BACCH/BACAPH

NHS Long-Term Plan

What does population health management mean

for services for children and families?

'Why treat people and send them back to the conditions that made them sick?'

Sir Michael Marmot

Purpose

The purpose of this paper is to introduce clinicians to the concepts and potential benefits of adopting a population health management approach to patient care, as referred to in the 2019 NHS Long-Term Plan. Population Health Management(PHM), as a term, is an emerging concept within the NHS and this paper is intended as a start to a discussion rather than be a didactic document outlining a future strategy. However the paper hopes to enlighten, inspire by example and make some practical proposals to blend a population-based approach into clinical practice for clinicians working with children and families.

Introduction

The two terms 'population health management' and the 'population health approach' appear in chapter 5 of the NHS Long-Term Plan. But what does it really mean for the wide range of providers of services for children and families across public, private and voluntary sectors in the new integrated health systems?

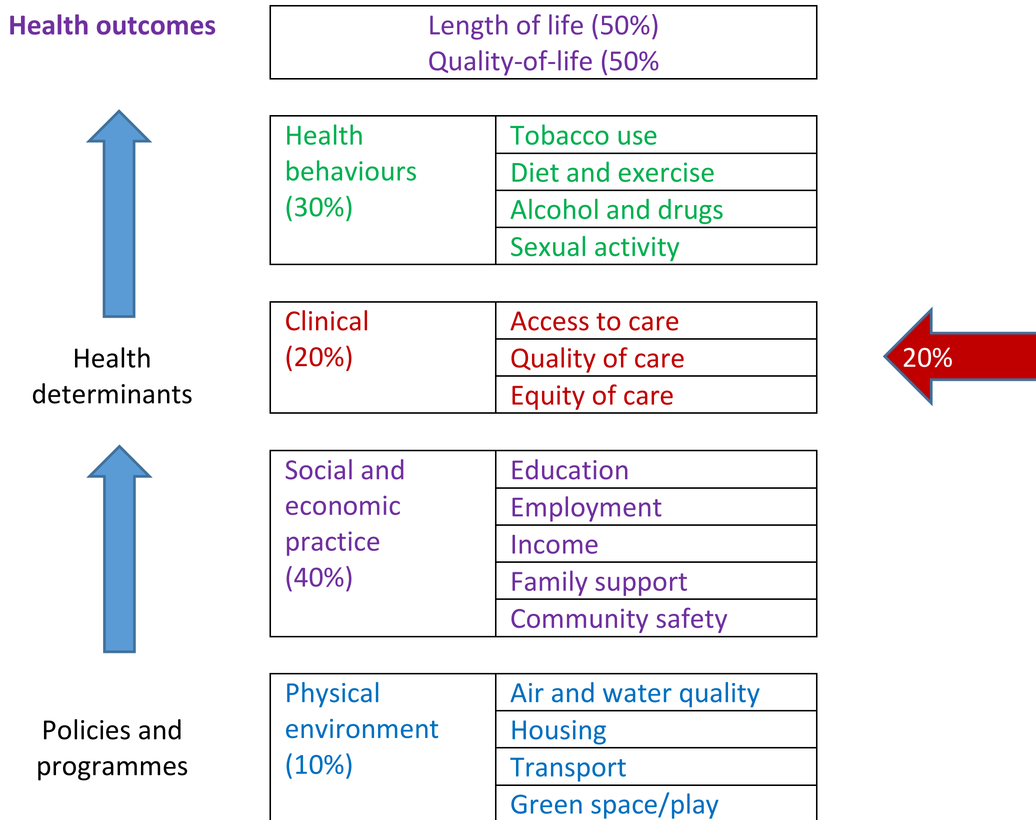
Chapter 5, section 4, states the intention that "every Integrated Health System (IHS) will have capacity to support population health management, meaning the ability to understand population-based health needs in order to match NHS services to meet expectations". Commissioners will then be in the position to make joint decisions, with providers, on how best to allocate resources, design services and improve the health of the population they serve.

The traditional tendency has been for health services to concentrate on the urgent and immediate aspects of patient care rather than a focus on helping people achieve healthier lifestyles, prevent ill health or develop expertise in self-care to prevent condition comorbidities developing. However tackling these wider determinants of health is equally important to achieving better outcomes for both patients

known to the service, as well as those not yet seen. Indeed estimates suggest that tackling these wider determinants could reduce avoidable mortality by up to 70% and consequently reduce pressure on frontline services.

The NHS Long-Term Plan includes the diagram below from the University of Wisconsin Public Health Institute which illustrates the relatively small (20%) contribution that traditional clinical care makes to overall health outcomes, as judged by a length and quality-of-life, on a population basis.

