

evaluating preventative investments

in public health in England



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CIPFA, the Chartered Institute of Public Finance and Accountancy, is the professional body for people in public finance. Our members and trainees work throughout the public services, in national audit agencies, in major accountancy firms, and in other bodies where public money needs to be effectively and efficiently managed.

About Public Health England

Public Health England exists to protect and improve the nation's health and wellbeing, and reduce health inequalities. We are an executive agency of the Department of Health and Social Care, and a distinct organisation with operational autonomy. We provide government, local government, the NHS, industry and the public with evidence-based professional, scientific expertise and support. Our work involves public health professionals in Wales, Scotland and Northern Ireland, and internationally.

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Foreword

**“If you always do what you’ve always done,
you’ll always get what you’ve always got.”**

Henry Ford

Given the current climate and demands on public services and their budgets, there is a growing consensus that a stronger case needs to be made for preventative interventions, in order to compete with other priorities for valuable resources. With the policy agenda focused firmly on population health, integration of services and prevention, the time to make this case is now.

Here we aim to initiate and inform the debate on how the benefits of preventative investment in public health can be considered relative to other types of intervention. Although the focus is on public health, the principles apply more widely across the public sector.

The ambition is to change the way that prevention is considered – as a true investment – yielding benefits across place and time – rather than merely as a way to generate savings. Although this will not be realised overnight, robust and consistent evaluation would enable more systematic prioritisation and make any short-termism more transparent. It could enable a picture of overall levels of preventative investment to be constructed and ultimately provide better information upon which decisions can be based.

In realising this ambition, the finance profession will be key. They are the enablers, holding the financial reins of the business, and responsible for ensuring that scarce public resources are used wisely to secure the desired outcomes. Here we issue a challenge for the profession to not only adopt and empower the changes suggested, but to consider the way forward to achieve our ambition to alter the way prevention is considered.

To advance this work and demonstrate the viability of our proposals we would welcome pilot areas to help us test and embed this practice, with the aim of formulating case studies for future development.

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Executive summary

The Chartered Institute of Public Finance and Accountancy (CIPFA) and Public Health England (PHE) set out to improve the evaluation of preventative investments in public health through the development of a common, transparent approach to evaluate costs and benefits. While the focus of this work is on public health specifically, the principles are applicable more widely to public sector preventative investment.

In the context of the strengthened focus on population health and the shift to Integrated Care Systems (ICS) across England by 2021 outlined in NHS England's Long Term Plan¹, there is a clear need for tools for evaluating preventative investment across local systems. Improving the evaluation of long-term investment in prevention would:

- support better decision-making on the use of resources by providing a consistent framework to evaluate the costs and benefits across different organisations
- bring longer-term costs and benefits to light, as these often lack visibility
- Increase transparency and accountability for how resources are currently invested
- improve incentives to invest in prevention relative to acute interventions across local systems, including where costs and benefits fall on different agencies or sectors.

To help this report ground its conclusions in best practice, PHE and CIPFA held three roundtable meetings to seek the views of stakeholders on how best to support improved evaluation of preventative investment in public health.

Through these events stakeholders emphasised that a more robust measurement and evaluation system must be developed across the healthcare sector and beyond to improve the understanding and transparency of spending decisions. As a result, PHE and CIPFA have produced this report to inform the debate about how the net benefits of investment in prevention can be evaluated relative to other policy options.

Simultaneously, to further the narrative on the appropriate use of resources, it was necessary to better understand the current breakdown of health spending in England. As a result, PHE undertook analysis looking to understand how much is spent in England investing in prevention and give further details of that activity. This work estimated that in 2014, £5.2bn was invested in prevention, representing 4.7% of total health spending. This work provides a fresh perspective on the UK-wide estimates available through the UK Health Accounts and a starting point to consider whether the levels of investment in prevention in England are optimal.

To support the use of evaluation for preventative investments, we identified existing tools and resources which could be utilised across different types of intervention, across different organisations and at local, regional or national levels to evaluate preventative investment. These existing tools and resources can be used to consider how to improve the evaluation of investment in prevention by public bodies, both at an organisational level and in planning across a place-based system such as an integrated care system (ICS) or sustainability and transformation partnership (STP), to meet the above outcomes.

¹ NHS England, [The NHS Long Term Plan](#), January 2019

We conclude that:

1. Use of cost-benefit analysis (CBA) methodology can provide a balanced evaluation of the financial and economic costs and benefits of preventative investment.
2. The Green Book/New Economy model is well-suited to judging the comparative merits of such investments and allows a whole-system view to facilitate decisions on a place-based basis.
3. Using International Public Sector Accounting Standards Board (IPSASB) guidance and the principles of the Prudential Code² would allow for consideration of the impact of such investment, particularly on long-term financial sustainability, and would enable comparative assessment of investment across time and place.

Adopting these methods would enable preventative investment to be measured in a methodical and consistent manner, backed by a shared understanding of what constitutes good practice. This would not only aid in making the case for investment, but increase transparency and allow for comparison and analysis of such interventions over time and place. Local circumstances and priorities will of course vary, but organisations should use the appropriate methodology to review and explain the level of investment in specific interventions and assess the value gained in their local systems.

It would also enable such information to begin to be communicated and reported in a way that makes it more meaningful or relevant to local citizens. For example, council tax payers receive a summary of what the revenues have been used for, expressed in terms that makes it clear what the money is providing in local terms – a form of ‘social balance sheet’. Such an approach to preventative investment may increase the understanding and support for this type of investment and the benefits it brings.

The overall ambition is to change the way that prevention is considered – it should be viewed and treated as an investment, and properly reported as such. This change will not happen overnight, and the report is deliberately non-prescriptive on how system change should be introduced. Instead, this report looks to take the first steps towards realising that ambition and explores, with the finance profession, how this could best be achieved.

Moving forward, PHE and CIPFA are interested in supporting and challenging finance professionals to pick up these ideas and integrate them into everyday practice. To offer a proof of concept over the coming months, the two organisations will be looking to engage with at least one local area to help embed the principles.

2 CIPFA, [The Prudential Code for Capital Finance in Local Authorities](#) (2017 Edition)

Introduction

In the current context of increasing budgetary pressures in health, social care and other public services, the need to invest in prevention of ill-health is stronger than ever. Recent government policies have recognised this:

- *Prevention is better than cure* is the government's vision, highlighting the current opportunity to radically shift the focus of health and social care onto prevention in order to improve the health of the population, as well as securing the future of health and care services and boosting the economy.³
- The NHS Long Term Plan sets out NHS England's ten-year plan for a health system with a strengthened focus on preventing poor health, including action on smoking, obesity and type 2 diabetes, alcohol and air pollution.⁴ NHS action on these priorities is complementary to local government responsibilities for funding and commissioning public health. The Long Term Plan also confirms a shift to integrated care and place-based systems and a strengthened focus on population health.
- Investing in prevention is essential if we are to achieve the prime minister's Ageing Grand Challenge mission to ensure that people can enjoy at least five extra healthy, independent years of life by 2035, while narrowing the gap between the experience of the richest and poorest.⁵

However spending on public health services by councils was 8% lower in real terms in 2017/18 compared to 2013/14 (on a like-for-like basis), and the government has announced that reductions to this element of public health funding will continue in 2019/20.⁶ The public health grant to local authorities is predominantly spent on preventative and treatment services, such as sexual health clinics, drug and alcohol services, help to stop smoking and children's health services. The Health Foundation has argued for reallocation of the public health grant in line with the recommendations of the Advisory Committee on Resource Allocation, while restoring real-terms losses and preventing any local area experiencing a reduction. This would ultimately require an extra £3.2bn of funding per year.⁷ The New Local Government Network's Leadership Index for January 2019 found that councils want to increase the proportion of spend on general prevention from 27.8% to nearly half of their budget.⁸

Having a clear understanding of current investment in prevention across the system, both nationally and locally, and an aspiration about what the percentage of total spend should be to improve health and reduce health inequalities, are important enablers of a shift to a greater prevention focus. As part of this, a better understanding of how money is spent on prevention and by whom, and where and when the benefits accrue, is essential in supporting decision-making across the system.

