Title:	Impact Assessment (IA)
Transparency in outcomes - a framework for the NHS **Lead department or agency:** Department of Health **Other departments or agencies:**	**IA No:** 5014 **Date:** 19/07/2010 **Stage:** Consultation **Source of intervention:** Domestic **Type of measure:** Primary legislation

Summary: Intervention and Options

What is the problem under consideration? Why is government intervention necessary?

The NHS currently achieves relatively poor healthcare outcomes in certain major healthcare areas when compared to our peer countries.

The Department of Health intends to set-up a new NHS Commissioning Board that will be responsible for securing improved outcomes for NHS patients through the commissioning process.

In order to hold this new body to account, it is necessary to set up an accountability framework which should ensure that the Commissioning Board works together with the NHS to deliver better healthcare outcomes.

What are the policy objectives and the intended effects?

The policy objective is to develop a set of indicators that can be used (i) by the Secretary of State to hold the NHS Commissioning Board to account, (ii) can be used by Parliament to hold the Secretary of State to account for the overall performance of the NHS and (iii) will act as a catalyst for improvement throughout the NHS.

The intended effect is to drive forward the improvement in the quality of NHS healthcare and ensure that the right healthcare outcomes for patients are used to hold the NHS to account.

What policy options have been considered? Please justify preferred option (further details in Evidence Base)

Option 1: Do nothing.

Option 2: Develop an Outcomes Framework that will allow the Secretary of State to hold the NHS Commissioning Board to account, using indicators selected via a rigorous assessment process

When will the policy be reviewed to establish its impact and the extent to which the policy objectives have been achieved?	It will be reviewed Timing to be determined
Are there arrangements in place that will allow a systematic collection of monitoring information for future policy review?	Yes

SELECT SIGNATORY Sign-off For consultation stage Impact Assessments:

I have read the Impact Assessment and I am satisfied that, given the available evidence, it represents a reasonable view of the likely costs, benefits and impact of the leading options.

Signed by the responsible SELECT SIGNATORY:..... Date:.....

Summary: Analysis and Evidence

Policy Option 2

Description:

Setting up an Outcomes Framework

Price Base Year	PV Base Year	Time Period Years	Net Benefit (Present Value (PV)) (£m)		
			Low: Unknown*	**High:** Unknown*	**Best Estimate: Unknown**

COSTS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low				
High				
Best Estimate	Unknown*		Unknown*	**Unknown***

Description and scale of key monetised costs by 'main affected groups'

As the development of the new Outcomes Framework is still in its early stages and the final approach taken as well as the individual outcome indicators selected will be determined post-consultation, costs have not been monetised at this stage.

* Note that the Annexes include analysis of some illustrative outcomes.

Other key non-monetised costs by 'main affected groups'

Costs of collecting and disseminating the outcome indicators that will constitute the Outcomes Framework.

Costs of diverting NHS expenditure to meeting the levels of ambition set, including opportunity costs.

BENEFITS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low				
High				
Best Estimate	Unknown*		Unknown*	**Unknown***

Description and scale of key monetised benefits by 'main affected groups'

As the development of the new Outcomes Framework is still in its early stages and the final approach taken as well as the individual outcome indicators selected will be determined post-consultation, no benefits have been monetised at this stage.

* Note that the Annexes include analysis of some illustrative outcomes.

Other key non-monetised benefits by 'main affected groups'

An NHS Commissioning Board held effectively to account in respect of the health care outcomes delivered by the NHS. This should lead to improvements in the quality of healthcare received by patients.

