Public Health England

Protecting and improving the nation's health

Reducing health inequalities: system, scale and sustainability

About Public Health England

Public Health England exists to protect and improve the nation's health and wellbeing, and reduce health inequalities. We do this through world-class science, knowledge and intelligence, advocacy, partnerships and the delivery of specialist public health services. We are an executive agency of the Department of Health, and are a distinct delivery organisation with operational autonomy to advise and support government, local authorities and the NHS in a professionally independent manner.

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Published: August 2017
PHE publications
gateway number: 2017226

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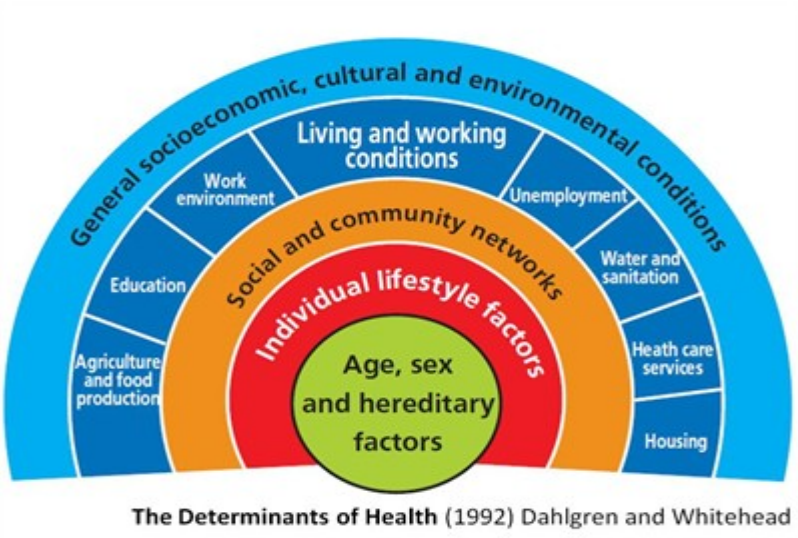
Executive summary

Health inequalities are avoidable and unfair differences in health status between groups of people or communities. Our health is determined by our genetics, our lifestyle, the health care we receive and the impact of wider determinants. Such as our physical, social and economic environment including, for example, education and employment, as identified by Dahlgren and Whitehead(5) in their seminal diagram.

Figure 1: Dahlgren and Whitehead's model depicting the wider determinants of health



This resource has been produced to support local action to tackle health inequalities, by helping local partners to identify what specific interventions could measurably improve outcomes. It is a refresh and update of the original DH Health Inequalities National Support Team (HINST) publication, *Systematically addressing health inequalities*(6).

Intervening to reduce health inequalities

Wide inequalities in life expectancy exist between the most and least deprived areas of England, with a difference of 9.2 years for men and 7.0 years for women. In 2013-15, average life expectancy at birth in England was 79.5 years for males and 83.1 years for females. However, health inequalities as measured by the slope index of inequality, show that in 2012-14, the gap in life expectancy between people living in the most and least deprived areas was 9.2 years for males and 7.0 years for females. The gap in healthy life expectancy is even greater. In 2013-15, average healthy life expectancy at birth in England was 63.4 years for males and 64.1 years for females. The gap between people living in the most and least deprived areas in 2013-15 was 18.9 years

for males and 19.6 years for females. Within many local areas the gap can be much wider.

There are many ways of intervening to reduce health inequalities. For example:

- intervening at different levels of risk
- intervening for impact over time
- intervening across the life course

However, to have real impact at population level, interventions need to be sustainable and systematically delivered at a scale in order to reach large sections of the population.

Intervening at different levels of risk

People experience different levels of risk of poor health: physiological risk such as high blood pressure or high cholesterol; behavioural risk such as smoking or lack of physical exercise, and psychosocial risks such as loneliness and poor self-esteem. All these levels of risk interconnect with one very often leading to the other. It is important that health inequalities' strategies contain population level actions at each level of risk, to impact at a sufficient and sustainable scale.

Intervening for impact over time

Different types of intervention will have different impacts over different time periods. For example, interventions at levels to improve the community infrastructure to encourage people to walk and exercise could take many years to impact on health. While stopping smoking will have an immediate impact as well as longer term improvements.

Intervening across the life course

A life course approach means that action to reduce health inequalities starts before birth and continues through to old age. In 2010, Marmot(7), emphasised how the wider determinants of health – the 'causes of the causes' – impact on people's lives, exacerbating inequalities. Marmot identified six policy areas, four of which act across the life course:

A. Give every child the best start in life
B. Enable all children, young people and adults to maximise their capabilities and have control over their lives
C. Create fair employment and good work for all
D. Ensure healthy standard of living for all

E. Create and develop healthy and sustainable places and communities
F. Strengthen the role and impact of ill health prevention

Making an impact at population level

Intervening at civic, community and service levels can separately impact on population health. In combination, the impact will be greater.

Civic interventions – through healthy public policy, including legislation, taxation, welfare and campaigns can mitigate against the structural obstacles to good health. Adopting a Health in All Policies(8) approach can support local authorities to embed action on health inequalities across their wide ranging functions.

At a community level, encouraging communities to be more self-managing and to take control of factors affecting their health and wellbeing is beneficial. It is useful to build capacity by involving people as community champions, peer support or similar. This can develop strong collaborative/partnership relationships that in turn support good health.

Effective service based interventions work better with the combined input of civic and community interventions, eg a tobacco control strategy will include civic regulation on smoking in public spaces, and contraband sales; support to community campaigns and smoking policies in workplaces; as well as smoking cessation services. Interventions need to be:

- evidence-based
- outcomes orientated
- systematically applied
- scaled up appropriately
- appropriately resourced
- sustainable

The population outcomes through services (POTS) Framework can support the planning and review of service based interventions to tackle health inequalities. It can be used as a planning tool and as a diagnostic tool.

The Health Inequalities National Support Team

The Health Inequalities National Support Team (HINST) was established in England in 2006 as part of the strategy to reduce a widening inequality gap across the country. The challenge was to narrow the gap in life expectancy between the 20% most deprived local authorities and the national average by 10% by 2010. Achieving a measurable percentage change at population level in a short defined timescale had not been attempted before and was a steep learning curve.

During the subsequent five years, the HINST visited all 70 target areas, carried out a systematic appraisal of local analysis, plans and activities and followed up on progress. This process provided a major source of learning about good practice as well as barriers and gaps. Based on this intelligence, the Team developed a range of good practice intervention models.

Although not formally evaluated, an extensive body of experiential learning resulted from the visits. Although much has changed since the Health and Social Care Act 2012 (3) many who work in the field believe that the principles and conceptual frameworks that evolved with the HINST are still relevant and useful today.

Therefore, as a result of repeated requests, I was delighted to be asked by PHE to assist with a review and refresh of *Systematically addressing health inequalities.* The initial background document from the HINST materials(4) to make it applicable to the modern public health system. I hope colleagues across the system will find it useful in their endeavours to reduce health inequalities.

Professor Chris Bentley.

Introduction

Everyone should have the same opportunity to lead a healthy life, no matter where they live or who they are. Health inequalities mean poorer health, reduced quality of life and early death for many people. Reducing these inequalities is at the heart of PHE's mission to improve the nation's health but it is challenging because they are often deep-rooted with multiple causes.

The Health and Social Care Act 2012(3) introduced a new system for public health in England. Public Health England was established and local authorities once again took a lead role in public health. Whilst there were no longer specific targets to reduce health inequalities as there had been previously, the Act placed a new legal duty on PHE and NHS England to have due regard to reducing health inequalities. Although other non-health partners may not be covered by this legal duty, all have critical relevant duties under. For example, the Social Value Act 2012(9) and the Public Sector Equality Duty 2010(10) to those with protected characteristics.

In 2013-15, average life expectancy at birth in England was 79.5 years for males and 83.1 years for females. However, health inequalities as measured by the slope index of inequality show that in 2012-14, the gap in life expectancy between people living in the most and least deprived areas was 9.2 years for males and 7.0 years for females. The gap in healthy life expectancy is even greater. In 2013-15, average healthy life expectancy at birth in England was 63.4 years for males and 64.1 years for females and the gap between people living in the most and least deprived areas in 2013-15 was 18.9 years for males and 19.6 years for females (2012-14).

The Public Health Outcomes Framework (PHOF)(11) was developed in 2013 to enable measurement of progress on reducing health inequalities. The PHOF sets out a vision for public health, desired outcomes and the indicators to help us measure how well public health is being improved and protected. Ultimately, we aim to achieve positive progress on two headline indicators set out in both the Shared Delivery Plan(12) for the health system and the PHOF: inequalities in life expectancy and inequalities in healthy life expectancy as measured by the slope index of inequalities. To make steady progress on these two indicators, action needs to be taken on the multiple causes of inequalities, in ways that are structured, systematic and sustained.

This briefing updates the work of the former Health Inequalities National Support Team (HINST)(6) which in its time focused on systematically analysing and reducing health inequalities at scale in areas of greatest deprivation. The principles and conceptual frameworks that evolved with the HINST are still relevant and useful when applied to today's system. This system pulls these together recent developments, and tools

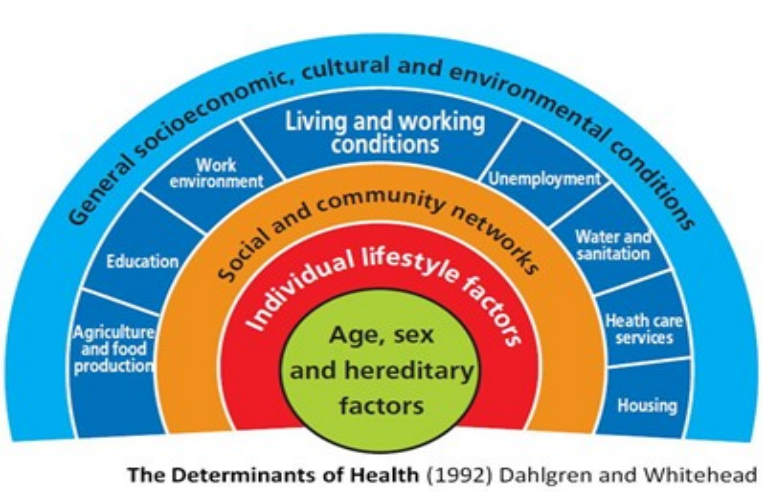
knowledge to create a resource that can be used by public health teams locally to plan their approach to reducing health inequalities effectively at scale.

This document is organised into four chapters. Chapter 1 sets out the need for action on health inequalities and the ways in which interventions might be deployed. Chapter 2 explores how interventions can be implemented to achieve maximum impact at population level. Chapter 3 looks at how health inequalities can be reduced through services. Chapter 4 sets out the necessary tools and resources for reducing health inequalities.

1. Intervening to reduce health inequalities

Health inequalities are avoidable and unfair differences in health status between groups of people or communities. Our health is determined by our genetics, our lifestyle, the health care we receive and the impact of wider determinants such as our physical, social and economic environment including, for example, education and employment. Whitehead and Dahlgren's seminal diagram(5) mapped the relationship between the individual, their environment and health. It recognised the layers of influences on health – such as individual lifestyle factors, community influences, living and working conditions, and more general social circumstances. Although estimates vary, these wider determinants would seem to have the largest impact on health inequalities(13).

