Our Ambition to Reduce Premature Mortality:

A resource to support commissioners in setting a level of ambition
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**Document Status**

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1. About this resource

This resource is intended to support NHS commissioners in setting a level of ambition on reducing potential years of life lost (PYLL) from causes amenable to healthcare as part of local service development plans. Its contents have been developed through partnership working between the Commissioning Assembly, NHS Improving Quality, NHS England and Public Health England.

This resource does not claim to be definitive. However, it is intended to provide a starting point to assist commissioners with the planning process and to provide advice on comparative costs and benefits (where known).

This resource should be used in conjunction with other resources that have been developed to support the planning process, including:

- The **CCG Outcomes Tool**, which enables CCG outcomes against a range of indicators to be assessed and comparisons made with other CCGs, available at; and

- The **Commissioning for Value Packs**. These packs are tailored to individual Clinical Commissioning Groups (CCGs) and provide CCGs with advice about ‘where to look’ as a first stage to identify real opportunities to improve outcomes and increase value for local populations. The packs are intended to support discussions about prioritising areas for change, utilising resources and making improvements in healthcare quality, outcomes and efficiency.

There are persistent inequalities in life expectancy and healthy life expectancy between communities and groups in England, and CCGs and NHS England are under specific legal duties in relation to tackling health inequalities. We would expect there to be an inherent focus on reducing inequalities in life expectancy as commissioners set their levels of ambition on reducing PYLL from causes amenable to healthcare.

Overall our success as a commissioning system will be measured not only by the average level of improvement, but also by progress nationally in reducing health inequalities and unjustified variation. Where possible, we have therefore included information about reducing health inequalities in the resource. For example, we identified interventions such as smoking cessation support and the effective detection and management of hypertension.

This resource includes the following sections:

**Descriptions of possible interventions:**
- Prevention and health promotion
- Cardiovascular disease
- Cancer
- Liver disease
- Respiratory disease
- Reducing mortality for people with a serious mental illness
- Maternal and neo-natal
- Reducing premature mortality in people with a learning disability
• Other interventions

Factsheets:

• information sheets (linked to possible interventions) giving costs and benefits of specific interventions to reduce premature deaths;

• information about recognised interventions that are known to significantly improve outcomes for certain conditions, but where the evidence base does not enable us to separately identify the likely contribution of each intervention.
2. Prevention and health promotion

There is a longstanding aspiration for the NHS to focus as much on promoting wellness as managing poor health and the NHS has a major contribution to make to the prevention of disease and the promotion of health across populations, working in partnership with local public health services through Health and Wellbeing Boards.

England has persistent inequalities in life expectancy and healthy life expectancy between communities and groups. It is estimated that the cost of illness resulting from health inequality costs the NHS well in excess of £5.5 billion per year and between £20 and £32 million in terms of lost taxes and higher welfare payments\(^1\).

The NHS mandate sets out the need for collaborative and partnership working between NHS England, Public Health England, National and local government, the NHS and the CCGs. The following section is about population level interventions that the NHS and public health teams in local authorities could take joint action on which are aimed at preventing illness and better management of existing chronic illness.

2.1 Improving general practice – a call to action

**Issue:** General practice, and primary care more generally, have a strong contribution to make to reducing premature mortality through:
- Promoting lifestyle changes;
- Outreach to communities which are less likely to access services;
- Ensuring patients are engaged and make an informed decision about participation in screening, and ensuring appropriate follow through;
- Treating patients holistically in terms of mental and physical illness;
- Promoting effective self-management for people with long-term conditions; and
- Improving the management of comorbidities.

**Commitment:** Through the development of a primary care strategy NHS England will seek to maximise the contribution that general practice can make to reducing premature mortality.

2.2 Supporting the NHS to tackle health inequalities

**Issue:** There is a pronounced socio-economic gradient in the prevalence of all major long-term conditions, in life expectancy and in healthy-life expectancy and it is estimated that healthcare is responsible for 15-20 percent of inequalities related mortality.

**Commitment:** NHS England is working with the Commissioning Assembly Health Inequalities working group to produce a ‘Commissioning to Reduce Health Inequalities Toolkit’ planned for April 2014, which will provide a practical resource to CCGs with evidence, implementation guidance and links to successful models of

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2.3 ‘Making Every Contact Count’

**Issue:** Opportunities exist to promote the benefits of healthy lifestyles through routine contacts that people have with health services, by taking action to give information, signpost or refer individuals to the support they may need.

**Suggested Action:** Consider a programme to train staff to deliver brief interventions and extended brief interventions to support behaviour change, with support in place from behaviour change specialists and others to provide high-intensity interventions for people who are high risk.

Consider implementation of new NICE guidance on individual behaviour change, published on 2 January 2014.

NHS England intends to undertake further work to assess scope for national action on this issue in 2014.

2.4 Commissioning effective smoking cessation referral services

**Issue:** NHS stop smoking services provide clinically cost-effective ways for people to stop smoking. Initiation of attempts to support smoking cessation within secondary care settings do not always get followed through with adequate support on discharge.

**Suggested Action:** CCGs, area teams and local authorities to work together to ensure that referral to and support for stop smoking services are fundamental parts of pathways in and out of secondary care. CCGs could consider commissioning a national referral system.

**Factsheet on commissioning effective smoking cessation services**

2.5 Management of excess alcohol consumption

Further details are provided in the section on liver disease.
2.6 Improved detection and management of hypertension

**Issue:** High blood pressure is the second biggest risk factor of disease leading to premature mortality in the UK. About 30 percent of adults in England have high blood pressure, of whom an estimated 5 million are undiagnosed. Of those in treatment, almost 40 percent have not reduced their blood pressure enough to be deemed controlled. Hypertension prevalence is highest in the most deprived groups in society.

**Suggested Action:** Consider promoting early diagnosis and following the principle of making every contact count. In addition, commissioners may wish to support audits of GP performance on hypertension and work with local public health services to address the known risk factors for hypertension (as per NICE clinical guidance 127 on hypertension, these are primarily addressing diet, physical activity, alcohol consumption and smoking).

*Factsheet on improved detection and management of hypertension*
3. Cardiovascular disease (CVD)

CVD affects the lives of millions of people and is one of the largest causes of death and disability in this country. Huge improvements have been made in the prevention and treatment of CVD over the last decade, with a 40% reduction in under 75 mortality rates between 2001 and 2010. Over the same period, the difference in under 75 mortality rates between the most and least deprived areas in England has narrowed.

Despite these improvements, comparisons with other countries show that England could still do better in improving CVD mortality rates – as demonstrated by the recent Lancet article on the Global Burden of Disease Study. With an ageing population and the current levels of obesity and diabetes, unless there are improvements in prevention, past gains will not be sustained.

The starting point for development of this section was to assess the costs and benefits of the CVD Outcomes Strategy published in March 2013. However, we have identified additional high impact interventions.

Risk awareness, risk assessment and management

3.1 NHS Health Check

**Issue:** The NHS Health Check programme has considerable potential to prevent or delay CVD through earlier identification and management of behavioural and physiological risk factors. The programme also has a huge potential to support CCGs in their priority role for earlier detection of disease. However, implementation and take up rates are not consistent across England and follow-up management, whether through medical interventions, or interventions to improve people’s lifestyles, needs to improve in many areas.

**Suggested Action:** Local authority commissioners should localise products released from the national marketing team to increase awareness and engagement of the target population. Local practices to support improved take-up by adapting invitation methodology to their population and thereafter, clinical follow-up by ensuring that people who are identified as having, or being at risk of CVD, are appropriately engaged in general practice and receive appropriate lifestyle and/or pharmacological interventions, or onward referral. Longer term tracking and support (i.e. ≥12 months) should be utilised through enhanced ata flow between commission and provider.

Factsheet on implementation of the NHS Health Check programme
Emergency care

3.2 Increased training in cardio-pulmonary resuscitation (CPR)

**Issue:** Currently CPR is attempted in only 20 percent to 30 percent of cases following an out of hospital heart attack. However, evidence suggests that where CPR is attempted, survival rates are doubled\(^2\).

**Suggested Action:** Through contract specifications, NHS provider staff who work with patients are taught CPR, including healthcare assistants, physiotherapy assistants etc.

**Factsheet on increasing bystander initiated CPR**

Primary Care

3.3 Improved management of people with diagnosed Atrial Fibrillation (AF)

**Issue:** There are relatively high rates of undiagnosed cases of AF and treatment varies across the country. People with AF have a 5-6 fold increased risk of stroke and AF is estimated to be directly responsible for 12,500 strokes per annum\(^3\).

**Suggested Action:** CCGs could work with local practices to target people at risk of AF and ensure appropriate pharmacological interventions in line with NICE guidelines. CCGs may wish to consider promoting use of the GRASP risk assessment tool in local practices.

**Factsheet on increasing the prescription of anti-thrombotics (warfarin) by supporting GPs to identify patients with atrial fibrillation**

3.4 Early diagnosis of people with Familial Hypercholesterolaemia (FH)

**Issue:** Estimates suggest that around 120,000 individuals in Britain are affected by FH, a hereditary condition which increases risk of coronary heart disease. However, only 15-17 percent of cases are diagnosed\(^4\).

**Suggested Action:** CCGs could consider introducing cascade testing of people with a hereditary risk of FH, in line with the NICE clinical guideline for the Identification and Management of FH (CG71).

**Factsheet on early diagnosis of people with FH in England**

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Treatment

3.5 Increase proportion of patients with Transient Ischaemic Attack (TIA) treated within 24 hours

**Issue:** In 2012 around 1 in 20 TIAs led to a stroke within a week\(^5\), but there is significant regional variation in availability and capacity of TIA services, despite evidence that improved management of TIAs could be cost saving.

**Suggested Action:**
Through joint strategic needs assessment and subsequent contracting arrangements ensure adequate capacity of TIA services.

**Factsheet on increasing the proportion of patients with TIA treated within 24 hours**

3.6 Establishment of hyper-acute stroke services

**Issue:** The London model of hyper-acute stroke services reconfiguration has reduced mortality from stroke by 28 percent\(^6\), by concentrating specialist care into a small number of hyper-acute stroke units, whilst also delivering significant reductions in disability and the cost of services provision.

**Suggested Action:** Commissioners to consider work across local health communities through with health and wellbeing boards and area teams to explore potential scope for delivery of hyper-acute stroke services

**Factsheet on establishment of hyper-acute stroke services**

3.7 Encourage use of Intermittent Pneumatic Compression sleeves in stroke patients

**Issue:** Approximately 60,000-80,000 patients each year are admitted to UK hospitals with an acute stroke and are immobile. It is estimated that 10-25 percent will develop a Deep Vein Thrombosis (DVT).

**Suggested Action:** Commissioners to consider use of contracting levers to promote use of IPC sleeves by providers of stroke services.

**Factsheet on intermittent pneumatic compression to prevent post stroke DVT**

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3.8 Improved management of patients with ST-elevated Myocardial Infarction (STEMI)

**Issue:** There is considerable variation in care processes for patients following a heart attack. Implementation of the NICE guideline on STEMI in all cardiac centres would speed up the process between "door to balloon time" and reduce mortality and muscle damage.

**Suggested Action:** Ensure service specifications in contracts require services to be delivered in line with the standards set out in the NICE guideline ‘Myocardial infarction with ST-segment-elevation (STEMI)’. This guideline is available [here](#).

[**Factsheet on greater provision of angioplasty following ST-elevated Myocardial Infarction (STEMI) and reduced door to balloon times**](#)

3.9 Improved management of nSTEMI patients

**Issue:** For STEMI patients ambulance protocols dictate that the ambulance team should take the patient directly to a cardiac centre, but there is no automatic requirement to do so for nSTEMI. As a result, inter-hospital transfers to specialist centres can be delayed and some patients die awaiting a transfer.

**Suggested Action:** Through contract specifications with local ambulance providers, encourage ambulance crews to take patients directly to a cardiac centre.

[**Factsheet on ensuring all patients are transferred to a cardiac centre within 72 hours following n-STEMI**](#)

3.10 Increase proportion of patients offered cardiac rehabilitation

**Issue:** Currently, many people who might benefit do not receive adequate cardiac rehabilitation, particularly following a diagnosis of heart failure. There are also marked inequalities in the way people access the available services. Women, minority ethnic groups, the elderly and people with more severe chronic heart disease are all under-represented among users of rehabilitation services.

**Suggested Action:** Commission increased capacity in cardiac rehabilitation units and use contracting levers to encourage providers to increase access to rehabilitation for currently under-represented groups including women and people from certain ethnic groups.

[**Factsheet on increasing uptake of cardiac rehabilitation for people with coronary artery disease and following acute heart failure**](#)
Discharge from hospital

3.11 Increase availability of Early Supported Discharge (ESD) for stroke patients

**Issue:** Currently, only 66 percent of hospitals have an early supported discharge team\(^7\), despite evidence that ESD teams can provide better (and potentially more cost-effective) outcomes than exclusively hospital-based rehabilitation for stroke patients with moderate disabilities.

**Suggested Action:** Consider use of contracting levers to encourage providers to establish ESD units for stroke patients at relevant hospitals.

**Factsheet on extending provision of ESD schemes following a stroke**

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4 Cancer

Cancer outcomes in England are poor when compared with the rest of Europe and elderly cancer patients also survive less well in this country. The main gap on a national basis is present in one year survival, suggesting late stage diagnosis, and there is a broad consensus that the priority for reducing premature mortality from cancer is to improve the stage of diagnosis of cancers. Delivering early diagnosis is likely to be dependent on a package of measures across public health and the NHS (including both directly commissioned and CCG commissioned services) aimed at:

- Effective population screening (for prevention of some cancers as well as early detection);
- Raising awareness of symptoms to promote earlier presentation of patients with potential symptoms of cancer in general practice;
- Earlier and more accurate diagnosis of the symptoms of cancer by GPs; and
- Ensuring timely access to diagnostics.

In the following section of the resource we have made an assumption about the cumulative effect of a range of measures designed to promote prevention and early diagnosis, rather than seeking to apportion benefits to specific interventions/actions.

Prevention and early diagnosis

For early diagnosis of cancer, the relative assessment of priorities and benefits is based on a number of assumptions about the drivers of premature mortality and the interventions which are most likely to impact on reducing premature mortality, rather than an assessment of the relative benefits of a range of clinical interventions. Whilst there is strong evidence about the impact of earlier diagnosis on reducing premature mortality, the assessment of benefits is based on analytical modelling of the impact of diagnosing a proportion of cancers at stage 1 or 2 which would otherwise, without concerted effort to deliver earlier diagnosis, have been diagnosed at stage 3 or 4.

While earlier diagnosis should be cost-effective, it does not appear to be cost-saving. It requires large increases in testing and in direct treatment costs. Treating patients for a middle stage cancer with curative intent is generally more costly than a very early stage of the disease or palliative treatment for late stage cancers. The modelling indicates that the cost per life-year saved is in the range of £2,000-£6,000 for the three cancers included in this analysis (i.e. colorectal, breast, and lung)\(^8\).

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4.1 Cancer prevention

**Issue:** Evidence suggests that an effective mortality reduction strategy for cancer should have a strong prevention and health promotion focus.

**Suggested Action:** A prevention strategy should seek to address the key risk factors for cancer:

- Smoking - A lifetime of smoking raises the lifetime risk of lung cancer 50 times and it also contributes to bladder, pancreas and a number of other cancers.
- Infection with the Human Papillomavirus is associated with cancers of the head and neck, oral cancers, and cancers of the ano-genital tract, in particular cervical cancer. Vaccination of young girls and regular screening can prevent many of these cervical cancers developing.
- Obesity is associated with bowel cancer, breast cancer in post-menopausal women, endometrial, kidney, and oesophageal cancers. Physical activity is associated with reduced risk of cancers of the colon and breast and has been linked to reduced risk of endometrial, lung, and prostate cancers.
- A healthy diet and reducing alcohol consumption will also assist in reducing the risk of some cancers.

4.2 Effective population screening

**Issue:** NHS England will commission screening services under a Section 7a agreement with the Department of Health. However, there is currently low uptake of screening amongst certain groups:

- Breast, cervical and bowel cancer screening programmes all show higher participation in more affluent areas.
- For cervical cancer, ethnicity is the most important predictor of participation.
- Men are less likely to accept an invitation to participate in bowel cancer screening than women, even though they are at higher risk.
- People who have other health problems are less likely to participate in cancer screening, in particular there is concern that people with learning disabilities or mental health problems are not accessing screening.

**Suggested Action:** To maximise the impact of screening, commissioners could:

- Work with GPs and their patient populations to ensure that they are aware of cancer screening programmes.
- In particular, commissioners may wish to focus on increasing access to services for currently under-represented groups, such as people with learning disability, people with a serious mental illness and people from certain ethnic groups, as well as communities in more deprived areas, through more targeted approaches to reaching these groups (such as seeking to ensure that screening is delivered locally).

_Factsheet on uptake of cancer screening amongst under-represented groups_
4.3 Promoting symptom awareness

**Issue:** Public Health England is continuing to run ‘Be Clear on Cancer’ symptom awareness campaigns, which are aimed at raising public awareness of the symptoms of cancer and have been running at national, regional and local levels since 2011. The campaigns are designed to tackle late presentation of patients with possible cancer symptoms and thereby to promote earlier diagnosis of cancer.

**Suggested Action:** Commissioners could consider working with local authorities and health and wellbeing boards to coordinate local work to support the cancer awareness campaigns, including raising awareness amongst local professionals and factoring in the impact of the campaigns into local plans.

4.4 Ensure effective planning of diagnostics capacity to support early diagnosis

**Issue:** Delivering early diagnosis will, in part, be dependent on ensuring adequate capacity within diagnostics services.

**Suggested Action:** A key consideration for CCGs seeking to deliver earlier diagnosis of cancer is assessing the demand for and planning to deliver increased capacity for diagnostic tests for cancer, whilst also seeking an improvement in access to tests from primary care to minimise the extra burden on secondary care clinicians. Particular consideration should be given to ensuring adequate endoscopy capacity, as the roll-out of bowel scope screening is likely to result in localised pressures on existing capacity.