Key assumptions/sensitivities/risks **Discount rate (%)**

Selected outcomes will represent accurately the overall quality of healthcare provided by the NHS.
Selected outcomes will prove amenable to improvement via NHS health care interventions
Selected outcomes will be attributable to NHS actions and will therefore be useful in holding it to account.
Selection criteria to be developed will ensure that the chosen outcomes are cost-effectivene and not distorting of priorities
Risks of setting up an incomplete accountability framework for the NHS Commissioning Board
Risks that the actions required to yield improved outcomes are not fully known in all cases

Impact on admin burden (AB) (£m):			Impact on policy cost savings (£m):	In scope
New AB:	**AB savings:**	**Net:**	**Policy cost savings:**	No

Enforcement, Implementation and Wider Impacts

What is the geographic coverage of the policy/option?			England		
From what date will the policy be implemented?			01/04/2011		
Which organisation(s) will enforce the policy?					
What is the annual change in enforcement cost (£m)?					
Does enforcement comply with Hampton principles?			Yes		
Does implementation go beyond minimum EU requirements?			No		
What is the CO_2 equivalent change in greenhouse gas emissions? (Million tonnes CO_2 equivalent)			**Traded:**	**Non-traded:**	
Does the proposal have an impact on competition?			No		
What proportion (%) of Total PV costs/benefits is directly attributable to primary legislation, if applicable?			**Costs:** 0	**Benefits:** 0	
Annual cost (£m) per organisation (excl. Transition) (Constant Price)	**Micro** 0	**< 20** 0	**Small** 0	**Medium** 0	**Large** 0
Are any of these organisations exempt?	No	No	No	No	No

Specific Impact Tests: Checklist

Set out in the table below where information on any SITs undertaken as part of the analysis of the policy options can be found in the evidence base. For guidance on how to complete each test, double-click on the link for the guidance provided by the relevant department.

Please note this checklist is not intended to list each and every statutory consideration that departments should take into account when deciding which policy option to follow. It is the responsibility of departments to make sure that their duties are complied with.

Does your policy option/proposal have an impact on…?	**Impact**	**Page ref within IA**
Statutory equality duties[1] Statutory Equality Duties Impact Test guidance	Yes	38
Economic impacts		
Competition Competition Assessment Impact Test guidance	No	
Small firms Small Firms Impact Test guidance	No	
Environmental impacts		
Greenhouse gas assessment Greenhouse Gas Assessment Impact Test guidance	No	
Wider environmental issues Wider Environmental Issues Impact Test guidance	No	
Social impacts		
Health and well-being Health and Well-being Impact Test guidance	Yes	15
Human rights Human Rights Impact Test guidance	No	
Justice system Justice Impact Test guidance	No	
Rural proofing Rural Proofing Impact Test guidance	No	
Sustainable development Sustainable Development Impact Test guidance	No	

[1] Race, disability and gender Impact assessments are statutory requirements for relevant policies. Equality statutory requirements will be expanded 2011, once the Equality Bill comes into force. Statutory equality duties part of the Equality Bill apply to GB only. The Toolkit provides advice on statutory equality duties for public authorities with a remit in Northern Ireland.

Evidence Base (for summary sheets) – Notes

Use this space to set out the relevant references, evidence, analysis and detailed narrative from which you have generated your policy options or proposal. Please fill in **References** section.

References

Include the links to relevant legislation and publications, such as public impact assessment of earlier stages (e.g. Consultation, Final, Enactment).

No.	Legislation or publication
1	Outcomes Not Targets, Conservative Party (2008). http://www.conservatives.com/~/media/files/green%20papers/health_policy_paper.ashx?dl=true
2	
3	
4	

+ Add another row

Evidence Base

Ensure that the information in this section provides clear evidence of the information provided in the summary pages of this form (recommended maximum of 30 pages). Complete the **Annual profile of monetised costs and benefits** (transition and recurring) below over the life of the preferred policy (use the spreadsheet attached if the period is longer than 10 years).

The spreadsheet also contains an emission changes table that you will need to fill in if your measure has an impact on greenhouse gas emissions.

