1*); National Association of Primary Care (*2*).

EARLY ACHIEVEMENTS

PHM enabled BW quickly to identify population groups facing a wide range of vulnerable situations who required targeted support during the different waves of the COVID-19 pandemic. This information allowed PCNs to spearhead a whole-of-locality approach by being proactive and making extensive use of their partnerships and working relationships across the Wokingham locality, which spans the voluntary sector, social care and local services.

These joint efforts resulted in, among other things:

the organization of **food parcels** for **1500 residents**;

the recruitment of **500 volunteers** who with redeployed library staff made **over 19 000 regular welfare and befriending calls** to support people's well-being during the lockdowns;

the **provision of services to support people who were shielding and those who were vulnerable** in their communities, including fulfilling **thousands of requests** related mainly to shopping and prescriptions;

the **design and delivery of targeted mental health services** offering one-to-one sessions to anyone experiencing mental health, social or lifestyle challenges;

support to resettle at home after discharge from the Royal Berkshire Hospital for **200 Wokingham residents**. A further **30 patients per month** have been provided with welfare telephone calls, enabling signposting to other services.

Improving Patient Care Through Knowledge

OTHER NHS EXPERIENCE

Durham: developing general practice dashboards with stratified patients by linking clinical and social data

PHM also played a vital role in the health system response to COVID-19 in **Durham** (528 000 population) (*7*). The local authority (Durham Council) worked with a dedicated multi-agency and interdisciplinary group to develop a PHM approach to respond to the COVID-19 pandemic. Using an integrated dataset that combined clinical and social data, profiles that were accessible through interactive dashboards with stratified patient profiles were created for each general practice. Social vulnerability was defined according to data from the county council on people who had experienced domestic violence, those receiving support for substance misuse, people in receipt of housing or welfare support or who had assisted bin collections, and people accessing adult and child social care services. This refined knowledge of the population allowed tailoring, initial contact and delivery of services in partnership with local teams to meet the needs of people identified as at risk or vulnerable.

Many other parts of the NHS had adopted similar approaches to BW prior to the pandemic. Common themes include strengthening primary and community care, using data to target service planning and delivery, and working with wider community resources to extend the responsiveness of primary care.

Mid-Nottinghamshire: supporting integrated care trough refined analysis on population needs

Since the publication of NHS England's Five year forward view in 2014 (*5*), **Mid-Nottinghamshire** has been developing its multidisciplinary team approach to PHM, supported by sophisticated data analysis of population needs and integrated care teams offering a range of services for its approximately 347 000 local residents. This includes a 24/7 care-navigation service, an acute home-visiting service to which general practitioners can refer patients, and an intensive home-support service providing rehabilitation, medical monitoring and nursing care for patients being discharged from hospital. These services aim to bridge the gap between acute and community services and provide a model to support care homes. An evaluation of this work (*8*) suggested a fall in emergency department visits and emergency hospital admissions for all causes of 4.3% and 6.4% respectively in 2018/2019 (compared to a synthetic control area). Some utilization increased over the first two years of the programme, however, probably due to identifying urgent needs for health care that might otherwise have remained unmet or been identified later, or to interventions maturing over time.

Tower Hamlets area, London: enhancing multidisciplinary team work through a shared record system

In the very deprived and multilingual **Tower Hamlets area of London**, eight networks were developed in 2009, each containing 4–5 general practices covering about 40 000 patients each (*9*). These are supported by an integrated community team comprising community nurses, community therapists, mental health workers, social workers and pharmacists. A shared record system allows high-risk patients to be identified and work to be coordinated, and also supports an e-consultation system to provide easy access for patients. The networks work closely with public health and locality committees that have been set up to bring leaders of provider organizations together to plan services. They can call on a range of home-care services to support patients and prevent admission to hospital, speed up discharge, provide specialist end-of-life care and supply social prescribing.

> "THIS REFINED KNOWLEDGE OF THE POPULATION ALLOWED TAILORING, INITIAL CONTACT AND DELIVERY OF SERVICES IN PARTNERSHIP WITH LOCAL TEAMS TO MEET THE NEEDS OF PEOPLE IDENTIFIED AS AT RISK OR VULNERABLE."

SUSTAINABILITY PROSPECTS AND NEXT STEPS

The shift towards PHM was already in motion long before the COVID-19 pandemic, probably supporting many local areas to reach vulnerable cohorts of the population rapidly. The pandemic, however, may have encouraged some integrated teams working in name only to come together with an urgency and purpose not previously experienced.