**Factsheet on early diagnosis of cancer by delivering improved access to diagnostics**

4.5 Monitor variation in referral and diagnosis rates amongst local practices and work with local GPs to understand the reasons behind variance

**Issue:** There are significant variations in the patterns of GP referrals and outcome rates in relation to the diagnosis of cancer.

**Suggested Action:** Commissioners and area teams may wish to consider undertaking an analysis of referral patterns and outcomes at practice level and working with those practices which appear to have poorer outcomes to understand why there is variance. Commissioners and area teams may wish to focus symptom awareness raising activity on those practices and to identify opportunities for working with local strategic clinical networks, to disseminate learning and provide support for practices with poorer outcomes.

**Factsheet on supporting early diagnosis of cancer by addressing local variation in outcomes**
5 Liver disease

Liver disease has trebled in England in the last 30 years, with an estimated cost to the NHS of approximately £460 million a year\(^9\).

Liver disease morbidity and mortality are largely preventable but rely on early diagnosis and treatment requires engagement of primary care. Effective prevention strategies or treatments are available for the three main causes of liver disease – alcohol, viral hepatitis and obesity. These decrease the risk of developing cirrhosis, liver cancer and their associated mortality.

This section is a work in progress and information will be added over the course of 2014. Current details include a factsheet on excess alcohol consumption.

NB: The following page represents work in progress and we will aim to develop this section further in due course.

Between 2001 and 2011, the number of people who died with an underlying cause of liver disease in England rose from 9,231 to 12,538. This represents a 36 percent increase in liver deaths during this period and is in contrast to other major causes of disease which have been declining\(^10\). Although numbers of deaths due to cancer, vascular or respiratory disease are still much greater, liver disease kills people at a much younger age – 90 percent of people who die from liver disease are under 70 years old\(^11\).

The most common underlying causes of death from liver disease are alcoholic liver disease and liver cancer (0.8 percent and 0.5 percent of all deaths)\(^12\). Hepatitis and obesity are also major risk factors and people in the most deprived quintile of the population are 2.3 times more likely to die from liver disease.

Reducing mortality from liver disease will require concerted action across local communities to tackle lifestyle factors, as well as broader social factors which drive behaviours which impact on health risk. NHS England plans to undertake further work with PHE to assess scope for reducing mortality from liver disease in 2014/15.

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Prevention

5.1 Support an alcohol reduction strategy

**Issue:** Evidence suggests that 9 out of 10 problem drinkers are not receiving any specialist support to reduce alcohol consumption and young people are disproportionately represented amongst those receiving support.

**Suggested Action:** NHS commissioners to work with local authorities to develop a strategy for reducing alcohol consumption, including targeting problem drinkers.

Factsheet on management of excess alcohol consumption
6 Respiratory disease

Chronic Obstructive Pulmonary Disease (COPD) is the fifth biggest killer disease in the UK, killing approximately 25,000 people a year in England. Premature mortality from COPD in the UK was almost twice as high as the European (EU-15) average in 2008 and premature mortality for asthma was over 1.5 times higher\(^\text{13}\). Although, deaths from asthma have plateaued at between 1000 and 1200 deaths a year since 2000, it is estimated that 90% of deaths are associated with preventable factors. Almost 40% of these deaths are in the under 75-age group. Asthma is also responsible for large numbers of hospital admissions, the majority of which are emergency admissions.

The NHS Companion Document to the Outcomes Strategy for Chronic Obstructive Pulmonary Disease (COPD) and Asthma sets out the evidence-based interventions that the NHS can take across the five domains to improve outcomes for people with COPD and asthma.

There are a number of specific interventions that have the potential to reduce premature mortality in people with COPD. Each of these has an evidence base, has consensus support from the clinical community and is recommended in NICE guidance and the Outcomes Strategy for COPD and Asthma.

Improvement in mortality will be achieved through the cumulative impact of evidence-based care across the COPD pathway both in long term treatment and during acute episodes (non-invasive ventilation, pulmonary rehabilitation and controlled oxygen treatment). There are five factsheets within the resource (see 6.2 – 6.6) for the following interventions that will have impact as part of a combined approach.

6.1 Prevention

Improving smoking cessation could have a significant impact on reducing prevalence of respiratory disease. Significant improvements in mortality for lung cancer can only be made by earlier diagnosis and smoking cessation in the long run. People with lung cancer normally present with common respiratory symptoms (cough, coughing blood and breathlessness). These patients are nearly always seen by a respiratory physician for diagnosis before referral to oncologists and many are admitted as an emergency because the correct diagnosis is not made. This means that we should put emphasis on early and accurate diagnosis of any unusual respiratory symptoms.

\[^{13}\text{An Outcomes Strategy for Chronic Obstructive Pulmonary Disease (COPD) and Asthma in England}\]
6.2 Earlier and accurate diagnosis of COPD

**Issue:** An estimated 2 million people have undiagnosed and untreated COPD\(^{14}\). Failure to diagnose is not confined to mild disease. Studies suggest that between 10 percent and 34 percent of the 115,000 annual emergency admissions for acute exacerbation of COPD are in people whose COPD is undiagnosed. These patients are likely to have had significant disabling symptoms for some time, and the acute admission with its 14 percent risk of death within 90 days could have been prevented by earlier diagnosis and proactive treatment. The NICE Quality Standard and the Outcomes Strategy for COPD and Asthma recommend targeted case finding in those at higher risk of COPD.

**Suggested Action:** Commissioners to explore opportunities for systematic and opportunistic case finding interventions in targeted populations.

**Issue:** Currently, incorrect diagnosis of COPD is also very common because the diagnostic test is performed poorly. This results in patients receiving inappropriate and expensive treatments (estimated at £29 million per year in England).

**Suggested Action:** To ensure accurate diagnosis commissioners may wish to explore opportunities to ensure that those performing and interpreting spirometry for diagnostic purposes have attained a nationally recognised level of competence.

See COPD factsheets

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**Treatment**

6.3 Non-invasive ventilation (NIV)

**Issue:** A Cochrane systematic review found that NIV reduces mortality in people with COPD who develop type 2 respiratory failure with a 1 in 8 life saved. This is reflected in NICE Quality Standard and the Outcomes Strategy for COPD and Asthma recommendations\(^{15,16}\). Despite this there is substantial geographical variation in provision of NIV to eligible patients. The COPD Strategy Consultation Impact Assessment found that NIV is a cost-saving intervention.

**Suggested Action:** Commissioners to consider using contracting mechanisms to promote greater provision of NIV in line with NICE guidelines.

See COPD factsheets

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6.4 Home oxygen

**Issue:** Supplemental long term oxygen therapy was shown in the 1980s to improve survival in appropriate patients. NICE guidance recommends that people with COPD who have low oxygen saturations should have a comprehensive assessment of the need for supplemental home oxygen. The NICE Quality Standard and the Outcomes Strategy for COPD and Asthma recommend that such assessments are carried out by a specialist home oxygen assessment and review service. The COPD Strategy Consultation Impact Assessment found the provision of specialist home oxygen assessment and review services to be cost saving.

**Suggested Action:** Commissioners to use contracting mechanisms to promote comprehensive assessments of the need for supplemental home oxygen by specialist home oxygen assessment and review services.

See COPD factsheets

6.5 Controlled oxygen dosing to minimise oxygen toxicity

**Issue:** High flow oxygen is routinely administered to patients in emergency settings. High dose oxygen is contraindicated in people with COPD exacerbations because it can trigger life threatening respiratory failure. There is substantial audit evidence that oxygen overdosing and toxicity is common in people with acute exacerbations of COPD and that significantly higher mortality rates are seen in patients who receive higher oxygen doses.

**Suggested Action:** Consider scope for use of decision support tools in ambulances and emergency departments and local care bundles.

See COPD factsheets

6.6 Pulmonary rehabilitation

**Issue:** A Cochrane systematic review found that pulmonary rehabilitation reduces mortality and readmission rates when delivered after admission for acute exacerbation of COPD. This is reflected in NICE Quality Standard and the Outcomes Strategy for COPD and Asthma recommendations. There is emerging evidence that pulmonary rehabilitation in stable COPD also improves survival. Despite this there is substantial geographical variation in provision of pulmonary rehabilitation to eligible patients. The COPD Strategy Consultation Impact Assessment found that post exacerbation pulmonary rehabilitation is a cost saving intervention.

**Suggested Action:** Commissioners could seek to promote uptake of pulmonary rehabilitation.

See COPD factsheets

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7 Reducing mortality for people with serious mental illness (SMI)

NHS England is working with a range of partner organisations with a view to seeking to provide a clear steer to commissioners about the evidence base relating to clinical interventions and service developments which are likely to have the greatest impact on reducing mortality for people with a serious mental illness.

Much of the evidence set out in this section reflects work in progress and we intend to develop the evidence base further over the coming months. As a starting point, we held a workshop in January 2014 which was very well attended by stakeholders, patient groups and partner organisations. A range of recent service developments and SMI toolkits were presented and shared with delegates on the day. We will be publishing a follow-up report from the workshop, with information about the toolkits and evidence base, in the next release of these web resources during April 2014.

While the information provided in this section is aimed at patients with serious mental illness, we realise that inequalities exist among patients with more common mental health conditions including depression and personality disorder. Many of the interventions described can be applied to this patient population and are not necessarily specific to patients with a serious mental illness. However, we would encourage commissioners to address premature mortality in all patients with mental health conditions recognising that those with a serious mental illness may need more intensive action.

NB: The following page represents work in progress and we will aim to develop this section further in due course.

7.1 Extent of problem and degree of inequality

The SMI patient population makes up 5 percent of total population but accounts for 18 percent of total deaths.

There is an excess of over 40,000 deaths among SMI patients which could be reduced if SMI patients received the same healthcare interventions as the general population.

7.2 Health inequalities in relation to mental health services users

Data published by the Health and Social Care Information Centre (HSCIC) in February 2013 showed that mortality among mental health service users aged 19 and over in England was 4,008 per 100,000 (83,390 deaths in total) compared to the general population rate of 1,122 per 100,000. This mortality rate was 3.6 times the rate of the general population in 2010/11.

People in contact with specialist mental health services had a higher death rate for most causes of death, but in particular:

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18 Shukla H and Watson S (2013) A Tale of two populations (Based on ONS Data) [powerpoint] (personal communication, October 2013)
Serious mental illness comprises of:
- schizophrenia
- bipolar disorder and
- Schizoaffective disorder

Patients with schizophrenia will on average die 14.6 years earlier, bipolar 10.1 and patients with schizoaffective disorder die 8 years earlier than the general population.

The causes for the premature mortality and higher rates of death among patients with SMI are primarily due to a higher burden of cardiovascular disease, cancer and liver disease. The risk factors for these conditions are not being managed as well as they are in the general population. As a result, patients with SMI have the same life expectancy as the general population had in the 1950s.

Prevention and early intervention

7.3 Suicide prevention

Issue: There has been considerable success over recent years in reducing suicide risk for mental health services inpatients and in prisons but less progress has been made in reducing suicide rates in the community.

Commitment: NHS England has a role, through its Local Area Teams, in supporting the establishment of local suicide prevention partnerships. These partnerships will

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20 Chang CK et al (2011) Life Expectancy at Birth for People with Serious Mental Illness and Other Major Disorders from a Secondary Mental Health Care Case Register in London PLoS One 6(5) e19590
maintain oversight of local delivery of the suicide prevention strategy, monitor local incidents and responses and the relationship with local media.

7.4 Developing smoking cessation programmes for people with a serious mental illness

**Issue:** Smoking is a proven risk factor for cancer, respiratory disease and circulatory disease which are all major causes for premature mortality among patients with a serious mental illness. Smoking rates amongst patients with a serious mental illness are significantly higher than for the average population and smoking is considered to be a major contributory factor to premature mortality in people with a serious mental illness.

**Suggested Action:** Target smoking cessation programmes at people with mental illness. Increase access to and outcomes from smoking cessation programmes for people living with mental health problems in line with Royal College of Physicians and Royal College of Psychiatrists (2013) recommendations. Increase the number of mental health residential units becoming completely smoke free, in line with NICE (2013) recommendations.

Factsheet on smoking cessation for people with a serious mental illness

Early diagnosis of comorbidities

7.5 Testing for physical illness in people with a serious mental illness

**Issue:** It is vital that the physical health of people living with a serious mental illness is checked and it is important that appropriate follow through is provided where physical illness is diagnosed.

**Commitment:** NHS England will work with partners to explore whether there are models of service provision (including screening) which have proved successful in delivering engagement of people with a serious mental illness, and models of testing for physical illness in community and/or acute mental health services.

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7.6 Improved treatment of people with serious mental illness (SMI)

**Issue:** A number of health risks are associated with the prescribing of anti-psychotic drugs.

**Commitment:** Over the medium term, NHS England will explore learning from best practice examples about how to consistently implement safe prescribing and monitoring practice in primary and mental health specialist care settings, with a view to seeking to:

- reduce harm from prescribing errors and the lack of essential monitoring associated with lithium;
- promote improved awareness and act to reduce the risks of obesity associated with the prescription of anti-psychotics; and
- promote testing for CVD risk in people on certain anti-psychotics.

7.7 Testing in prisons

**Issue:** People who are detained in institutions are at higher risk of mental illness than the average population.

**Commitment:** NHS England will explore the feasibility of delivering health checks for people in prisons, including the feasibility of including testing for mental illness over the medium term.

7.8 Developing workforce skills around the physical well-being of people with mental health problems

**Issue:** Mental health professionals have an important role to play in supporting and improving the physical well-being of people with mental health problems.

**Commitment:** NHS England, working with Health Education England, will increase the training and support available for mental health professionals in recognising, responding to and improving the physical well-being of people with mental health problems.

7.9 Monitoring and surveillance

**Issue:** In order for effective service delivery and development to take place, relevant data and intelligence need to be captured and communicated.

**Commitment:** NHS England, working with Public Health England, is establishing a Mental Health Intelligence Network. This will routinely capture data and intelligence on the physical well-being of people living with mental health problems.
8. Maternal and neonatal paediatric interventions

Every year in the UK over 6,500 babies die just before, during or soon after birth. While other countries have succeeding in reducing their rates of stillbirth, the UK’s the figure is still largely unchanged from a decade ago.24

The following section is work in progress. NHS England intends to undertake further work, in partnership with PHE, to assess the priorities in relation to maternal and neonatal paediatric interventions during 2014/15.

Preconception and pre-pregnancy care

8.1 Community based genetic counselling

**Issue:** The rate of infant deaths in the Pakistani community is double the national average rate.25 The inequality gap is likely to be exacerbated by marriage customs in the Pakistani community which are known to include high rates of cousin marriages, which have been shown to result in higher rates of babies being born with genetic anomalies. 17 percent of all stillbirths (approximately 600 per year nationally) are caused by genetic anomalies.

**Suggested Action:** Commissioners may wish to consider investment in community-based health champions and communication campaigns aimed at raising awareness of the implications of genetic inheritance alongside community based access to genetic counselling and family planning services as well as enhanced diagnostic services. In extreme cases in-vitro fertilisation can be supported by pre-implantation embryo selection using a risk based genetic diagnosis (PIGD).

Further, consideration should be given to ensuring through contract specifications that antenatal and paediatric services notify any genetic anomalies identified to the local register of congenital anomalies. This includes those identified antenatal, following birth, during infancy and through childhood.

8.2 Management of foetal growth retardation

**Issue:** 39 percent of all stillbirths (approximately 1,400 per year nationally) are now known to be the result of foetal growth retardation (babies who are not growing as well as they should be in the womb). It is estimated that 300 of these could be saved every year, an overall reduction of stillbirth rates by 22 percent.

**Suggested Action:** Initiatives in the West Midlands supported by The Perinatal Institute, [www.perinatal.org.uk](http://www.perinatal.org.uk) have shown a reduction in stillbirth rates through the improved antenatal identification of pregnancies which are at risk due to foetal

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24 [http://uk-sands.org/why-babies-die/preventing-more-deaths](http://uk-sands.org/why-babies-die/preventing-more-deaths)
growth problems. This includes increased monitoring of foetal growth by using customised growth charts, ultrasound scanning protocols towards the end of the pregnancy, escalation protocols to obstetric consultant care and in some cases the management of delivery up to two weeks early.

8.3 Smoking cessation in pregnancy

**Issue:** Smoking in pregnancy has a significant impact on avoidable mortality. It causes impaired foetal growth, low birth weight and pre-term birth as well as being associated with an increased risk of miscarriage, stillbirth, neonatal death and sudden infant death. Smoking in pregnancy is high in England at 12.7 percent with tenfold variation between local areas. Smoking is most prevalent in young, white, poorly educated expectant mothers from deprived communities.

**Suggested Action:** Consider joint action with local authorities to deliver behavioural change interventions during pregnancy, as there is evidence these can increase smoking cessation rates. Communications channels such as mobile phones and social media may be used to reach groups with highest smoking prevalence. The NICE guidance on smoking cessation for acute, maternity and mental health services was published on 27 November 2013. It gives greater detail about provision of services in these settings.

**Factsheet on smoking cessation services**

8.4 Advice on maternal obesity

**Issue:** Pregnant women who are obese have greater chance of having first trimester miscarriage, developing gestational diabetes, pre-eclampsia, or experiencing thromboembolism during pregnancy. It is difficult to monitor the growth of the baby on obese women, who are also approximately twice as likely to have a stillborn baby as women with a healthy BMI, and children of obese mothers are at risk of later obesity themselves. Obesity is a feature of 35 percent of maternal deaths.

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An observational study also provides evidence for maternal obesity being associated with delivery and outcomes complications such as induction of labour, caesarean section, postpartum haemorrhage, large babies suffering dislocated shoulders and admissions to neonatal units. In addition there are also increased difficulties associated with the management of the mother and baby during labour including anaesthetic issues (airway management, vascular access and regional techniques), difficulties with monitoring of the baby’s heartbeat and surgical access issues where a caesarean section is required.