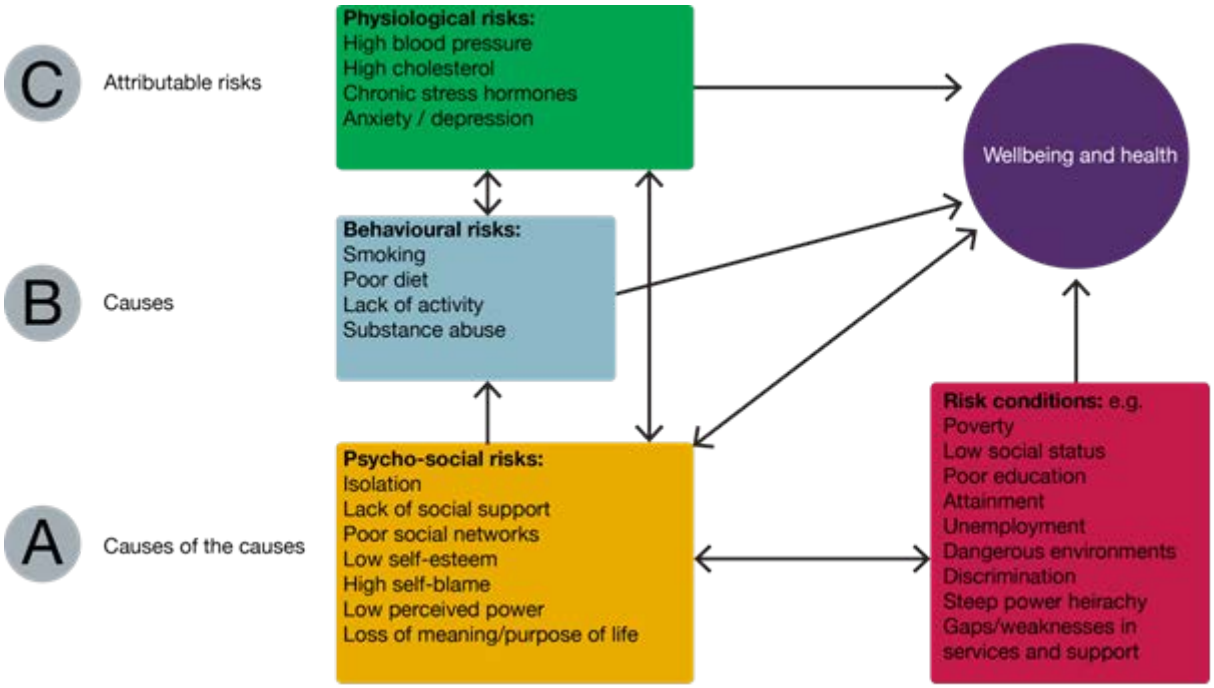
Figure 1: Dahlgren and Whitehead's model depicting the wider determinants of health



1.1 Intervening at different levels of risk

Figure 2 (based on Labonte (14)) sets out the ways that risk conditions, psycho-social risks and behavioural risk factors interconnect to affect changes in the body that lead to illness or health. Health inequalities strategies should contain population level actions at all of these stages in order to impact at a sufficient and sustainable scale. Level A in the diagram or the 'causes of the causes' are the determinants of the whole pathway. Therefore, intervention at this level is fundamental. These wider determinants of health influence behavioural risks at level B where 'primary' prevention, also a priority, can more directly help reduce the risk of disease itself. It is also essential to address the attributable risks at level C – the conditions that people may present with and which directly lead to long term illness – in order to prevent the heavy burden of disease and early death.

Figure 2: Pattern of risks affecting health and wellbeing



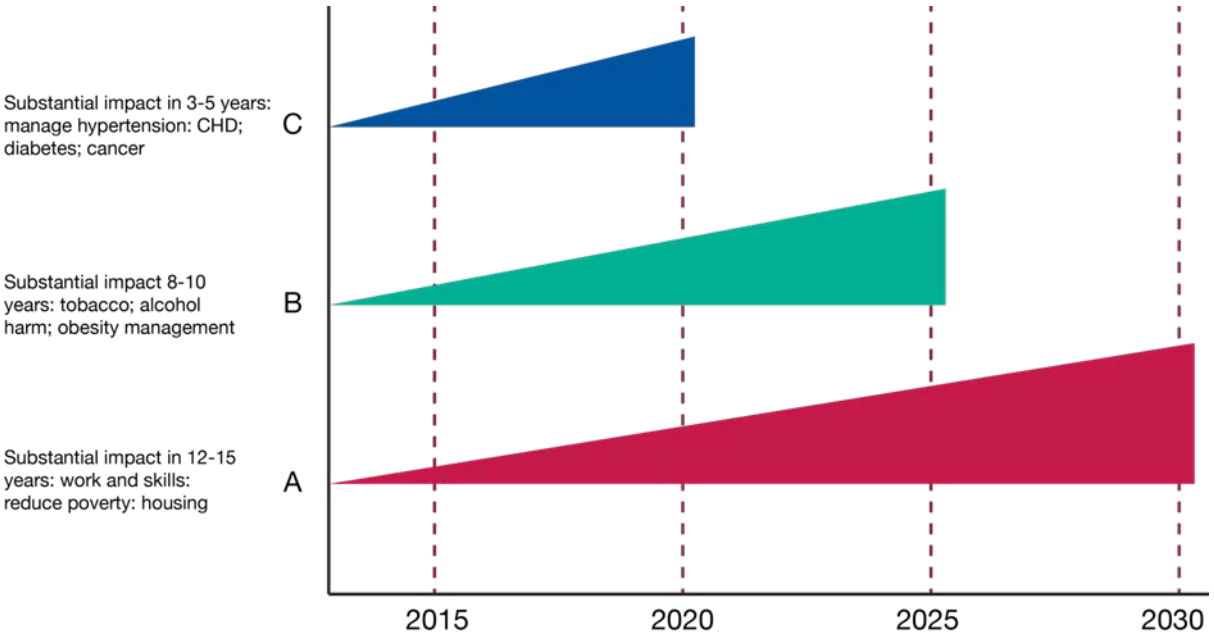
The above model helpfully mirrors the domains of the PHOF. For example, psycho-social risks and others set out in the adjacent red box (A – the causes of the causes) broadly map onto the wider determinants PHOF domain, behavioural risks (B – causes) to the Health Improvement domain and physiological risks (A – attributable risks) to the Healthcare and premature mortality domain.

1.2 Intervening for impact over time

Figure 3 below illustrates the principle that different types of input will impact differently over different time periods. For each substantial population level outcome, it is important to be aware of realistic timescales for measurable impact. A comprehensive goal of reducing inequalities should have interventions across all three areas of A, B and C.

Interventions at levels A and B in Figure 2 may take longer to impact on mortality but, potentially, they will have wider additional benefits such as better education outcomes, reduction in crime or increased employment. However, to achieve reduction in inequalities they must be delivered systematically at sufficient scale and with long-term sustainability. As will be seen in the next section, there are a range of methods to achieve this.

Figure 3: Time needed to deliver outcomes from different intervention types



In principle, many of the interventions that will contribute to key outcomes, such as reducing the number of households in temporary accommodation, reducing harmful alcohol use or preventing stroke, can work well on a 1:1 basis. However, to make measurable reduction to health inequalities at population level it is necessary to build on those personal successes to add up to percentage change across communities.

Some of this may require a cultural change to service delivery and focus. Those who have worked in the health services are used to working on a 1-1 basis with clients and patients usually focussing on one health issue – be it weight management or smoking cessation. The public health system now in local councils has a wider community perspective, considering the effectiveness of tackling unhealthy behaviours together because people often exhibit more than one. For example, smokers may drink excessively and have a poor diet. Sunderland's wellness model example illustrates this approach.

Case study – Sunderland's integrated wellness model

Live Life Well
Sunderland City Council's integrated wellness model redesigned its approach to reducing health inequalities by taking account of the way people in Sunderland live their lives. It is funded via the council and public health grant and is run by a consortium of County Durham and Darlington NHS Foundation Trust and NECA Third sector registered charity. The model set out to:

- tackle health inequalities on an 'industrial scale'
- target people with multiple risks to their health (mental wellbeing, physical health and wider determinants)
- take a systematic approach to engage with and empower communities to take responsibility for their own health and that of others and thus build community resilience
- build on strengths within the City, both people and physical assets
- deliver a universal approach while offering additional support to those whose needs are greatest (individuals, families and communities)

The new Public Health system for Sunderland comprises six components which aim to deliver integrated wellness.
Healthy Places: universal opportunities such as leisure centres or local parks.
Central Hub: coordinated opportunities; public health messaging; quality assurance.
Health Champions, Personal Information and Advice: supports healthier choices and tackles wider determinants of health.
Outreach: directly delivers opportunities to high-risk groups or vulnerable groups.
Support for Healthy Living: provides one to one motivation and support to those most affected by health inequalities.
Further Opportunities: healthy lifestyle services such as health checks, stop smoking, substance misuse and sexual health services.
An independent evaluation of the service is planned for 17 October 2017.

Sunderland's Top Tips:

1. Engaging with those members of the public with multiple risk taking behaviours, is essential and the root of a good model
2. Engagement with local service providers is essential to ensure ownership of the model and integration of services
3. Have a clear and prescriptive specification to avoid different interpretations and to ensure you have meaningful market engagement
4. Incentivise a few important KPIs which are fundamental to the model
5. A good social marketing and communications plan is essential as part of the key performance indicators (KPIs) – this will help create the industrial scale approach

1.3 Intervening across the life course

In 2010, Marmot(7) emphasised how the wider determinants of health – the ‘causes of the causes’ – impact on people’s lives, exacerbating inequalities. Marmot identified six policy areas, four of which were specifically for action across the life course:

A. Give every child the best start in life
B. Enable all children, young people and adults to maximise their capabilities and have control over their lives
C. Create fair employment and good work for all
D. Ensure healthy standard of living for all
E. Create and develop healthy and sustainable places and communities
F. Strengthen the role and impact of ill health prevention