Prior to the pandemic, a new contract for general practice had been introduced (*10*). The contract strongly incentivized the creation of PCNs covering 30 000–50 000 patients through funding for leadership, new team members and payment for delivering particular services collectively as a group of practices. This funding was in addition to the per patient capitated payments received at practice level. PCNs, the gradual implementation of which started in 2019, are expected to adopt a PHM approach to assessing and managing the needs of their local populations and identifying people who would benefit from targeted, proactive support. The new contract includes incentives that promote networked operations and the expansion of multidisciplinary teams though the employment of pharmacists, care navigators, physiotherapists, mental health counsellors and paramedics. The funding is being provided in phases to allow the workforce to be expanded while reducing the risk of taking staff from other important sectors, so not all of these staff have yet been appointed.

PHM requires working in multidisciplinary teams, which calls for a different approach to professional training for primary care practitioners. Clinical biomedical approaches are essential, but psychosocial medicine and public health should also be mastered, along with communication, interpersonal or leadership skills. The United Kingdom has developed these skills in the workforce, but it has taken time to develop, and its achievement has required strong leadership from professional bodies. The growth of social prescribing and links to social work, which are key to PHM, depend on well funded local government services and strong voluntary services. Austerity policies and the pandemic have affected the robustness of these sectors badly.

"USING AN INTEGRATED DATASET THAT COMBINED CLINICAL AND SOCIAL DATA, PROFILES THAT WERE ACCESSIBLE THROUGH INTERACTIVE DASHBOARDS WITH STRATIFIED PATIENT PROFILES WERE CREATED FOR EACH GENERAL PRACTICE."

LESSONS LEARNT

1. Moving towards a system-wide implementation of PHM is the result of several years of development work and takes time to achieve impact. However, adopting a population health lens to needs assessment and service planning and delivery is possible in contexts with different degrees of health system maturity and digitalization, and will promote improvements in primary care delivery even before the full benefits of PHM are realized.

2. Integrated service delivery networks are key enablers for PHM approaches as they connect primary and secondary care providers and synchronize expertise in the information governance and data analysis central to PHM. Several elements of PHM cannot be delivered by small standalone primary care practices or by primary care working alone. The key is to establish good relationships between the actors rather than just develop a formal organization.

3. PHM requires the development of multidisciplinary teams that can provide coordinated care and meet a wide range of patients' needs, including addressing mental health problems, and help with aspects of wider well-being.

4. Larger-scale primary care allows for standardization of patient pathways developed in cooperation with secondary care and patients. This is important in improving coordination across the system and ensuring the shift from condition-specific to person-centred care.

5. PHM supports primary care to adopt a public health approach, as it brings a population perspective to clinical practice and helps to identify and address the social determinants of health in the community. PHM supports service design by looking at patients' and communities' holistic needs informed by local public health intelligence. This often results in prioritizing disease prevention and health promotion and in emphasizing psychosocial well-being over narrow physical health-focused approaches. By covering larger populations, PCNs can work more effectively at the interface between population- and individual-level health.

6. PHM approaches can increase the proactivity of the health system in general and primary care in particular by making use of segmented and risk-stratified patient lists for: vaccine prioritization; evidence-informed prioritization of face-to-face versus virtual care; identification of emerging needs (at patient, community and local levels) and consequent expansion of tailored services; and highlighting of skill-mix gaps that need to be addressed by expanding the role of primary care professionals or by adding new roles to the composition of teams. These elements are relevant particularly to addressing the present and forecast surge in long-term health and care needs due to the pandemic.

7. Data-sharing adds great value, as PHM relies on data from a wide range of sources and organizations (within and beyond the health sector) to identify people who have emerging problems before they reach the health system. Gathering, sharing and combining this information is complex and may become an implementation hurdle.

8. The development of an outcomes framework that captures health improvements and which focuses on value to patients, patient experience and changes in key population health indicators is central to PHM. Some of the data to inform this will automatically be generated by information systems, but capturing patient experience will require special arrangements to collect data. Linking interventions to outputs and outcomes is a useful discipline, as explained in NHS England's Population health management flatpack (*1*).

9. Regulatory agencies and payers need to act to remove barriers to PHM. Payment mechanisms should incentivize the adoption of PHM, encourage PCNs and not overincentivize hospital activity. Professional regulations should allow primary care professionals to work at the higher end of their competences. Security and reassurance about confidentiality should be addressed adequately without hampering data-sharing processes. Regulatory agencies should provide training resources, support the establishment and evaluation of pilots and the scaling up of successful experiences, and promote the creation of professional networks of PHM champions.

10. Engaging with patients and communities is vital to fine-tuning segmentation and risk-stratification processes, as they can provide first-hand qualitative information to complement that obtained through analysing large datasets.

11. PHM is 10% about data and 90% about building new relationships within and beyond the health system, breaking professional silos and developing new team-based ways of working between primary health-care professionals. It requires moving from an institutional mindset to a health and well-being one that puts patients and communities at the centre.

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