**Suggested Action:** Weight management programmes during pregnancy can reduce weight gain during pregnancy (note though that there are no trials relating to weight reduction during pregnancy and there is concern about the safety of such an approach).

Acceptable approaches are more likely to involve the limitation of weight gain during pregnancy, post pregnancy weight management counselling and more conventional weight management approaches between pregnancies.

Antenatal guidelines from the Royal College of Obstetrics and Gynaecology include provision for:

- measuring the height and weight of every woman at antenatal booking;
- providing women with information on the risks of obesity in pregnancy;
- assessing the anaesthetic risks for delivery;
- assessing the manual handling risks for delivery;
- assessing the risk of venous thromboembolism and advising on the use of prophylaxis as appropriate, either aspirin or low molecular weight heparin; and regular monitoring of blood pressure and blood sugar levels.

It will also be important to consider basic practical issues such as the maximum weight limits of trolleys, wheel chairs and other equipment as well as oversized cuffs to support the on-going monitoring of blood pressure during labour.

### 8.5 Maternal and perinatal mental health

**Issue:** Maternal depression during pregnancy is also known to have an adverse impact on birth outcomes and also on continuing depression in the postnatal period. There is also an emerging body of evidence to suggest that psychosocial stress during pregnancy can not only adversely influence pregnancy outcomes but predispose the child, through biological changes, to an increased risk of disease in later life.

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**Suggested Action:** Consider using contracting levers to specify the need for providers to comply with NICE guidelines on antenatal and postnatal mental health. There is also emerging evidence that lay support during pregnancy and childbirth from a volunteer doula service can be effective and is highly valued by vulnerable, socially isolated women. Commissioners may wish to consider encouraging the provision of such support.

**Post-partum care**

### 8.6 Breastfeeding in neonatal units

**Issue:** There are approximately 2,200 neonatal deaths every year. A significant number of these occur in neonatal units and are the result of pre-term births. Breastfeeding reduces infection rates and the rates of hospital admissions. These pre-term infants also have underdeveloped digestive systems and as a result may succumb to necrotising enterocolitis, where the tissue of the bowel starts to die. UNICEF estimates that approximately 360 of these deaths could be avoided every year.

**Suggested Action:** Consider using contracting levers to systematically operationalize the approach to breastfeeding in neonatal units so that it becomes the norm. Best Beginnings have developed a comprehensive range of resources for both parents and professional as part of their Small Wonders programme. In addition a network of champions can run workshops aimed at ‘Getting it right from the start’ and make use of prescribed audit tool to drive service improvement. Further details are available at: [http://www.bestbeginnings.org.uk/small-wonders](http://www.bestbeginnings.org.uk/small-wonders)

### 8.7 Maternal mental health

**Issue:** Women with a history of serious mental health problems or indeed a family history of mental health disorders are at risk of post-partum psychosis or exacerbation of an existing condition. This is a serious mental health issue which can render the mother unable to adequately care for herself or her baby. This can result in an increased risk of suicide for the mother and a risk of poor development outcomes for the child.

**Suggested Action:** In a small number of extreme cases pregnant women and new mothers will need to be cared for via a network of specialised ‘mother and baby units’, where the mental health needs of mothers can be managed alongside the physical, social and emotional needs of the new infant. Commissioners may wish to ensure that appropriate capacity planning is undertaken.

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42 Office of National Statistics
9. Reducing premature mortality in people with a learning disability

NHS England is working with a range of partner organisations with a view to seeking to provide a clear steer to commissioners about the evidence base relating to clinical interventions and service developments which are likely to have the greatest impact on reducing mortality for people with a learning disability.

Much of the evidence set out in this section reflects work in progress and we intend to develop the evidence base further over the coming months.

Extent of the problem and degree of inequality

The Confidential Inquiry into the Premature Deaths of People with Learning Disabilities (CIPOLD) was published in March 2013. The report sets out evidence in relation to the extent of health inequalities for people with a learning disability. There are a number of case studies in the report that illustrate where annual health checking would have made a difference.

The Mencap report, Death by Indifference, has case studies where health checks might have contributed to preventing premature mortality, e.g. on page 12 (Jasseke Van Dok) and page 18 (Carole Foster).

Improving the Health and Wellbeing of People with Learning Disabilities: An Evidence-Based Commissioning Guide for Clinical Commissioning Groups (CCGs) was published in October 2012 by RCPsych, RCGP and the LD Public Health Observatory. It provides a comprehensive guide for commissioners seeking to improve services for people with a learning disability.

Improved Intelligence

9.1 Establishment of a learning disability mortality review body

**Issue:** The CIPOLD recommended the establishment of a learning disability mortality review body alongside improved information about the causes of premature mortality for people with a learning disability.

**Suggested Action:** NHS England will explore options for establishing a learning disability mortality review body, which could provide commissioners with improved information and intelligence to inform commissioning for people with a learning disability.

Early Diagnosis

9.2 Promote uptake of GP health checks (Directed Enhanced Service)

**Issue:** An annual health check, provided for as a Directed Enhanced Service in the General Medical Services Contract, is an evidence based intervention which could have a significant impact on detecting disease amenable to intervention and also to understand the psycho-social needs of people with learning disabilities.
**Suggested Action:** Commissioners to review information for their area on uptake and variation in Annual health checks for people with learning disabilities, to promote increased provision of annual health checks and associated action plans in general practice and increased uptake of the health check amongst people with learning disabilities. The recently published update on uptake and variation in England regarding the annual health check, as incentivised by the Directed Enhanced Service (DES) is available [here](#).

### 9.3 Treatment

**Issue:** The CIPOLD identified high levels of excess mortality in people with a learning disability. Work that NHS England has undertaken since April suggests that the causes are complex, but in part they relate to diagnostic overshadowing and access issues.

**Suggested Action:** NHS England proposes to work with the National Clinical Director for Learning Disabilities, the public health observatory for learning disabilities and other partners with a view to identifying options for reducing premature mortality in people with a learning disability.
10. **Other interventions**

There are a range of interventions that we have identified which are likely to have a significant impact on reducing premature mortality, but which do not sit within a discrete pathway of care. Further details are set out in the following section.

10.1 Ensure compliance with the ‘Sepsis Six’ care bundle

**Issue:** It is estimated that sepsis claims 36,800 UK lives annually, and it carries a 35 percent mortality risk.\(^\text{46}\)

**Suggested Action:** Commissioners to use contracting levers to promote compliance with the ‘Sepsis Six’ care bundle by providers.

[Factsheet on implementation of the ‘Sepsis six’ care bundle]

10.2 Implement the British Thoracic Society’s care bundle for community-acquired pneumonia

**Issue:** The British Thoracic Society indicates that age-standardized incidence of admission to hospital for community acquired pneumonia increased by 34 percent from 1.48 to 1.98 per 1000 population between 1997-1998 and 2004-2005 in England. The reported mortality of adults hospitalised with community acquired pneumonia in the UK has varied between 5.7 percent and 14 percent.\(^\text{47}\)

**Suggested Action:** Commissioners to use contracting levers to promote compliance with the British Thoracic Society’s care bundle for community acquired pneumonia which aims to improve administration of antibiotics within 4 hours of admission to hospital.

[Factsheet on the care bundle for community acquired pneumonia]

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\(^{46}\) Daniels R, 2011. Surviving the first hours in sepsis: getting the basics right (an intensivist's perspective). Jour of Antimicrobial Chem. 66 11-23

10.3 Ensure providers adhere to NICE guidance and the NICE Quality Standard for the prevention of venous thromboembolism (VTE)

**Issue:** With an incidence rate of 1-2 per 1,000 of the population, VTE is a significant cause of mortality, chronic ill-health and disability in England. One in twenty people will have VTE during their lifetime. It is estimated that as many as half of all cases of VTE are associated with hospitalisation and that around two thirds of these are preventable. National statistics show that there are currently around 6000 deaths from VTE each year in England.

**Suggested Action:** Commissioners to use contracting levers to ensure compliance with NICE guidance for the prevention of VTE in patients admitted to hospital; the requirement to perform local audits of the percentage of those assessed to be at risk for VTE who receive appropriate prophylaxis and undertake root cause analysis of all confirmed cases of hospital-associated VTE; compliance with the NICE Quality Standard for VTE prevention.

**Factsheet on prevention of VTE**

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10.4 Ensure providers adhere to NICE guidelines on Acute Kidney Injury

**Issue:** AKI is associated with around 100,000 deaths in England per annum (though in most cases, it is not the primary cause) and 1 in 5 emergency admissions are associated with AKI. 48

**Suggested Action:** Commissioners to specify in contracts an expectation that providers should work towards implementing NICE clinical practice guidelines on AKI (NICE guidance CG169 AKI August 2013 and NICE guidance CG50

**Factsheet on implementation of NICE guideline on AKI**

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11. Resources to support CCGs in setting a level of ambition on mortality

Informed by the joint strategic needs assessment, both NHS England area teams and local authority public health teams should be able to provide practical assistance to commissioners in terms of understanding local priorities and setting an achievable level of ambition.

11.1 Strategic Clinical Networks (SCNs)

Contacts for Cancer and CVD SCNs are provided below.

- SCN Cancer contacts
- CSN CVD contacts

Contacts and more information on Strategic Clinical Networks for Mental Health can be found at here.

11.2 Academic Health Science Networks (AHSNs)

AHSNs have been set up to align education, clinical research, informatics, innovation, training and education and healthcare delivery. The goal is to improve patient and population health outcomes by translating research into practice, and by developing and implementing integrated health care services. A webpage has recently been added on the NHS England site here.

11.3 Other sources of information for commissioners

There are a number of other resources available to support CCGs in setting a level of ambition on mortality.

- CCG outcomes tool
  We would strongly recommend that commissioners familiarise themselves with the CCG outcomes tool which NHS England has published. The CCG outcomes tool allows users to view maps, charts and tables of individual outcome indicators across CCGs, and to view a spine chart of all the outcomes for one or more CCGs. It enables local commissioners to assess how outcomes for their CCG compare with other comparable CCGs.

- CCG outcomes indicators
  The Health and Social Care Information Centre publishes information relating to CCG level indicators of PYLL, including aggregate information at Area Team level.

- Commissioning for value packs
  Produced for each CCG by NHS England, PHE and NHS Right Care, these packs provide tailored advice about ‘where to look’ as a first stage to identify real opportunities to improve outcomes and increase value for local populations. The packs are intended to support discussions about prioritising areas for change, utilising resources and making improvements in healthcare quality, outcomes and efficiency.
• **NHS Improving Quality (NHS IQ)**
  The overall aim of NHS IQ’s work programme ‘Living longer lives’ is to reduce the number of people who die too soon from illnesses that could have been prevented or treated, in line with the NHS Outcomes Framework and Public Health Outcomes Frameworks. NHS IQ is working with a range of partners across health and social care to maximise the contribution that the NHS can make to preventing disease.

• **NHS England patient safety guidance**
  There is a range of guidance that has been developed by the former National Patient Safety Agency (whose responsibilities have now been transferred to NHS England) relating to the topics outlined in this resource. These include:

  o **Towards Safer Radiotherapy: Report**
    The purpose of [this report](#) is to look at ways of reducing errors in radiotherapy which are caused by individual human error or failure of systems of work, with a view to finding practical and cultural solutions which will result in patient safety being optimised.

  o **Towards Safer Radiotherapy: Self-assessment tool**
    The [Towards Safer Radiotherapy: Self-assessment tool](#) is designed to assist Radiotherapy Departments in reviewing the safety of their services. The tool contains the recommendations and allows electronic entry of responses so that individuals can forward this to colleagues for additional entries, facilitating multidisciplinary involvement in the process.

  o **Preventing suicide: A toolkit for mental health services**
    The [suicide prevention toolkit](#) provides mental health organisations with a simple method to:
    - establish a system for suicide audit in the local context;
    - use case note reviews to change how performance is measured and risks are identified;
    - support the development of local suicide prevention strategies; and
    - produce data which can be merged at regional and national levels to identify trends for further learning.

  o **Understanding the patient safety issues for people with learning disabilities**
    [This report](#) outlines the work that the former NPSA has done to find out what the patient safety priorities are for people with learning disabilities.

  o **Delayed diagnosis of cancer: thematic review**
    [Delayed diagnosis of cancer: thematic review](#) presents the findings of a project at the former NPSA, which was designed to explore issues of patient safety around delayed diagnosis of cancer, and provide the NHS with potential solutions.

  o **How to guide to venous thromboembolism risk assessment**
    [This how to guide](#) will support NHS organisations in the implementation of venous thromboembolism risk assessment for all patients admitted to hospital.

• **Guidance from Gov.uk on direct referral by GPs to specific diagnostic tests**
For the assessment of particular symptoms where cancer may be suspected but the urgent GP referral (two week wait) process is not applicable, guidance has been published here.

- **PHE data and knowledge gateway**
  PHE provides many high quality data and analysis tools and resources for local government and health professionals; the data and knowledge gateway provides direct access to over 100 of these. These cover a broad range of areas including:

  - specific health conditions – such as cancer, mental health, cardiovascular disease;
  - lifestyle risk factors – such as smoking, alcohol and obesity;
  - wider determinants of health – such as environment, housing and deprivation; and
  - health protection, and differences between population groups, including adults, older people and children.

Some specific sources are identified below, but CCG colleagues should note the new single point of access to data and analysis tools from across PHE.

- **PHE longer lives web resource**
  The longer lives web resource highlights premature mortality at local authority level in England, giving people important information to help them improve their community’s health. It quantifies premature deaths from the four most common causes of mortality in England – heart disease and stroke, lung disease, liver disease, and cancer, highlights inequalities in premature mortality across the country and provides examples of effective local interventions. PHE is currently looking to include further information on additional causes of death, risk factors and for lower tier local authorities.

- **GP practice profiles**
  This resource provides data at CCG and individual GP practice level, the profiles include local demography, performance against the Quality and Outcomes Framework clinical domain, disease prevalence estimates, some admission rates and patient satisfaction. The profiles are intended to support GPs and CCGs to ensure they are providing and commissioning effective and appropriate healthcare services for their local population.

  NHS England is further developing data tools from primary care. Information can be accessed by GP practices, CCGs and area teams.

- **Public Health Outcomes Framework**
  The Public Health Outcomes Framework: Healthy lives, healthy people: Improving outcomes and supporting transparency sets out a vision for public health, desired outcomes and the indicators that will help us understand how well public health is being improved and protected. The framework concentrates on two high-level outcomes to be achieved across the public health system, and groups further indicators into four ‘domains’ that cover the full spectrum of public health. The outcomes reflect a focus not only on how long people live, but on how well they live at all stages of life. This tool currently presents all indicators at England and upper tier local authority levels, collated by PHE. Selected indicators are available at lower tier local authority level.

  The tool allows you to:
- Compare your local authority against other authorities in the region, PHE Centre or ONS cluster
- Benchmark your local authority against the England average
- Examine trends in indicators over time

• **Resources from the former Health Inequalities National Support Team**
  
  This collection of resources provides practical support relevant to CCGs, to tackle variation in practice and improve health outcomes for all. They originate from a programme of work with areas of the country with poorest health and greatest disadvantage. There are practical documents, guides and toolkits, many illustrated with tangible examples of improvements made in local areas, as well as providing a step-by-step checklist of how to take certain approaches and initiatives forward. There is an opportunity for all CCGs to build upon the work and resources from this initiative, which include a guide to priority actions that could impact inequalities in mortality and life expectancy in the short term and tools to support local identification and planning of initiatives to achieve the greatest reductions in mortality.

• **Evaluation and review of NICE implementation evidence**
  
  NICE produces implementation reports which measure the uptake of specific recommendations taken from selected pieces of NICE guidance. These reports, along with other internal and external literature sources relating to the uptake of NICE guidance are stored on and can be accessed from the ERNIE database, which is fully searchable and regularly updated.

11.4 **Future resources**

PHE is taking forward a project to support Health and Wellbeing Boards, local authorities and the NHS to make the case for prevention and early intervention.

Work will include public awareness campaigns, for example on breathlessness, and supporting the production of business cases within local authorities and the NHS, incorporating the tools and sources of help which are available. A link to further information will be included here in due course.
12. Examples of local initiatives

Midlands and East of England NHS organisations developed an ambition to ‘Make Every Contact Count’, delivering brief advice to improve health and wellbeing. This relates to staff taking the opportunity of their contact with patients and the public to deliver healthy lifestyle information on smoking, healthy eating, maintaining a healthy weight, exercise and alcohol intake regardless of the nature of the patient’s appointment.

A suite of resources are available and relevant for CCGs here.

This includes case studies of achievement from a range of local initiatives here.

**National Institute for Health Research (NIHR) – Collaboration for Leadership for Applied Health Research and Care (CLAHRC) for Greater Manchester** have been working on interventions for CKD, pre diabetes care, diagnosis and management of diabetes complications (including cardiovascular risk and foot health) and heart failure management. Follow the hyperlinks, or for more information contact Joanne Thomas joanne.thomas@srf.t.nhs.uk  GM CLAHRC Lead Programme Manager.

**Improving CKD Care Project** GM CLAHRC’s Improving CKD Care Project is working with GP practices to ensure ‘best care’ through the early identification and management of people with early stage kidney disease. The early detection and appropriate management of CKD is essential to limit the risk of deterioration and possible renal transplantation.

**Impaired Glucose Tolerance (IGT) Care Call** In collaboration with NHS Salford CCG, GM CLAHRC has developed the IGT Care Call service as an adaptation of the existing Care Call service. IGT Care Call utilises tailored evidence based scripts to provide education messages that are specific to people with IGT. Support, guidance and goal setting is provided by the IGT Care Call team in order to improve the lifestyle of IGT patients and to help reduce the risk of developing type 2 diabetes.

**INHALE** (Interactive Health Atlas for Lung Conditions in England). INHALE was developed by the Department of Health and leading clinicians. Using robust intelligence and data, it aims to help commissioners assess the impact of respiratory disease on local populations, assess variation and identify the services required to meet those needs.