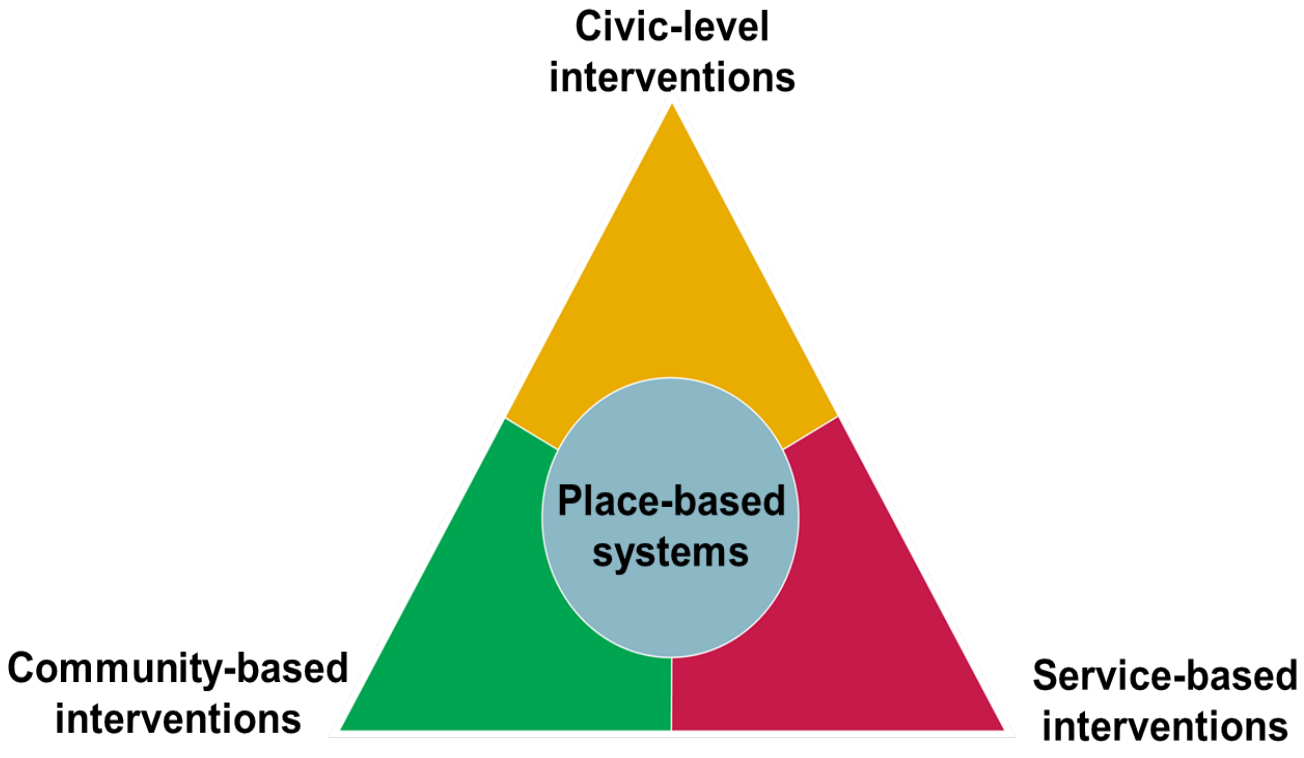
Interventions to reduce health inequalities will need to consider actions across all of these policy domains.

2. Making an impact at population level

Commissioning and delivering interventions that will generate measurable change at population level is challenging, and requires a range of approaches, tools and techniques. It is also changing. In recent years, there has been a steady move towards a place-based approach to health, where local commissioners and providers across sectors work together with local communities to meet the specific needs of that geographical locality. Developing integrated place-based systems is key to ensuring the long-term sustainability of health and care services.

Working in the complex environments that place-based systems represent, single interventions are unlikely on their own to be sufficient. Strategies that are multifaceted and complementary are more likely to bring success.

Figure 4: The Population Intervention Triangle



Credit: PHE Public Health Data Science based on the original concept created by Chris Bentley.

Three such facets can be linked together conceptually as the Population Intervention Triangle (Figure 4). Each component can have an impact in isolation, but is likely to be more effective in combination with the others and each dovetails neatly into the other.

The Population Intervention Triangle works well as the basis of place-based systems of planning. At the core of effective working, lie strong engagement of the system leadership, partnership working to deliver integrated and aligned processes and governance, and vision and strategy establishing clarity about dimensions as well as mechanisms of change.

The following provides more detail on the three segments of the Triangle, and the component features of the placed-based systems represented by the circle at its centre.

2.1 Civic level interventions

This segment at the apex of the triangle represents the population focus of healthy public policy, which drives the social determinants of health and wellbeing. For example, transport, planning, education, employment and the built environment and welfare. It can be used to provide community infrastructures and to work effectively with services to inform, support and enforce. Tools by which health and social care sectors can influence public sector policy development include Health Impact and Equity Impact Assessments, which can help inform and drive change. A Health in All Policies (8) approach is supported with a range of health and wellbeing products from Local Government Association(15) and PHE(8).

Mitigating against the structural obstacles to good health through civic action is a key to reducing health inequalities. This includes use of legislation, regulation, taxation and licensing within devolved local powers to help make healthy choices easier for people. Local government focus on improving this level of intervention needs to be targeted appropriately to reach all relevant parts of the population. This may require help with education, interpretation, support and even enforcement through, for example, environmental health and trading standards.

2.2 Community based interventions

Communities include neighbourhoods, workplaces, schools and other groups of common interest, culture or religion. These can use their assets within civic infrastructure, resources and support, working with services that listen, engage, adapt and empower people to become involved in some aspects of their health and wellbeing.

The quality of community life, social support and social networks are major influences on individual and population health, both physical and mental. There is clear NICE guidance(16) on community engagement and the pathway is a simple and useful one to follow. PHE and NHS England’s guide to community-centred approaches for health and wellbeing(17) can be used to support local action on inequalities. Commissioners

and anyone involved in local strategic planning can use the family framework to develop a whole system approach to working with communities. This means developing action across all four strands:

- strengthening local communities and social networks
- building capacity for local people to be involved as community champions/connectors, peer support workers etc
- involving local communities in priority setting, programme/service design and evaluation
- making sure there is good access for individuals and groups most at risk of poor health to connect into local activities and sources of support in their area

The community based interventions approach dovetails in with the other two segments of the Population Intervention Triangle. Wider civic structures and processes need to reach out to support and promote all communities, not just those with existing leadership, infrastructures and resources. This can include building up from 'natural neighbourhoods' – those with boundaries or criteria defined by residents or members themselves.

2.3 Service based interventions

There are six key principles that are necessary for population level change. These criteria apply to all service based programmes across all sectors. Strategies and programmes aiming to achieve population level change in inequalities will need to adopt systematic approaches to ensure that those who are most disadvantaged benefit from local planning and legislation as well as specific programmes.

Six principles for population level change:

- **evidence-based** – concentrate on interventions where research evidence and professional consensus are strong
- **outcomes orientated** – with measurements locally relevant and locally owned as well as those from the PHOF and NHSOF
- **systematically applied** – not depending on exceptional circumstances or exceptional champions
- **scaled-up appropriately** – 'industrial-scale' processes require different thinking to small pilot projects, but can aggregate locally relevant adaptation
- **appropriately resourced** – refocus on core budgets and services rather than short bursts of project funding
- **sustainable** – continue for the long haul, capitalising on, but not dependent on fads, fashion and changeable policy priorities

If high quality services producing good outcomes at an individual level are delivered with sufficient system, scale and sustainability, those successes can add up to population level change. The systems necessary to deliver services efficiently and effectively on an ‘industrial scale’ should not detract from individual’s experience, but should ensure that more people benefit, and that those benefits deliver equitable outcomes according to need.

Effective service based interventions work better when combined with input of civic interventions, such as supporting single points of access and ensuring good transport links to services and wider community. This requires signposting via community leaders and the voluntary and community sector.

The three segments of the Population Intervention Triangle dovetail together, creating a range of overlapping interventions with the potential, separately and together to produce percentage changes at population level. The combined impact is likely to be greatest where they are central to place-based planning, commissioning and delivery, represented by the circle at the centre of the Triangle.

For example, a holistic tobacco control strategy will have components of civic regulation on smoking in public spaces. Clamping down on contraband sales, support to community campaigns, and smoking policies in workplaces, schools and leisure facilities. Backed up by service based interventions such as smoking cessation services with access through community venues.

Smoking decline in the North East of England

The North East of England has witnessed the largest decline in adult smoking since 2005 of any region (from 29% to 17.2% in 2016). The public has shown, consistently, the highest support for further tobacco regulation - an important marker to demonstrate a shift in the social norms.

To achieve this, the North East has prioritised a ‘locally together’ approach to tackling tobacco issues over the last decade and has focussed on a broad denormalisation approach to tobacco through Fresh(2), with action across localities and at regional level delivering eight key strands of work.

These strands, based upon the significant international evidence base, are designed to work together to reduce smoking prevalence, help to prevent uptake, and protect non-smokers and communities from tobacco related harm. Working through this approach has achieved economies of scale for local authorities and demonstrated a significant return on investment. The work has received numerous awards including the World Health Organization World No Tobacco Day Award that went to Ailsa Rutter, director of Fresh-Smoke Free North East, in 2014.

2.4 Placed-based systems

From Marmot's Review, we know that a system for health and wellbeing demands a broader focus than healthcare services. It is estimated that only 20% of health outcomes result from clinical interventions with the remaining 80% driven by wider determinants of health, such as lifestyle choices, social networks and environmental factors(18). This means that a truly joined-up agenda for health and care cannot stop at the boundaries of NHS-funded and social care-commissioned services.

We need to broaden the focus of health to include the wider functions of local government, the third sector, business and social enterprise, housing providers, education and other services. By integrating these services across a geographical area, we can remodel the system to better tackle the drivers of poor health and inequality and ensure sustainability for the future(19).

At the heart of a place-based approach are people and communities. By working collaboratively with people, commissioners and providers of local services can develop systems 'bottom up' from a local perspective, rather than a 'top down' extrapolation of a national view that tends to focus on the deficits – and not the assets – of a locality.

Table 1: Placed-based health systems

CURRENT SYSTEM	PLACED-BASED HEALTH
Closed	Open
Separate service silos	Whole system approach
Vertical top down model	Horizontal model across places
Institution led	Person centred
Largely reactive	Largely preventative
Focussed on treating ill health	Focussed on promoting wellbeing
Health in a clinical setting	Wider determinants of health in communities
Services 'done to' citizens	Balance of rights and responsibilities

Reference: NLGN (2016) Placed-based health systems.

The stage has been set for a significant shift towards placed based health and care. The NHS Five Year Forward View (5YFV)(20) aims to move away from the traditional separation of primary care, community services and hospitals to a more integrated and patient-centred approach. The 5YFV also recognises that different placed based health and care systems may need to adopt different models, based on population needs.

Fifty vanguards were set up across England to take a lead on the development of seven new care models, demonstrating to the wider system how these models could be implemented in their localities. Sustainability and Transformation Plans (STP) support implementation of the 5YFV by bringing together healthcare providers, local authorities and commissioners across a single geographical 'footprint' to develop proposals for improving the efficiency and effectiveness of care(21)

A number of third sector organisations and respected think tanks have been strongly advocating for a placed based approach to delivering health and care. In 2015, the King's Fund published its call for 'place-based systems of care' as a basis for long-term policy(22). The recent report of the Placed-based Health Commission concluded that we need to move towards a national health system, which fully understands that health within places requires the engagement of a wide range of local partners outside healthcare(23).

Devolution can be an enabler in implementing a place-based approach to health and care, helping to shift energy, money and power from institutions to citizens and communities. For example, devolution of health, social care and other services to the Greater Manchester Combined Authority has allowed local stakeholders to develop a population health plan, which places person and community-centred approaches at its centre(24).

A key innovation is the plan to integrate health and care services via locality community organisations that will employ all health and care workers (and be led by a single management team) to deliver community care services within that area. This will allow people and communities to connect more easily with voluntary and community sector support, and wider public sector services such as housing, employment, schools and the fire and police services.

This approach recognises the important role of family, community and place in promoting health and wellbeing. Another key element of the strategy is system reform for public health, including increased collaboration across all strategic partners and sectors to improve population health and developing a unified approach to commissioning(24).