The interactive diagram (https://www.countyhealthrankings.org/explore-health-rankings/measures-data-sources/county-health-rankings-model?componentType=health-factor&componentId=25) illustrates the impact of the “social determinants of health”, or the “wider determinants of health”. The World Health Organization (WHO) would describe social determinants of health as meaning: *“the conditions in which people are born, grow, work, live, and age, and the wider set of forces and systems shaping the conditions of daily life. These forces and systems include economic policies and systems, development agendas, social norms, social policies and political systems”.*



Tackling these wider determinants of health will require everything from a change in behaviour at an individual level e.g. to use personal resources more wisely, through to macroeconomic policy change, for example, to increase minimum living wages, in order to reduce poverty.

Population health management in the NHS Plan predominantly refers to interventions that NHS providers can contribute to both improve the health and improve equity, within a defined population, but with a special emphasis on the patient groups whom they are already treating, since specific health determinants tend to cluster for specific groups of patients.

Upstream and downstream concepts (and midstream)

The exact origin of the up and down stream concepts has been lost in public health history. The concept considers whether it is better to invest in river defence systems to prevent people falling in, or to have systems to save people once they are in the river, with possibly a midstream intervention being to teach people to swim and avoid dangerous waters. A more modern analogy would be to prevent river flooding you need to tackle climate change to reduce exceptional and severe weather conditions, reforestation to prevent excess water run-off from hills and improve infrastructure around rivers to prevent flooding. These would all be macro, upstream interventions. Downstream interventions would include protecting housing from floodplains, emergency evacuation procedures and compensation to rebuild homes and lives after flooding.

Examples are included in the table below.

General determinants		
"Upstream"	**Condition**	**"Downstream"**
Population approach		**Individual approach**
Living wage Raising tax threshold Increased benefits	**Poverty**	Food banks Credit unions Billhelp
New housing Sustainable housing Housing standards	**Poor housing**	Housing grants/social housing Minimum rental standards Improvement grants.
Food access (availability and affordability of fruit& veg) Food advertising Food labelling	**Poor nutrition**	Breastfeeding Food education/choice Food vouchers
Childcare policies Quality Preschool education Affordable childcare	**School readiness**	Book bag schemes Speech & language therapy Play at home

This difference in approach is important when considering population health management and the role of the NHS and local partners. The upstream interventions are vitally important to improve the health of the nation, but are largely outside the immediate control of either individuals, patients or health organisations, although clinicians are in a strong position to articulate and advocate, often with health derived data, the effects of not effectively tackling health determinants and so promote the use of well researched proven policy interventions.

However, in the new world of accountable and integrated health systems the expectation is that the NHS will contribute to tackling the determinants of health at a local community level in partnership with neighbouring public, private and voluntary sector organisations. Ultimately it should enable planners to use population derived health data to anticipate health trends, so not only to plan services but also develop strategies to prevent illness.

In terms of downstream interventions the first expectation is that the NHS will continue to support and advocate for on an individual basis to tackle those health determinants that are relevant to them as a patient or the disease/condition from which they suffer. This is all part of a personalised, proactive and preventative care and optimal condition management, to prevent comorbidities and which also contributes to reducing inequities of health outcomes.

The second element is improving access to safe and effective care to the whole population with a particular emphasis on achieving equitable outcomes for the more vulnerable subgroups in the population they serve.

In summary upstream interventions and strategies focus on improving fundamental physical, social and economic structures in order to decrease barriers and improve supports that enable people to achieve their full health potential. Then downstream interventions and strategies focus on providing equitable access to care and services to mitigate the negative impacts of conditions and the disadvantage on health.

"Good health is not made in hospitals. Good health is made by the food we eat, the water we drink, by feeling safe, secure, loved and connected. It is the roof over our heads, and our sense of purpose in the world". **Upstream or downstream?** Smith VC Med J Aust 2015; 203

The basics of population health management (definitions)

Population

The word "population" must make sense to users of services, providers of services, commissioners of services and policymakers and can be interpreted in at least four different ways. All are relevant to population health management and it is essential that the population under consideration is clearly defined to all concerned.

- **Patient groups** are populations that make clinical sense. Typically, they are a group of individuals receiving care within a health system or organisation, (e.g. patients with liver disease, patients over a certain age)
- **Organisational groups** of patients attending a particular hospital or clinic or primary care centre, or children attending a particular school)
- **Community groups** are population segments, unified by a common set of needs or issues (e.g. living in poverty or poor housing or a demographic with shared characteristics).
- **Geographical populations** within specific geographically bounded areas on which programme is based (e.g. CCG, local government boundaries defining immunisation or screening programmes).

Population Health

WHO definition of health is "*a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity*". Population health is used interchangeably with the term "health of a population" and considers various components of "health" including:

- the distribution of health-related determinants (both positive and negative),
- disease/conditions that arise within the population,
- service outcomes and the equity of those outcomes within and between populations,
- quality of life of the population or under consideration.

Population health is therefore defined as "the health outcomes of a group of individuals, including the distribution of such outcomes within the group". These groups are often geographic populations such as nations or communities, but can also be other groups such as employees, ethnic groups, disabled persons, children, or any other well defined group (see above). It is important to define health in both positive terms and avoiding the trap of defining health needs only in terms of treatable disease.