**IGT Health Trainers** GM CLAHRC’s IGT Health Trainers project has worked with local Health Trainer services to provide lifestyle advice for patients with IGT to try to prevent the onset of type 2 diabetes. The Health Trainers work closely with individual patients over a six month period to set a number of realistic goals and lifestyle changes.

**Heart Failure Investigation Toolkit (GM-HFIT)** is a practical verification and skills based investigation tool to ensure that heart failure patients receive the ‘best care’ within primary care. GM CLAHRC is working with local GP practices to increase the awareness of heart failure and improve the skills of primary care clinicians to manage patients effectively.
Annex A: Interventions summary table

NHS England has identified the following interventions where comparative data on costs and benefits is available which should deliver a significant reduction in PYLL. We would recommend that commissioners give consideration to these interventions as part of work to set a local level of ambition on mortality. These are set out in two groups. For the first set in the summary table below, evidence is available that associates a particular intervention with a particular outcome.

For the second set in Annex B (the individual factsheets), there is evidence that deaths from a condition could be reduced and there is evidence concerning a range of interventions that would support this, but the evidence base does not enable us to separately identify the likely contribution of each intervention.

Whilst we have tried to ensure that the focus of this resource is on interventions with a strong evidence base, we have rated various interventions in the factsheets as 1,2,3,4 in terms of the relative strength of the evidence base. This rating system is intended to act as a guideline only. Broadly, the criteria we have applied are:

1 – The intervention (and evidence) is published in both a clinical strategy and NICE Clinical Guidance;
2 – The intervention (and evidence) is published in a clinical strategy, but there is no NICE guidance;
3 – The intervention (and evidence) supported by a large-scale clinical trial;
4 – The intervention has been used in a single area and assessment has shown its effectiveness in that area.

It is our intention to continue to develop this resource throughout 2013 and 2014 and potentially beyond, therefore in some cases holding pages have been included while work is in hand to explore a particular issue or intervention. We expect to periodically update the contents of this resource.
**Interventions summary table**

The following table sets out comparative information relating to the relative costs and benefits of a range of interventions. Comparative information is not yet available for all the interventions referred to in this resource. We are very grateful to the National Cardiovascular Intelligence Network, Public Health England, for their assistance in producing this information.

<table>
<thead>
<tr>
<th>Intervention (hyperlinks are provided to the relevant factsheets on each intervention listed)</th>
<th>Net cost (per-100,000)</th>
<th>No. lives saved (per-100,000) &lt;75</th>
<th>Total lives saved (per-100,000)</th>
<th>PYLL (per-100,000) &lt;75</th>
<th>Total PYLL (per-100,000)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CVD Strategy interventions</strong></td>
<td></td>
<td></td>
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<tr>
<td>Increase prescription of anti-thrombotics (warfarin) by supporting GPs to identify patients with atrial fibrillation (increase proportion of patients clinically indicated as being eligible from 54% to 100%) <strong>NICE CG36: Atrial Fibrillation</strong></td>
<td>£48,580</td>
<td>1.60</td>
<td>3.95</td>
<td>28.22</td>
<td></td>
</tr>
<tr>
<td>Increase uptake of cardiac rehabilitation (to 65% from 44%) for people with coronary artery disease and (from ~4% to 33%) following acute heart failure <strong>NICE CG48: Secondary prevention of AMI</strong></td>
<td>£7,434</td>
<td>0.54</td>
<td>0.56</td>
<td>10.45</td>
<td></td>
</tr>
<tr>
<td>Increase bystander initiated CPR (to 42% from 32%) by increasing proportion of population trained in CPR from 3.8m people to 5 million nationally</td>
<td>-</td>
<td>0.28</td>
<td>0.56</td>
<td>5.50</td>
<td>-</td>
</tr>
<tr>
<td>Extend provision of Early Supported Discharge schemes (from 20% to 40%) following a stroke <strong>NICE CG68: Stroke</strong></td>
<td>£15,064</td>
<td>0.14</td>
<td>0.32</td>
<td>2.57</td>
<td>-</td>
</tr>
<tr>
<td>Increase proportion of patients with TIA treated within 24 hours (increase from 71% to 100%) <strong>NICE CG68: Stroke</strong></td>
<td>-£7,457</td>
<td>0.12</td>
<td>0.28</td>
<td>2.57</td>
<td>-</td>
</tr>
<tr>
<td>Intervention</td>
<td>Cost</td>
<td>Effectiveness</td>
<td>Impact</td>
<td>Other</td>
<td></td>
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<tr>
<td>----------------------------------------------------------------------------</td>
<td>------</td>
<td>---------------</td>
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<td></td>
</tr>
<tr>
<td>Greater provision of angioplasty following STEMI and reduced door to balloon times (increase rates of reperfusion from 70% to 100%)</td>
<td>£16,194</td>
<td>0.21</td>
<td>0.29</td>
<td>1.15</td>
<td></td>
</tr>
<tr>
<td>NICE CG in development for STEMI; NICE CG48: Secondary prevention of AMI</td>
<td></td>
<td></td>
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<tr>
<td>Ensure all patients transferred to a cardiac centre within 72 hours following nSTEMI (assumes increase from 92% to 100% of patients)</td>
<td>-</td>
<td>0.05</td>
<td>0.11</td>
<td>0.92</td>
<td></td>
</tr>
</tbody>
</table>

**Stroke Reconfiguration**

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Cost</th>
<th>Effectiveness</th>
<th>Impact</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optimise / reconfigure acute stroke services to ensure 24/7 access to specialist care (incl. thrombolysis) and acute stroke units along the lines of the London model of centralised hyper-acute stroke services</td>
<td>High set up costs, but recoupment estimate for the London network, 6 years</td>
<td>1.22</td>
<td>2.82</td>
<td>TBC</td>
</tr>
</tbody>
</table>

**Cancer Outcomes Strategy interventions**

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Cost</th>
<th>Effectiveness</th>
<th>Impact</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Support for GPs to recognise symptoms of cancer</td>
<td>-</td>
<td>1.33</td>
<td>2.76</td>
<td>28.9</td>
</tr>
<tr>
<td>Early diagnosis of cancer</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improved access to diagnostics</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improved hospital treatment</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Other interventions**

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Cost</th>
<th>Effectiveness</th>
<th>Impact</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Implementation of NICE guideline on Acute Kidney Injury</td>
<td>NICE - (ave. 4.7 fewer hospital days and less chance of chronic kidney injury) but additional costs and benefits vary significantly</td>
<td>-</td>
<td>18.70</td>
<td>Unknown (PYLL reduction for all ages is estimated at 160.55)</td>
</tr>
<tr>
<td>NICE CG169: Acute Kidney Injury</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Implementation of the ‘Sepsis Six’ care bundle</td>
<td>£309,637</td>
<td>-</td>
<td>18.49</td>
<td>-</td>
</tr>
</tbody>
</table>
### Implement British Thoracic Society Care Bundle for community acquired pneumonia

<table>
<thead>
<tr>
<th>N. C. E. C. M.</th>
<th>Cost (£)</th>
<th>Attendance (%)</th>
<th>Readmission (%)</th>
<th>Mortality (%)</th>
<th>Cost/Beneficiary</th>
</tr>
</thead>
<tbody>
<tr>
<td>£79,869</td>
<td>2.53</td>
<td>5.83</td>
<td>83.21</td>
<td></td>
<td>-</td>
</tr>
</tbody>
</table>

### Intermittent Pneumatic Compression to prevent post stroke Deep Vein Thrombosis (DVT)

<table>
<thead>
<tr>
<th>N. C. E. C. M.</th>
<th>Cost (£)</th>
<th>Attendance (%)</th>
<th>Readmission (%)</th>
<th>Mortality (%)</th>
<th>Cost/Beneficiary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not available*</td>
<td>0.81</td>
<td>1.87</td>
<td>14.48</td>
<td></td>
<td>-</td>
</tr>
</tbody>
</table>

### Prevention of Venous Thromboembolism

<table>
<thead>
<tr>
<th>N. C. E. C. M.</th>
<th>Cost (£)</th>
<th>Attendance (%)</th>
<th>Readmission (%)</th>
<th>Mortality (%)</th>
<th>Cost/Beneficiary</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>0.54</td>
<td>1.68</td>
<td>-</td>
<td></td>
<td>-</td>
</tr>
</tbody>
</table>

* Estimated cost of use of pneumatic compression stockings for all stroke patients is £3,585 per 100,000 patients, but cost savings have yet to be assessed.
Annex B: Individual factsheets

Factsheet: Supporting the NHS to tackle health inequalities

The Commissioning Assembly Health Inequalities working group chaired by GPs Dr Matt Kearney and Dr Sam Everington is developing an online toolkit to support CCGs in tackling health inequalities.

The Marmot Review showed us that health inequalities are still widespread in England. There is a pronounced socio-economic gradient in the prevalence of all major long-term conditions, in life expectancy and in healthy life expectancy. Of course taking action throughout society to tackle the wider causes of ill health and reduce inequalities is vital. But the NHS also has a pivotal contribution to make both in the way it commissions services and in the way it provides health care. Indeed it is estimated that healthcare is responsible for 15-20 percent of inequalities-related mortality. CCGs have a number of duties under the Health and Social Care Act (2012) regarding health inequalities and they will be assessed annually on performance of these.

**Inequalities in life expectancy and potential years of life lost (PYLL)**

The Health and Social Care Information Centre publishes rates of PYLL by CCG. It is clear from information for 2012 that there are significant discrepancies in rates of premature mortality between the CCG area with the highest rate of premature mortality, with 3,215 PYLL per 100,000 registered patients, and the CCG with the lowest rate, with 1,414 PYLL per 100,000 registered patients. This compares to a national rate of 2,061.

It is clear from the CCG Outcomes Indicator Set that there remains a significant North/South divide in premature mortality across England, with people living in the North generally at higher risk of dying before their 75th birthday.

There continue to be significant gender inequalities, with worse outcomes in relation to premature mortality for males than females. In 2010 the male rate was 2,172 PYLL per 100,000 registered male patients, compared with 1,933 PYLL per 100,000 registered female patients.

From the 24 October 2013 Life Expectancy ONS statistical report (2010–12) male life expectancy at birth was highest in East Dorset (82.9 years); 8.9 years higher than in Blackpool, which had the lowest figure (74.0 years). Female life expectancy at birth was highest in Purbeck at 86.6 years and lowest in Manchester, where females could expect to live for 79.5 years.

The *Commissioning to Reduce Health Inequalities Toolkit*, planned for April 2014, will provide a practical resource to CCGs with evidence, implementation guidance and links to successful models of commissioning. Six key areas will be covered. These are specific commissioning actions that CCGs can take to reduce their local health inequalities:
• Improving access to health care for vulnerable groups
• Tackling unwarranted variation in care and outcomes
• Co-production of commissioning solutions
• Shared decision making
• Integration of care and services
• Social prescribing

Further details, including a link to the toolkit, will be included on this resource once it becomes available.
Factsheet: Commissioning effective smoking cessation services

NHS stop smoking services provide clinically cost effective ways for people to stop smoking, whether these people have mental ill-health, co-morbidities, whose background places them at risk of health inequalities, are otherwise considered healthy or are pregnant. Initiation of attempts to support people to stop smoking within secondary care settings are not always followed through by the provision of effective support on discharge. This is an area where CCGs, Area Teams and local authorities can work together, to ensure that referral to and support for stop smoking services are fundamental parts of pathways in and out of secondary care.

Stopping smoking at about aged 30 leads to a gain of almost 10 years of life expectancy, stopping at age 60 still yields a 3 year gain in life expectancy\(^1\). Even after the onset of life-threatening disease there are rapid benefits from quitting: people who quit smoking after having a heart attack reduce their chances of having another heart attack by 50 percent.

CCGs should consider commissioning a referral system which;

- Offers a proven model that increases the identification and referral of smokers onto appropriate stop smoking support;
- Offers a programme management approach that ensures the system is fully implemented and adopted by staff within an acute trust;
- Enables the performance management of smoking related CQUIN indicators and supports the QIPP agenda;
- Supports the NHS Future Forum’s ‘Make Every Contact Count’ recommendations;
- Offers a standardised, robust and tested electronic referral system; and
- Includes an evidence-based online training package.

The system should facilitate and encourage staff to ask and record smoking status for every patient, to deliver 30 second ‘very brief advice’ and to generate electronic referrals on to local stop smoking support.

There are several different systems that offer this level of support and the above criteria are taken from the National Centre for Smoking Cessation and Training’s (NCSCT) national referral system.

**NICE guidance on smoking cessation for acute, maternity and mental health services** was published on 27 November 2013. It gives greater detail about provision of services in these settings.

NICE quality standards information on smoking cessation can be found [here](#).

NICE guidance with relevance to referral of smokers to services is currently available for:

• Brief interventions and referral for smoking cessation (PH1)
  ➢ **Recommendation 1**: Everyone who smokes should be advised to quit, unless there are exceptional circumstances. People who are not ready to quit should be asked to consider the possibility and encouraged to seek help in the future. If an individual who smokes presents with a smoking-related disease, the cessation advice may be linked to their medical condition.

• Workplace interventions to promote smoking cessation (PH5)
  ➢ **Recommendation 1**: Publicise the interventions identified in this guidance and make information on local stop smoking support services widely available at work. This information should include details on the type of help available, when and where, and how to access the services.

• Quitting smoking in pregnancy and following childbirth (PH26)
  ➢ **Recommendation 1**: Identifying pregnant women who smoke and referring them to NHS Stop Smoking Services – action for midwives

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**Inequalities and stop smoking services**

In the UK, health inequalities are widening on some important measures such as life expectancy. Smoking is the single biggest preventable cause of these health inequalities and is responsible for up to half the difference in death rates in men by socioeconomic status. The cost of tobacco represents a higher proportion of household income amongst poorer smokers, meaning that their tobacco use not only damages their health but also contributes to trapping people in poverty.

Research to date shows that stop smoking services are already making an important contribution to reducing smoking including in less affluent groups. One study showed that stop smoking services can make a significant contribution to reducing the health inequalities caused by smoking. It found that short-term cessation rates were lower in disadvantaged areas (53 percent) than elsewhere (58 percent) (p<0.001). However, the overall effect was that a higher proportion of smokers in the most disadvantaged areas reported abstinence from smoking (8.8 percent) than in more advantaged areas (7.8 percent) (p<0.001).

In addition all the factors outlined above that explain lower quit rates amongst disadvantaged clients are modifiable. Services can work with smokers to identify the life circumstances that serve as barriers to quitting, provide information around the use of pharmacotherapy and offer different forms of behavioural support, to try and meet the needs of varied client groups.

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Case studies of National Referral System Implementation

**Case Study – Barts Health NHS Trust**
Barts Health’s public health vision is to improve the health of patients and reduce inequalities by promoting healthy lifestyles. Their first priority was to reduce the number of smokers among their patients. The prevalence of smoking in East London is significantly higher than England and London averages, especially amongst Black, Asian and Minority Ethnic (BAME) communities.

Since implementation of the National Referral System, they have seen an increase in the number of referrals across all their hospital sites. Notably for Whipps Cross hospital, from April to October 2013 a total of 1,045 patients have been referred on to local stop smoking support. This is already double the number of people referred for support by the hospital during the whole of 2012/13, in just seven months. The process of implementing a national referral system has been critical to the development of their refreshed Barts Health Smoke Free policy and action plan, which is due to be published in 2014.

**Case Study – Peterborough and Stamford Hospitals NHS Foundation Trust**
The trust had implemented various interventions such as ‘Stop before your Op’, development of clinics in the Respiratory and COPD departments, but identified a real need to address access to smoking cessation across the whole hospital. An SLA was developed between the key stakeholders which clearly outlined roles and responsibilities, to ensure commitment from all parties. This work is in its early days, but from July to end September 2013 they have received 69 referrals of which they achieved 10 quits. In context throughout 2012/13 their hospitals received 16 referrals in total, with no quit outcomes.

For more information on either case study, in factsheet form including more detail on the process of implementation and key learning points contact enquiries@ncsct.co.uk
**Factsheet: Improved detection and management of hypertension**

High blood pressure is the second biggest risk factor of disease leading to premature mortality in the UK. About 30 percent of adults in England have high blood pressure, of whom an estimated 5 million are undiagnosed. Of those in treatment, almost 40 percent have not reduced their blood pressure enough to be deemed controlled. Hypertension prevalence is highest in the most deprived groups in society. Across England, a reduction in the average systolic blood pressure in 40-69 year olds by 2mmHg could save 1,500-2,000 lives per year.

PHE is working with partners to develop a new focused programme of work on hypertension and we intend to provide more detailed support and information in future updates to this resource.

Established actions which commissioners might consider pursuing to improve detection and management of hypertension include:

- Promoting early diagnosis and following the principle of making every contact count - commissioning to ensure that blood pressure is regularly measured in health care encounters and results conveyed to general practice;

- Support exercises to audit and explore GP systems and performance on hypertension – for example identifying people with previous raised blood pressure readings which have not been acted upon or undertaking audits of mortality of care preceding hypertension to identify what further could be done in your area to prevent premature deaths (e.g. better medication compliance, case finding, use of disease registries, or secondary prevention). Resources to support such approaches can be found in the work of the former Health Inequalities National Support Team [here](#). Data on CCG and practice level performance on hypertension can be found [here](#).

Within healthcare settings support commissioning of activity which addresses the known risk factors for hypertension (as per NICE clinical guidance 127 on hypertension these are primarily addressing diet, physical activity, alcohol consumption and smoking).

This page will be updated in due course as further details become available.
Factsheet: Implementation of the NHS Health Check programme

**Potential Benefits**

An economic model on which the Department of Health based its policy in 2008 suggested that a prevention programme such as this could be cost effective compared with other NHS activities and could generate significant health benefits. It was estimated that the programme could prevent 1,600 heart attacks and strokes, at least 650 premature deaths, and over 4,000 new cases of diabetes each year. At least 20,000 cases of diabetes or kidney disease could also be detected earlier, which is a priority for most CCGs. The estimated cost per quality adjusted life year (QALY) was approximately £3,000.³

The NHS Health Check is a national risk assessment, awareness and management programme for those aged 40 to 74 living in England who do not have an existing vascular condition, and who are not currently being treated for certain risk factors. It is aimed at preventing heart disease, stroke, diabetes and kidney disease. The check which should be offered every five years, systematically targets the top seven causes of premature mortality. It incorporates current NICE-recommended public health and clinical guidance, ensuring it has a robust evidence base for the individual interventions included, i.e. smoking cessation or blood pressure management. As such, the NHS Health Check programme offers the English health and care system an outstanding opportunity to reduce the growing burden of non-communicable disease related to behavioural and physiological risk factors.