Annual profile of monetised costs and benefits* - (£m) constant prices

	Y_0	Y_1	Y_2	Y_3	Y_4	Y_5	Y_6	Y_7	Y_8	Y_9
Transition costs										
Annual recurring cost										
Total annual costs										
Transition benefits										
Annual recurring benefits										
Total annual benefits										

* For non-monetised benefits please see summary pages and main evidence base section

Evidence Base (for summary sheets)

A. Characterise the underlying problem *(its symptoms and the diagnosis*).

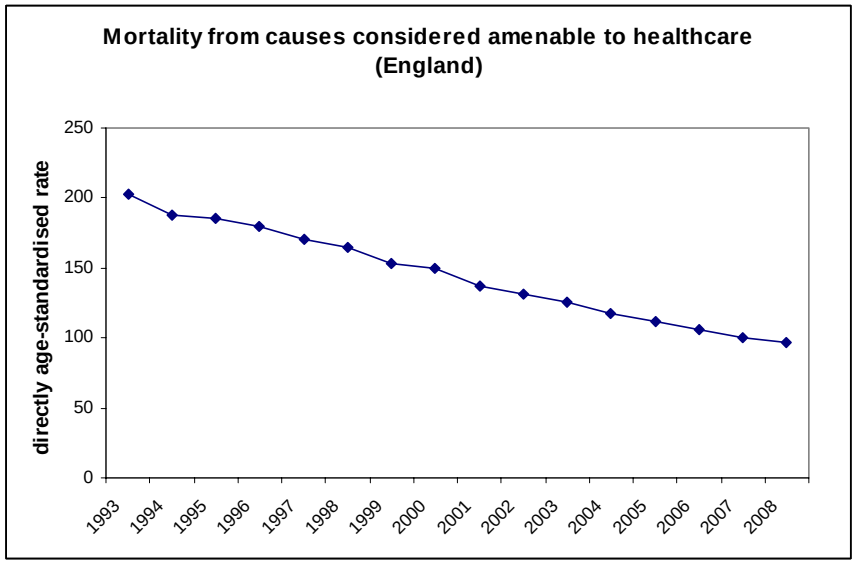
1. The NHS Operating Framework sets out the agenda for the NHS and the basis on which NHS organisations are held to account. It includes the Existing Commitments and Vital Signs (Tier 1 and 2) indicators that brings together the national must do's alongside locally determined priorities (Tier 3).
2. *Revision to the Operating Framework for the NHS in England 2010/11*, published on 21 June 2010, set out key changes for immediate action within 2010/11 and the direction of travel for 2011/12. Whilst the indicators for the 18 weeks referral-to-treatment waiting time and for access to primary care were removed, the four-hour A&E waiting time indicator was retained on clinical advice to lower the threshold.
3. The publication signalled the intention to review all indicators for the 2011/12 NHS Operating Framework for clinical relevance and improved health outcomes.
4. The Department of Health intends to set-up a new NHS Commissioning Board which will be responsible for the performance of the NHS.
5. In order to hold this new body to account, it is necessary to set up an accountability framework which should ensure that the Commissioning Board works together with the NHS to deliver good healthcare outcomes.
6. This is particularly relevant because the NHS currently achieves relatively poor healthcare outcomes in certain major healthcare areas when compared to our peer countries.
7. **This Impact Assessment is concerned with the effect of setting up an Outcomes Framework in itself rather than with the benefits and costs of achieving the outcome indicators that will be selected with the input of consultation responses. (These will be the subject of a further Impact Assessment after the consultation). This impact will be dependent to a large extent on the outcomes and levels of ambition chosen; as an illustration, the potential impact of seven indicators (from Outcomes Not Targets, Conservative Party, 2008) is analysed in Annex 2.** The next section sets out some background information on some of these illustrative outcomes indicators, specifically:
    - Mortality amenable to healthcare
    - Five-year survival rates for cancer
    - Premature mortality from stroke and heart disease
    - Premature mortality from lung disease.

Background information on illustrative outcome: Mortality amenable to healthcare

Mortality amenable to healthcare can broadly be defined as deaths occurring before age 75 from causes that are considered amenable to (i.e. susceptible to benefit from) medical intervention.