Population health management

The concept and practicalities of population health management is still evolving. Earlier definitions and concepts are included in the appendix for reference, but this later definition is probably the most comprehensive *"population health management focuses on interrelated conditions and factors that influence the health of populations over the life course, identifies systematic variations in their patterns of occurrence, and applies the resulting knowledge to develop and implement policies and actions to improve the health and well-being of those populations."* (Kindig)

However, this definition has been criticised as not specifically including mention of health service roles in both prevention and intervention to improve health, hence the term population medicine.

Population medicine

The American Medical Association *defined population medicine as "an approach that allows one to assess the health status and health needs of a target population, implement and evaluate interventions that are designed to improve the health of that population and both efficiently and effectively provide care for members of that population in a way that is consistent with the community's cultural, policy, and health resource values."*

This involves the identification, assessment and segmentation of a clinical population and requires health systems to understand and address the broader social, environmental, economic and behavioral determinants of health, in order to achieve more equitable outcomes, improve the care experience, control costs and increase whole system value.

A note of caution here regarding medicalisation and population shrinkage. The term 'medicalisation' is used in the sense of health service interventions being used for predominantly social problems, for example, is obesity a medical or social problem?

Population denominator shrinkage is a term used to describe the move away from considering a whole population to an approach just for a population subgroup with a particular disease or social circumstances. This significantly narrows the numbers in the population who could potentially benefit from research, services or intervention policies.

The focus on those health determinants relevant to patients again narrows the focus to largely individual orientated, downstream interventions rather than whole population prevention orientated macro interventions orientated to upstream factors.

The overall risk is that the policy focus will move away from tackling the greatest problems in society which are critical for long-term well-being and efforts will be focused on individuals who present with problems. (Milbank)

The questions

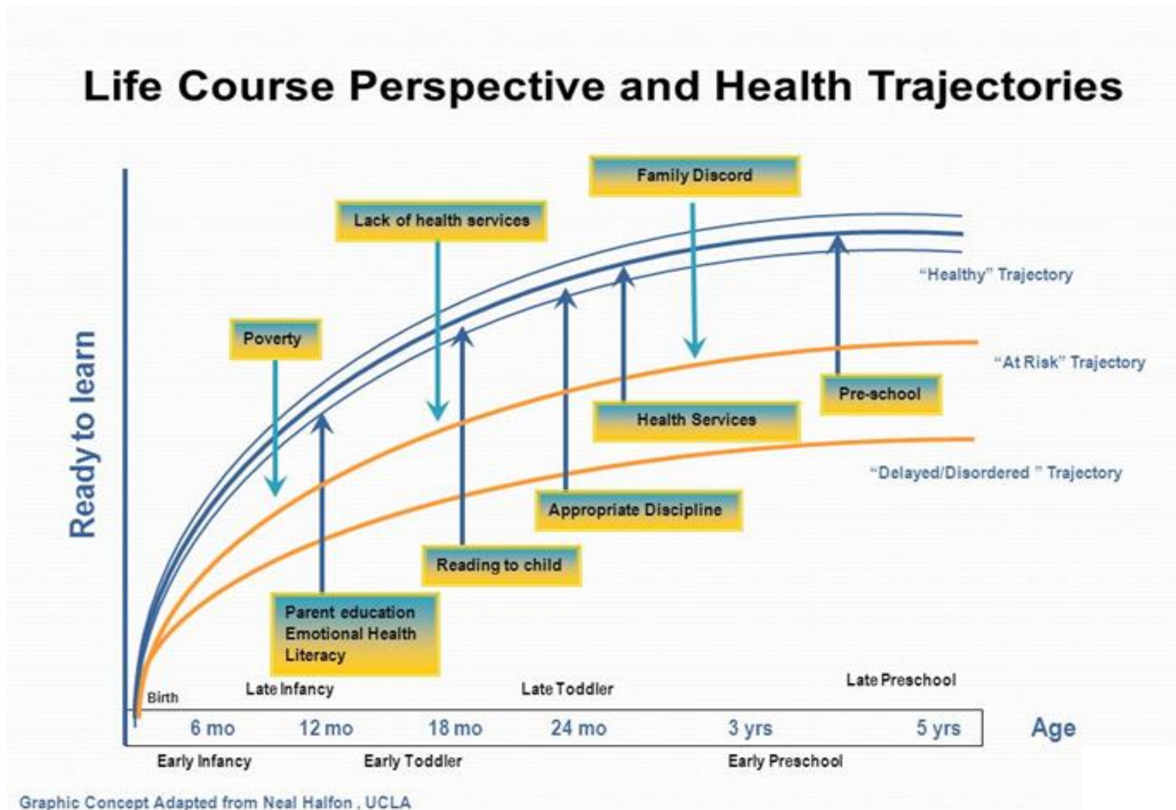
So what is new about population health management? How is population health management different from a public health approach? What are the challenges? How can NHS organisations, clinicians and public health practitioners best contribute to population health and take these ideas forward? How might population health management apply to children and families?

What is new about population health management?