From April 2013, local authorities (LAs) became responsible for commissioning the risk assessment component of the NHS Health Check. LAs are able to commission the risk assessment from any provider of their choice but must work closely with their CCGs to ensure that there is a joined-up approach to the risk assessment and clinical follow-up and management. CCGs are now able to access local geographical data to support their commissioning from the updated NHS Health Check Ready Reckoner. The link is embedded in the useful resources area at the end of this section.

Due to the huge potential this programme could have in supporting CCGs to reduce the burden of behavioural and physiological risk factors, we recommend the following actions:

- Each CCG should actively engage with their respective local authority to support the local commissioning of their NHS Health Check programme
- CCGs should ensure that clear pathways exist for any NHS Health Check occurring inside and outside of general practice which allows a seamless flow of data and clinical follow-up and management
- CCGs should work with the local authority public health teams to assess the impact of their local NHS Health Check programmes and consider improvement strategies to ensure that the programme is delivering the best outcomes for the local community.

Impact on inequalities

As a population-based risk awareness, risk assessment, and risk and disease management programme, the NHS Health Check programme has the potential to ensure that we are engaging members of the community earlier, promoting opportunities for healthy living and early intervention.

Local authorities and CCGs must work collaboratively to ensure that this programme is designed and delivered to meet the needs of those at greatest risk within their communities.

Leicester Case Study

A study of almost 4000 people in Leicester suggests that the NHS Health Check programme is likely to uncover more diabetes, kidney or heart patients than previously expected. Extrapolation from the Leicester data suggests that the national programme is likely to find 440,000 people each year who have diabetes, chronic kidney disease or high risk of cardiovascular disease or diabetes.

Researchers from the Diabetes Research Unit based at the Leicester Diabetes Centre, within the University of Leicester, have published their study Joint Prevalence of Diabetes, Impaired Glucose Regulation, Cardiovascular Disease Risk and Chronic Kidney Disease in South Asians and White Europeans in the journal PLOS ONE.

Useful resources

NHS Health Check Best Practice Guidance
NHS Health Check national website
NHS Health Check Ready Reckoner Tools
Public Health England Implementation Review and Action Plan
Factsheet: Increase bystander initiated CPR by increasing proportion of population trained in CPR from 3.8m people to 5 million nationally

<table>
<thead>
<tr>
<th>All figures per year</th>
<th>England</th>
<th>Per 100,000</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potential lives saved from intervention</td>
<td>300</td>
<td>0.56</td>
<td>Calculation based on CVD strategy</td>
</tr>
<tr>
<td>Potential lives saved U75</td>
<td>150</td>
<td>0.28</td>
<td></td>
</tr>
<tr>
<td>Reduction in potential years of life lost (u75)</td>
<td>3000</td>
<td>5.5</td>
<td>Definition of deaths used in the calculation: Deaths with a primary cause of myocardial infarction (ICD10 codes, I21-I22)</td>
</tr>
<tr>
<td>Cost (£)</td>
<td>-</td>
<td>-</td>
<td>Assumptions: That the distribution of deaths is the same as that for acute myocardial infarction</td>
</tr>
<tr>
<td>Cost-saving (£)</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Net cost (£)</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Strength of evidence</td>
<td></td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

Currently CPR is attempted in only 20 percent to 30 percent of cases following an out of hospital cardiac arrest. However, evidence suggests that where CPR is attempted, survival rates are doubled. If we were able to increase bystander initiated CPR (to 42 percent from 32 percent) nationally we would expect to be able to save 300 lives per annum.

There are thought to be multiple reasons for low levels of bystander initiated CPR, including lack of training and fear of litigation. The CVD Outcomes Strategy proposes that all emergency service personnel could be trained in CPR and that basic life support skills could be taught more widely, e.g. in the work place and in schools. Other options might be; ensure all NHS staff who work with patients are taught CPR, including healthcare assistants, physiotherapy assistants etc. and work with local businesses and services, such as leisure centres and shopping centre security staff.

There are a number of organisations that offer training courses, such as the Red Cross Training. There is potential for CPR and use of AEDs to be delivered through e-learning.

The use of AEDs by bystanders at the scene of an out of hospital cardiac arrest (OHCA) can greatly increase survival rates. The introduction of AEDs into public places was supported by the Department of Health some years ago, and a number of charities and local interest groups have funded additional devices. However, there could still be much greater availability. Details about the location of available devices
should be more consistently available to the emergency services and could usefully be available to bystanders, perhaps using a smartphone app.

Work on promoting site mapping of Automated External Defibrillators (AEDs) and ambulance services first responder programmes is being taken forward by NHS England with the Resuscitation Council, British Heart Foundation and Ambulance Services (Action 7 of the CVD Outcomes Strategy). It should be emphasised that the majority of OHCA occur in people’s homes and so increased awareness of CPR skills is arguably of greater importance than availability of AEDs, though both will lead to increased survival from OHCA.

Resources and Case Studies

Heartstart schemes

The British Heart Foundation’s website includes details of Heartstart schemes offering training in CPR across the UK.
Factsheet: Increase prescription of anti-thrombotics (warfarin) by supporting GPs to identify patients with atrial fibrillation

<table>
<thead>
<tr>
<th>All figures per year</th>
<th>England</th>
<th>Per 100,000</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potential lives saved from intervention</td>
<td>2100</td>
<td>3.95</td>
<td>Calculation based on CVD strategy</td>
</tr>
<tr>
<td>Potential lives saved U75</td>
<td>850</td>
<td>1.60</td>
<td></td>
</tr>
<tr>
<td>Reduction in potential years of life lost (u75)</td>
<td>15,400</td>
<td>28.22</td>
<td>Definition of deaths used in the calculation: Deaths with a primary cause of stroke (ICD10 codes, I61, I63 and I64) Assumptions: That the management of atrial fibrillation will prevent deaths from stroke.</td>
</tr>
<tr>
<td>Cost (£)</td>
<td>-</td>
<td>169,000</td>
<td>Calculation based on CVD strategy</td>
</tr>
<tr>
<td>Cost-saving (£)</td>
<td>-</td>
<td>120,500</td>
<td></td>
</tr>
<tr>
<td>Net cost (£)</td>
<td>-</td>
<td>48,500</td>
<td></td>
</tr>
<tr>
<td>Strength of evidence</td>
<td></td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

There are relatively high rates of undiagnosed cases of AF and treatment varies across the country. Around 600,000 patients have AF in England but the rate of undiagnosed cases is 18 percent. People with AF have a 5-6 fold increased risk of stroke and AF is estimated to be directly responsible for 12,500 strokes per year. From Audit Data it appears that of the AF patients on disease registers, 46 percent who should be on anti-thrombotic therapy are not receiving this.

Full implementation of existing NICE guidelines on the management of atrial fibrillation nationally could save around 2,100 lives per year through increasing the prescription of anti-thrombotics (warfarin). The impact on morbidity could be 7,100 fewer strokes per year.

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Reasons for the current low use of anticoagulation include failure to diagnose – not feeling the pulse or recognising it is irregular when it is felt – and more importantly, being fearful of using anticoagulants in frail or elderly people for fear of bleeds, concerns about the impact of attending warfarin clinics, or patient resistance. Until recently NICE guidelines provided the alternative of antiplatelet treatment. However, international guidelines (for example, ESC) state that antiplatelets should not be used as an alternative to warfarin due to lack of efficacy. Therefore, warfarin or newer anticoagulants are recommended. A major barrier to implementation of the NICE guideline on atrial fibrillation in the past has been a perception that there is a high risk of haemorrhage from warfarin in frail elderly people. In fact there is compelling evidence\(^7\) that the calculated risk of a subdural haemorrhage from falling in patients with annual stroke risk of 5 percent would require a patient to fall 295 times for the falls risk to outweigh the stroke reduction benefit of warfarin.

The main costs of warfarin use arise from monitoring treatment with blood tests either in primary care or specialist anticoagulation clinics. These are already established countrywide, but there may be a need to expand local capacity. However, the introduction of Novel Oral Anticoagulants (NOACS) now approved by NICE for certain patients, should enable more patients to be treated without the need for blood test monitoring.

### Inequalities in treatment of AF

AF becomes a more frequent condition as people get older. Although the risks of anticoagulation also increase with age, the benefits outweigh the risks in the vast majority of people with AF.

Currently the chances of being treated with the most effective drugs are much less in the older and frailer population and it is this issue that needs to be addressed.

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Resources and Case Studies

The GRASP risk assessment tool for AF

Developed by the NHS, for the NHS, GRASP-AF (Guidance on Risk Assessment and Stroke Prevention for Atrial Fibrillation) is a simple but effective audit tool which is already being used by almost one third of practices in over 150 CCGs to improve the management of stroke risk in AF. GRASP-AF is freely available to English practices by signing up for free basic PRIMIS hub membership here. The GRASP suite of tools is compatible with all GP clinical systems in England.

GRASP-AF creates a highly visual practice level summary of stroke risk and medication profiles in the form of a dashboard, as well as producing a colour-coded data sheet which enables practices to prioritise individual patients for review. Aggregate data can be sent anonymously and securely to a data warehouse where the PRIMIS CHART Online tool enables comparative analysis and benchmarking at practice, CCG, Strategic Clinical Network and national levels. Regular uploads allow practices to track changes and improvements in atrial fibrillation management and provide evidence of audit for inclusion in GP revalidation portfolios. Aside from tackling an important clinical need, using GRASP-AF and the accompanying AF Case Finder tool can help practices maximise QOF attainment.

NHS Improving Quality is currently developing a support package for primary care providers and commissioners to use simple audit and benchmarking tools like GRASP-AF as part of a suite of tools to improve the management of the country's biggest killers, including Heart Failure and Chronic Obstructive Pulmonary Disease.

For further information visit NHS IQ web pages or contact enquiries@nhsiq.nhs.uk

Case Study from Bradford Districts CCG

Bradford Districts CCG, in close collaboration with Bradford City and Airedale, Wharfedale and Craven CCGs, set out to improve the rates of anticoagulation in AF patients across the whole of the AF population. Since 2011, they have achieved a 31 percent relative improvement in patients on warfarin, and estimate around a 15 percent reduction in AF stroke.

Their approach highlights the significant practical steps that can be taken to make a success of improvement in this area, using a whole systems approach. These included making data available on practice level performance, setting an achievable benchmark of care target for each participating practice and implementing evidence based clinical behaviour change strategies. This approach will work well alongside the GRASP tool. Practices were supported over 12-18 months to encourage and incentivise achievement of the ambition. More information can be found here.

Underpinning the whole approach taken by Bradford were a number of steps

1. Assemble a clinical expert team with support from analyst, QI facilitators and others
2. Define a small number of evidence based and measureable quality standards. Measure achievement of this quality standard at practice level
3. Make the data available and open to all providers that choose to participate.
4. Set an Achievable Benchmark of Care target for each practice based on well-established QI methodology
5. Implement, over a 12 – 18 month period, ten simple but evidence based strategies to encourage and incentivise achievement of the target. Provide bespoke support and advice to practices and more widely - Q&A / Expert events / training / Practice visits / IT tools

Key interventions included:

**Clinical Practice**
- Development of a template for primary care systems, leading to a standardised approach.
- Large number of patient reviews by GPs to re-evaluate whether warfarin should be considered.
- Both hospitals and primary care INR providers have standardised the referral process, meaning that patients start treatment more quickly.

**Service Provision**
- Regular feedback to practices using live benchmarked data, practice visits and knowledge transfer.

**Patient Communication**
- Development of patient experience video. Warfarin and stroke risk campaign for patients
- Patient decision aids, webcasts for both clinicians and patients
- Pulse checks campaign
Factsheet: Early diagnosis of people with Familial Hypercholesterolaemia (FH) in England

The benefits of early diagnosis of FH would be reduction in premature deaths from heart disease; a reduction in long-term morbidity and its associated costs and benefits to families no longer trapped in a cycle of premature heart disease. Since the cost of effective therapy is so low, a significant saving could be made by the NHS in England, due to a reduction in CHD events and the cost of hospital admissions.

<table>
<thead>
<tr>
<th>All figures per year</th>
<th>England</th>
<th>100,000</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potential lives saved from intervention</td>
<td>42</td>
<td>0.08</td>
<td>Evidence suggests very few lives saved at over 75. 42 is achievable after a few years of cascade testing. Costs are lower in the early years when there are fewer people to test and treat.</td>
</tr>
<tr>
<td>Potential lives saved (U75)</td>
<td>42</td>
<td>0.08</td>
<td>Cascade testing and improved treatment would also reduce AMI. Cost savings from these are included. Costs are from NICE 2008 costing guidance. Staff costs have increased since this time but drugs are off patent, reducing their price significantly.</td>
</tr>
<tr>
<td>Reduction in Potential Years of Life Lost (U75) from early diagnosis of FH</td>
<td>1606</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Cost saving (£)</td>
<td></td>
<td></td>
<td>£21,570</td>
</tr>
<tr>
<td>Cost (£)</td>
<td></td>
<td></td>
<td>£3,408</td>
</tr>
<tr>
<td>Net cost (£)</td>
<td></td>
<td></td>
<td>£18,162</td>
</tr>
</tbody>
</table>

Strength of evidence 1

FH is a relatively common genetic disorder. The estimated prevalence is 1 in 500, suggesting 120,000 affected individuals in Britain. The condition is massively under diagnosed with only 15-17 percent of cases identified in the UK. Children of an individual with FH have a 50 percent chance of inheriting the condition. Left untreated, FH may lead to premature death from coronary heart disease (CHD). 50 percent of males and 30 percent of females with untreated FH will have developed CHD by the age of 55. This premature disease, often resulting in early death, is avoidable. Unlike many genetic conditions, FH can be diagnosed relatively easily and, with inexpensive treatment, people with FH can lead normal, healthy lives.

The NICE Guideline and the benefits of cascade testing

In 2008, NICE published a clinical guideline for the Identification and Management of FH (CG71). The guideline recommends identifying cases of FH, using cholesterol measurements and cascade genetic testing of their families. Referral to specialist lipid

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clinics is recommended for confirmation of the diagnosis, patient counselling and in order to initiate the cascade testing.

The NICE Guideline indicates that the cascade testing model for diagnosing FH is very cost-effective, with an estimated ICER (incremental cost effectiveness ratio) of £2,700 per quality adjusted life year (QALY); well below the NICE cost effectiveness threshold of £20-30,000/QALY\textsuperscript{12}.

Benefits from initiatives to find cases of FH include a reduction in premature deaths from heart disease; a reduction in long-term morbidity and its associated costs; and of course the benefits to families no longer trapped in a cycle of premature heart disease. Since the cost of effective therapy is so low, a significant saving could be made by the NHS in England, due to a reduction in CHD events and the cost of hospital admissions.

The cholesterol charity HEART-UK has published a report\textsuperscript{9} (“Saving Lives, Saving Families: The health, social and economic advantages of detecting and treating Familial Hypercholesterolaemia”) and have shown how England is falling behind the devolved nations of the UK in diagnosing and treating FH. The devolved countries each have a national directive or initiative specifically targeting FH, which has helped achieve higher standards of care for their FH patients.

- High intensity treatment would mean 101 cardiovascular deaths could be avoided per 1,000 FH patients (aged 30 to 85 years) treated, when compared with no treatment
- The UK could save £378.7 million from cardiovascular events avoided if all (100 percent) relatives of FH index cases are identified and treated optimally over a 55 year period, or £6.9 million per year.

Recent policy and publications

In March 2013 the Department of Health published its Cardiovascular Outcomes Strategy, endorsed by NHS England, and PHE. Among its priorities, the Strategy set the initial ambition of identifying at least 50 percent of cases of FH in England diagnosed and treated – a substantial jump from the current low levels.

In August 2013, NICE published its Quality Standard on FH (QS41). The Quality Standard includes an FH care pathway and commissioning guidance. The Quality Standard supports the delivery of the NHS Outcomes Framework, helping to fulfill Domains 1 (preventing people from dying prematurely), 2 (enhancing quality of life for people with long-term conditions) and 4 (ensuring people have a positive experience of care).

Useful resources


NICE FH Quality Standard (QS41): http://guidance.nice.org.uk/QS41


HEART UK FH Toolkit (aimed at helping commissioners and clinicians deliver on the NICE FH Guideline): http://heartuk.org.uk/FHToolkit/
Factsheet: Increase proportion of patients with Transient Ischaemic Attack (TIA) treated within 24 hours

<table>
<thead>
<tr>
<th>All figures per year</th>
<th>England</th>
<th>Per 100,000</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potential lives saved from intervention</td>
<td>150</td>
<td>0.28</td>
<td>Calculation based on CVD strategy</td>
</tr>
<tr>
<td>Potential lives saved U75</td>
<td>65</td>
<td>0.12</td>
<td>Definition of deaths used in the calculation:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Deaths with a primary cause of stroke (ICD10</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>codes, I61, I63 and I64)</td>
</tr>
<tr>
<td>Reduction in potential years of life lost</td>
<td>1,400</td>
<td>2.57</td>
<td>Definition of deaths used in the calculation:</td>
</tr>
<tr>
<td>(u75?)</td>
<td></td>
<td></td>
<td>Deaths with a primary cause of stroke (ICD10</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>codes, I61, I63 and I64)</td>
</tr>
<tr>
<td>Cost (£)</td>
<td>-</td>
<td>800</td>
<td>Calculation based on CVD strategy</td>
</tr>
<tr>
<td>Cost-saving (£)</td>
<td>-</td>
<td>8,300</td>
<td></td>
</tr>
<tr>
<td>Net cost (£)</td>
<td>-</td>
<td>-7,500</td>
<td></td>
</tr>
<tr>
<td>Strength of evidence</td>
<td></td>
<td>1</td>
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</tr>
</tbody>
</table>

In 2012 around 1 in 20 TIAs led to a stroke within a week\(^{10}\). There are already local areas offering a comprehensive service for people who have suffered a TIA, but there is significant regional variation in availability and capacity of services. If we were able to increase the proportion of patients treated within 24 hours through reduced regional variation in access to TIA services nationally, we could deliver a significant reduction in mortality whilst at the same time delivering cost savings to local services.