Whatever the level of place-based planning there are four important elements to be addressed if the components of the triangle are to work holistically towards population level change. These are:

2.4.1 Engaged system leadership

Interventions to produce measurable change in inequalities at population level will usually be multi-sectoral, and involve whole systems. The ‘system’ may be one of a number of mainstream organisational structures or levels eg local authority, devolved combined authorities; sustainability and transformation partnerships (STPs), health and wellbeing boards (HWBs), and accountable care organisations (ACOs). Placed-based approaches allow for a common leadership and accountability for population level improvement in health inequalities. It is critical that senior system leaders engage fully to own the health inequalities agenda, so it is a part of other high-level priorities. This integration into mainstream policy is necessary to achieve substantial impact on health inequalities.

2.4.2 Systems leadership and complex systems

Systems leadership is not only vested in people because of their title or position, but can be shared with and ceded to people coming together from different parts of the system with a shared ambition. Systems leadership approaches are intrinsically helpful in working to reduce health inequalities, because they take complexity, and the need to work across boundaries and persuade other people, as a given. They help people lead even when they are not in charge. When there is no management lever to pull, and when individuals need to influence others and support them to make significant change for themselves.

National and international research(25) has identified key behaviours and characteristics that support good systems leadership. There is learning from practice: a national programme backed by Public Health England, the NHS and local government, that provides place-based support(26), which has led to demonstrable and quantifiable improvements in health outcomes(27). Using systems leadership can enable people to make profound shifts in how they view health inequalities, and in what they do to reduce them as a result.

How to get started:

- see yourselves as systems leaders and connectors
- involve citizens from the start
- it's about relationships and trust, not structures and hierarchies
- you can start small and from where you are
- use narratives and framing to change the way people perceive issues

- work with coalitions of the willing
- make connections, form networks, and use offline conversations to build support
- look to make progress rather than solving an issue in one fell swoop

2.4.3 Vision and strategy

The focus of reducing health inequalities needs to be built into mainstream vision and strategy. To make measureable change, local leaders need to agree a shared vision and a strategic approach, which is based on good quality information of local needs, and assets that is understood by all. This can be set out in the Joint Strategic Needs Assessment (JSNA). For example, to establish the nature of inequalities gaps, and the conditions that might be contributing to those, taking current and changing demographics into consideration (see chapter 4 tools and resources).

Based on this analysis, there are a number of key steps that can be taken:

- draw the key findings into a credible story and description of place, understandable to a range of audiences, including non-technical policy leaders and the public. Communicate this picture effectively
- establish what interventions will be needed and capable of contributing to reduction of inequalities. Describe the right dimensions of the change in the relevant timescale
- establish quantifiable goals. Initially these should indicate the dimensions of change that the area requires (rather than detail which will emerge as plans develop), and the proposed timescale

2.4.4 Partnership and governance

Partnership working is central to reducing health inequalities. Effective alliances are held together by marrying up policy priorities, professional and financial governance barriers, and disparate organisational cultures. All of which requires attention and energy.

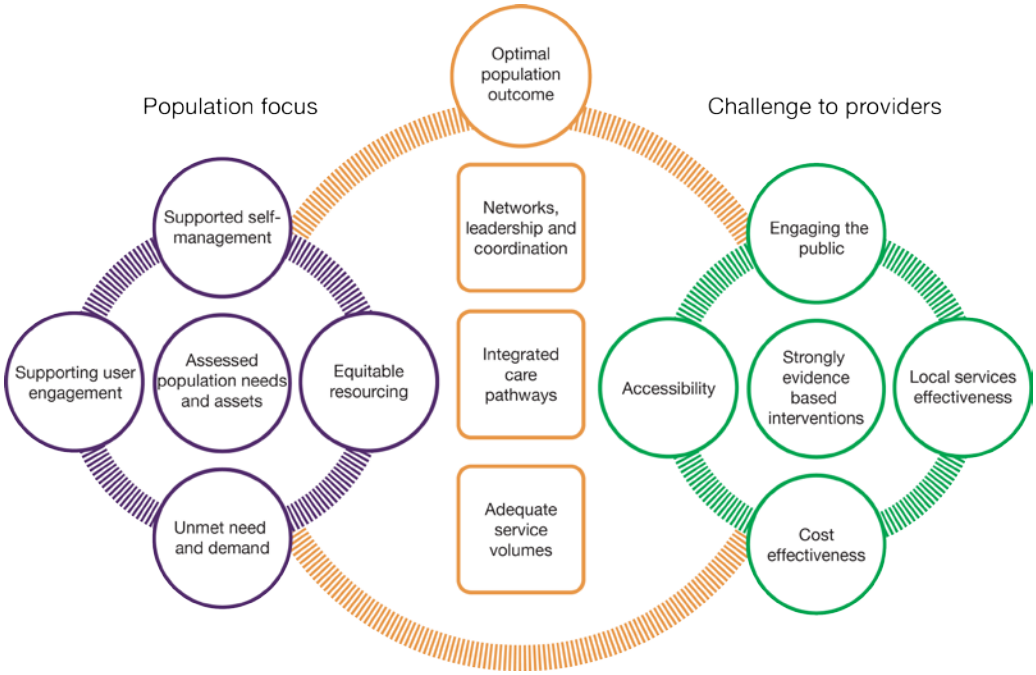
It is critical to ensure that partnerships are structured to be the ‘beating heart’ of business, not just ’talking shops’. This requires:

- legitimacy and voice: for all stakeholders to be included in the process of development
- performance: that measurable processes and outcomes are agreed and set for the main objectives
- accountability: that it is clear who is accountable to the leadership for progress and delivery

3. Achieving best population outcomes through services

This section specifically examines how services can deliver effective population based interventions. The population outcomes through services (POTS) framework (Figure 6) reflects the service side of the Population Triangle.

Figure 5: The population outcomes through services (POTS) framework



Credit: PHE Public Health Data Science based on the original concept created by Chris Bentley.

It identifies 14 common elements involved in delivering a set of interventions, which contribute to a common outcome. For example, reducing heart disease mortality, seasonal excess deaths or chronic debt. Any of these may be the basis of or contribute significantly to under-achievement of population outcomes or the distribution of those outcomes equitably across the population.

The framework is symmetrical. There are five components to each side and equal consideration should be given to action on both sides of the framework. The two sides of the framework are brought together around a strong central core to ensure structures and processes are in place to lead and coordinate the balance between uptake on and provision of services, to ensure adequate resources and their management to avoid bottlenecks and gaps in pathways of provision. While it is possible to start at any point

on the framework, it is important to complete all the steps. The framework has proven its worth in a number of ways. As a planning tool and as a diagnostic framework.

Planning tool

To use the framework as a planning tool it is logical to start with a Population Focus, building up a picture of need and assets and the way these are distributed across the population. The framework can help to consider how people who are under-served may best be able to participate and connect to services. The service can then be designed appropriately with these features in mind.

Diagnostic tool

To use the framework as a diagnostic tool it is possible to start at any point on the framework and work around it to identify the weakest points in an existing system and prioritise these for attention.

Case Study - Using the HINST analytical framework as a diagnostic tool

A rapid evidence review of the impact on health outcomes of NHS commissioned health services for people in secure and detained settings

The HINST analytical framework can be used as a diagnostic tool to identify those factors that will determine whether an intervention will achieve its best possible outcomes in a given population. To do this, the framework provides an opportunity to review the current service provision, the population needs and mechanisms for coordination and systems leadership, and identify areas for further improvement.

The rapid evidence review of the *Impact on health outcomes of NHS commissioned health services for people in secure and detained settings* used the diagnostic framework developed by the Health Inequalities National Support Team (HINST). The themes identified as good practice in the literature were cross-referenced to the matrix to help us assess whether current NHS commissioned health services achieve the best possible outcomes for this population, and if there were any gaps to inform future health interventions and prioritisation.

We developed our lines of enquiry along the themes of the HINST matrix and used HINST methodology. That is interviews allowed for a dialogue between the researchers and interviewees, which built on identified areas of strength from which possible solutions for areas of improvement were considered. This approach also offered an opportunity to consider different points of view and helped identify future health interventions and priorities. The findings analysed using the HINST matrix as diagnostic tool found that there had been significant improvements in the quality of healthcare in prison settings. Any gaps were identified as areas for further improvement.

3.1 The Challenge to Providers

These five components on the right hand side of the framework are important elements of the quality provision of services. Commissioners will specify the criteria to ensure that equity of service and service outcomes is properly addressed.

3.1.1 Evidence-based interventions

Interventions need to be evidence-based to be sure of effectiveness. The effectiveness of the delivery system and subsequent impact is separate and often less clear. The evidence should be drawn from best current knowledge, systematic appraisal systems such as NICE or Cochrane Collaboration, best practice as acknowledged by consensus of specialists, and national guidance. Then consider how best to reach all those who could benefit using the other 12 elements of the framework.

3.1.2 Local service effectiveness

Variability in the delivery as well as the uptake of services can exacerbate health inequalities. Developing and maintaining high standards of local service effectiveness is a continuous and dynamic process. Organisations and integrated systems need appropriate governance to provide assurance to their governing 'Board'.

Local systems may use tools which provide CCG (eg NHS RightCare and the Atlases of Variation) and local authority (eg Local Health) with benchmarking comparisons, with organisations in the same patch, or with those in different areas that share similar characteristics such as population size and levels of deprivation.

Key components of improving local service effectiveness include:

- ongoing development of local leadership
- local access to, and regular review and reporting of, key performance indicators
- systems of audit and peer review
- tailored education and training, including regular refresh and updates
- use of regularly updated policies, guidelines and Standard Operating Procedures
- good quality staff appraisal, and accreditation where appropriate
- resources to target development support to underperforming teams
- attention to infrastructure support including administration and equipment
- alignment of incentives to required outcomes

3.1.3 Cost effectiveness

As budgets tighten across the NHS and local government, it is vital that interventions to improve health are not only scaled appropriately and reach those most in need, but that they are also affordable, sustainable and deliver good value for money. PHE produces several tools to help commissioners understand and inform investment decision making for prevention and early intervention (See Section 4 Tools and Resources).

To enable greater affordability and sustainability, it is important to make the case for investment in prevention and early intervention. Rather than trying to look for immediate cost-savings, we should look at the long-term gains that could be achieved by investing in preventive activity. It is important to model both costs and outcomes across the whole system. For example, effectively addressing cold, damp housing for those with existing health conditions living on low incomes has the potential to reduce health inequalities and reduce health and social care costs.