The term population health management has been used both as a noun and as a verb since the late 1990s. The importance of population health has been recognised by the public health community for more than a century, but the more recent resurgence of interest in the management elements relates more to reducing health service costs by decreasing health service demand and improving outcomes by

taking a more holistic approach to health service delivery at a population level, especially improving the focus on equity of outcomes.

The diagram below illustrates the concepts, with age on the horizontal axis and readiness to learn on the vertical axis, but this could equally be replaced with quality-of-life over a longer time period. The diagram acknowledges both positive and negative influence of determinants over the life course and the inequitable gap between the best and worst trajectories.



This life course pathway approach to improving health has been explained in the Family Friendly Framework and more recently Public Health England (PHE) Health Matters series. (https://www.gov.uk/government/collections/health-matters-public-health-issues)

How is population health management different from public health?

Not easy to answer! The most frequent UK definition of public health is probably the Acheson 1998 definition *"the science and art of promoting and protecting health and wellbeing, preventing ill-health and prolonging life through the organised efforts of society"*

Some describe population health as a larger concept, limiting public health to that component delivered by public health departments; while others see population health management more as a method (largely based on stratification, segmentation and modelling to identify at risk groups in order to target interventions to particular clinical groups) to achieve better service outcomes.

Others might describe population health management as the NHS contribution to public health.

Debating the semantic differences is probably unhelpful since there is considerable overlap and no doubt the concept of population health management will evolve over time and with experience. However understanding why population health management has been included in the NHS Long-Term Plan is more important. The intention of a population health management approach, as already stated, is to effectively tackle the causes, as well as the effects of the major determinants of health.

The World Health Organisation articulates the contribution of public health to health gain under three headings:

- To assess and monitor the health of communities and populations at risk so as to identify health problems and priorities. (to measure)
- To formulate public policies designed to solve local and national health problems and priorities. (to analyse)
- To assure that all populations have access to cost-effective and equitable care, which includes health promotion and disease prevention services. (to implement)

Then more recently the term "intelligent public health" has been used to describe public health interventions that are more proactive, predictive and personalised increasingly using digital technologies.

The stated intentions for Population Health Management, which are more specific, are little different from the aspirations for the NHS and include:

- death reduction and prolonging life
- improving the health, well-being and the quality-of-life of a population
- improving the quality, safety and effectiveness of services
- improving equity of service provision and life course pathways outcomes
- achieving optimal capita cost of care (i.e. maximising value of invested resources)

At a minimum it is an approach aimed at improving the health of the whole population, increasing health equity and using resources to maximum effect, in order to create maximum value within a sustainable health system.

Some commentators would also include creating learning organisations that support teams to deliver high quality of care and increasing productivity while simultaneously nurturing the well-being of staff throughout their working lives.

What are the challenges?

Evidence. Health services research has always lagged behind clinical research and there is limited evidence base on which to design new ways of working. Having said that, where there is a consensus amongst various stakeholders including users, clinicians, commissioners and other agencies it is likely that new ways of working will be successful, especially if embedded within a quality improvement culture and structure.

Capacity and competence. Clinical capacity is limited due to the increasing demands of maintaining a clinical service, however, a clinical contribution to the process of population health management is essential. Additional, more public health orientated competencies, may be required to fully engage with the process and they should be an integral part of leadership/management training.

Time. It is essential that leadership and quality improvement roles are adequately resourced in terms of time within job descriptions.

Resources. The intention of population health management is to prevent demands on the health service, improve equity and quality of outcomes, and use resources wisely. Additional resources for community development have been included within the NHS Long-Term Plan we should be used for pump priming new ways of working, including population health management.

How can Government, the NHS, NHS organisations, clinicians and public health practitioners best contribute to population health and take these ideas forward?

Governments

The NHS Net Zero and 2030 Agenda for Sustainable Development, recognises that ending poverty and tackling determinants must go hand-in-hand with strategies that improve health, reduce all forms of inequity and spur economic growth all within the carrying capacity of the planet. Like all of society the NHS must actively contribute to sustainable development and tackling climate change and should probably lead this transformation on aspects relating to health by developing an organisational culture and policies that encompass health improvement, health equity and prevention as core business. A good example is the Lancet commission on obesity and climate change.

Sustainable Development Goals
https://sustainabledevelopment.un.org/?menu=1300

Obesity and climate change
https://www.thelancet.com/commissions/global-syndemic

NHS

The NHS touches millions of lives both as a direct provider of care, as an employer (1.4 million) and as a partner with other organisations providing care. The NHS is the largest employer in Europe and a significant proportion are women, recruited from across the world. The NHS has been described as an "anchor organisation" in the local community and potentially is a wider system leader having a responsibility to demonstrate both social value and to increase environmental sustainability. Prevention through addressing health determinants should therefore be an integral part of NHS culture and action.

Examples might include reducing the NHS carbon footprint by better building insulation, local renewable energy generation, reducing travel for staff and patients, local food procurement wherever possible and reducing all forms of waste.