Current performance on this outcome:

8. Mortality from causes considered amenable to healthcare has been decreasing steadily for many years in England. Although UK rates fell by around 20% between 1997-98 and 2002-03, this indicator still accounted in 2002/03 for around 30 percent of total mortality under 75 in the UK.
9. The UK went from having the 2nd worst death rate (ranked 18th out of 19) per 100,000 from amenable mortality in 1997-98 to 4th worst in 2002-03. Current England performance on this outcome is as follows:



(Source: NCHOD, not comparable with Nolte & McKee 2008 international analysis below, as NCHOD includes all deaths from Ischemic Heart Disease and Nolte and McKee 2008 only include half of them)

10. An international comparison is as follows (Nolte & McKee 2008):

Comparison Of Rankings Based On Age-Standardized Death Rates (SDRs) Per 100,000 From Amenable Mortality (Both Sexes Combined) In Nineteen Organization For Economic Cooperation And Development (OECD) Countries, 1997–98 And 2002–03

Rank, 1997–98	Country	Amenable mortality (SDR, ages 0–74) 1997–98	2002–03	Rank, 2002–03	Change in rank
1	France	75.62	64.79	1	–
2	Japan	81.42	71.17	2	–
3	Spain	84.26	73.83	4	−1
4	Australia	87.95	71.32	3	+1
5	Sweden	88.44	82.09	9	−4
6	Italy	88.77	74.00	5	+1
7	Canada	88.88	76.83	6	+1
8	Netherlands	96.89	81.86	8	–
9	Greece	97.27	84.31	10	−1
10	Norway	98.64	79.79	7	+3
11	Germany	106.18	90.13	12	−1
12	Austria	108.92	84.48	11	+1
13	Denmark	113.01	100.84	15	−2
14	New Zealand	114.54	95.57	14	–
15	United States	114.74	109.65	19	−4
16	Finland	116.22	93.34	13	+3
17	Portugal	128.39	104.31	18	−1
18	United Kingdom	129.96	102.81	16	+2
19	Ireland	134.36	103.42	17	+2

SOURCE: Authors' calculations based on data from the World Health Organization mortality database.
NOTES: Denmark: 2000–01; Sweden 2001–02; Italy, U.S.: 2002. SDR is standardized death rate.

(Source Nolte and McKee (2008), 'Measuring the health of nations: updating an earlier analysis')

11. Trends indicate that progress is variable on specific conditions within the list of conditions judged to be amenable to healthcare:

	Males			Females		
UK age standardised mortality rate per 100,000	1997-98	2002-03	change	1997-98	2002-03	change
All amenable	148.62	116.62	-22%	111.93	89.64	-20%
Infectious diseases	1.9	2.03	7%	1.43	1.53	7%
Neoplasms	19.12	17.18	-10%	40.75	35.29	-13%
Diabetes	0.7	0.65	-7%	0.36	0.38	6%
IHD (50%)	63.05	46.28	-27%	22.6	15.44	-32%
Other circ diseases	31.21	25.87	-17%	23.88	19.56	-18%
Resp. Diseases	17.52	9.79	-44%	11.83	6.48	-45%
Surgical Cond & medical errors	7.37	7.21	-2%	5.89	6.2	5%
Perinatal, maternal, and congenital conditions	5.82	5.44	-7%	4.04	3.45	-15%
Other	1.93	2.16	12%	1.15	1.33	16%

Background information on illustrative outcome: Five-year survival rates for cancer

Current performance on this outcome:

12. The OECD show improved survival rates for Cervical, Breast and Colorectal cancer when comparing 1997-2002 and 2002-2007. Improvements in outcomes range between 1.8 to 3.1 percentage points. However, in all of these, the UK is below the average for 14 OECD countries by 2.7 to 6.3 percentage points:

Age Standardised 5-year Cancer Survival Rates			
Cancer Type	UK 5 year relative Survival rates 1997-2002 (age standardised)	UK 5 year relative Survival rates 2002-2007 (age standardised)	OECD 14 average relative survival rates 2002-2007 (age standardised)
Cervical Cancer	57.6 %	59.4 %	65.7%
Breast Cancer	75.4 %	78.5 %	81.2%
Colorectal Cancer	48.8 %	51.6 %	58.0%

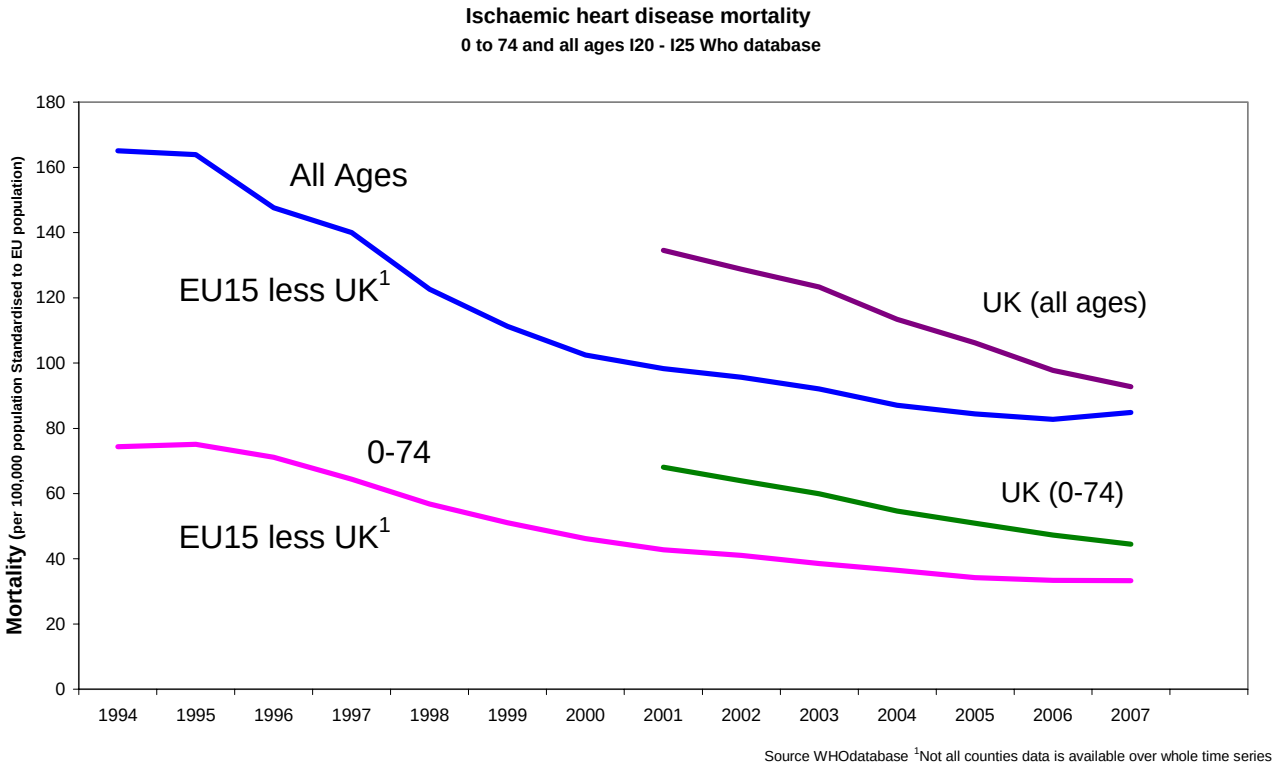
Background information on illustrative outcome: Premature mortality from stroke & heart disease

Current performance on this outcome:

13. England has lower premature mortality rates than the EU12 (average of new EU enlargement members since 2004) and the overall EU27 average, but higher than the average of EU15 (pre-2004 enlargement EU countries), for:

- All circulatory diseases
- Stroke
- CHD

14. DH calculates that to achieve a lower rate than EU15 countries by 2015, the annual reduction in the England rate would need to increase from 6% to 9% for CHD, and from 3.9% to 6.1% for stroke (assuming EU continues to fall at the same rate).