3 Department of Health and Social Care, [Prevention is better than cure: our vision to help you live well for longer](#), 2018

4 NHS England, [The NHS Long Term Plan](#), January 2019

5 Department for Business, Energy and Industrial Strategy [The Grand Challenge Missions](#), 2018

6 The King's Fund [Spending on public health](#), December 2018

7 The Health Foundation [Taking our health for granted](#), October 2018

8 New Local Government Network, [NLGN Leadership Index](#), January 2019

Valuing investment in prevention

Given the current climate and demands on public services and their budgets, there is a growing consensus that in order to compete with other priorities for valuable resources, a stronger case needs to be made for investment in preventative interventions.

The very fact that the term ‘investment’ is widely used to refer to revenue spending on prevention is a clue in itself to the value of such spending. Most use of revenue in health is referred to as spending rather than investment: it represents the day-to-day running costs, the financial resources deployed to meet demand, or to deliver a project/programme. The term ‘investment’ suggests something different – the use of resources to gain future benefits, as in the case of using capital assets. This is the nature of preventative spend – it is indeed an investment, using resources now to gain future benefits, either by avoiding future financial costs (for example on acute care), reducing demand in the system, improving future financial sustainability or achieving greater health benefits from existing resources.

Figure 1: The benefits of investment in prevention



Source: PHE

During the roundtable events held by PHE and CIPFA, stakeholders considered that there needed to be a culture change around preventative investment. Participants stated that ‘the bar seems to be set higher’ for justifying public health investments than for delivery of health care treatments.

The current methodology for determining whether health care spending represents good value for money is to assess how much health the expenditure buys, and whether shifting existing funds to a new intervention results in a net increase in health. This system means that health is viewed as an asset, and something worth spending money on. Prevention on the other hand is often viewed as a method by which to save money. Investment is only seen as worthwhile if it generates savings somewhere else, ideally under the same budget holder's remit, that completely offset their initial investment. This difference means that despite often being able to generate health at a cheaper cost than in healthcare, prevention is not undertaken, or attracts insufficient investment from a societal viewpoint. Increased scrutiny of the levels of spending on prevention, as well as a more standardised way of evaluating the benefits across the sector, should help bring this unhelpful distinction to the forefront and strengthen the case for such investments.

Purpose

CIPFA and PHE set out to improve the evaluation of long-term preventative investments in public health through the development of a common approach to evaluate costs and benefits and increase transparency in resource allocation at a local level.

The purpose of the project was to:

- highlight the importance of understanding how much is spent on prevention in England
- offer insight into how much is spent on prevention, drawing from different methods of estimation
- advocate for increased spending on prevention, at a local and national level, based on economic evidence
- signpost important tools and resources that can support evidence-based decision making at a local level.

Methodology

To inform the principles of this report, CIPFA and PHE led a series of roundtable discussions with stakeholders including the Local Government Association, the Association of Directors of Public Health, think tanks and finance leads from local government. Discussions were also held with the Health and Social Care Board of CIPFA which comprises finance professionals from health and local government. The views and comments of those stakeholders have helped greatly to inform this report.

One aspect highlighted by stakeholders was the necessity to have a better understanding on the levels of preventative investment currently made in England. To inform this, PHE undertook an analysis of national spend on prevention in England using the System of Health Accounts (SHA) categories to identify and categorise spend on prevention in a more granular way than is possible through other UK-wide estimates.

As a result of the roundtable events and original analytical work, we identified a clear need for tools for evaluating public health investment across local systems, and CIPFA undertook desk-based research to identify relevant tools and resources. Existing tools and resources which could be utilised across different types of intervention, across different organisations and at local, regional or national levels, include cost-benefit analysis of public health investment, the Green Book/New Economy model to facilitate decision-making across place-based systems, and IPSASB guidance and the principles of the Prudential Code to support consideration of the impact of public health investment.

Evidence to support investment in preventative interventions

“Prevention can be the most cost-effective way to maintain the health of the population in a sustainable manner, and creating healthy populations benefits everyone”

(World Health Organization 2014)⁹

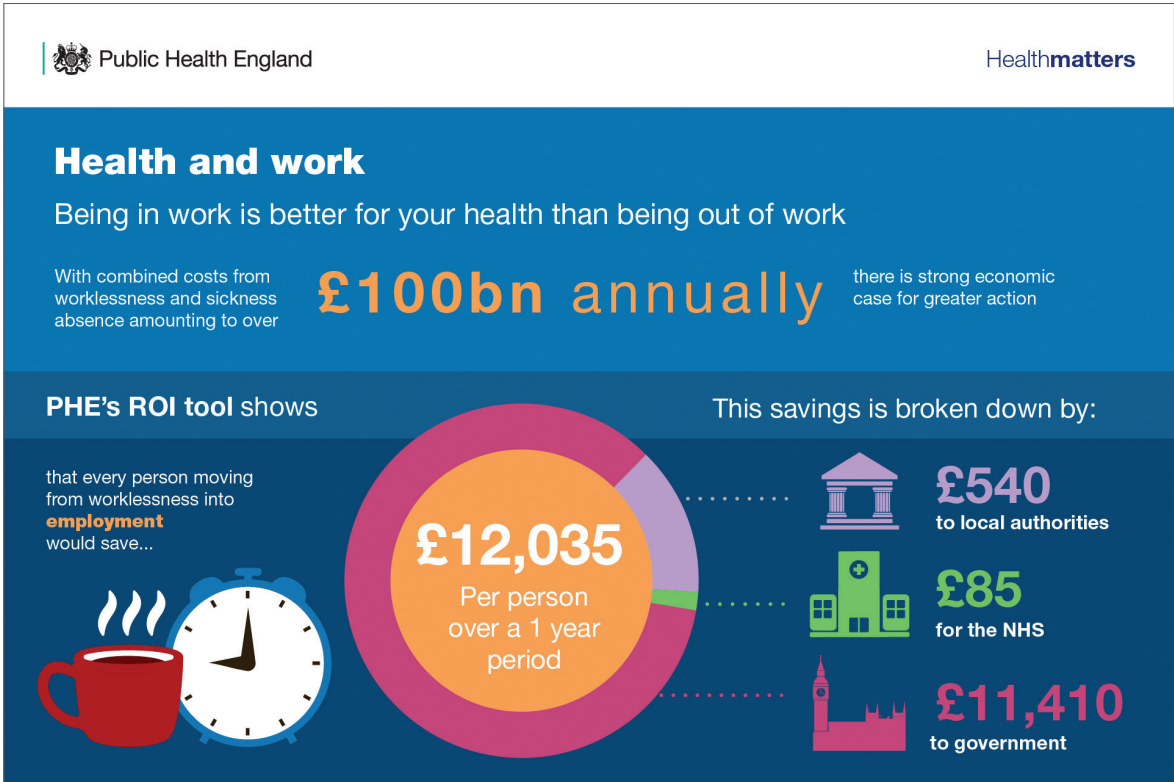
In the current financial climate, the need to make an economic case for investing in public health prevention is stronger than ever. There is a growing body of evidence which demonstrates that most preventative investments are cost-effective, meaning they generate a better outcome than the next best alternative use of resources.

Owen et al (2017)¹⁰ have summarised the evidence for 138 public health interventions reviewed by the National Institute of Health and Care Excellence (NICE) between 2011–2016, covering topic areas such as smoking cessation, children’s emotional wellbeing and physical activity. The research showed that the majority of these interventions are highly cost-effective, often being evaluated far below the typical NICE threshold of £20,000 per quality adjusted life year (QALY). Sixty-three percent of interventions were cost-effective at the NICE threshold, including 25% which were cost saving.