NHS Long Term Plan

https://www.longtermplan.nhs.uk/publication/nhs-long-term-plan/

https://noharm-global.org/sites/default/files/documents-files/5961/HealthCaresClimateFootprint_090619.pdf

The NHS Sustainable Development Unit offers a range of advice on reducing environmental impact and improving social value.

https://www.sduhealth.org.uk/

The wider roles of NHS provider organisations

The NHS should be an exemplary employer both in terms of supporting and developing its workforce creating optimal working conditions, promoting the physical and mental well-being of staff through a healthy workplace and providing a living wage appropriate for the local economy for those employed on low incomes.

The NHS could act as a local champion, (part of the "anchor organisation" role), for health in the community ensuring that health is represented in all local policy decisions for example housing and transport, working with local organisations to ensure employment and environmental best practice which all contributes to health and well-being. At least five roles have been identified including:

1. Leader – e.g. commissioning services, providing governance and management, setting the local health agenda, role modelling.

2. Partner – e.g. providing services, hosting services, working in collaboration to deliver services with local authority, statutory, or other voluntary sector groups.

3. Employer – e.g. initiatives aimed at improving NHS staff health and wellbeing; NHS as a community employer and 'anchor institution'.

4. Advocate – e.g. lobbying governments on public health agenda, lobbying for prevention within individual institutions and the behalf of individuals.

5. Researcher – e.g. funder, academic provider and driver of research.

NHS improvement has more than 1000 ideas on improving delivery

https://improvement.nhs.uk/resources/

The training requirements of the health workforce influence the provision of universities and other local training providers the aim would be to move towards creating a sustainable workforce capacity locally without unnecessary dependence of staff from overseas which may undermine their health systems.

How might population health management apply to children and families?

The value of life course approaches to improve quality-of-life and reduce mortality are now well established. The maximum gains for life course approaches are achieved largely during pregnancy and the first five years. (Marmot) The general approach is to protect children from potential hazards that may cause harm and increase exposures to positive determinants (assets) that encourage optimal development, learning, behaviour and physical health.

Thinking about upstream and downstream interventions may be helpful in determining which organisations are primarily responsible for which interventions. Generally upstream interventions are more relevant to national and regional policy and planning, whereas often downstream interventions relate more to local services, communities and individuals.

Because children are largely dependent on their parents and families it is often difficult to differentiate child related determinants from adult related determinants, but there are five that are current themes in serious case reviews which relate to poor outcomes that include poverty, then parental learning difficulties, mental health problems, domestic abuse and substance misuse. Protecting children from these adverse childhood events must be a high priority.

Specific condition determinants		
"Upstream"	**Condition**	**"Downstream"**
Population approach	***Child***	**Individual approach**
Tobacco taxation	low birthweight	Good antenatal care
Vaccination programmes	Infectious disease	Vaccination uptake
Air-pollution reduction – low emission zones	Asthma	Self-care, reducing external exposure during high pollution levels
Sugar fat and salt reduction targets	Obesity/tooth decay	Nutritional choice/affordability Dental health promotion
Early years provision Toy/book library	Poor language/school readiness	Family communication Story every day
Safe play space Safe routes to school	Injuries	Home safety programs Green cross code
Ofsted standards seeking evidence of Provision for all abilities Education, Health and Care Plans	School attendance	Parenting support to maintain attendance Mentoring schemes for vulnerable young people
Mental health resourcing Statutory mental health education	Mental health	Mental Health support teams in schools Whole school approach to health and wellbeing
Sexual health Campaigns Statutory relationship & sex education	Chlamydia diagnoses (16-25)	Contraception access Access to confidential testing
Statutory relationship & sex education National Teenage Pregnancy Strategy	Under 19 conceptions	Contraception access
Childcare policies Preschool education Affordable childcare	School readiness	Daily Reading Quality preschool provision Play at home
Food subsidies Food advertising Food labelling	Poor nutrition	Breastfeeding Food education/choice Food access (five a day)

	Parental	
"Upstream"	**Condition**	**"Downstream"**
National campaigns to reduce stigma	Mental health	Perinatal mental health services Online self help resources Employer mental health policies
Drug legislation including decriminalisation	Substance misuse	Misuse services Provision of unbiased factual information on effects of illegal drugs Needle exchanges
Domestic violence legislation Recording of domestic violence incidents in health and police services	Domestic violence	Refuges Confidential helplines

Paediatric and child health departments

Paediatric and child health departments have a major role to play in improving population health. They have information about presentations and diagnoses for the population they serve, information about outcomes and equity within their communities, all of which contribute to population needs assessment. How this information is then presented to health commissioners, local partners and regulators will need to be negotiated locally in order to have maximum effect.

Developing an injury surveillance system using emergency Department data enables mapping and targeted interventions.

All Wales Injury Surveillance System

PHE fingertips

https://fingertips.phe.org.uk/

The way services are planned, organised and managed is a critical factor to their success in improving outcomes and adopting a pathway/network based approach, coupled with a system to detect and remediate the weakest links while learning from the process which is essential for continuous quality management.