Effective TIA care prevents people from going on to have strokes (and possibly other vascular disease such as MI). The effect is through medication (antithrombotics, anticoagulants, statins, blood pressure management, lifestyle advice) as well as surgery (carotid endarterectomy) which is suitable for 5-10 percent of people presenting with TIA.

Up to 80 percent of strokes that occur after a TIA could be avoided if timely and effective treatment were provided\(^{11}\). This depends on better public awareness of the importance of the symptoms but also on having responsive services that are available in all parts of the country and seven days a week. This requires access to specialists for diagnosis, brain imaging for some patients and vascular surgery for the 5-10 percent of people with TIA that are appropriate for carotid endarterectomy.

A NICE service commissioning guide for TIA services and stroke clinical guidelines can be found here.

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Factsheet: Establishment of hyper-acute stroke services

<table>
<thead>
<tr>
<th>All figures per year</th>
<th>England</th>
<th>Per 100,000</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potential lives saved from intervention</td>
<td>1,200</td>
<td>1.22</td>
<td>Estimate assuming similar results from London network could be achieved elsewhere (20 percent lower death rate)</td>
</tr>
<tr>
<td>Potential lives saved U75</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Reduction in potential years of life lost (u75)</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Cost (£)</td>
<td></td>
<td></td>
<td>High set up costs associated with this.</td>
</tr>
<tr>
<td>Cost-saving (£)</td>
<td></td>
<td></td>
<td>Recoupment estimate for the London network, 6 years</td>
</tr>
<tr>
<td>Net cost (£)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strength of evidence</td>
<td></td>
<td></td>
<td>4</td>
</tr>
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</table>

We should seek to optimise acute stroke services to ensure 24/7 access to specialist care (including thrombolysis) and prompt admission to acute stroke units, reconfiguring services where necessary to ensure high-quality, safe and effective care for all those experiencing stroke.

Evidence from implementation of the London model for hyper acute stroke services is that mortality from stroke in London is currently 28 percent lower than the rest of England. If the model could be applied to the urban population of England - around 18 million people could benefit from roll out. Future reconfigurations could achieve a 20 percent reduction in mortality, amounting to 1,200 deaths avoided (pa).

NHS Improvement published a collection of case studies from stroke networks around the country in 2010. ‘Going up a Gear’ resources from the Stroke Improvement Programme can be accessed here.
Factsheet: Intermittent Pneumatic Compression to prevent post stroke Deep Vein Thrombosis (DVT)

<table>
<thead>
<tr>
<th>All figures per year</th>
<th>England</th>
<th>Per 100,000</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potential lives saved from intervention</td>
<td>1,000</td>
<td>1.87</td>
<td>Clinician estimate from CLOTS trial data</td>
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<tr>
<td>Potential lives saved U75</td>
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<tr>
<td>Reduction in potential years of life lost (u75)</td>
<td>7,900</td>
<td>14.48</td>
<td>Definition of deaths used in the calculation: Deaths with a primary cause of stroke (ICD10 codes, I61, I63 and I64)</td>
</tr>
<tr>
<td>Cost (£)</td>
<td></td>
<td>3,600</td>
<td>Calculation based on cost of providing two pairs of stroke sleeves to all immobile stroke patients</td>
</tr>
<tr>
<td>Cost-saving (£)</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Net cost (£)</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Strength of evidence</td>
<td></td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

Approximately 60,000- 80,000 patients each year are admitted to UK hospitals with an acute stroke and are immobile. It is estimated that 10-25 percent will develop a DVT.

Until recently there were no preventive strategies which had been clearly shown to be both effective and safe. However, there is now good evidence to suggest that Intermittent Pneumatic Compression (IPC) sleeves are effective in preventing DVT and consequently reducing mortality in patients who are initially immobile after being hospitalised with acute stroke.

It is estimated that if IPC sleeves are used in all appropriate patients we would save approximately 1,000 lives a year across England, and also reduce emergency admissions through reduced risk of clotting.
Factsheet: Greater provision of angioplasty following ST-elevated Myocardial Infarction (STEMI) and reduced door to balloon times

<table>
<thead>
<tr>
<th>All figures per year</th>
<th>England</th>
<th>Per 100,000</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potential lives saved from intervention</td>
<td>155</td>
<td>0.29</td>
<td>Calculation based on CVD strategy</td>
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<tr>
<td>Potential lives saved U75</td>
<td>110</td>
<td>0.21</td>
<td>Definition of deaths used in the calculation:</td>
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<tr>
<td></td>
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<td>Deaths with a primary cause of myocardial infarction (ICD10 codes, I21-I22)</td>
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<tr>
<td></td>
<td></td>
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<td>Assumptions: That the distribution of deaths for non-STEMI is the same as that for acute myocardial infarction</td>
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<tr>
<td>Reduction in potential years of life lost (u75)</td>
<td>2,100</td>
<td>1.15</td>
<td>Calculation based on CVD strategy</td>
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<tr>
<td>Cost (£)</td>
<td>-</td>
<td>16,200</td>
<td>Calculation based on CVD strategy</td>
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<tr>
<td>Cost-saving (£)</td>
<td>-</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Net cost (£)</td>
<td>-</td>
<td>16,200</td>
<td></td>
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<tr>
<td>Strength of evidence</td>
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<td>1</td>
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</table>

In England in 2011/12, 92 percent of STEMI patients eligible for primary angioplasty were treated within 90 minutes of arrival at a heart attack centre.\(^{12}\)

Implementation of the NICE guideline in all cardiac centres would speed up the process between "door to balloon time" and reduce variation in care processes for patients following a heart attack. Evidence suggests there is a clear relationship between speed of reopening an artery following a heart attack and muscle damage. Improved mortality rate comes from reducing variation in performance.

No cost savings have currently been estimated, but we would expect there to be savings in terms of reduced bed days, reduced disability and reduced frequency of recurrence of heart attack. The "Treatment of Heart Attack National Guidance – Final Report of the National Infarct Angioplasty Project (NIAP)" in 2008 found primary angioplasty to be clinically effective and cost effective when delivered within 120 minutes of patient call for professional help.

Factsheet: Ensure all patients transferred to a cardiac centre within 72 hours following non-ST elevated Myocardial Infarction (nSTEMI)

<table>
<thead>
<tr>
<th>All figures per year</th>
<th>England</th>
<th>Per 100,000</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potential lives saved from intervention</td>
<td>60</td>
<td>0.11</td>
<td>Calculation based on CVD strategy</td>
</tr>
<tr>
<td>Potential lives saved U75</td>
<td>25</td>
<td>0.05</td>
<td>Definition of deaths used in the calculation: Deaths with a primary cause of myocardial infarction (ICD10 codes, I21-I22) Assumptions: That the distribution of deaths for non-STEMI is the same as that for acute myocardial infarction</td>
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<tr>
<td>Reduction in potential years of life lost (u75?)</td>
<td>500</td>
<td>0.92</td>
<td>Assumptions: That the distribution of deaths for non-STEMI is the same as that for acute myocardial infarction</td>
</tr>
<tr>
<td>Cost (£)</td>
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<td>-</td>
<td></td>
</tr>
<tr>
<td>Cost-saving (£)</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Net cost (£)</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Strength of evidence</td>
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<td>1</td>
</tr>
</tbody>
</table>

For STEMI patients ambulance protocols dictate that the ambulance team should take the patient directly to a cardiac centre. There is no automatic requirement to do so for nSTEMI, which is not so immediately life threatening and patients may be taken to a District General Hospital in the first instance. However, the NICE guidance for nSTEMI indicates treatment is needed as quickly as possible and within 72 hours.

Inter-hospital transfers to specialist centres can be delayed (about a third of patients wait longer than they should to access angioplasty services) and some patients die awaiting a transfer. Improved mortality rate comes from reducing variation and speeding up transfers. The NICE guidance states that timely angioplasty can reduce lengths of stay. Although the number of angiography procedures may increase slightly, the increase is not expected to be significant.

NICE’s Costing Statement indicates that implementation of (CG94) in the early management of unstable angina and nSTEMI is unlikely to result in a significant overall change in resource use in the NHS.

Quality standards for the management of all acute coronary syndromes will be published by NICE towards the end of 2013.
Factsheet: Increase uptake of cardiac rehabilitation for people with coronary artery disease and following acute heart failure

<table>
<thead>
<tr>
<th>All figures per year</th>
<th>England</th>
<th>Per 100,000</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potential lives saved from intervention</td>
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<td>0.56</td>
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<tr>
<td>Potential lives saved U75</td>
<td>285</td>
<td>0.54</td>
<td>Definition of deaths used in the calculation: Deaths with a primary cause of myocardial infarction (ICD10 codes, I21-I22) Assumptions: That the distribution of deaths is the same as that for acute myocardial infarction</td>
</tr>
<tr>
<td>Reduction in potential years of life lost (u75?)</td>
<td>5,600</td>
<td>10.45</td>
<td></td>
</tr>
<tr>
<td>Cost (£)</td>
<td>-</td>
<td>20,400</td>
<td>Calculation based on CVD strategy</td>
</tr>
<tr>
<td>Cost-saving (£)</td>
<td>-</td>
<td>13,000</td>
<td></td>
</tr>
<tr>
<td>Net cost (£)</td>
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<td>7,400</td>
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</tr>
<tr>
<td>Strength of evidence</td>
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</tr>
</tbody>
</table>

Currently, many people who might benefit do not receive adequate cardiac rehabilitation, particularly following a diagnosis of heart failure. There are also marked inequalities in the way people access the available services. Women, minority ethnic groups, the elderly and people with more severe CHD are all under-represented among users of rehabilitation services. The extent and nature of provision varies dramatically around the country.

Nationally, our ambition is to increase uptake of cardiac rehabilitation (to 65 percent from 44 percent) for patients admitted with coronary artery disease and increase uptake of cardiac rehabilitation (to 33 percent from 4 percent) for patients admitted following acute heart failure.13

Cardiac rehabilitation is recommended by NICE in ‘Clinical Guideline 48 on myocardial infarction (MI): secondary prevention’ as an appropriate intervention for people following a hospital admission for MI. The case for rehabilitation in patients with chronic heart failure is made in the NICE quality standard. There is evidence that exercise-based cardiac rehabilitation is effective in reducing mortality and hospital admissions in people with coronary heart disease and that it significantly reduces hospitalisation for chronic heart failure and significantly improves quality of life and exercise tolerance for people with heart failure.

The case for rehabilitation in patients with chronic heart failure is made in the NICE Quality Standard and in the clinical guideline.

There is also emerging evidence that cardiac rehabilitation can be effective in improving quality of life for other conditions, for example COPD.

According to the NICE Cardiac Rehabilitation Commissioning Guide, the indicative cost of delivering a good quality CR service is £477 per patient. The Department of Health’s ‘Cardiac Rehabilitation Commissioning Pack’ gives the average weighted cost of a cardiac readmission as £3,637. Evidence shows a potential reduction in the cardiac readmission rate of 30 percent as a result of a robust CR service being completed by 65 percent of eligible patients.

A NICE guideline on acute heart failure is currently underway. There is no difference in the nature of the service provided for patients with coronary artery disease, or those with acute heart failure.
Factsheet: Extend provision of Early Supported Discharge (ESD) schemes following a stroke

<table>
<thead>
<tr>
<th>All figures per year</th>
<th>England</th>
<th>Per 100,000</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potential lives saved from intervention</td>
<td>170</td>
<td>0.32</td>
<td>Calculation based on CVD strategy, raising ESD from 20% where it is offered to 40% nationally</td>
</tr>
<tr>
<td>Potential lives saved U75</td>
<td>75</td>
<td>0.14</td>
<td></td>
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<tr>
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<td>1,400</td>
<td>2.57</td>
<td>Definition of deaths used in the calculation: Deaths with a primary cause of stroke (ICD10 codes, I61, I63 and I64)</td>
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<tr>
<td>Cost-saving (£)</td>
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<td>15,100</td>
<td></td>
</tr>
<tr>
<td>Net cost (£)</td>
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<td>-15,100</td>
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</tbody>
</table>

**Strength of evidence** 1

Currently, 66 percent of hospitals have an early supported discharge team. The intervention would aim to increase uptake of community rehab and early supported discharge for stroke patients.

Early supported discharge teams can provide better (and potentially more cost-effective) outcomes than exclusively hospital-based rehabilitation for stroke patients with moderate disabilities. Modelling from the 2010 National Audit Office report suggests that “increasing the availability of early supported discharge from its current level – equating to around 20 percent of patients – to a more optimal level of 43 percent of patients, with all stroke units providing early supported discharge, would be cost-effective over a ten-year timeframe”. NICE Guidance on Stroke Rehabilitation covers early supported discharge.

**Impact on inequalities**

Public Health England reports that the incidence of first-time stroke is twice as high among African Caribbean people as it is amongst Europeans. African and South Asian people are also at higher risk of stroke and the mortality rate from stroke is


almost three times higher for men born in Bangladesh than those born in England and Wales\textsuperscript{16};

Smoking is a risk factor for stroke and smoking rates are higher amongst Bangladeshi Men (40 percent) and Pakistani men (29 percent) and white Irish men (30 percent compared to the whole population (20 percent)\textsuperscript{17}.

Premature deaths from stroke are around three times higher in the most deprived areas of the UK than the least deprived.
Factsheet: Early diagnosis of cancer by delivering improved access to diagnostics

An important consideration for commissioners seeking to deliver earlier diagnosis of cancer is assessing the demand for, and planning to deliver, increased capacity for diagnostic tests for cancer, whilst also seeking an improvement in access to tests from primary care to minimise the extra burden on secondary care clinicians.

Where diagnostic services are focussed around pathways of care and are being provided in the community, together these will result in earlier diagnoses and more efficient and effective care.

Commissioners should look at local patient pathways to ensure that adequate diagnostic capacity is in place and that they are being used effectively. Part of ensuring adequate diagnostic capacity is about catering for direct GP access to tests. Funding has been made available for GPs to directly access MRI scans, chest x-rays, ultrasound and lower GI endoscopy, and GPs should be made aware that they can access these tests, and commissioners may wish to monitor local diagnostic patterns to ensure that this is able to happen quickly and smoothly.

Better GP access to diagnostics

Priority areas for improving earlier diagnosis:

- Chest x-ray: to support diagnosis of lung cancer;
- Non-obstetric ultrasound: to support diagnosis of ovarian cancer;
- Lower gastro-intestinal endoscopy to support diagnosis of colorectal cancer;
- MRI brain: to support diagnosis of brain cancer; and
- Abdominal and pelvic CT.

We plan to work on including details of the volume of additional diagnostic tests that the average practice would need to consider commissioning per xx patients, with indications of how volumes might differ for areas with high levels of deprivation, or more elderly populations.

Cancer Diagnosis Imaging

Early access to chest x-ray and pelvic ultrasound are probably the two biggest impacts on cancer that diagnosis imaging delivers, outside formal screening programmes.

The ‘NHS Atlas of Variation’ can help commissioners see if they have unwarranted variation in use of diagnostic tests and can be a very helpful catalyst for change. For access to imaging, the NHS now has online guidelines, available free on N3 to support early diagnostic testing here.

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Planning for the impact of bowel scope screening (flexible sigmoidoscopy) on endoscopy capacity

There are a number of developments in national screening programmes which need to be taken into consideration in assessing diagnostics capacity for endoscopy and colonoscopy. Demand for endoscopy and colonoscopy is set to increase driven by:

- Recent extension to the faecal occult blood testing (FOBT) part of the bowel cancer screening programme to include all those aged 60-74;
- The introduction of the bowel scope screening for people aged 55 has begun and will extend across the country over the next few years. All centres will have begun their roll out by 2016;
- The NHS Operating Framework expectation is that less than 1 percent of patients should wait more than six weeks for diagnostic tests.

The pressures from these increases in demand will affect every endoscopy and colonoscopy service in the country. In 2012 it was estimated that the NHS will need to plan for an increase in lower gastrointestinal activity over the next 4-5 years of 10-15 percent year on year.
The participation in cancer screening programmes has been shown to vary with a number of factors. Most is known about breast and cervical screening, as they have both been established over 20 years. But knowledge is growing about bowel cancer screening which is less than 10 years old. A major difference also with the bowel cancer screening programme is that it invites both men and women, whereas the older programmes are both women only.

All three screening programmes show higher participation in more affluent areas. While breast cancer is more common in more affluent areas, it is a common disease in all socio-economic groups. In addition, there is less variation in survival rates across the different groups in society if a woman’s breast cancer is detected at screening. Research shows women are more likely to attend for breast screening if they have access to a car which suggests delivering breast screening locally is important in addressing poor uptake in less affluent areas.

Cervical cancer is more common in less affluent areas and uptake is greater amongst more educated women, but research suggests that for cervical screening, ethnicity is the most important predictor of participation. Offering and delivering cervical screening in a culturally appropriate manner is likely to be important here.

Bowel cancer screening is delivered to men and women from the age of 60. Men are less likely to accept an invitation to participate than women, even though men are at higher risk. There is also some evidence that people from some minority ethnic groups and smokers are less likely to participate in this screening programme.

People who have other health problems are less likely to participate in cancer screening. In particular there is concern that people with learning disabilities are not accessing screening. This applies to all three cancer screening programmes. However, differences in screening rates between those with and without learning disabilities were less pronounced in more socially deprived areas where general participation rates are low.