⁹ World Health Organization, [The case for investing in public health](#), 2014

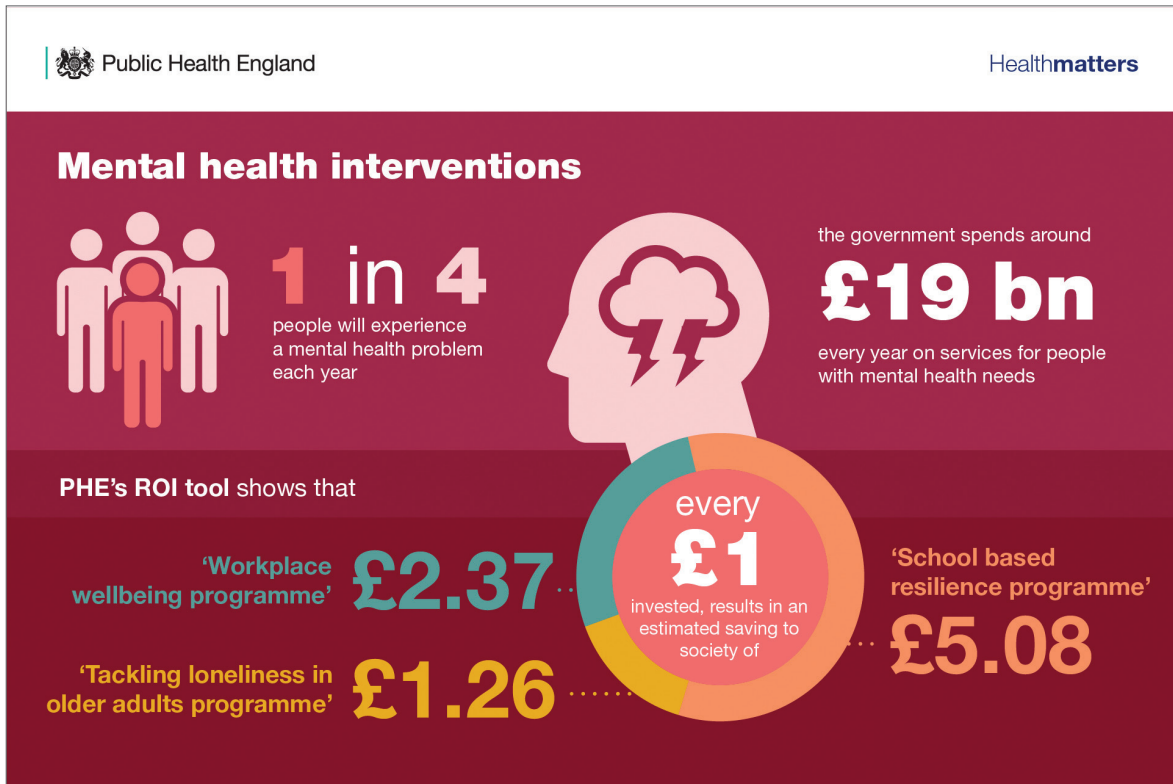
¹⁰ Owen et al [The cost-effectiveness of public health interventions reviewed by NICE from 2011 to 2016](#) *Journal of Public Health* Volume 40, Issue 3, 18 September 2017, pp557-566

Figure 2: The return on investment from returning to employment programmes



The WHO report *The Case for Investing in Public Health* highlighted cost-effective interventions that provide a positive return on investment (ROI) and/or cost savings in either the short or longer term. The evidence shows that a wide range of preventive approaches are cost-effective, including interventions that address the environmental and social determinants of health, build resilience and promote healthy behaviours, as well as vaccination and screening. Some interventions show returns on investment within 1–2 years – for example healthy employment programmes, mental health promotion, and physical activity – while others are cost-effective in the longer term.

Figure 3: The return on investment from mental health interventions:



Similarly, a systematic review of ROI of public health interventions published in 2017 found that public health interventions generally offer a considerable ROI, with a median ROI of 14.3 to 1.¹¹ It is worth highlighting here that this value was calculated from studies that often included monetising wider societal benefits, such as health, which means that the ROI is likely to be over-stated compared to a purely financial rate of return. Additionally, the papers were of varying quality, methodological design and covered a variety of settings. Overall, the review does add to the understanding that public health investment can contribute towards short- and long-term benefits, some of which will be cashable. However, further work is needed to better quantify these various types of benefits in a UK context.

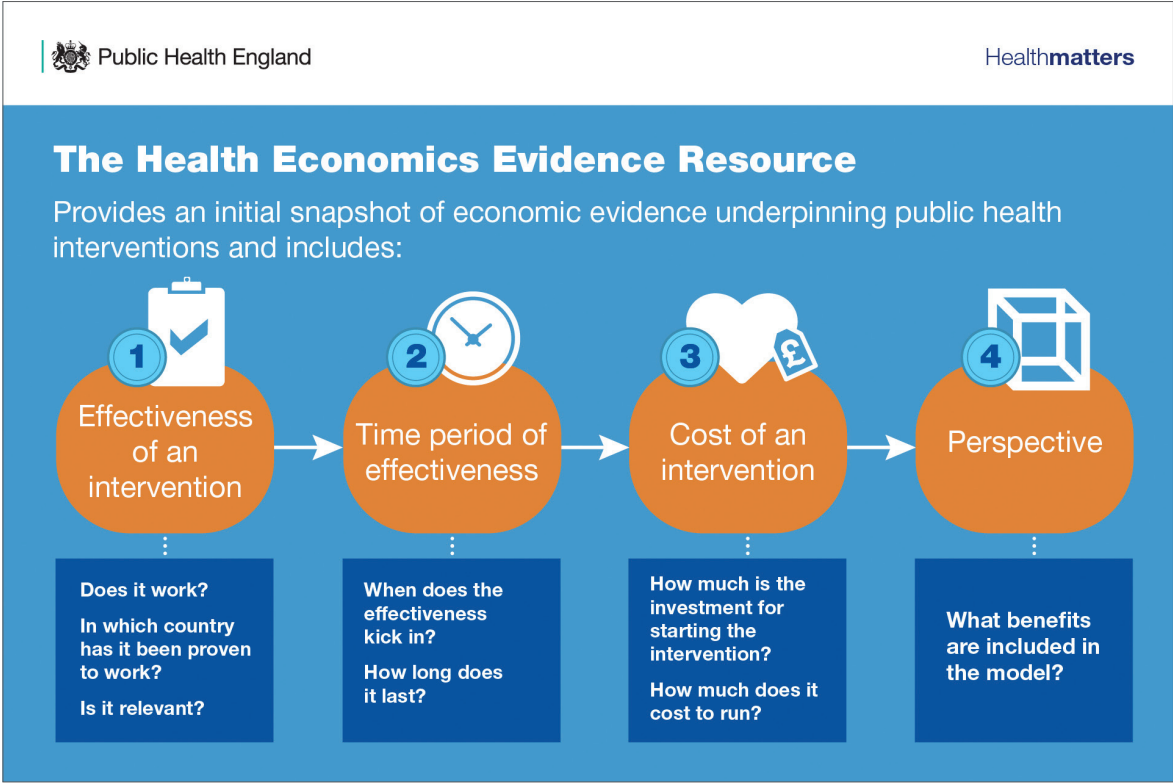
The authors conclude that the “systematic review clearly demonstrates that there are big public health investment opportunities out there – they just need some political will to implement them”. Taking what they deem to be a conservative approach, the estimated opportunity cost of recent £200m cuts to public health funding in England may be eightfold higher, in the region of £1.6bn, when all benefits including demand factors and health losses are taken into account.

PHE has also worked in this area to collect and summarise economic evidence on the value of public health and prevention. The Health Economics Evidence Resource (HEER)¹² is a searchable collection of quality assured economic evidence sources. Each piece of evidence is summarised across over 20 criteria, allowing users to quickly evaluate large parts of the literature, before following the references and exploring specific sources in depth. The HEER provides evidence for interventions across nine activities in the ring-fenced public health grant. Again, the HEER demonstrates that many preventative interventions represent excellent value for money.