Contributing to the Joint Strategic Needs Assessments at the start of the commissioning cycle. Local Authorities are mandated to produce these in consultation with local CCG to inform Health and Wellbeing Board's Strategy (health will be members of their local Board) and to inform commissioning of LA services and CCG services. LA analysts will also have access to health care data and produce specialised reports for CCG to inform their commissioning too. This should be informed by local professionals and service users/local community

Prevention and patient safety are critical elements for reducing demand and decreasing costs of care, so important to build into care pathways, clinical protocols and the ethos of the unit/department.

Clinicians

> **Making Every Contact Count**
>
> https://www.makingeverycontactcount.co.uk/
>
> **Best Beginnings**
>
> https://www.bestbeginnings.org.uk/

The greatest contribution of clinicians is to ensure the optimal management of conditions, which includes recognising the relevant health determinants and acting with patients and others in the community to support families and so ensure effective, equitable outcomes.

The Making Every Contact Count programme is well established in adult health services but is relatively underdeveloped for children and families. However, the Best Beginnings programme is available for pregnant women and in the first year of life for their infants.

With regard to specialist paediatric provision there is a question as to whether clinical leads could contribute more to the prevention of the conditions they are seeing. Obvious examples would be respiratory physicians and air-pollution, neurologists and traumatic brain injury, endocrinologists and diabetes.

Effective management of obesity, mental health and complex disability all require well-functioning multidisciplinary teams to address the interrelated health and social determinants effectively. Exactly how much clinicians are involved with advocacy, local campaigns and the development of programmes will depend on the issues, resources and commissioning priorities.

Local public health

- understanding the influence of health determinants and mapping their distribution within local communities,
- working with local communities and organisations to understand the distribution of hazards and assets within the community,
- creating integrated and sustainable programmes to tackle the major determinants identified within the community,
- contributing to the evaluation of new ways of working within the NHS and with new partnerships.

> **BACAPH Poverty advocacy**
>
> https://www.bacaph.org.uk/advocacy/child-poverty-actions-for-all

Local public health departments will have all the necessary competencies involved with public health management and part of their role will be to share the skills, particularly with lead clinicians and also be more involved with the design and evaluation of new NHS structures and systems.

Since moving from the NHS into Local Authorities in England after 2012, public health teams have taken on a corporate role within their Local Authorities to make the case for a health in all policies approach.

Addressing poverty and the causes of poverty are usually identified as a high priority and will be recognised as such in local Health and Wellbeing Strategies, since poverty is probably the most important determinant of ill health.

National Policy

Public Health England and any future PH bodies, takes an evidence-based approach to policy relevant to a population approach. Professional organisations also have a role in presenting data and evidence-based policy suggestions to address current problems. The role of alliances between advocacy groups, professional organisations and the voluntary sector to develop policy strands relating to children and families should be further explored.

PHE fingertips

https://fingertips.phe.org.uk/

What are the challenges of population health management?

Alignment and synergy

Achieving meaningful improvement, especially in a short timescale, requires alignment (facing the same direction) and synergy (working together) between all involved, particularly policy, service planners, providers, professional organisations and organisations representing the interests of people as patients. In practice this is often difficult to achieve resulting in silo thinking which then often results in fragmented care. Effectively the whole system must have a clear purpose, shared values and realistic goals. Tackling obesity would be a good example which spans everything from farming policy, food production and processing, food marketing, food consumption and obesity management.

Better information for decision-making

Effective population health management requires good data, translated into information to inform decision-making, then complemented by a comprehensive knowledge about the effectiveness of interventions to tackle the problem. Rarely are both available and if not, decisions leading to change should be fully evaluated in order to create knowledge that can be shared and which contributes to the longer term research agenda.

"Action without intelligence is a form of insanity, but intelligence without action is the greatest form of stupidity in the world". Charles Kettering

NHS information systems have not been designed with population health management in mind and new data will be required to identify significant health determinants coupled with an analytic function linked to life course and care pathways. In particular the preventative elements of care pathways should be a priority for improvement initiatives particularly for patient groups where health determinants have a major role in influencing pathway outcomes. Better methods for identifying and addressing inequities in health outcomes should also be a priority.

Leading behaviour change

It is easy to talk about changing behaviours and lifestyles, however knowing the best methods to do so, particularly for those with health conditions, is often elusive. Much of the evidence suggests individual one-to-one advice is often ineffective and what is required are multidisciplinary care group based interventions over often quite long periods of to change the behaviours that have been acquired over a lifetime. Likewise changing behaviours within the community or population require the development of a new set of competences for clinicians more used to working with individuals than groups or

populations. Some conditions, for example alcohol dependence or substance misuse will require support over a long period of time, taking each day at a time and managing problems as they arise.

Financing new ways of delivering health care

While appropriately costing and financing health care is important; rewarding innovation that leads to improvement and prevention that reduces demand is equally important to create a system that is sustainable in the long term. Often this requires a "whole system" approach which is difficult to initiate when payment systems are based on items of service rather than whole system value. There is also the trap of not attempting improvement, due to the lack of an evidence base for the population under consideration, yet established interventions, for other groups, may require local adaption to succeed.