3.1.4 Accessibility

Services need to be accessible to all, with thought and care given to particular groups such as those who have a learning disability, those with low levels of literacy or for whom English is not their first language. It is important to advertise all the opportunities that people have to access information and services. This includes:

- delivering interventions at appropriate and convenient locations in communities

- establishing clear channels for first point of access, unscheduled contact or advice. Including walk-in facilities, telephone helplines, online access, and social media
- improve access to interpreter services. Including signing; and appropriate support for example for those with learning disabilities and service advocates

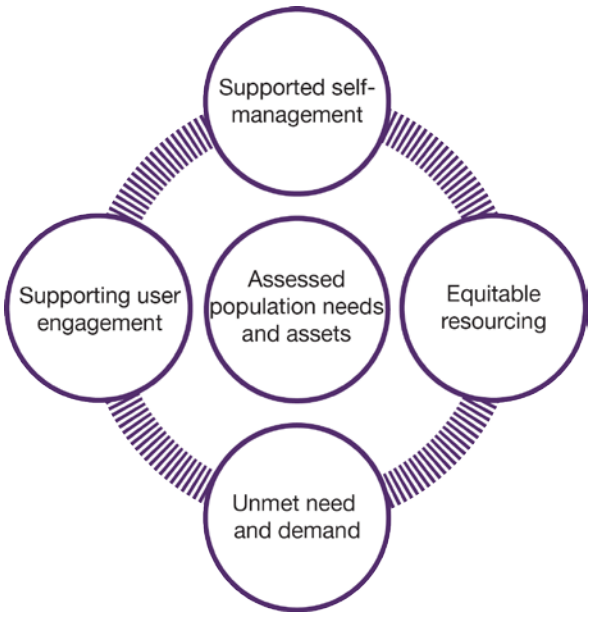
3.1.5 Engaging the public

As the case study from Sunderland (p13) emphasises, it is essential to engage the public in order to reduce health inequalities. PHE's National Conversation on Health Inequalities engagement toolkit(28) may help councils in this process. It offers seven steps to engagement, including explaining and sharing understanding of health inequalities.

Commissioners and anyone involved in local strategic planning can use the family framework to support engagement with the public. Perhaps, through social networks, community champions, or community based participatory research.

3.2 Population focus

On the other side of the analytical framework are the components that outline the planning required for the population to effectively use, and be supported to use, the available services.



3.2.1 Assessed population needs and assets

To assess population needs and assets using the POTS framework, it can be useful to focus on a particular topic. For example, 'a best start in life' or 'warm homes' and then follow the approaches for developing a joint strategic needs assessment,

involving top down and bottom up intelligence. This should identify how the problem and its determinants vary across the planning area, what geographical groups and communities of interest might be a priority on that basis, and how they are currently accessing appropriate services. It may be useful to cluster communities together identified to be on a 'like by like' basis to enable benchmarking, comparison and the sharing of relevant learning.

3.2.2 Demand and unmet need

The aim in this section is to consider how to bring as many people as possible who have a condition or symptoms of it, into services in a timely fashion, through information and support.

Many people with important health needs, often a result of the affect of the wider determinants of health – such as deprivation, poor housing, low levels of literacy and unhealthy lifestyles – may not present to services, or may present too late to make the most of useful interventions. Those with protected characteristics may be further disadvantaged both in accessing services in the first place and then treatment.

A robust and well-researched disease prevalence model can help commissioners to assess the needs of their community, calculate the level of services needed and invest the appropriate level of resources for prevention, early detection, treatment and care. Such models feature in the Cardiovascular Disease (CVD) Profiles produced by the National Cardiovascular Intelligence Network(29). For example, the prevalence of atrial fibrillation in England is estimated at 2.4%. This compares to 1.7% recorded on GP practice registers.

The CVD Profiles bring together a wide range of data on heart disease, stroke, diabetes and kidney disease for each clinical commissioning group (CCG) in England. Similarly, National General Practice Profiles, designed to support GPs, CCGs and local authorities allow a consistent approach to comparing and benchmarking across England to ensure that they are providing and commissioning effective and appropriate healthcare services for their local population.

3.2.3 Equitable resourcing

Marmot(7) describes a gradient of inequity in health risks across the population and advises proportionate universalism to tackle this. In other words, that more effort be put into assisting those experiencing the greatest inequalities. Complexities in health can increase where there is multiple deprivation. For example, the wider determinants of health such as unemployment, poverty and homelessness can exacerbate unhealthy behaviours which may cluster(30). In turn, this can lead to multiple morbidities such as diabetes, heart disease and depression, which can all

mean a lower life expectancy but especially poor healthy life expectancy.

It is important that targeting of resources is not just proportionate to individual need, but also takes into account the complexity of factors such as co-morbidities, poverty or housing problems, in order to enable equitable outcomes.

Deployment of resources and approaches can be coordinated or integrated across disciplines, organisations and sectors around the needs of individuals, families and communities. The results can impact on more than one area of someone's life. For example, assistance with improving job readiness can lead to employment and so longer term a reduction in poverty.

3.2.4 Supporting user engagement

To encourage people to take up services and to think about their health and wellbeing, it is important to increase their knowledge and awareness of health risks and what help is available to them. This can include:

- education and promotion initiatives via community contact points such as schools, workplaces, jobcentres, community venues and religious centres
- peer educators. For example, community champions, faith leadership and health trainers
- frontline staff - Making Every Contact Count
- single point of access advice centres; telephone lines, web access; social media
- having a 'No wrong door' policy enabling cross-referral amongst organisations; link workers
- buddying and client advocate schemes through health champions or health trainers to support service contact and engagement
- encourage uptake of health screening where appropriate
- providing supported uptake on invitations to reduce the effects of the wider determinants of health, for example, an affordable warmth scheme assessment
- NHS Health Check and vaccinations. Exploring and ameliorating the reasons for 'did not attends' (DNAs) and lost-to-follow up from care pathways

3.2.5 Supported self-management

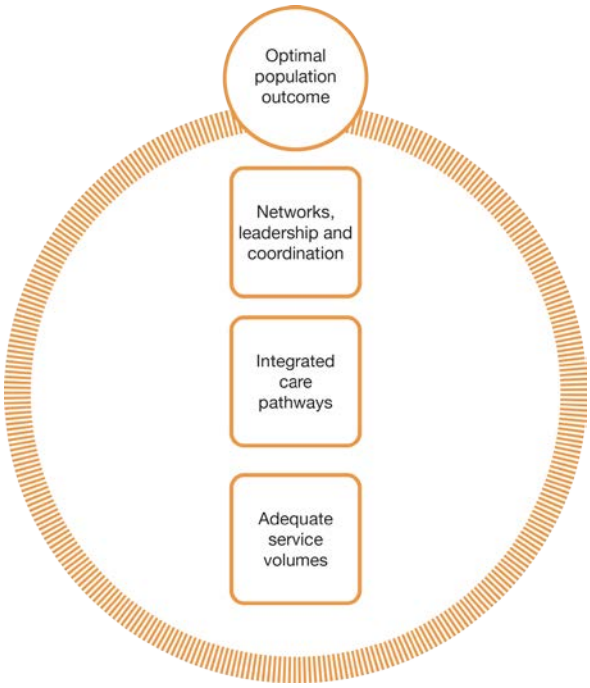
People with long term or deep-rooted problems such as diabetes, addiction, difficulties with parenting, poverty or debt, mostly have to self-manage, however close their engagement is with services. They need systematic support involving assessment and choice. The Care Act (31) incorporates many of the values and aspirations of policy concerning the care and support of those with long-term conditions.

This includes promoting individual wellbeing, prevention strategies to avoid increasing need for care and support, the centrality of care planning and the need for integrated care services. It also takes into account carers' views about services that could help them maintain their caring role and live the life they choose.

Meta-analysis of information from 228 systematic reviews(1) found that the top things you can do to support self-management of long-term health problems are:

- providing self-management education for people with specific conditions which is integrated into routine healthcare
- generic self-management education courses co-led by peers/laypeople
- interactive online self-management programmes
- telephone support and telehealth initiatives

3.3 Balance and co-ordination



3.3.1 Adequate service volumes

This analytical framework illustrates that strategies to improve population level outcomes are likely to involve:

- addressing previously unmet need

- identifying and managing problems earlier
- supporting people in the community to engage in healthier lifestyle approaches such as increased physical activity and smoking cessation
- fewer people dropping out of care pathways
- keeping to effective intervention plans for sufficient time to make a difference

While waits for conventional primary and secondary care are measured, issues such as 'invisible waits' for advice, behaviour change support, checks on early problem signs and symptoms, and aids needed for daily living, are less likely to be recorded and therefore may not be prioritised. It is, therefore, important that when planning to prioritise 'upstream' interventions (for example NHS Health Check) that there are adequate services to pick up the subsequent opportunities. For example, is there sufficient staffing for intensive face to face support for diet and activity change in all identified cases of pre-diabetes?

3.3.2 Integrated care pathways

People, particularly those with complex needs, often have to navigate multiple care pathways that cross disciplinary and organisational boundaries. The challenge is to make it quicker, easier and more efficient for patients to access services while minimising cost. Systems working towards closer integration of services will want to establish:

- shared production and use of data and information, with attention to IT compatibility, information governance and staff behaviours
- appropriate use of key workers and care coordinators focussed on user experience
- system agreements for audit and governance along whole patient/user pathways
- inclusive communication networks to share intelligence, concerns, ideas and results across the system

Systematically addressing commonly occurring conditions and factors such as heart and lung disease (CHD and COPD), as well as early child health and skills, or poverty and disabilities, will improve efficiency and effectiveness. This may include forums to review evidence, guidelines and protocols, mechanisms to audit progress and managerial systems to facilitate integrated pathways.

3.3.3 Networks leadership and coordination

This Analytical Framework captures the complexity of factors that influence whether a given set of interventions might have optimal impact at population level. However, by deconstructing the system into its separate elements and so 'de-mystifying' the

problem, practical strategies can be developed.

Overarching leadership and engagement arrangements for the whole system were discussed in Section 3. However, it is important to coordinate across organisations, to maintain system and scale of impact.

It will be helpful to have:

- leaders and coordinators with dedicated time
- a regularly reviewed co-produced network strategy/action plan
- KPIs related to planned outcomes that are reported regularly
- a clear, transparent well publicised framework for decision making
- regular and systematic input from communities
- periodic external/peer review
- a communication plan to keep all stakeholders apprised of discussions, plans, progress and decisions

3.3.4 Optimal outcomes

Goals may be aspirational initially, but they need to be challenging and credible. Outcomes should translate into non-technical language that is meaningful to everyone. They may not be overtly ‘health’ outcomes but may describe an improved environment: fewer betting shops or hot food takeaways in the high street, for example, which all have a knock on effect for health.

Key factors in setting population level outcomes:

- priority agreed and owned by key stakeholders
- realistic but ambitious dimension of change – preferably modelled
- credible interventions available
- deliverable at scale
- achievable within resources available
- measurable
- locally meaningful indicators of progress towards endpoints available
- timescale stated
- equitable distribution of benefit clearly stated and monitored

4. Tools and resources for reducing health inequalities

This section aims to guide the reader to tools and evidence to support a systematic approach to reducing inequalities in life expectancy and healthy life expectancy. It is organised in three parts. 1) Tools and data for assessing health inequalities. 2) Effectiveness of actions and interventions. 3) Cost effectiveness.

4.1 Tools and data for assessing health inequalities

This section aims to signpost the reader to specific quantitative tools and data that can help to identify priority areas for action to reduce health inequalities. For a broad impression of health in general, The Health Profiles(32) provide a snapshot overview for each local authority in England. They are conversation starters, highlighting issues that can affect health in each locality. For a full list of PHE data and analysis tools, please visit: www.gov.uk/guidance/phe-data-and-analysis-tools

Ultimately, the health system aims to achieve positive progress on two headline indicators set out in both the Shared Delivery Plan(12) for the health system and the Public Health Outcomes Framework(11). Inequalities in life expectancy and inequalities in healthy life expectancy as measured by the slope index of inequality[1]. In addition to the Public Health Outcomes Framework, a number of useful tools and data are available to help local areas understand key areas for action to reduce inequalities in life expectancy and healthy life expectancy. These are outlined below.