11 Masters R, Anwar E, Collins B, et al [Return on investment of public health interventions: a systematic review](#) *Journal Epidemiology & Community Health* Volume 71, 29 March 2017, pp827-834

12 [PHE Health Economics Evidence Resource](#)

Figure 4: Public Health England’s Health Economics Evidence Resource



One element reported by the HEER and of crucial importance when reviewing the literature is to understand the timeframe of costs and benefits for preventative investment. The HEER showcases that a number of interventions can deliver significant savings in the short to medium term (for example two to five years), although many require a longer-term view to be adopted to realise significant benefits. A further issue is that few studies provide a sufficiently detailed breakdown of costs and benefits to determine whether savings would be cashable in the short term.

Long-term societal and health benefits are fundamental to the impact of preventative interventions, and a focus on short-term cost-saving risks de-prioritising the focus on these. The King’s Fund has suggested that future ROI studies distinguish between three sorts of returns: ‘cashable savings’ that provide public budget holders with a direct financial saving; ‘utilisation reduction’ that reduces the demand pressure on public services but which is not directly cashable as financial savings; and the monetised value of other outputs including health.¹³

Another problem apparent when reviewing the literature on preventative interventions is that the financial and demand reduction benefits are often expected across different budget areas and organisations. This ‘cross-sector flow problem’ means that cost-effective public health programmes may not be undertaken if decision-makers do not consider the impact on other parts of the system. The move towards place-based planning, the role of STPs, and the development of ICSs across England signalled in the NHS Long Term Plan may enable local decision-makers to more effectively consider the benefits of preventative spend across organisations. This focus on joined-up local systems is critical to making the most effective use of investment in preventative interventions.

13 The King’s Fund, [Talking about the ‘return on investment of public health’: why it’s important to get it right](#), 2018

Current prevention investment in England

A key principle for making the case for appropriate investment in prevention is the need for an accurate estimate of current levels of investment, and to consider how this relates to overall spend on healthcare.

The UK Health Accounts

The UK Health Accounts are a set of statistics which deliver a detailed analysis of healthcare expenditure in the UK. They estimate that in the UK £7.7bn was invested in government funded preventative care in 2017 representing around 5.0% of total healthcare spend. Full results on government funded healthcare from the most recent accounts (2017) are presented below in Table 1. These figures are produced on an annual basis in accordance with the System of Healthcare Accounts 2011 guidelines. They show that since 2013 spending on prevention has held quite consistent at approximately 5% of total health spending.

Table 1:
Breakdown of government funded health spend according to UK Health Accounts 2017

SHA Category		Spend (£m)	%
HC.1/2	Curative/rehabilitative care	100,929	64.9
HC.3	Long-term care (health)	24,229	15.6
HC.4	Ancillary services	3,502	2.3
HC.5	Medical goods	16,067	10.3
HC.6	Preventive care	7,711	5.0
HC.7	Governance, and health system and financing administration	1,926	1.2
HC.0	Not elsewhere classified	1,200	0.8
Total		155,564	100

OECD's System of Healthcare Accounts

The System of Healthcare Accounts (SHA) provides internationally standardised definitions of healthcare expenditure, with a breakdown of spending by financing scheme, function and provider. They were created by the OECD in 2000 (and updated in 2011) and are used by most OECD countries allowing for international comparisons of healthcare expenditure.

The system categorises spending areas using different codes within the following dimensions: healthcare function (HC), healthcare provider (HP) and funding type (HF). Healthcare function (HC) illustrates the type of care offered, such as preventative care (HC.6). Healthcare provider (HP) demonstrates where the care is provided, such as within a hospital (HP.1). Funding type (HF) shows the source of care finance, such as government funding (HF.1.1). These codes can be cross-tabulated to provide further detail on specific expenditure. For example, illustrating how much is spent on a type of care by a certain provider (ie expenditure curative care offered in hospitals) or how a certain provider is financed (ie the proportion of ambulatory services financed by government funding).

There is a code for preventative care (HC.6), as mentioned above, thus the use of SHA definitions by the UK Health Accounts provides an estimate of investment in preventative strategies.

Limitations of the UK Health Accounts

The UK Health Accounts provide a useful assessment of healthcare spending in the UK and being based on the standardised SHA classification allow for international comparisons. However, they also suffer from limitations. One such limitation is that the information is only available at a UK-wide level. Another limitation is that the SHA categories are often quite broad. This is relevant here as categories outside of *HC.6 – preventative care* may contain elements that we would wish to classify as preventative. For example, some of the expenditure items in the SHA category HC.5 – Medical goods, which included medicines, would have preventative uses.

Given these limitations, PHE has sought to develop an alternative methodology for estimating a more granular picture of investment in prevention, utilising publicly available data sources. This work remains in progress and PHE hopes to continue to develop and refine the methodology in the future.

PHE's methodology

PHE's method utilises a wide range of publicly available data sources in order to estimate the level of investment in prevention in England and categorise that spend in a number of ways. For example, data from the Quality Outcomes Framework (QOF)¹⁴ and NHS Reference costs¹⁵ are used to give a detailed description of the specific type of healthcare offered such as CVD control or eye health. This additional detail in our model allows us to identify if medical goods are preventative or for other healthcare.

The various classifications are as follows:

- Prevention or other healthcare: spend can be classified as preventative investment, healthcare spend or apportioned between the two groups. The category of other healthcare refers to the amount of total healthcare spend which is not assigned to preventative measures.
- Preventative drugs or other healthcare drugs: similar to above, expenditure on specific drugs can be categorised as preventative, other healthcare or split between the two.

¹⁴ The Quality Outcomes Framework is a financial incentivisation scheme encouraging GPs to promote health and wellbeing behaviours.

¹⁵ Reference costs are provided by the NHS and give detailed information on expenditure on specific NHS activity.

- Prevention type: if spending was classified as preventative, it was then categorised as either primary, secondary or tertiary prevention according to Institute of Work and Health definitions.¹⁶ These are defined as follows:
 - Primary prevention aims to prevent disease before it occurs by preventing exposure to hazards which can cause injury or disease.
 - Secondary prevention aims to reduce the impact of disease or injury that has already occurred by detecting and treating disease or injury as soon as possible to halt or slow its progress, encouraging personal strategies to prevent re-injury or recurrence, and implementing programs to return people to their original health and function to prevent long-term problems.
 - Tertiary prevention aims to reduce the impact of an illness or injury which has lasting effects by helping people manage long-term, often-complex health problems and injuries in order to improve ability to function, quality of life and life expectancy.
- Funding route: provides further information on the route of government funding, such as through the NHS or Treasury. This differs from the funding type according to the SHA codes, which highlights if elements of spend are funded by government or by other routes such as voluntary health insurance.
- SHA function (HC) and provider (HP) codes: spending elements were mapped to match SHA codes, allowing for easier comparison between this methodology and that used in the UK Health Accounts.
- Thematic categories: Spending elements are broken down into 25 thematic categories, which were created by researchers based on spending patterns. This allows spending to be split between preventative and curative functions within broad categories of care.

PHE's results

PHE's analysis focuses on data from the calendar year 2014. This was selected as it represents the first year in which local authorities took ownership of public health commissioning, forming an important baseline point. Use of calendar rather than financial years aligns the work with the SHA methodology and reporting.

PHE estimates that in 2014, 4.7% of total healthcare spending in England was invested in prevention, which translates to £5.2bn in absolute terms. This estimate compares favourably with the comparable value in the UK Health Accounts. In 2014, the UK Health Accounts reported a UK-wide investment in prevention value of £7.3bn. Multiplying this through by the average proportion of healthcare expenditure spent in England¹⁷ gives us an estimate of £6.0bn invested on preventative care, or 5.1% of similarly apportioned total health expenditure.

As explained above, PHE's methodology was also able to divide spending across thematic categories, prevention type and funding route. A breakdown of PHE's estimates based on these categorisations are presented in Table 2.