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19 Information provided by Public Health England
Factsheet: Supporting early diagnosis of cancer by addressing local variation in outcomes

Cancer outcomes in England are poor when compared with the rest of Europe. The main gap on a national basis is present in one year survival, suggesting late stage diagnosis.

Cancer incidence is also continuing to increase by about 4 percent per annum\(^\text{20}\) and this growth will put continuing pressure on cancer services capacity unless we can find a more sustainable approach to managing cancer.

Success in delivering early diagnosis (and cancer prevention) is likely to be dependent on CCGs working in partnership across the whole healthcare system, with Area Teams, Strategic Clinical Networks and through Health and Wellbeing Boards with Local Authorities, to ensure a joined up approach to early diagnosis. Early diagnosis strategies are likely to be most effective when combined with a comprehensive prevention strategy across local communities, which supports practices to take action on the key avoidable causes of cancer – tobacco, alcohol, poor diet, physical inactivity and obesity.

A key suggested action that commissioners can take, in partnership with NHS England’s Area Teams and Strategic Clinical Networks, is to understand the variance in performance of local practices in terms of referral patterns, screening participation rates, and outcomes for people with cancer. Whilst CCGs are not responsible for commissioning primary care, the geographical area covered by Area Teams and Strategic Clinical Networks in such that it is likely to prove difficult for them to support improvements in outcomes at individual practice level. CCGs may be able to identify those practices locally with the poorest outcomes from cancer, which can derive from a complex range of factors, including demographic and social factors and to work with them to understand the reasons for variance.

There is a wealth of information produced in relation to cancer services which commissioners can use to understand how local services are performing.

- Further information about local cancer statistics can be accessed on the Cancer Research UK website [here](#).
- Detailed local profiles (currently by PCT area) are published detailing cancer commissioning outcomes [here](#).
- **GP practice profiles**

  Tools such as practice profiles, mapped to CCGs from 2012 onwards, can also show areas where there is significant variation in referral practices and access to diagnostics, and commissioners can support early diagnosis by actively engaging with their member practices and supporting them to understand this variation and address it where it is unwarranted. Commissioners can also work

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with local practices to ensure they are aware of resources such as Risk Assessment Tools and Significant Event Audits that can help manage suspected cases of cancer, and support them to use these effectively. There is an emerging evidence base showing the positive impact use of these kinds of tools can have on two week wait referral conversion and cancer detection rates.

Resources and NICE guidance for cancer by topic can be found here.

Additional resources to support early diagnosis

- [Self-assessment of bowel cancer risk](#)
- [Self-assessment of inherited breast or ovarian cancer](#)
Factsheet: Management of excess alcohol consumption

Demographics

<table>
<thead>
<tr>
<th>England Population Data</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average (nationally) of preventable death from alcohol</td>
<td>6775&lt;sup&gt;21&lt;/sup&gt;</td>
</tr>
<tr>
<td>Average national excess alcohol intake prevalence (baseline figure)</td>
<td>1,000,000 (4% 16-65s)</td>
</tr>
<tr>
<td>Potential Years of Life Lost (under 75s) from alcohol</td>
<td>84330 (assuming age of death at the mid-point of each of the ranges given in ONS data)</td>
</tr>
</tbody>
</table>

Interventions recommended by NICE for the diagnosis and management of alcohol-use disorders (CG 115)<sup>22</sup>

Current figures suggest that 111,000 people aged 18 or over are in contact with structured treatment for substance misuse, primarily alcohol. This suggests that 9/10 problem drinkers are not receiving specialist alcohol treatment. Young people are under-represented in these services.

A number of recommendations are made by NICE in the above guideline. The detailed meta-analysis is available in the full guidance. The following is a broad summary with an indication of the quality of evidence and the number of individuals that could be reached if implemented nationally.

All figures quoted are statistically significant to P $\leq 0.05$  \[\text{RR} = \text{relative risk} \quad \text{SMD} = \text{standard mean difference}\]

---


<table>
<thead>
<tr>
<th>Psychological Interventions</th>
<th>Quality of evidence</th>
<th>Representative Outcome</th>
<th>Potential numbers affected if implemented nationally</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brief intervention delivered in primary care, emergency departments or social services²³</td>
<td>High</td>
<td>Mean reduction in alcohol intake 38-51g/week lasting 1 year or longer</td>
<td>Applicable to the majority of problem drinkers (based on likelihood of presenting to services)</td>
</tr>
<tr>
<td>Psychological therapies for moderate and severe dependence</td>
<td>Moderate</td>
<td>Cognitive behavioural therapy: reduction in relapse at 6/12 RR 0.75; improved abstinence at 18/12 SMD 0.74</td>
<td>Applicable to approximately 250,000 individuals in England</td>
</tr>
<tr>
<td>Community based assisted withdrawal for persons with &gt;15 units/day intake</td>
<td></td>
<td></td>
<td>Applicable to approximately 250,000 individuals in England</td>
</tr>
<tr>
<td>Intense structured community based intervention for socially isolated/complex and comorbid and as second line</td>
<td>High</td>
<td>SMD -0.09 at 6/12 but not at 12 and 15/12</td>
<td>Applicable to approximately 30,000 individuals in England</td>
</tr>
<tr>
<td>Residential drug assisted rehab for homeless/extremely high intake individuals</td>
<td>Evidence unclear</td>
<td></td>
<td>Applicable to approximately 5-10,000 individuals in England</td>
</tr>
<tr>
<td>Pharmacological Interventions</td>
<td></td>
<td>Abstinence up to 12/12 acamprosate: RR 0.83, combination acamprosate and naltrexone: RR 0.43 at 6/12</td>
<td>Applicable to approximately 100-150,000 individuals in England</td>
</tr>
</tbody>
</table>

Interventions that can be used for the prevention of alcohol-use disorders (University of Sheffield 200924)

Making changes to the price, marketing and availability of alcohol are all potential methods for preventing alcohol-use disorders. There is considerable evidence, both from economic modelling and from the experience of countries that have carried out such interventions that making alcohol less affordable reduces alcohol-related harm.

In Canada a minimum price intervention in 2010 led to sustained reduction in per capita ethanol consumption and a 32 percent reduction in alcohol-related mortality.

<table>
<thead>
<tr>
<th>Quality of Evidence</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>50p /unit minimum charge25</td>
<td>Reduction of 3100 deaths per year</td>
</tr>
<tr>
<td>10% price increase on all alcohol</td>
<td>Reduction of 1455 deaths per year</td>
</tr>
</tbody>
</table>

Overview of potential to reduce lives lost from Chronic Obstructive Pulmonary Disease (COPD)

<table>
<thead>
<tr>
<th>All figures per year</th>
<th>England</th>
<th>Per 100,000</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potential lives saved from intervention</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3,500</td>
<td>6.53</td>
<td>Lives that could be saved if all localities above the median in terms of COPD deaths achieve the median</td>
</tr>
<tr>
<td>Potential lives saved U75</td>
<td>1054</td>
<td>1.97</td>
<td></td>
</tr>
<tr>
<td>Reduction in potential years of life lost (U75)</td>
<td>19,455</td>
<td>36.32</td>
<td></td>
</tr>
<tr>
<td>Cost (£)</td>
<td>n/a</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cost-saving (£)</td>
<td>n/a</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net cost (£)</td>
<td>n/a</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strength of evidence</td>
<td>4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Rationale**

If the local areas currently above the median death rate for COPD could achieve the median death rate, 3,500 lives could be saved. Furthermore, if local areas could achieve the death rate of the lower quartile areas, 7,800 lives could be saved. This improvement in mortality will be achieved through the cumulative impact of evidence-based care across the COPD pathway both in long term treatment and during acute episodes (non-invasive ventilation, pulmonary rehabilitation and controlled oxygen treatment).

The following **FIVE** COPD factsheets present interventions that could contribute to achieving this number of lives saved (in local areas above the median) but could also be effective in delivering improvements in local areas where the death rate is already lower.
Factsheet 1: Non–invasive ventilation in acute exacerbations of Chronic Obstructive Pulmonary Disease (COPD)

<table>
<thead>
<tr>
<th>All figures per year</th>
<th>England</th>
<th>Per 100,000</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potential lives saved from intervention (lower)</td>
<td>240</td>
<td>0.45</td>
<td>Estimates derived from national audit record of proportion receiving high dose oxygen in ambulance or on admission and audit evidence of magnitude of reduction in mortality with controlled dosing</td>
</tr>
<tr>
<td>Potential lives saved from intervention (upper quartile)</td>
<td>730</td>
<td>1.36</td>
<td></td>
</tr>
<tr>
<td>Potential lives saved U75 (lower quartile)</td>
<td>72</td>
<td>0.13</td>
<td></td>
</tr>
<tr>
<td>Potential lives saved U75 (upper quartile)</td>
<td>220</td>
<td>0.41</td>
<td></td>
</tr>
<tr>
<td>Reduction in potential years of life lost (lower quartile)</td>
<td>1334</td>
<td>2.49</td>
<td></td>
</tr>
<tr>
<td>Reduction in potential years of life lost (U75)</td>
<td>4058</td>
<td>7.58</td>
<td></td>
</tr>
<tr>
<td>Cost (£)</td>
<td>n/a</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cost-saving (£)</td>
<td>n/a</td>
<td></td>
<td>Likely to be cost saving</td>
</tr>
<tr>
<td>Net cost (£)</td>
<td>n/a</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strength of evidence</td>
<td>3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

COPD causes 115,000 emergency admissions per year, 24,000 deaths per year and 16,000 deaths within 90 days of admission. Type 2 respiratory failure occurs in a quarter of COPD admissions.

A Cochrane systematic review found that non–invasive ventilation (NIV) significantly reduces mortality in people with COPD who develop type 2 respiratory failure, with a number needed to treat of 8 to save 1 life. This level of impact is reflected in the NICE Quality Standard and the COPD and Asthma Outcomes Strategy recommendations.

Despite this the Respiratory Atlas of Variation 2012 shows that there is substantial geographical variation in availability of NIV for eligible patients.

The National COPD Audit 2008 [http://www.rcplondon.ac.uk/resources/chronic-obstructive-pulmonary-disease-audit](http://www.rcplondon.ac.uk/resources/chronic-obstructive-pulmonary-disease-audit) also revealed frequent failure or delay in provision of NIV when indicated:
• 34% of patients with a strong clinical indication for NIV did not receive NIV
• Where NIV was provided, less than half of patients received NIV within the recommended one hour and 38% waited more than 3 hours.

The COPD Strategy Consultation Impact Assessment [http://www.brit-thoracic.org.uk/Portals/0/Clinical%20Information/COPD/AIE%20-%20in%20DH%20template.pdf](http://www.brit-thoracic.org.uk/Portals/0/Clinical%20Information/COPD/AIE%20-%20in%20DH%20template.pdf) found that NIV is a cost saving intervention as it is likely to reduce the need for more costly invasive ventilation and to shorten length of stay.
Factsheet 2: Pulmonary Rehabilitation following acute exacerbations of Chronic Obstructive Pulmonary Disease (COPD)

<table>
<thead>
<tr>
<th>All figures per year</th>
<th>England</th>
<th>Per 100,000</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potential lives saved from intervention</td>
<td>260</td>
<td>0.49</td>
<td>Derived from Cochrane estimate of NNT, 90 day mortality rates and assumption that additional 10% receive PR</td>
</tr>
<tr>
<td>Potential lives saved (U75)</td>
<td>78</td>
<td>0.15</td>
<td></td>
</tr>
<tr>
<td>Reduction in potential years of life lost (U75)</td>
<td>1445</td>
<td>2.70</td>
<td></td>
</tr>
<tr>
<td>Cost (£)</td>
<td>0</td>
<td>0</td>
<td>Cost saving estimated in Impact Assessment for consultation on COPD Strategy, 2009</td>
</tr>
<tr>
<td>Net cost (£)</td>
<td>-£12.1m</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Strength of evidence</td>
<td>2</td>
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</tr>
</tbody>
</table>

Acute exacerbation of COPD is one of the most common reasons for emergency admission to hospital with 115,000 admissions per year. Mortality rates are high with one in 12 patients dying during their hospital stay and one in 6 dying within 90 days.

A Cochrane systematic review found that pulmonary rehabilitation reduces mortality and readmission rates when delivered after admission for acute exacerbation of COPD, with a number needed to treat of six to save one life. This impact is reflected in the NICE Quality Standard and the COPD and Asthma Outcomes Strategy recommendations. There is also emerging evidence that pulmonary rehabilitation in stable COPD also improves survival. Despite this there is substantial geographical variation in provision of pulmonary rehabilitation to eligible patients. According to the National COPD Audit 2008 [http://www.rcplondon.ac.uk/resources/chronic-obstructive-pulmonary-disease-audit](http://www.rcplondon.ac.uk/resources/chronic-obstructive-pulmonary-disease-audit)

- 50% of trusts said they had full provision for eligible patients
- 32% of trusts said they had partial provision for eligible patients
- 10% of trusts said they no provision for eligible patients.

The COPD Strategy Consultation Impact Assessment found that post exacerbation pulmonary rehabilitation (PR) is a cost saving intervention.

The British Thoracic Society Pulmonary Rehabilitation Guideline 2013 sets out the standards required of an effective PR programme. A COPD Commissioning Toolkit 2012 (which includes PR) was published in 2012 as part of the Outcomes Strategy for COPD and Asthma.
Factsheet 3: Case finding targeted at those at high risk of having undiagnosed Chronic Obstructive Pulmonary Disease (COPD)

An estimated 2 million people have undiagnosed and untreated COPD\(^1\). Failure to diagnose is not confined to mild disease. Over half those with moderate disease are undetected, and 20% of undiagnosed have severe or very severe disease. Many patients are first diagnosed when they are in their fifties. [http://publications.nice.org.uk/chronic-obstructive-pulmonary-disease-cg101](http://publications.nice.org.uk/chronic-obstructive-pulmonary-disease-cg101)

10% of emergency admissions for acute exacerbation of COPD are in people whose COPD is undiagnosed. These patients are likely to have had significant disabling symptoms for some time, and the acute admission with its 14% risk of death within 90 days could have been prevented by earlier diagnosis and proactive treatment.


The COPD and Asthma Outcomes strategy makes the point that success in case finding and diagnosis will require a pro-active approach to tackling health inequalities given the social gradient is in the prevalence of COPD and asthma.

<table>
<thead>
<tr>
<th>All figures per year</th>
<th>England</th>
<th>Per 100,000</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potential lives saved from intervention</td>
<td>400</td>
<td>0.75</td>
<td>Illustrative figure showing reduction in mortality if we could identify those currently undiagnosed. Assumes a 25% reduction in 90 day mortality in the 10% of patients who are currently undiagnosed at the time of admissions</td>
</tr>
<tr>
<td>Potential lives saved U75</td>
<td>120</td>
<td>0.22</td>
<td></td>
</tr>
<tr>
<td>Reduction in potential years of life lost (U75)</td>
<td>2223</td>
<td>4.15</td>
<td></td>
</tr>
<tr>
<td>Cost (£)</td>
<td>n/a</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cost-saving (£)</td>
<td>n/a</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net cost (£)</td>
<td>n/a</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strength of evidence</td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Systematic and opportunistic case finding interventions in targeted populations could have a significant impact on premature mortality in the medium and longer term. Indeed a number of studies have shown that impaired lung function is an independent predictor of mortality from all causes with FEV1 being a stronger predictor of cardiovascular mortality than cholesterol.

Targeting case finding on those at high risk of having undiagnosed COPD will result in earlier diagnosis and evidence based chronic disease management. If this delivers only a 25% reduction in mortality in people who would otherwise have been admitted with undiagnosed COPD, it would save around 400 lives per year.

Potential targeting approaches include:

1. Roll out and implementation of GP audit tools for case finding, such as GRASP-COPD. [http://www.primis.nottingham.ac.uk/documents/case-studies/copd-case-study.pdf](http://www.primis.nottingham.ac.uk/documents/case-studies/copd-case-study.pdf)
2. Audit practice information systems to identify people who receive multiple prescriptions for oral steroids and/or antibiotics;
3. Support implementation of opportunistic COPD case finding in primary care through electronic decision support tools;
4. Discuss the COPD diagnosis with patients and carers, including what they can do to help manage their condition, for example signpost to advice on stop smoking and benefits of exercise;
6. Target case finding based on population segmentation and social marketing, as described in the [COPD Prevention and Early Identification Toolkit 2011](http://www.nhsiq.nhs.uk/resource-search/publications/nhs-imp-first-steps-copd.aspx)
7. Misdiagnosis of COPD is common so case finding tests should be followed by quality assured diagnostic spirometry, with trained staff interpreting the results. The NHS Improvement guide ‘First steps to improving COPD care ‘ (2012) [http://www.nhsiq.nhs.uk/resource-search/publications/nhs-imp-first-steps-copd.aspx](http://www.nhsiq.nhs.uk/resource-search/publications/nhs-imp-first-steps-copd.aspx) recommends that COPD diagnoses should have spirometry taken and recorded in the last 15 months other tests may be necessary to confirm the diagnosis, such as a CT scan.
**Factsheet 4: Controlled oxygen to minimise toxicity during acute exacerbations**

**Chronic Obstructive Pulmonary Disease (COPD)**

<table>
<thead>
<tr>
<th>All figures per year</th>
<th>England</th>
<th>Per 100,000</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Derived from Cochrane estimate of NNT and national audit evidence of under provision</td>
</tr>
<tr>
<td>Potential lives saved from intervention</td>
<td>230</td>
<td>0.43</td>
<td></td>
</tr>
<tr>
<td>Potential lives saved U75</td>
<td>69</td>
<td>0.13</td>
<td></td>
</tr>
<tr>
<td>Reduction in potential years of life lost (U75)</td>
<td>1278</td>
<td>2.39</td>
<td></td>
</tr>
<tr>
<td>Cost (£)</td>
<td></td>
<td></td>
<td>Cost saving estimated in impact assessment for consultation on COPD strategy, 2009</td>
</tr>
<tr>
<td>Cost-saving (£)</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Net cost (£)</td>
<td>-£1.5m</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Strength of evidence</td>
<td></td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

COPD causes 115,000 emergency admissions per year, 24,000 deaths per year and 16,000 deaths within 90 days of admission.