4.1.1 National Conversation on Health Inequalities

Local areas wishing to undertake qualitative methods to inform priorities for action to reduce health inequalities in their communities are signposted to The National Conversation on Health Inequalities(28), a PHE programme to start a conversation with the public about health inequalities and solutions to reduce them. The toolkit, together with a number of video stories and case studies, shows you how to start a conversation in your community.

4.1.2 Public Health Outcomes Framework

The PHOF(11) focuses the whole system on achieving positive health outcomes for the population and reducing inequalities in health.

[1] The slope index of inequality is a measure of the social gradient, ie how much life expectancy and healthy life expectancy varies with deprivation. It takes account of inequalities across the whole range of deprivation and summarises this in a single number.

A helpful first step is to view the overarching measures of inequality. The slope index of inequality in life expectancy and healthy life expectancy, for your area of interest. These data are available at local authority, regional and England level. In England, for example, average life expectancy at birth in England was 79.5 years for males and 83.1 years for females in 2013-15. However, inequalities in life expectancy, as measured by the slope index of inequality, show that in 2013-15 the gap in life expectancy between people living in the most and least deprived areas was 9.2 years for males and 7.1 years for females.

The gap in healthy life expectancy is even greater. In 2013-15, average healthy life expectancy at birth in England was 63.4 years for males and 64.1 years for females and the gap between people living in the most and least deprived areas in 2013-15 was 18.9 years for males and 19.6 years for females.

The overarching life expectancy and healthy life expectancy PHOF indicators are supported by a range of other indicators across four domains:

- improving the wider determinants of health
- health improvement
- health protection
- healthcare public health and preventing premature mortality

Many of the indicators included in the PHOF have the potential to impact on inequalities in life expectancy and healthy life expectancy: homelessness, fuel poverty, smoking, mortality attributable to air particulate pollution, premature mortality from cardiovascular diseases, premature mortality from cancer, and infant mortality to name a few examples.

PHE's aspiration is, wherever possible, for all indicators in the PHOF to be disaggregated by equalities characteristics and by socioeconomic analysis, in order to support work locally to reduce in-area health inequalities. A list of current inequality data availability can be found via the PHOF Further Information page and results for indicators by dimensions of inequality can be found via the Inequalities tab. Some specific PHOF indicators are discussed later on in this document but before exploring some of these, it's first worth understanding the causes of death that are driving inequalities in life expectancy.

4.1.3 Segment Tool

Understanding the causes of mortality and causes of morbidity contributing most to inequalities in life expectancy, and healthy life expectancy, is a good early step to help identify where to intervene to reduce health inequalities with scale and impact.

The Segment Tool is a useful source of information about the causes of death that are driving inequalities in life expectancy at national, regional and local area levels. This tool allows users to view the breakdown of the life expectancy gap both within areas, and between a local authority and England by broad or more detailed causes of death. As well as the tool, a summary report is available for each local authority that contains the charts and tables. Summary reports for the English regions and for England as a whole are also available.

The information available in the Segment Tool is a useful starting point when considering where to take action. This is because targeting the causes of death, which make the largest contributions to inequalities in life expectancy, are likely to have the greatest impact.

For example, the table below presents the broad causes of death contributing most to inequalities in male life expectancy in England 2012-14. It shows that the top three broad causes are circulatory disease, cancer and respiratory disease. Taken together, these three broad causes of death contributed 63.8% towards the life expectancy gap between the most deprived fifth and the least deprived fifth of the male population. In other words, that if we were able to reduce the death rate in the most deprived group to the rate experienced by the least deprived group for these three broad causes of death, we would make significant reductions to the male life expectancy gap.

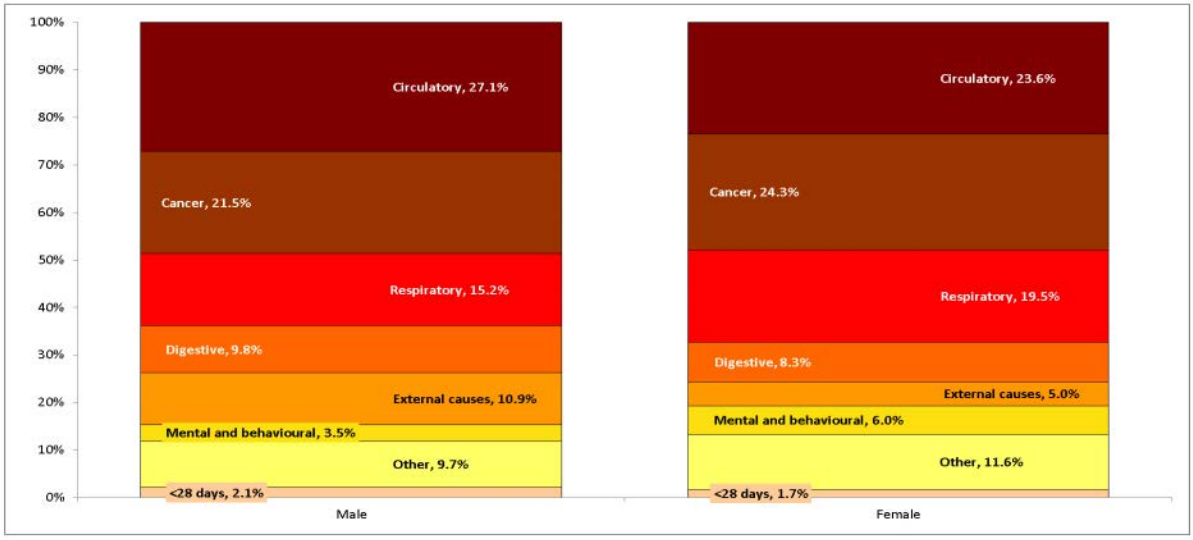
Table 2: Life expectancy years gained in the most deprived quintile, if the same mortality rates as the least deprived quintile were achieved by broad cause of death in England for males 2012 to 2014

Broad cause of death	Number of deaths in MDQ	Number of excess deaths in MDQ	Years of life gained	Contribution to the gap (%)
Circulatory disease	40,261	18,474	1.76	27.1
Cancer	41,822	15,066	1.39	21.5
Respiratory	21,279	11,871	0.98	15.2
External causes	8,793	4,791	0.71	10.9
Digestive	9,034	5,779	0.64	9.8
Other	14,043	5,688	0.63	9.7
Mental and behavioural	8,853	3,382	0.23	3.5
Deaths under 28 days	1,111	507	0.14	2.1

Source: PHE Segment Tool, England summary report, May 2016. MDQ = most deprived quintile (most deprived fifth).

The scarf chart below presents the same information about the contribution to the gap in male life expectancy presented in the table above. It also shows the same information for the female population. The top three causes of which are also circulatory disease, cancer and respiratory disease. It should be noted that information by more detailed cause of death is available and could help inform more specific considerations about where to intervene to reduce inequalities in life expectancy.

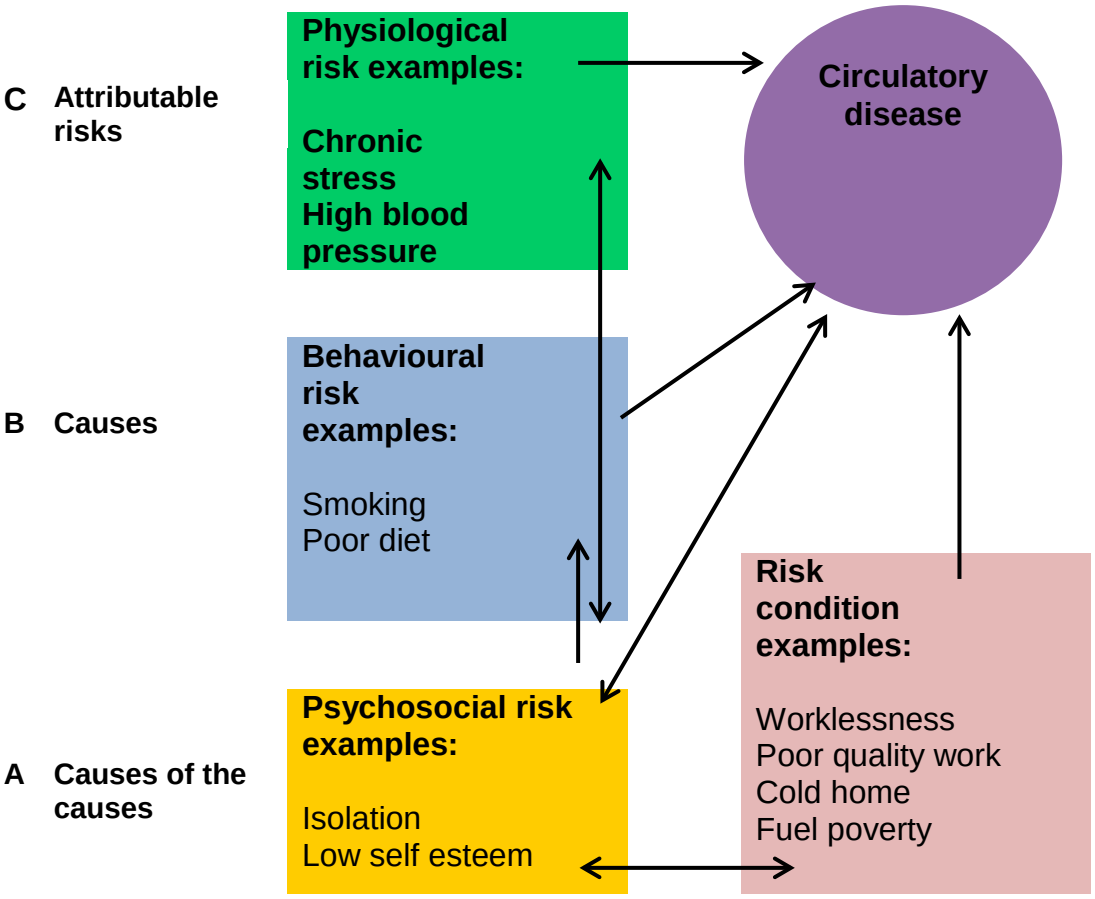
Figure 6: Scarf chart showing the breakdown of the life expectancy gap between England most deprived quintile and England least deprived quintile, by broad cause of death, 2012 to 2014



In addition to assessing the priority causes of death driving inequalities in life expectancy, it can be useful to consider mapping the behavioural (causes) and social factors (causes of the causes) associated with those priority causes of death. As this will further help to decide on areas for action. For example, smoking is associated with all three top causes of death. So efforts to reduce inequalities in smoking prevalence should have an impact on inequalities in deaths from circulatory disease, cancer and respiratory disease, and therefore an impact on inequalities in life expectancy.

Some examples of mapping associated behavioural and social factors, based on the ‘intervening at different levels of risk’ model in Section 1. Figure 1: Pattern of risks affecting health and wellbeing is replicated below using deaths from circulatory disease as an example.