¹⁶ Institute for Work and Health, [Primary, secondary and tertiary prevention, 2015](#)

¹⁷ HM Treasury, [Public Expenditure Statistical Analyses 2018](#)

Table 2: Breakdown of preventative investment by thematic category

Thematic category	Prevention (£m)	% of total
Alcohol control	70	0.1
Cancer control	36	0.0
Children 0–4	1,094	1.0
Children 5–19	322	0.3
Contraception	99	0.1
CVD control	296	0.3
Dental health	653	0.6
Diabetic control	60	0.1
Drug misuse	225	0.2
Eye health	105	0.1
Health improvement	388	0.4
Health protection	158	0.1
Infection control	251	0.2
Learning disability	1	0.0
Mental health	44	0.0
Mobility	14	0.0
Obesity control	247	0.2
Public health intelligence and advice	212	0.2
Respiratory health	59	0.1
Screening	393	0.4
Sexual health	181	0.2
Tobacco control	265	0.2
Total	5,170	4.7

Table 3: Breakdown of preventative investment by prevention type

Prevention type	Investment (£m)	% of total
Primary	3,979	3.6
Secondary	1,061	1.0
Tertiary	130	0.1
Preventative care	5,170	4.7
Preventative drugs	4,759	4.3

As discussed, the UK Health Accounts do not allow for disaggregation of healthcare spend estimates any further than the SHA classifications. This is particularly important in relation to spending on drugs, where many drugs have a preventative function. PHE's method estimates that a further £4.8bn is spent on preventative drugs, although this should be interpreted with a degree of caution. Separating out drug prevention and treatment spending is difficult, and in doing so many assumptions have been used. However, this estimate is indicative of the large preventative drug spend which the UK Health Accounts categorisation may obscure.

Making the case for investment in prevention

There are several distinguishing features of revenue investment in public health, which make assessment and evaluation problematic, as outlined in Annex A. A number of tools and methodologies are already available for appraising and evaluating both the financial and economic impact of investment which assist in addressing these challenges.

In considering a potential framework to improve the evaluation of long-term investments in prevention, a number of key requirements should be met:

- A balanced evaluation of the financial and economic costs and benefits.
- Take a whole-system, placed-based view, unrestricted by organisational focus.
- Consideration of the financial sustainability of the investment, and its impacts.
- Allow for assessment of the comparative degree to which appropriate preventative investment is in place – across organisations, time and/or place.

A balanced evaluation

Several alternative methods for evaluating the benefits and costs of preventative investment were considered, including cost-effectiveness analysis (CEA), cost-benefit analysis (CBA), programme budgeting marginal analysis (PBMA) and multi-criteria decision analysis (MCDA).

The use of PBMA and MCDA was ultimately rejected for the purposes of a robust, whole system evaluation approach. Both techniques have their place, and indeed MCDA is the main decision-making technique used in PHE's local decision support tool, the Prioritisation Framework.¹⁸ However, it was felt that they are better suited to allocating resources across a fixed set of alternatives, rather than lending themselves to a continually developing system of understanding of where the best economic returns are likely to be realised.

The most established and widely used guidance for making and evaluating business cases across the public sector is HM Treasury's Green Book.¹⁹ This is broadly based on CBA, which attaches a monetary value to all costs and benefits, enabling wider social value to be considered. It does not aim to be completely exhaustive in terms of the impacts measured, but includes all those which are important in assessing value for money.

To date, the CBA methodology has had a relatively limited role in health, with the health sector, in the UK and internationally, generally having a stronger preference for CEA.²⁰ This looks at maximising outcomes for a given budget, with benefits often expressed in terms of units of outcome or utility (eg quality adjusted life years), rather than being monetised. Despite this, the Green Book principles are wholly consistent with the

¹⁸ PHE, [The Prioritisation Framework: making the most of your budget](#), 2018

¹⁹ HM Treasury, [Green Book: appraisal and evaluation in central government](#) (2018 update).

²⁰ [ISPOR, international pharmacoeconomics guidelines comparison](#)

considerations required for preventative investment decisions. Stakeholders considered that there was more chance of gaining helpful consensus across sectors using CBA principles than through conducting the cost-effectiveness analysis more commonly used in health economics.

The CBA approach provides a way of easily comparing the intervention cost and the value of benefits, by expressing both in the same units, money. The availability of techniques for attaching monetary values to health impacts mean that public health interventions can readily be incorporated into this type of analysis.²¹ To enable the comparison of costs and benefits over time, the Green Book recommends converting them to net present value (NPV) by applying a discount rate.²² As CBA is widely used across the public sector, use of this methodology also allows an element of ‘generalisability’, in that the outcomes of different types of interventions can be compared. For example, a health intervention and an education intervention can be compared utilising the same methodology, allowing a judgement to be made on which has the most overall value.

Consideration of the opportunity cost of investment – ie how much benefit could be generated if funds were spent elsewhere on the next best alternative use – is essential in the evaluation of any preventative investment, in particular because public health budgets are fixed. This definition makes clear that the value of CBA relies upon the next best alternative being included in the evaluation. Care should be taken to select the most appropriate alternative options in any CBA.

Opportunity cost is a feature of the Green Book methodology,²³ and is covered in the supplementary guidance for health, which values the wider impacts, using the QALY approach to take account of length and quality of life.²⁴ This considers how much health benefit could be generated if funds were spent elsewhere, thus bringing health impacts into our account of opportunity cost and allowing an informed decision to be taken on health and wider social value grounds.

Therefore, it would appear that the CBA methodology proposed in the Green Book could be utilised to provide a balanced evaluation of the financial and economic costs and benefits of investment in prevention and wider public health interventions. Using the CBA model would provide a clear picture of whether the proposed investment results in financial savings, as well as estimating its wider value.

Putting prevention into ‘time’ and ‘place’

The trend towards more localised decision-making brought about by devolution, city regions, combined authorities and the integration of health and social care (through STPs/ICSs), means that securing appropriate levels of preventative investment can only succeed if the case for doing so is made in a way that works across organisations and sectors. This can be problematic when evaluating the case for preventative investment, as costs/benefits may be spread across multiple, individually accountable organisations.

As roundtable participants stressed, there is a need to adopt a whole system view, unrestricted by organisational focus; in other words, we need to be considering the public pound in a place, or locality, rather than the local government pound, or the NHS pound.

A further issue is the perception that public health will generate benefits over an excessively long time period. In fact, a number of preventative investments can generate significant economic benefits over the short and medium term, as a review of the HEER will show. While participants also wanted to emphasise the ability of preventative investment to generate economic returns over short timeframes, they also emphasised the

21 Techniques includes direct market valuations, willingness to pay techniques, or methods to determine the trade-off between costs and a number of other dimensions of benefit.

22 Discount rate for the conversion to NPV, over the short to medium term, is 3.5% for costs and benefits, excluding health which should be discounted at a rate of 1.5%.

23 HM Treasury, *Green Book: appraisal and evaluation in central government* (2018 update), Chapter 6

24 HM Treasury, *Green Book supplementary guidance: Health Policy appraisal and health*, 2013

need to take a long-term approach in evaluation. This would address the issue of ‘short-termism’ that typifies decision-making processes, helping to ensure that there is a focus on securing the maximum economic benefits from interventions. Both of these elements are firmly grounded in the Green Book methodology that recommends capturing costs and benefits across the whole of society, and for as long as they are meaningful into the future.

These issues are central to the model developed by Greater Manchester’s policy unit, New Economy, in conjunction with the Public Service Transformation Network and HM Treasury, which is now incorporated as supplementary guidance to the Green Book.²⁵ In this model, the Green Book principles are at the heart of proposals for application to local circumstances – particularly where analytical resources may be relatively limited.