High flow oxygen is routinely administered to patients in emergency settings. High dose oxygen is contraindicated in people with COPD because it can trigger life threatening respiratory failure. The dose of oxygen should always be individualised and titrated to the patient’s oxygen saturation (easily measured with routinely available equipment). Clear standards are described in the [British Thoracic Society Emergency Oxygen Guideline 2008](http://www.rcplondon.ac.uk/resources/chronic-obstructive-pulmonary-disease-audit).

There is substantial audit evidence that oxygen overdosing and toxicity is common in people with acute exacerbations of COPD and that significantly higher mortality rates are seen in patients who receive higher oxygen doses.

The 2008 National COPD Audit [http://www.rcplondon.ac.uk/resources/chronic-obstructive-pulmonary-disease-audit](http://www.rcplondon.ac.uk/resources/chronic-obstructive-pulmonary-disease-audit) found that:

- 30% of COPD patients were given high dose (>35%) oxygen in ambulances;
- 35% of patients were receiving high dose oxygen in the Emergency Department when blood gases were taken;
- Mortality was 11% when >35% oxygen was given, compared with 7% when lower concentrations of oxygen.
Implementation of some simple, inexpensive measures could have a significant effect on mortality, for example:

1. Oxygen alert cards for people with COPD;
2. Routine use in ambulances of pulse oximetry to determine individualised oxygen dose;
3. Prompt blood gas analysis on admission with acute exacerbation of COPD;
4. Oxygen prescription and target saturation following admission, in line with British Thoracic Society guidelines.
Factsheet 5: Systematic acute and long term care across the Chronic Obstructive Pulmonary Disease (COPD) pathway

COPD causes 115,000 emergency admissions per year, 24,000 deaths per year and 16,000 deaths within 90 days of admission.

NICE 2010 clinical guidance, the NICE Quality Standard and the NHS Companion Document to the Outcomes Strategy for COPD and Asthma describe the key interventions that together improve outcomes in COPD. These include:

1. Stratification of patients by severity and impact
2. Optimise prescribing – evidence-based choice of drugs and correct use of inhalers
3. Support for self-management including provision of patient-held rescue medication (oral steroids and antibiotics)
4. Support for smoking cessation
5. Identification and management of co-morbidities
6. Referral for pulmonary rehabilitation
7. Routine pulse oximetry and referral where indicated for oxygen assessment.

The ‘Respiratory Atlas of Variation 2012’ and other sources show that there is substantial variation in the quality of chronic disease management provided in primary care. Evidence-based guidance is often not implemented. In addition co-morbidities such as heart failure are often undiagnosed or poorly managed and therefore contribute to poor outcomes.
Factsheet: Smoking cessation for people with a serious mental illness (SMI)

Smoking is a proven risk factor for cancer, respiratory disease and circulatory disease which are all major causes for premature mortality among patients with a serious mental illness. Smoking is the largest cause of preventable illness in the UK. Among patients with a serious mental illness, estimates of smoking prevalence range from 36 percent among bipolar patients to 56 percent in patients with psychosis. The general level of smoking among the UK population is 20 percent by comparison.

Importantly, patients with SMI are almost as likely as the general population to want to stop smoking – 69 percent of patients with psychosis reported wanting to quit compared with the general population answer of 66 percent. However, SMI patients have reported that they will find it more difficult to stop smoking and are more likely to need multiple attempts to be successful.

While most patients will have received some form of smoking cessation support, our advice is that there are a range of targeted interventions where emerging evidence suggests they may be successful.

Interventions: prevention in schools and targeting adolescents

There is evidence suggesting 60 percent of children and adolescents presenting with their first episode of psychosis smoke. This is a worthwhile population to target as successful cessation at this stage can have significant impacts on mortality and quality of health.

Suggested Action

Commissioners to work with the local Health and Wellbeing Board to implement strategies to reduce smoking in schools and colleges. NICE has provided guidance on smoking cessation interventions in school with tools on how to implement this guidance.

Develop links with Child and Adolescent Mental Health Services (CAMHS) in your local area and commission services to detect and offer cessation advice to those that smoke. Best practice examples are to follow.

29 Szatkowski L, McNeill A. The delivery of smoking cessation interventions to primary care patients with mental health problems. Addiction In press
Prevention at primary care level: Community Mental Health Clinics

It is a priority of the Government that good access to stop smoking services are made available to patients with mental health problems\(^{31}\). Many patients with SMI do not access mainstream services and in particular do not routinely see their GP. These patients will often be seen by a psychiatrist for an annual check and have contact with a healthcare professional as part of the care programme approach. This provides an opportunity for a wider delivery of care which should incorporate advice and steps to achieve smoking cessation.

**Suggested Action**

Commission smoking cessation services and consider a local CQUIN that incentivises community mental health clinics as well as specialist mental health trust to increase referrals to smoking cessation services.

There is limited research on the best combination of smoking cessation therapy for patients with a serious mental illness. However, behavioural support including cognitive behavioural therapy or group therapy with Nicotine Replacement Therapy has demonstrated the strongest success in cessation rates\(^{32}\). There is also good evidence that the combination of Bupropion and behavioural therapy can have benefit in the SMI population\(^{33}\). However, care should be taken when prescribing Bupropion as there are interactions and effects on the underlying mental health condition that can occur therefore patients need to be monitored. Guidance on prescribing of smoking cessation medication and their interaction with anti-psychotics is available [here](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/215811/dh_124057.pdf).

**Acute Mental Health Trusts (Inpatients)**

Once patients are admitted to wards there is an excellent opportunity to change their behaviour towards smoking. There is evidence that hospital inpatients (with or without a mental disorder) are motivated to stop smoking. Unfortunately, there is a culture in acute mental health trusts which presents a barrier to effective smoking cessation\(^{34}\). An acute inpatient psychiatric unit provides an ideal opportunity to instigate intensive behavioural support along with NRT to achieve smoking cessation.


Staff working in Acute Psychiatric Units have a high prevalence of smoking, (estimates of 47 percent). Therefore promoting smoking cessation and changes in behaviour for mental health staff themselves may also support improvements in smoking cessation.

**Suggested Actions**

Improve access to smoking cessation services for inpatients on psychiatric wards. Develop incentives locally to promote smoking cessation treatment (prescribing of NRT and provision of behavioural therapy) for admitted patients. Also provide smoking cessation advice to carers. Commission programmes to improve smoking cessation amongst staff on mental health wards. It is important to note the need to continue support in the community and this could be in the form of face to face or telephone and even text messaging services.  

**Examples of innovative practice**

Case studies have been adapted from those presented in 'Smoking and Mental Health: A joint report by the Royal College of Physicians and the Royal College of Psychiatrists'  

**An Integration Approach to Smoking Cessation, Nottingham**

An integrated service model was designed to tackle the high burden of smokers in the mental health population across two acute trusts. The model was to span across the entire mental health pathway, including rehabilitation and community services, acute inpatients and GP services.

Two mental health professionals were trained in tobacco dependence and employed full-time to support smoking cessation in the community and for inpatients. These specialists were available for staff support and to see patients delivering advice and provide treatment.

A key to this project was the integration and communication between primary and secondary care. GP’s were made aware of quit attempts and the community clinics followed up patients who started cessation treatment in hospital.

At the end of the project 110 patients had attended sessions. 17 patients had successfully quit and a further 29 reduced consumption by more than 50 percent. Further information here.

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37 [http://guidance.nice.org.uk/PH48](http://guidance.nice.org.uk/PH48)
38 [http://www.rcplondon.ac.uk/publications/smoking-and-mental-health](http://www.rcplondon.ac.uk/publications/smoking-and-mental-health)
Merton Borough Local Authority and South West London and St. Georges Mental Health Trust

Over a three year period the group developed a defined pathway to identify and provide smoking cessation treatment. This was done by looking at the process in three steps.

1) Addressing patient smoking
2) Addressing staff attitudes
3) Addressing procedural and policy barriers

Frontline staff were trained to identify smokers and deliver brief cessation advice followed by referral to a specialist adviser who was based in both inpatient wards and community clinics. The adviser was then able to provide face-to-face behavioural support and commence NRT in accordance with NICE guidance.

Over 400 frontline staff (95 percent) were trained and 180 patients accessed the service. Number of patients successfully quitting per quarter totalled 38.

For further details please refer to: ‘Smoking and Mental Health: A joint report by the Royal College of Physicians and the Royal College of Psychiatrists’

39 http://www.rcplondon.ac.uk/publications/smoking-and-mental-health
Factsheet: Implementation of the ‘Sepsis Six’ care bundle

<table>
<thead>
<tr>
<th>All figures per year</th>
<th>England</th>
<th>Per 100,000</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potential lives saved from intervention</td>
<td>9,904</td>
<td>18.49</td>
<td>Estimate based on Surviving Sepsis Campaign study, Sepsis 6 cohort study and ICU audit</td>
</tr>
<tr>
<td>Potential lives saved (under 75)</td>
<td>split not known</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reduction in potential years of life lost (under 75)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cost (£)</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Cost-saving (£)</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Net cost (£)</td>
<td></td>
<td>309,637</td>
<td>Estimates from Ombudsman report</td>
</tr>
<tr>
<td>Strength of evidence</td>
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</tbody>
</table>

Sepsis is caused when the body's immune system overreacts to infection. It occurs when the body's immune system goes into overdrive, setting off a series of reactions that can lead to widespread inflammation (swelling) and blood clotting. It is an unpredictable condition that can strike at any time. Rapid diagnosis and treatment are critical to survival.40

It is estimated that sepsis claims 36,800 UK lives annually, and it carries a 35 percent mortality. Sepsis has a 10-fold greater incidence in the over-65s.

Reliable delivery of basic aspects of care early reduces mortality significantly- absolute risk reductions reported range from 16 percent to over 50 percent. The United Kingdom Sepsis Trust has developed the concept of the ‘Sepsis Six’- a set of six tasks including oxygen, cultures, antibiotics, fluids, lactate measurement and urine output monitoring- to be instituted within one hour by non-specialist practitioners at the front line. This sub-bundle has been widely adopted by NHS Scotland and as part of the Saving 1000 Lives Campaign in Wales.

Compliance with the Sepsis Six has been shown to reduce the relative risk of death by 46.6 percent, meaning that one additional life is likely to be saved for every 5 care episodes. The delivery of the Sepsis 6 was associated with reduced risk of death from 44 percent in the non-compliant group to just 20 percent. Achieving 80 percent compliance, therefore, would be expected to save an estimated 15,000 lives per year across the NHS.

Further information is available in a briefing prepared for NHS England by the Sepsis Trust:
  - Sepsis briefing

References to information and resources available from the Sepsis Trust and College of Emergency Medicine are provided below.

40 Time to act - Severe sepsis: rapid diagnosis and treatment saves lives', Parliamentary and Health Service Ombudsman Report for World Sepsis Day, 13 Sept 2013’
### Factsheet: Care Bundle for Community-Acquired Pneumonia

<table>
<thead>
<tr>
<th>All figures per year</th>
<th>England</th>
<th>Per 100,000</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potential lives saved from intervention</td>
<td>3,000</td>
<td>5.83</td>
<td>Estimate based on results of Advancing Quality Programme being replicated in the rest of the country</td>
</tr>
<tr>
<td>Potential lives saved U75</td>
<td>1,359</td>
<td>2.53</td>
<td>Definition of deaths used in the calculation: Deaths with a primary cause of pneumonia (ICD10 codes, J12 - J18)</td>
</tr>
<tr>
<td>Reduction in potential years of life lost (u75)</td>
<td>45,400</td>
<td>83.21</td>
<td>Assumptions: This intervention is estimated to prevent more deaths than there were deaths with a primary cause of pneumonia in 2012. This is because the vast majority of people who die with pneumonia have an underlying condition that is reported as the primary cause of death. It is therefore assumed that the deaths that will be prevented follow the same age and sex distribution as deaths from pneumonia.</td>
</tr>
<tr>
<td>Cost (£)</td>
<td>-</td>
<td>79,900</td>
<td>This is the cost of providing the performance pay, as done in the AQ programme. It is not the cost to providers.</td>
</tr>
<tr>
<td>Cost-saving (£)</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Net cost (£)</td>
<td>-</td>
<td>79,900</td>
<td></td>
</tr>
<tr>
<td>Strength of evidence</td>
<td></td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

Acute care for community-acquired pneumonia is currently poor. A care bundle has been developed and is currently being trialled by The British Thoracic Society with 25 providers. The bundle consists of:

- Perform and assess chest x-ray within 4 hours of admission
- Assess oxygen and prescribe target range for oxygen
- CURB 65 to risk stratify
- Administer appropriate antibiotics within 4 hours of admission.

Evidence for this intervention comes from a 2012 study of the Advancing Quality (AQ) Programme (pay for performance scheme) in NW England which found a statistically significant absolute reduction in hospital mortality of 1.9 percent (comparing 18 months before with 18 months after introduction of programme) through incentivising this intervention. Crude analysis based on this study suggests that if we had national rollout, 3,000 lives a year could be saved (1,300 under 75).
Factsheet: Prevention of venous thromboembolism (VTE)

Potential benefits:
The first step in the VTE prevention pathway is the assessment of risk so that appropriate preventative treatment (prophylaxis) can be given in line with NICE guidance. The National VTE Prevention Programme has successfully increased the percentage of patients assessed for risk of VTE on admission to hospital from <45 percent in 2010 to >95 percent in 2013. During this time, ONS data has shown a reduction in the number of deaths from VTE.

Reducing mortality in terms of preventable deaths
Trust level data (published in Chest) show that implementing quality improvements in line with NICE Quality standard for VTE prevention can reduce the number of cases of hospital-associated thrombosis by 20 percent. ONS data on VTE deaths since introduction of the national VTE prevention programme enables us to estimate number of preventable deaths each year.

<table>
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<tbody>
<tr>
<td>Potential lives saved from intervention</td>
<td>900</td>
<td>1.68</td>
<td>Estimate based on Kings College study. Between estimates from cohort study and ONS estimate.</td>
</tr>
<tr>
<td>Potential lives saved (under 75)</td>
<td>288</td>
<td>0.54</td>
<td></td>
</tr>
<tr>
<td>Reduction in potential years of life lost (under 75)</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Cost (£)</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Cost-saving (£)</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Net cost (£)</td>
<td>-</td>
<td>-</td>
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</table>

Implementing strategies for the prevention of VTE in line with best practice set out in the NICE Quality Standard (QS3) will save lives and will also improve the quality of life of those who suffer from the long term conditions associated with VTE.

Treatment of non-fatal symptomatic VTE and related long-term morbidities is associated with considerable cost to the health service, estimated at £640 million (House of Commons Select Committee, 2005). The risk of developing hospital-associated VTE depends on the condition and/or procedure for which the patient is admitted to hospital and on any predisposing risk factors. Costing analysis for NICE Clinical Guideline 92 (VTE - reducing the risk) estimated that providing preventative treatment to patients at risk of VTE in England would result in savings per 100,000 population of £12,000.

Links to other resources
The National VTE Prevention Programme website.
VTE Commissioning Toolkit.
Factsheet: Implementation of NICE guideline on Acute Kidney Injury (AKI)

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<tbody>
<tr>
<td>Potential lives saved from intervention</td>
<td>10,000</td>
<td>18.70</td>
<td>Rough estimate based on NICE CG169. As this guidance is new and there is a risk of double counting lives saved, this figure needs to be treated with caution.</td>
</tr>
<tr>
<td>Potential lives saved U75</td>
<td>split not known</td>
<td></td>
<td>Definition of deaths used in the calculation: Deaths with a primary cause of acute renal failure (ICD10 codes, N17)</td>
</tr>
<tr>
<td>Reduction in potential years of life lost (U75)</td>
<td>-</td>
<td>-</td>
<td>PYLL reduction (all ages) estimated to be 160.55 per 100,000 population</td>
</tr>
</tbody>
</table>

| Cost (£)                                         |         |             | NICE finds it cost saving (average 4.7 fewer hospital days and less chance of chronic kidney injury) but additional costs and benefits vary significantly with current practice |
| Cost-saving (£)                                  |         |             |                                                                                                                                  |
| Net cost (£)                                     |         |             |                                                                                                                                  |
| Strength of evidence                             | 2       |             |                                                                                                                                  |

AKI is associated with 100,000 deaths in England per annum (though in most cases, not the primary cause). This is middle estimate - it ranges from 72,000 to 240,000.

Data are scant. However, based on published data and the NCEPOD report48:

- 1 in 5 emergency admissions are associated with AKI. Of these, 60 percent arise in the community, 40 percent within secondary care
- Based on the 2009 NCEPOD report on AKI and death, 20-30 percent of cases were avoidable

We can estimate that up to 10,000 deaths might be avoidable per annum.

Clinical practice guidelines on Acute Kidney Injury, NICE guidance CG169 and NICE guidance CG50, have been developed for use in the NHS in England, Wales and Northern Ireland. It is a common problem amongst hospitalised patients, in particular the elderly population whose numbers are increasing as people live longer. The guideline covers adults, children older than 1 month. Particular consideration will be given to the needs of older patients (65 years and older) and people at high risk of developing acute kidney injury, such as people with chronic kidney disease and urological disorders.
The implementation of the guidelines would:

- Have a high impact on outcomes that are important to patients
- Have a high impact on reducing variation in care and outcomes
- Lead to a more efficient use of NHS resources
- Promote patient choice
- Promote equalities
- Mean patients reach critical points in the care pathway more quickly

The Acute Kidney Injury (AKI) Programme Board has been established during 2013. The aim of the Board is to deliver and implement a structure and tools within 3 years that will lead to a fall in the number of preventable episodes of AKI, and with that a reduction in deaths associated with AKI. It will lead work on the development of clinical tools, information and levers and prioritise patient empowerment. It will utilise commissioning pathways and other clinical networks. It will also establish local and national data collection and audit leading to further safety improvement and target research towards areas that require elucidation.

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