Figure 7: Pattern of risks affecting health and wellbeing – a circulatory disease example



The patterns of risks affecting health and wellbeing model helpfully mirrors the domains of the PHOF. For example, psychosocial risks and risk conditions set out in the adjacent box (A – the causes of the causes) broadly map onto the wider determinants PHOF domain, behavioural risks (B – causes) to the Health Improvement domain, and physiological risks (C – attributable risks) to the Healthcare and premature mortality domain.

Once regard to the different patterns of risk has been considered for the priority causes of death identified from the Segment Tool, users of this guidance might find it useful to identify priority areas for action and routinely review any corresponding PHOF indicators in order to monitor any progress on actions taken. Using circulatory disease as an illustration, an example is presented below.

Figure 8: Example risk factors and corresponding PHOF indicators relating to possible actions to reduce inequalities in deaths from circulatory disease

	Example risk factor	Example action to reduce health inequalities	Example corresponding PHOF indicator
A: attributable risks	High blood pressure	Undertake an NHS Health Check equity audit to ensure effective reach, take up and outcomes in low income and other groups at greater risk. See NHS Health Check health equity audit guidance.	NHS Health Check coverage and take up (indicators 2.22iii, 2.22iv & 2.22v).
B: behavioural risks	Smoking	Ensure stop smoking service reach and success rate in most deprived areas and in routine and manual occupational groups. The Local Tobacco Control Profiles for England provide a snapshot of the extent of tobacco use, tobacco-related harm and measures being taken to reduce this harm at local level.	Smoking prevalence in routine and manual groups (indicator 2.09).
C: causes of the causes	Fuel poverty and cold homes	Reduce levels of fuel poverty and cold homes, especially for those in low-income families with existing long-term conditions. See local action on health inequalities: Evidence review and supporting briefing 7: Fuel poverty and cold home-related health problems.	Percentage of households that experience fuel poverty (indicator 1.17).

4.1.4 Longer Lives Tool

The Longer Lives tool(33) makes England's mortality data accessible to everyone(7). It quantifies premature deaths from the four most common causes of mortality in England – heart disease and stroke, lung disease, liver disease, cancer, and highlights inequalities in premature mortality across the country, and provides examples of effective local interventions.

4.1.5 Wider Determinants Tool

Wider determinants, also known as social determinants, are a diverse range of social, economic and environmental factors which impact on people's health. The Marmot review(7), published in 2010, raised the profile of wider determinants of health by

emphasising the strong and persistent link between social inequalities and disparities in health outcomes.

Variation in the experience of wider determinants (ie social inequalities) is the fundamental cause (the ‘causes of the causes’) of health outcomes and, as such, health inequalities are likely to persist through changes in disease patterns and behavioural risks. Addressing the wider determinants of health has a key role to play in reducing health inequalities.

The aim of the tool(34) is to provide the public health system with intelligence regarding the wider determinants of health to help improve population health and reduce health inequalities through:

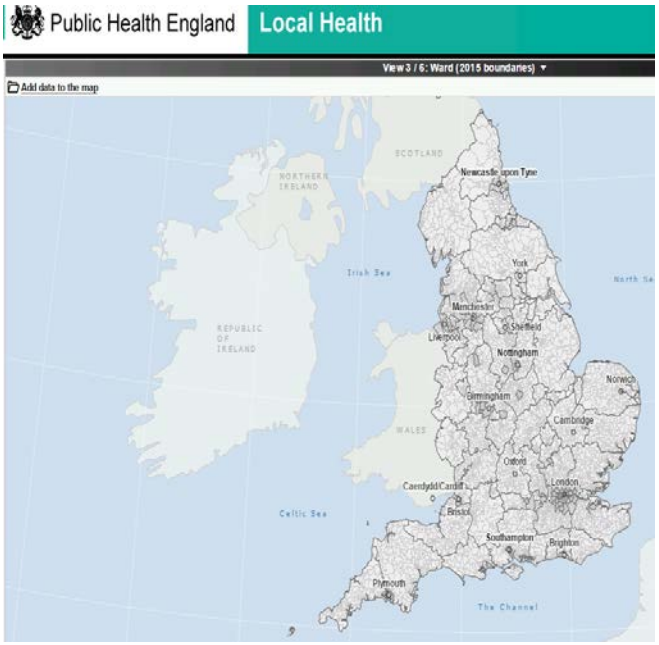
- providing a set of indicators which describe a range of wider determinants of health and enable a comparison of these factors between areas
- providing Marmot indicators which support the monitoring of the overall strategic direction of reducing health inequalities
- highlighting relationships between wider determinants and other risk factors and health outcomes
- providing, where possible, links to further resources for tackling wider determinants. This may take the form of best practice, case studies, interventions, guidance, or links to other data tools or analyses

4.1.6 Local Health Tool

The Local Health Tool(30) provides access to interactive maps and reports at ‘small area’ level. Levels of geography available include Middle Layer Super Output Area (MSOA), electoral ward, local authority, clinical commissioning group and sustainability and transformation plan footprint.

Users can also combine areas to create geographic boundaries, such as MSOA or Ward clusters, and view the information and reports for these new areas.

Reports allow the user to compare the selected area to the England average for a range of indicators including life expectancy. See the tool ‘indicators list’ for a full list of indicator availability.



4.2 Effectiveness of actions and interventions

A comprehensive strategy to reduce health inequalities should have in place actions and interventions across all three of the following areas:

A: Action to improve 'the causes of the causes' such as increasing access to good work, improving skills, housing and the provision and quality of green space and other public spaces
B: Action to improve the causes, such as increasing positive health behaviours - stopping smoking, a healthy diet and following guidelines for drinking alcohol and recommended levels of physical activity
C: Action to improve the provision of and access to healthcare such as ensuring NHS Health Checks are implemented at scale and targeted at those with the greatest need

This section signposts the reader to relevant resources for action to improve health and reduce health inequalities.

4.2.1 Local action on health inequalities through the social determinants of health

For more upstream interventions, likely to have impact on health outcomes over the longer term, we look to action to improve health and reduce health inequalities through the social determinants of health (the causes of the causes).

Building on the recommendations of the Marmot Review(7) PHE commissioned the UCL Institute of Health Equity to produce the Local Action on Health Inequalities series(35) which includes evidence, and examples of practical action that can be taken at a local level to reduce health inequalities.

The papers set out the evidence on a social determinants issue. How it relates to health and health inequalities, as well as evidence on interventions or approaches that have been effective or shown promising results. They show that there are opportunities to reduce inequalities across a range of settings – in schools, workplaces and community centres and across all stages of the life course.

4.2.2 Improving the public's health: a resource for local authorities

This King's Fund publication(33) pulls together evidence from interventions across key local authority functions about 'what works' for improving health and reducing health inequalities. It focuses on practical actions that local authority officers and teams can take in nine key areas.

The authors have summarised and distilled their views on the relative strengths of interventions for each of the nine areas and set them out in a ready reckoner tool Table 3, which considers the direct impacts, is reproduced below. These subjective assessments are offered with a view to helping decision makers prioritise interventions with the potential to deliver the best results in improving public health and reducing inequalities, given their own specific needs and challenges.

Table 3: King's Fund: direct impacts of nine actions

Area	Scale of problem in relation to public health	Strength of evidence of actions	Impact on health	Speed of impact on health	Contribution to reducing inequalities
Best start in life	Highest	Highest	Highest	Longest	Highest
Healthy schools and pupils	Highest	Highest	Highest	Longer	Highest
Jobs and work	Highest	Highest	Highest	Quicker	Highest
Active and safe travel	High	High	High	Quicker	Lower
Warmer and safer homes	Highest	Highest	High	Longer	High
Access to green spaces and leisure services	High	Highest	High	Longer	Highest
Strong communities, wellbeing and resilience	Highest	High	Highest	Longer	High
Public protection	High	High	High	Quicker	High
Health and spatial planning	Highest	High	Highest	Longest	Highest

4.2.3 A health and health equity in all policies approach

We know that health, wellbeing and health inequalities (and associated behavioural risk factors) are largely determined by living conditions and wider social, economic, environmental, cultural and political factors (the causes of the causes). These, in turn, are controlled by policies and actions outside the health sector. Many of our most pressing challenges involve multiple interacting causal factors, lack a clear linear solution and are not the responsibility of any single government department or organisation.

Effective solutions to such challenging and entrenched problems require a policy perspective that connects and prioritises synergies allowing for an inter-sectoral and cross-government Health- and Health Equity-in-All-Policies (H&HEiAP) approach. Both the Local Government Association and PHE have produced resources to assist local authorities in adopting this approach, which offers local government an opportunity to enable their powers and functions to improve health and reduce health inequalities in local communities. This approach offers local government an opportunity to enable their powers and functions to improve health and reduce health inequalities in local communities.

4.2.4 Health matters – evidence for what works in tackling major public health problems

Health matters(36) is a PHE information resource which brings together in one place the most informative data and the best evidence of what works in tackling major public health problems. It includes infographics, videos, case studies and slide sets alongside written content. It is aimed at local authorities, health and wellbeing boards, clinical commissioning groups and public health professionals.

Each edition of *Health matters* focuses on a specific public health topic. Setting out the scale of the problem and the evidence for cost-effective interventions. Example topics include smoking, tobacco packaging, alcohol, physical activity, and obesity and the food environment.

4.2.5 Local health and care planning: menu of preventative interventions

This menu of interventions(37) outlines evidence-based, preventative public health interventions that can help improve the health of the population and reduce health and care service demand in the short to medium term. The menu is structured into 14 topic areas; each has an overview section with evidence of the problem and a selection of up to five interventions for consideration. Two of which are then presented in detail. These detailed sections bring together clinical and operational advice, clinical and cost effectiveness evidence, indicators for monitoring progress, and a list of resources.

This resource is focused on contributing to the Five Year Forward View(20). Therefore, it does not cover the full breadth of interventions that can help prevent ill health, particularly over longer time periods.

4.3 Intervening at scale for population impact

If looking to impact on population health through services, the concept of Number Needed to Treat (NNT) is a useful tool by which to measure interventions that have a defined outcome.

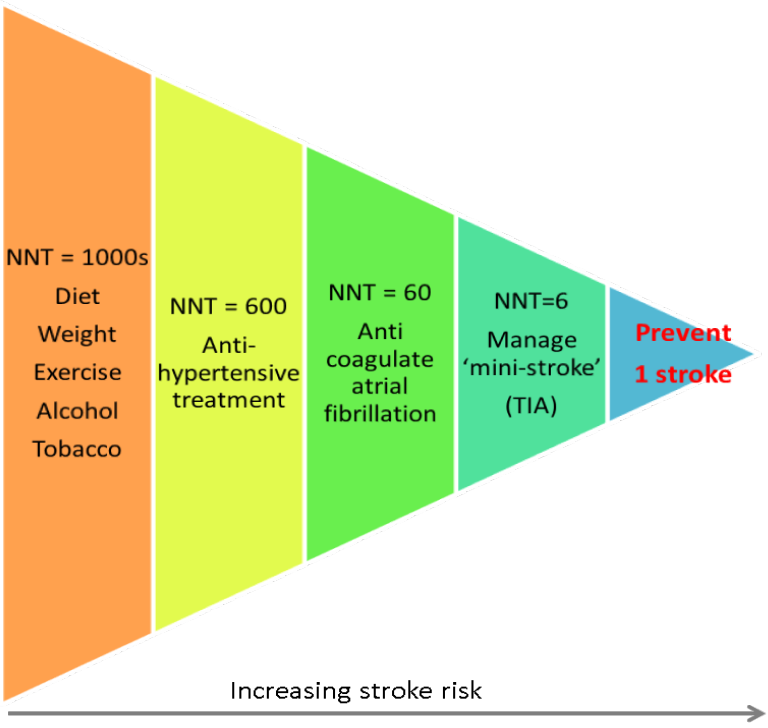
4.3.1 What is Number Needed to Treat (NNT)?