The model is centred on CBA methodology, and supports the economic case as well as generating data on cashable savings. The outputs of the approach are two types of benefit which can then be weighed against costs:

- Financial benefits – fiscal savings to central/local government agencies, resulting in reduced overall public expenditure – for example, reduced spending on NHS or welfare benefits, or increased income tax revenues.
- Economic and social benefits – the overall benefit to public value – for example, economic growth or improved health and wellbeing.

This model is perhaps more relevant to preventative investment than the standard CBA approach, as it fully incorporates both capital and revenue costs, with the ‘value for money benefit cost ratio’ driving the comparative assessment for revenue investment. It also explicitly considers cashability²⁶ – ie the extent to which an outcome will reduce spending so that it may be diverted elsewhere. It is designed to apply to a five-year timeframe, but can be adjusted to suit the longer timeframe to be expected in public health.

The model is specifically designed to answer questions which are key for preventative investment in public health:

- Does the proposed investment provide value for money?
- By investing in the preventative approach, can local partners reduce the level of need and therefore budgets in the medium to long term?
- What is the length of the payback period, and how are total costs and benefits distributed through time?
- Where an organisation invests in a preventative approach, to what extent are other organisations likely to benefit?
- Are the impacts of the proposal primarily fiscal or a matter of public value?

Overall this provides a framework well suited to assessing the comparative merits of investment/disinvestment choices in prevention and wider public health interventions. Common adherence to this approach would enable the consistent analysis of costs and benefits across multiple organisations, thus helping to ensure that a ‘whole system’ view is available to facilitate decisions on a place-based basis. The principles and factors incorporated into the framework appear comprehensive for this purpose.

The whole system approach to planning public health investment is further supported by CIPFA’s Aligning Local Public Services framework.²⁷ This provides a suite of tools and guidance to help organisations address the demands of ever-tightening budgets by working together to deliver public services as efficiently and effectively as possible, based on shared vision, common strategies and high-quality financial and operational data.

²⁵ HM Treasury, Public Transformation Network and New Economy, *Supporting public service transformation: Cost benefit analysis guidance for local partnerships*, April 2014

²⁶ Supported by a separate discussion paper: New Economy, *Cashability Discussion Paper*, March 2015.

²⁷ CIPFA, *Aligning Local Public Services*, 2015

Public bodies, including commissioners and STPs/ICSs, should be able to use data that is already in the system to carry out the mapping exercise, agreeing a reporting level that is appropriate to local circumstances. That should provide a natural way of mapping a wider pattern of spending on health and its determinants. Such a mapping exercise should enable more informed decisions to be taken. For example, it would help to: align policy and service objectives where they overlap or are in conflict between different partners; streamline policy and service objectives that are common to different partners; align the delivery approach where partners have differing approaches to the same customer groups; and assess the impact of investment (or lack of investment) across the local place as a whole. Such a framework would therefore facilitate the need to take a ‘whole system view’ and offer a practical means of setting out the costs and consequences of different actions.

Considering the future – financial sustainability

Any decision on spending or investment should take account of the potential impact on future financial sustainability. This is particularly important in preventative investment as the future costs and benefits must be considered, but also the potential future impact of not making the investment. Again, this links to the idea that investment and spending decisions may be inappropriately made with an over-emphasis on short-term consequences, instead of taking into account the full impact.

Although revenue investment has not received the same attention as capital investment, nor have any accounting requirements been imposed, there is existing discretionary guidance on the issue of sustainability. The IPSASB guidance on public sector financial sustainability,²⁸ which defines long-term fiscal sustainability as ‘the ability to meet service delivery and financial commitments both now and in the future’.

This guidance recommends assessing the expected future income and outflows while including both liabilities and other expected obligations.²⁹ It takes account of decisions made on/before the reporting date which may give rise to future costs/income, wider than those recognised in the financial statements, and so provides an overall picture based on current policy assumptions and a specific time horizon.

IPSASB recommends that those reporting on financial sustainability should include a narrative on each of the dimensions of sustainability: service, revenues and debt. These dimensions are inter-related as changes in one will impact on the others (eg future service and entitlements are funded by revenue and/or debt). This leads to the following questions:

- Can current services be maintained or varied given current revenue policies and debt constraints?
- Can sufficient revenue be collected to maintain current services given debt constraints?
- How sustainable is projected debt given current service and revenue policies?

Thus, there is existing discretionary guidance on the issue of sustainability. This provides a mechanism to ensure that neither the organisation, nor the timescale involved, act to prevent a rational assessment of investment priorities.

28 International Public Sector Accounting Standards Board (IPSASB), *Recommended Practice Guidance 1 – Reporting on the Long-term sustainability of an Entity’s Finances* (RPG1), 2013

29 Liabilities are present obligations of the entity arising from past events, the settlement of which is expected to result in an outflow of cash or other resources and should be reflected in conventional balance sheets. However, a wider category of obligations inform the long-term assessment of financial sustainability: these reflect expected future costs under current policies, which cannot be recognised as liabilities because they could in principle be avoided by future policy decisions.

The *Local Government Act 2003* gives local authorities the power to borrow and the duty to set an affordable borrowing limit, taking account of the Prudential Code. The Code aims to support prudent capital investment decisions, and sets out a basket of indicators that must be prepared, monitored and reported upon.³⁰ These are designed to support and record local decision making, rather than a means of comparing authorities. The key aim is to determine the impact of forward plans based around answering two questions:

- What is obtained from investment?
- Are payments affordable?

When considering affordability of capital investment plans, authorities need to consider all of the capital and revenue resources currently available to them, as well as potential influences on those resources and plans in the future.³¹ The ultimate level of affordability is a judgement on the acceptable level of income and knock-on effects on other services if spending in one area implies disinvestment elsewhere. The principal question is: how much revenue spending is taken up financing capital investment?

The Prudential Code is based on self-regulation and provides a means of assessing the impacts of investment on the long-term financial health of an organisation through the calculation of a range of 'prudential ratios'.

Using the IPSASB guidance and the principles of the Prudential Code to take a comparable approach to revenue investment across all sectors would be desirable in evaluating the long-term impacts of preventative investment, or disinvestment. During the roundtables held by CIPFA/PHE to inform this work, practitioners were particularly attracted by the comparison with the Prudential Code guidelines – pointing out that with capital investment it is possible to assess the impact of under-investment on the balance sheet, whereas on the revenue side this is not seen in the same way. The creation of ratios parallel to those applied in the Prudential Code might provide a means by which future organisational and whole system costs of failure to invest in preventative action are more explicit. Annex B gives an example which illustrates how ratios might operate, with the intention being based on the self-regulating basis as in the Prudential Code for capital: namely that organisations decide on the prudent ratios applicable, to ensure that data are in place and the implications considered so that risks are evaluated and responses developed.

Overall levels of investment

The key to bringing more attention to the overall levels of revenue investment in preventative public health interventions is to measure the **extent of investment being made**, and the **future revenue liability** which would amass if such investment was not made. This information could then be used to form part of a specific investment case for which funding is sought, or quantify the future problem which will need to be addressed by seeking a preventative solution or planning how to deal with future costs.

Approaches to achieve this could include:

- **Local assessment of particular services** – Assessing the specific consequences of future increases in demand as a result of not investing in particular areas – ie the cost of not investing in prevention. This would necessitate an understanding of spending patterns and a specific calculation of the preventative impact of spending in current and future local circumstances. Such local assessments should use the Green Book/New Economy CBA methodology and make a clear split between cashable and non-cashable factors. It would also be necessary for organisations/local systems to develop and state the policy for the required payback period when assessing whether preventative investments are favourable in cash terms.

³⁰ Authorities can also use additional locally determined indicators.

³¹ Items to consider include: debt servicing costs, including a prudent provision for repayment of debt; major commitments (eg leases, PFI schemes); levels of reserves and contingent liabilities; planned growth, savings pressures in revenue and capital budgets; and the level of support towards financing costs.