Change management capacity-leadership

The ability of health systems to respond to new evidence, new policy direction or new morbidities is often limited by the change management capacity within the organisation. Clinicians are often central to the process of change particularly those holding management as well as clinical roles. Professional organisations must address the development of clinical leaders who have the capacity and competence to lead this process of change towards more population-based health management.

RCPCH, paediatric/child health clinical leaders and paediatrician contributions to population health management

RCPCH/BACCH

1. Develop further the concept of population health management.
2. Define the competencies required by paediatricians.
3. Develop post CCT training to meet these competences for consultant paediatricians.
4. Include population health management skills within the pre CCT training curriculum.
5. Work with other professional organisations to develop examples of good practice.

Clinical leaders

1. Work with health commissioners, public health departments and local authorities (or equivalent) to establish the population health agenda.
2. Contribute relevant health data to the process of local needs assessment and service evaluation.
3. Internal NHS leadership role in reorientating health providers from an internal to an external perspective on ways to improve health of patients and the population. Making the case of need. Providing evidence of effect. Producing examples of good practice (with RCPCH).
4. Introduce the concept of population health management to the clinical teams which they lead.
5. Enable clinicians to consider determinants of health relevant to the clinical care groups they provide services for.
6. Identify local resources and work with these resources to create sources of practical help for children and families.
7. Ensure children referred participate in the process of developing best practice.
8. Evaluate and share learning from the process.

Paediatricians

1. Ask about social determinants relevant to the individual family or the condition of the child during clinical consultations.
2. Learn about local resources that can address these determinants.
3. Work in partnership with families to create a realistic care plan to improve both the health of the child and family functioning.
4. Advocate on behalf of individual families with local planners and providers.
5. Work with other agencies to improve the lives of local families, using a life course pathway approach.

Conclusions

A population health approach, together with a more cooperative/collaborative way of working within integrated health systems proposed in the NHS Long-Term Plan is an extremely welcome development and direction for future health systems provision.

This population perspective to tackling health determinants is vitally important and should not be ignored, but requires all agencies within and around the NHS to actively contribute to its success, the consequences of not doing so are potentially are an overwhelming demand for NHS services that potentially cannot be met. These increased demands are already stretching NHS capacity especially obesity and poor mental health.

The term “population health management” and its meaning for NHS services has been reviewed, the benefits and challenges described, together with the potential implications for clinicians working within paediatric and child health services.

The next step is to discuss the contents and reach a consensus on the best way forward to prioritise health and well-being of children and families in the UK for the next 20 years.

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PHE Health Matters on a life course approach to prevention

https://www.gov.uk/government/publications/health-matters-life-course-approach-to-prevention/health-matters-prevention-a-life-course-approach?utm_source=The%20King%27s%20Fund%20newsletters%20%28main%20account%29&utm_medium=email&utm_campaign=10578350_NEWSL_HMP%202019-05-28&dm_i=21A8,6AQB2,NQ5DTN,OV3S5,1

public health approach to policing https://www.college.police.uk/What-we-do/Support/uniformed-policing-faculty/Documents/Public%20Health%20Approaches.pdf

Appendix population health related definitions

Population health

"Population health management improves population health (the health of an entire population) by data-driven planning and delivery of proactive care to achieve maximum impact."
Source: Population health management flatpack (2018)

"the health outcomes of a group of individuals, including the distribution of such outcomes within the group." These subgroups may be geographic regions, such as nations or communities, but they can also be other groups, such as employees, ethnic groups, disabled persons, or prisoners.

Population health is an approach to health that aims to improve the health of the entire population and to reduce health inequities among population groups. In order to reach these objectives, it looks at and acts upon the broad range of factors and conditions that have a strong influence on our health.

"Population health focuses on the interrelated conditions and factors that influence the health of populations over the life course, identifies systematic variations in their patterns of occurrence, and applies the resulting knowledge to develop and implement policies and actions to improve the health and well-being of those populations".

Population health is a "conceptual framework for thinking about why some populations are healthier than others as well as the policy development, research agenda, and resource allocation that flow from this framework."

"The aim of population healthcare is to maximise value and equity by focusing not on institutions, specialties or technologies, but on populations defined by a common symptom, condition or characteristic, such as breathlessness, arthritis, or multiple morbidity." Public Health England

Population health management

Improving population health through data driven planning and the delivery of proactive and preventative interventions to achieve maximum impact.

The process to design, develop and resource the right balance of evidence based actions, interventions and services to manage health risk in defined populations

"a concentrated holistic approach to improving the patient health outcomes of a group of individuals".

"supporting people to stay healthy for as long as possible and, when they do need care, making sure it's easy to access, well coordinated, and helps them return home as soon as possible".

"the technical field of endeavour which utilizes a variety of individual, organizational and cultural interventions to help improve the morbidity patterns (i.e., the illness and injury burden) and the health care use behaviour of a defined populations".[13]

"one of many tools for using data to guide the planning and delivery of care to achieve maximum impact on population health. It often includes segmentation and stratification techniques to identify groups of patients (and sometimes wider population groups) at risk of ill health and to focus on interventions which can prevent that ill health or equip them to manage it".