We know that, in most cases, not everyone is helped by a specific treatment. NNT(38) is a *statistical* measurement of the impact of a medicine or therapy. It is an estimation of the number of patients that need to be treated in order for one person to benefit(38).

For example, if 50% of people taking a particular medicine or therapy are helped by it, the NNT = 2. Statistically, for every one positive outcome, two people will need to be treated.

Figure 11 uses the example of stroke prevention. The diagram below, using indicative numbers, shows how many people would need to be treated with a particular intervention in order to prevent one stroke. There is a significant dimensional difference in the number of patients at different risk levels that need to be treated with the interventions shown.

Figure 9: 'Numbers Needed to Treat' to prevent Stroke



This presents us with significant challenges in terms of system and scale. As the Numbers Needed to Treat (NNT) increases it means more and more individuals, teams, organisations and resources are required to achieve population level outcomes.

At the level of risk behaviours (eg stopping smoking, weight loss), the NNT to achieve health outcomes becomes even larger, and very large numbers of practitioners must be involved. This is where approaches such as Making Every Contact Count (MECC)(39) community health champions and health trainers can be extremely helpful in improving population health.

4.4 Cost effectiveness

It is vital that interventions to improve health are not only effective, scaled appropriately, and reach those most in need, but that they are also affordable, sustainable and deliver good value for money.

PHE produces several tools to help inform investment decision making for prevention and early intervention. The full range of resources available can be accessed via PHE Health Economics Resources. Some examples of the tools and resources available are summarised below.

4.4.1 Making the case for investment in prevention and early intervention

To ensure affordability and sustainability of our health and social care system, we must make the case for investment in prevention and early intervention. Rather than trying to look for immediate cost-savings alone, we should look at the long-term gains that could be achieved by investing in preventive activity.

Making the case for investment in prevention and early intervention: tools and frameworks to help local authorities and the NHS – details prioritisation frameworks and associated tools and resources which help to make the case for investment in prevention or early intervention, to prioritise investment (and disinvestment) or to improve the use of existing resources invested.

4.4.2 CVD Prevention Opportunities Tool

The CVD Opportunities Tool provides a view of potential savings and costs in disease outcomes if primary care treatment of cardiovascular and related conditions were optimised.

4.4.3 Return on Investment Tool: Colorectal Cancer

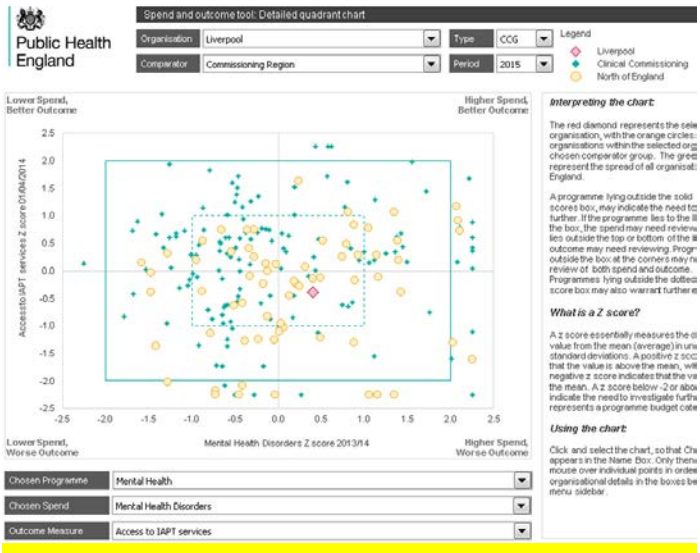
A return on investment (ROI) tool to help local commissioners understand the economic case for early diagnosis of bowel cancer, colon cancer and rectal cancer. The tool brings together clinical commissioning group data with research about the costs and long-term benefits of early diagnosis of colorectal cancer. Local commissioners can see how their CCG is performing and calculate the difference that specific interventions could make to cost-effectiveness and patient outcomes in their local area.

4.4.4 Spend and Outcomes Tool

The Spend and Outcome Tool provides an overview of spend and outcomes in local authorities and clinical commissioning groups.

The tool enables the user to look at spend against a selection of outcomes across public health interventions and frameworks, including the Public Health Outcomes Framework, and identify programmes with outcomes that are significantly different to similar local authorities or CCGs.

Figure 10: Spend and outcome tool



5. Conclusion

Health inequalities are systematic, avoidable and unjust differences in health and wellbeing between groups of people. Population level interventions that are multifaceted and complementary are most likely to be successful at addressing them.

The described Population Intervention Triangle brings together the main mechanisms, which through such change can be achieved. The key elements are:

- civic interventions: which make healthy choices easier. Includes targeted support and enforcement to extend the impact
- community engagement: extended to the most in need, not just those already enabled
- effective services: delivered with system, scale and sustainability

All the components of the Triangle can be brought together cohesively under placed-based units of planning and delivery. This will require a system leadership that is understanding of and engaged with the health inequalities agenda, and its relevance to other high-level priority issues.

Robust partnership arrangements supported by good governance will be necessary to develop and deliver an evidence-based vision and strategy for addressing identified inequalities in health and wellbeing. These need to capture necessary dimensions of change, agreeing target outcomes and integrating with other priority actions.

Delivering services to achieve population level change and reduced health inequalities requires attention to how communities and individuals use the services, and are supported to do so, as well as addressing variations in the quality and outcomes of the services themselves. A Framework is described which brings together thirteen of the most important factors that will influence the potential impact.

A wide range of tools is now available to contribute to development and delivery of health inequality programmes. Some of the key ones have been described and signposted here.

6. References

1. National Voices. Supporting self managment: summarising evidence from systemtatic reviews. 2014.
2. FreshNE. A vision for change, a decade of action [Report]. 2016 [Available from: http://freshne.com/images/Fresh-2016-Report/Fresh-2016-Report.html.
3. UK Parliament. Health and Social Care Act 2012 [Legislation]. 2012 [Available from: http://www.legislation.gov.uk/ukpga/2012/7/contents/enacted.
4. Department of Health. National Support Team Health Inequalities [Guidance]. 2006 - 2011 [Available from: http://phe.baileysolutions.co.uk/search_results.aspx?sid=24857.
5. Dahlgren G, Whitehead M. Policies and strategies to promote social equity in health. Stockholm: Institute for future studies. 1991.
6. Department of Health. Systematically addressing health inequalities 2008 [Available from: http://phe.baileysolutions.co.uk/book_details.aspx?source=search.
7. Michael Marmot. Fair society, healthy lives: The Marmot Review: strategic review of health inequalities in England post-2010. Insitute of Health Equity; 2010.
8. Public Health England. Local wellbeing, local growth: adopting health in all policies 2016 [Available from: https://www.gov.uk/government/publications/local-wellbeing-local-growth-adopting-health-in-all-policies.
9. UK Parliament. Public Services (Social Value Act). 2012.
10. Equality and Human Rights Commission. Public Sector Equality Duty 2011 [Available from: https://www.equalityhumanrights.com/en/advice-and-guidance/public-sector-equality-duty.
11. Public Health England. Public Health Outcomes Framework 2016 [Available from: https://www.gov.uk/government/collections/public-health-outcomes-framework.
12. Department of Health. Shared Delivery Plan 2015 -2020. 2016.
13. Kings Fund. Making the case for public health interventions [Infographic]. 2014 [Available from: https://www.kingsfund.org.uk/audio-video/public-health-spending-roi.
14. Labonte R. Health promotion and empowerment practice frameworks. 1993.
15. Local Government Association. Health in all policies: a manual for local government. 2016.
16. National Institute for Health and Care Excellence. Community engagement overview [NICE pathway]. 2017 [Available from: https://pathways.nice.org.uk/pathways/community-engagement#content=view-info-category%3Aview-about-menu.
17. Public Health England. A guide to community-centred approaches for health and wellbeing In: PHE, NHS England, editors. 2015.
18. New Local Government Network. Place based health: A position paper 2015 [Available from: http://www.nlgn.org.uk/public/2015/place-based-health-a-position-paper/.
19. Selbie D, Kippin H. The journey to place based health. PHE blog2016.
20. NHS England. Five Year Forward View 2014 [Available from: https://www.england.nhs.uk/wp-content/uploads/2014/10/5yfv-web.pdf.
21. England N. Sustainability and Transformation Plans (STPs). 2017.
22. Ham C, Alderwick H. Place based systems of care. Kings Fund, ; 2015.
23. Network NLG. Get Well Soon: Reimagining Place Based Health 2016 [Available from: http://www.nlgn.org.uk/public/2016/get-well-soon-reimagining-place-based-health/.
24. Greater Manchester Health and Social Care Partnership. The Greater Manchester Population Health Plan 2017-2021. 2017.

25. ACDS VSC. Systems Leadership: Exceptional leadership for exceptional times report. 2013.
26. Centre TL. The Revolution will be improvised Part II. 2015.
27. Centre TL. The Difference that makes the Difference: Independent evaluation of the Systems Leadership – Local Vision Programme. 2015.
28. Public Health England. National conversation on health inequalities [Toolkit]. 2014 [Available from: https://www.gov.uk/government/collections/national-conversation-on-health-inequalities.
29. Public Health England. National Cancer Intelligence Network 2013 [Available from: https://www.gov.uk/government/news/new-national-cardiovascular-intelligence-network.
30. Meader N, King K, Moe-Byrne T, Wright K, Graham H, Petticrew M, et al. A systematic review on the clustering and co-occurrence of multiple risk behaviours. BMC Public Health. 2016;16(1):657.
31. UK Parliament. Care Act 2014 [Legislation]. 2014 [Available from: http://www.legislation.gov.uk/ukpga/2014/23/contents/enacted.
32. Public health England. Health Profiles 2017 [Available from: http://fingertips.phe.org.uk/profile/health-profiles.
33. Public Health England. Longer Lives Tool [web page]. [web page. Available from: http://healthierlives.phe.org.uk/topic/mortality.
34. Public Health England. Wider Determinants Tool [Web page]. [Available from: https://fingertips.phe.org.uk/profile/wider-determinants/data.
35. Public Health England IoHE. Local Action on Health Inequalities. 2015.
36. Public Health England. Health Matters 2015 [Available from: https://www.gov.uk/government/collections/health-matters-public-health-issues.
37. Public Health England. Menu of Interventions [Available from: https://www.gov.uk/government/publications/local-health-and-care-planning-menu-of-preventative-interventions.
38. Sheers D. How to model the scale of use of evidence-based interventions necessary to hit targets on reducing inequalities in life expectancy. 2010.
39. NHS England. Making Every Contact Count 2017 [Available from: http://www.makingeverycontactcount.co.uk/.