- **Broad whole spend assessment** – This would involve assessing the preventative investment position of a given organisation/local system either over time, or compared with others/measures of good practice. An initial approach would be to undertake a simple assessment of the percentage of relative revenue spend dedicated to prevention, then concentrate on ensuring that the proportion of preventative/proactive spending is known, and year-on-year trends can be identified on a consistent basis. This would enable easy identification of any shifts over time. It would also be consistent with the Prudential Code’s emphasis on internal clarity and accountability to inform prudent assessment, rather than the external imposition of targets. Over time, this information may also be used to feed into the formation of an indicative minimum figure for preventative spend, below which some explanation would be expected – or be compared with a general view of good practice. This would not be simple to calculate on a comparative basis, but would be closer to a benchmark of advised practice.

There are a range of inter-connected reasons why broad agreement on the principles of preventative investment has been challenging.³² For such an approach to be as useful as possible it would require indicators of good practice to be used as benchmarks. Such data are not yet available. However it would be possible to move towards a position in which it was possible to report consistently on ratios such as the percentage of spend by a given organisation/local system, from a given budget, that could be classifiable as ‘preventative’. The formulation of such ratios would require:

- clear guidance on what classifies as preventative spend
- ability to capture spending under relevant categories
- assessment of good practice ratios by reference to example spending patterns
- decisions on requirements of the relevant budget holders in practice to demonstrate that recommendations were being taken into account.

Such information would make explicit current levels of investment or disinvestment in prevention, and it would also enable such information to be communicated and reported in a way that makes it more meaningful or relevant to local citizens. For example, council tax payers receive a summary of what the revenues have been used for, expressed in terms that makes it clear what the money is providing in local terms – a form of ‘social balance sheet’. Such an approach to preventative investment may increase the understanding and support for this type of investment and the benefits it brings.

³² Summarised by LGiU, [Tracking your preventative spend: a step-by-step guide](#), 2013

Conclusions and call to action

“Don’t tell me where your priorities are. Show me where you spend your money and I’ll tell you what they are.”

James W Frick

This project aimed to advance the current status of evaluations for preventative investment in public health by drawing on evidence and the knowledge and experience of relevant stakeholders in the field. As part of this, we have identified a potential framework to improve the evaluation of long-term investments in prevention through the development of a common approach to evaluate costs and benefits. This should be useful for public sector bodies, alone or in partnership, to make the case for individual investment decisions, and to increase transparency in resource allocation more widely.

In considering such a framework, a number of key requirements should be met:

- A balanced evaluation of the financial and economic costs and benefit.
- A whole-system, place-based view, unrestricted by organisational focus.
- Consideration of the financial sustainability of the investment and its impacts.
- Assessment of the relative preventative investment across organisations, time and/or place.

To fully capture the value of preventative investment it is important to establish the level of resources allocated towards prevention and robust mechanisms through which to evaluate the value of that investment. This evaluation mechanism should be universal in the sense that it allows comparisons of value both within the healthcare sector, but also more widely across the public sector. Our work has indicated that CBA would be a suitable approach, satisfying these criteria.

The Green Book/New Economy model modifies the ‘traditional’ CBA approach and provides a framework well-suited to assessing the comparative merits of options for investment in preventative interventions. The principles set out in this model cover the appropriate methodology and considerations for a suitable evaluation of both the financial and economic costs and benefits at the local level. Common adherence to this approach would enable the consistent analysis of both the financial and economic costs and benefits across multiple organisations, thus helping to ensure that a ‘whole system’ view is available to facilitate decisions on a place-based basis.

Using IPSASB guidance and the principles of the Prudential Code to take a comparable approach to revenue investment across all sectors would be desirable in evaluating the long-term impacts of preventative investment, or disinvestment. Stakeholders were particularly attracted by the comparison with the Prudential Code guidelines, and the clarity these provide in identifying the impact of under-investment. The creation of ratios parallel to those applied in the Prudential Code might provide a means by which the future organisational and whole system costs of failure to invest in preventative action are more explicit.

Call to action

Overall, there is existing good practice and a range of guidance and tools that can be used to account for the key characteristics of preventative investments in public health. Improving the evaluation of revenue investments in prevention by adopting these tools would provide a potential solution to our original aims to:

- support better decision-making on the use of resources by providing a consistent framework to evaluate the costs and benefits across different organisations
- bring longer term costs and benefits to light, as these often lack visibility
- increase transparency and accountability for how resources are currently invested
- improve incentives to invest in prevention relative to treatment interventions, including where costs and benefits fall upon different agencies.

It is desirable to measure revenue investment in prevention in a methodical and consistent manner. It would also aim to make the prioritisation more systematic and any short-termism in decisions more visible and explicit. Taking this approach would enable the tracking of trends over time, with the ability to make local/regional/national comparisons and analyse local variation in investment. Ultimately it would provide better information upon which policy-makers could base decisions. Local circumstances and priorities will, of course vary, but organisations should use the appropriate methodology, including the tools and resources highlighted in this report, to review and explain the level of investment in specific interventions and assess the value gained in their local systems.

Progress towards this goal will not happen overnight and the health care evaluation system must adapt to gain the necessary skills and influence to enact change. Part of this will be for the finance professionals working in public sector settings to take on a stronger role in influencing policy. CIPFA has already highlighted the fundamental importance of the finance professional in any public sector organisation, and their potential to support their organisations in a wider strategic sense.³³ They hold the financial reins of the business, and should ensure that resources are used wisely to secure positive results. In particular, the chief finance officer in any public service organisation:

- is a key member of the leadership team, helping it to develop and implement strategy and to resource and deliver strategic objectives sustainably and in the public interest
- must be actively involved in, and able to bring influence to bear on, all material business decisions to ensure a focus on immediate and longer term implications, that opportunities and risks are fully considered, and that there is alignment with overall financial strategy
- must lead the promotion and delivery of good financial management so that public money is safeguarded at all times and used appropriately, economically, efficiently and effectively.³⁴

Thus, the finance profession is a key enabler in the public sector and can help to empower change. We therefore call on the finance profession not only to adopt the approach suggested here, but also to aid in identifying and clarifying the way forward to achieve the ambition to influence the decision-making process, and change the way prevention is considered – as an investment for the future, rather than a way to generate savings – and properly report it as such, consistently across the public sector.

PHE and CIPFA hope that through the work undertaken here, more robust and transparent evaluation methods can be integrated into public sector spending decisions. In order to advance this approach and demonstrate the viability of the ideas, PHE and CIPFA are interested in working jointly with a small number of pilot areas to embed this practice within local systems. Learning from such activity will then inform future development of the approach.

33 For example, CIPFA, [The excellent finance business partner in the NHS](#), March 2016

34 As set out in: CIPFA, [The role of the chief financial officer in public service organisations](#), 2011. Also in: CIPFA, [The role of the chief financial officer in local government](#), 2016 and CIPFA/HFMA, [Guidance for CFOs working in health and local government](#), 2019.

Glossary

Term	Definition
Cost benefit analysis (CBA)	Evaluation for comparing alternative approaches by weighing the total expected costs and benefits, where both are valued in monetary terms. Results are expressed in net present value, to allow for comparison of all costs/benefits over time, and the decision is based on the ratio of benefits to costs. CBA is widely used across the public sector as it is able to take account of the wider social and economic costs and benefits.
Cost effective analysis (CEA)	Evaluation which compares the relative costs and outcomes of alternative approaches and aims to maximise the outcome for a given budget. Outcomes are generally not expressed in monetary terms but rather in utility terms, such as quality adjusted life years (QALYs) or pain-free days. The measure therefore is the cost per unit of benefit and the preferable option is that providing most benefit for the funding available.
Early intervention	Action that is taken at an early stage to prevent problems worsening at a later stage. It may apply to children and young people, or to help that is offered to older people or people with disabilities to enable them to stay well and remain independent. ³⁵
Integrated care system (ICS)	A local partnership between NHS organisations, local councils and others, which takes collective responsibility for managing resources, delivering NHS standards, and improving the health of the population they serve. ³⁶
Multi-criteria decision analysis (MCDA)	A decision support technique that helps break down complex decisions into smaller manageable pieces. MCDA involves the explicit definition of decision rules, and the scoring of options against those rules. It is particularly useful when options have conflicting characteristics.
Net Present Value	A generic term for the sum of a stream of future values (that are already in real prices) that have been discounted to bring them to today's value.