"The population health approach is a unifying force for the entire spectrum of health system interventions -- from prevention and promotion to health protection, diagnosis, treatment and care -- and integrates and balances action between them". Public Health Agency of Canada

"*A population health perspective encompasses the ability to assess the health needs of a specific population; implement and evaluate interventions to improve the health of that population; and provide care for individual patients in the context of the culture, health status, and health needs of the populations of which that patient is a member."* AAMC

Appendix: Large-System Transformation

(1) blend designated leadership with distributed leadership;

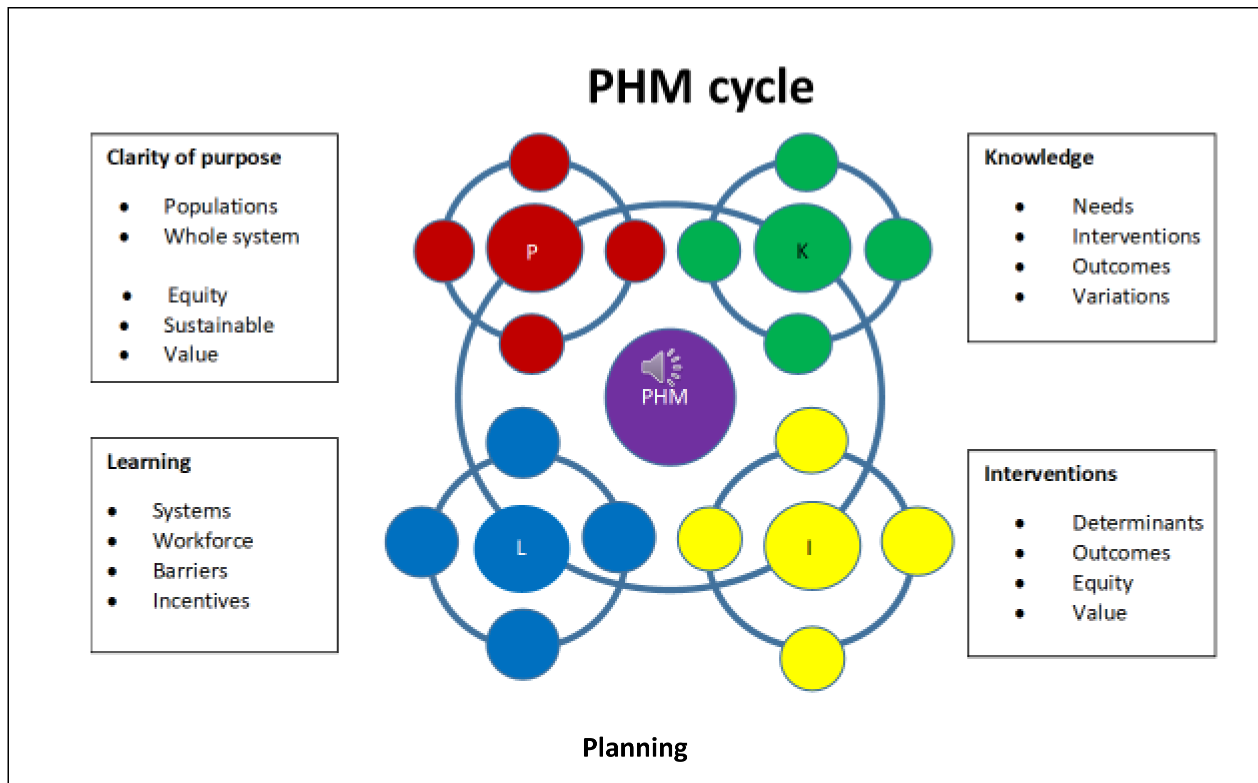
(2) establish regular feedback loops;

(3) attend to history (how/why we got here);

(4) engage clinicians; and

(5) include patients and families (true participation).

Appendix: Population health management cycle (modelled on PDSA)



Planning	
Populations	Which populations are covered?
Whole system	Define the scope of the system-what is covered? Goals, aims, objectives.
Integrated	Which organisations/stakeholders are/should be involved?
Equity	How is equity defined and measured for this population?
Sustainable	What is sustainability dependent upon?
Value	How can value be assessed?

Knowledge	
Needs	How many people can potentially benefit?
Intervention	How effective are interventions/combinations in local communities?
Outcomes	What are the existing or expected outcomes? (Define outcome)
Variations	What variations exist and why?

Interventions	
Determinants	Tackling poor housing, reducing air pollution, poverty
Outcomes	Asthma, head injuries, epilepsy
Equity	By income, ethnicity, area of deprivation
Value	Whole pathways, services, individual care

Learning	
Systems	What are the lessons for other systems?
Workforce	What are the implications for workforce-changing roles, training et cetera
Barriers	What barriers and how were they overcome?
Incentives	What motivated new ways of working?