³⁵ [Think Local Act Personal Care and support jargon buster](http://www.thinklocalactpersonal.org.uk), www.thinklocalactpersonal.org.uk

³⁶ NHS England [Integrated Care Systems](http://www.england.nhs.uk/integratedcare), www.england.nhs.uk/integratedcare

Term	Definition
Prevention	<p>Any action that prevents or delays the need for you to receive care and support, by keeping you well and enabling you to remain independent. Can be categorised as primary, secondary or tertiary.</p> <ul style="list-style-type: none"> ■ Primary prevention comprises activities designed to reduce the instances of an illness in a population and thus to reduce (as far as possible) the risk of new cases appearing, and to reduce their duration. ■ Secondary prevention comprises activities aimed at detecting and treating pre-symptomatic disease. ■ Tertiary prevention includes activities aimed at reducing the incidence of chronic incapacity or recurrences in a population, and thus to reduce the functional consequences of an illness, including therapy, rehabilitation techniques or interventions designed to help the patient to return to educational, family, professional, social and cultural life.³⁷
Preventive services	<p>Services you may receive to prevent more serious problems developing.</p> <p>These services include things like reablement, telecare and befriending schemes. The aim is to help you stay independent and maintain your quality of life, as well as to save money in the long term and avoid admissions to hospital or residential care.</p>
Programme budget marginal analysis (PBMA)	<p>An analytical technique that can help decision makers decide on the best use of their resources. It involves an assessment of current spending categories (programme budgets) and estimates of the change in benefits that will result in spending changes (marginal analysis).</p>
Public health	<p>Helping people stay healthy and preventing illness. Public health is about the health of the population as a group, rather than about individuals. People's health is affected by the individual decisions they make, and by decisions that are made by local councils and national governments.</p>
Return on investment (ROI)	<p>A general term encompassing the techniques for comparing the costs and benefits generated by an investment. This is typically expressed as a ratio of £x of benefits for every £1 spent on the policy or intervention.</p>

³⁷ Kings Fund *A proactive approach: health promotion and ill-health prevention*, 2010

Dealing with the characteristics of investment in public health

There are several distinguishing features of revenue investment in public health, which make assessment and evaluation problematic. Each of these is capable of being addressed.

Characteristic	Action
<p>Measurement issues</p> <p>It can be difficult to define what counts as preventative action, and to predict the potential impacts attributable to it as these may be broad and indirect.</p>	<p>Establish and implement a classification system. The distinction between primary and secondary prevention is helpful. Work has been undertaken to identify the tasks involved in classification.³⁸ Simply beginning to analyse spend across these categories will bring the preventative effort into focus.</p>
<p>Cash/non-cash factors</p> <p>Non-cash benefits³⁹ are likely to predominate, with cashable benefits taking a relatively subsidiary role. This is an issue as it is seen as ‘necessary’ to reach a sustainable cash position, and ‘desirable’ to improve outcomes.</p>	<p>Total and cashable only benefits need to be separately assessed to enable judgements to distinguish best value from affordability. This is most easily achievable by the Green Book/New Economy CBA model.</p>
<p>Distance factor</p> <p>The further upstream an intervention occurs, the more difficult it will be to evaluate. This is a natural function of the reduced certainty of any outcome over long periods where other factors may impact, and the natural tendency to prioritise the immediate over the longer term. The impact of upstream interventions may also be spread across more domains.</p>	<p>The potential bias against long-term investments could be countered by an evaluation adjustment, such as applying the NPV discount factor incorporated into CBA methodologies.</p>

³⁸ Community Links, Early Action Task Force, [How to classify early action spend](#), 2014

³⁹ Such as improvements in length and quality of life as measured by QALY.

Characteristic	Action
<p>Muted effects</p> <p>Potential obligations may build up unnoticed under current arrangements due to lack of investment/intervention. Future demand for services may increase generating untenable future revenue liabilities which are not shown in the financial position statement.</p>	<p>The proposed means to bring attention to failure to invest in preventative spend is to require the calculation of ratios analogous to those required by the Prudential Code for capital investment.</p>
<p>Choices</p> <p>In all scenarios, choices will be required – it is not possible to afford all preventative investments which would make long-term financial sense.</p>	<p>Investment proposals should not be considered in isolation – alternatives may provide more benefit for the same investment. Decision making must build in comparison; this may be direct comparison of options, or indirectly by setting a ‘bar’ for benefits. This amounts to considering the opportunity cost of the decision. One solution may be to look at the impact of possible interventions against the ease (and costs) of implementing them.</p>
<p>Cross-organisational impact</p> <p>Benefits are likely to be accrued to different parties to those meeting the costs. Whole system assessment will be required.</p>	<p>Key players in a local system must collaborate in making their assessment of the costs and benefits to be achieved, and so the best investments to make. Again, the Green Book/New Economy approach considers this.</p>

Example of ratio calculation

Preventative investment for drug addiction

A given area has a total population of 700,000. The population aged 14–30 (considered most at risk of developing drug addiction) is 100,000. There are 100 addicts currently in treatment, and the annual treatment cost per patient is £10,000, so current annual treatment cost is £1m. The Drug Service budget is £1.5m.

The annual increase in addicts receiving treatment is 10, representing an additional annual liability of £100,000 if no action is taken.

Given a time span of 15 years, this represents an additional future liability of £1.5m in annual treatment costs. As a proportion of available budget the ratio would be $1.5/1.5 = 1.35$.⁴¹ This makes it immediately clear that there is a problem – if no action is taken spend will double.

Suppose preventative action is possible. A whole population programme costs £0.3m per year and is sufficient to stabilise the number of addicts following a three-year lag time between setting up the programme and it taking full effect. Even taking a 10 year horizon, the investment does not break even (an effect which would be increased if NPV discounting were applied). However, it is apparent that if no action is taken there are significant problems for the financial sustainability of the service in the future.

⁴¹ Different ratios would apply over different time periods: so over 10 years it would be 0.67, or over 20 years it would be 1.33. Consideration is needed on the time span to be used, and whether this should differ between interventions.

Year	No action (£m)	With preventative action (£m)	Effect of prevention (£m)	Cumulative effect (£m)
1	1.6	1.9	0.3	0.3
2	1.7	2.0	0.3	0.6
3	1.8	2.1	0.3	0.9
4	1.9	2.2	0.3	1.2
5	2.0	2.2	0.2	1.4
6	2.1	2.2	0.1	1.5
7	2.2	2.2	0.0	1.5
8	2.3	2.1	-0.2	1.3
9	2.4	2.0	-0.4	0.9
10	2.5	1.9	-0.6	0.3
11	2.6	1.8	-0.8	-0.5
12	2.7	1.7	-1.0	-1.5
13	2.8	1.6	-1.2	-2.7
14	2.9	1.5	-1.4	-4.1
15	3.0	1.4	-1.6	-5.7
	34.5	28.8	-5.7	

Sources and tools

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New Economy

www.neweconomymanchester.com

- Cost Benefit Analysis Model
- Unit Cost Database
- [Cashability Discussion Paper](#), March 2015

National Institute for Health and Care Excellence (NICE)

www.nice.org.uk

- [Return on investment tools](#) (beta versions).

CIPFA

www.cipfa.org

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Community Links

www.community-links.org

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Future Focused Finance

www.futurefocussedfinance.nhs.uk

- [Best Possible Value \(BPV\) Decision Framework](#)

PHE health economics tools

www.gov.uk/government/organisations/public-health-england

- [Health Economics Evidence Resource](#)
- Health economics: a guide for public health teams: [ROI tools](#)



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