15. The DH stroke policy team considers that for stroke this will be achievable with the current levers (Stroke Strategy 2007, Vital Sign 2008, Best Practice Tariff 2010).

Background information on illustrative outcome: Premature mortality from lung disease

Current performance on this outcome:

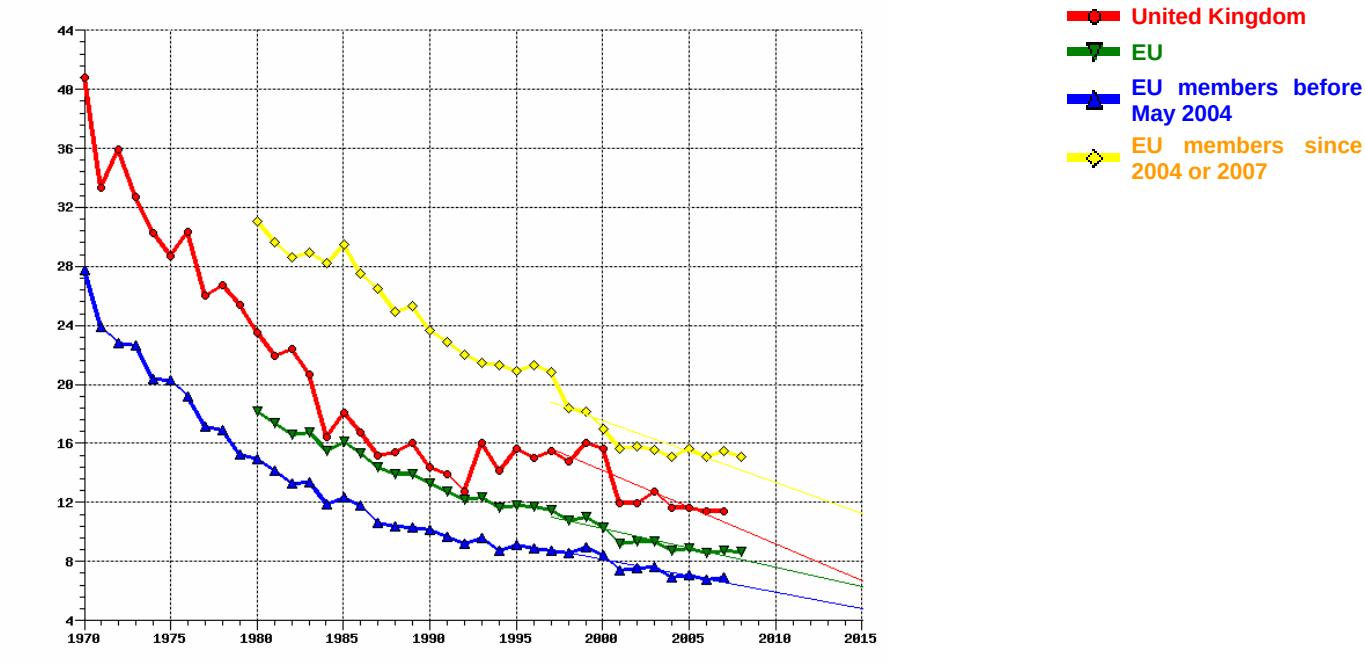
16. According to the OECD's 2005 report on comparative death rates across the world, the UK's death rate from respiratory disease was over 60% higher than the EU27 average.

17. COPD (a major cause of respiratory mortality) is one of the top five causes of preventable mortality (Page, Tobias and Glover definition).

18. Though mortality rates among females were lower than for males in all years, male rates have declined more steeply (by a total of 39 per cent between 1993 and 2005). WHO data suggests that premature mortality (under 65) from respiratory disease is higher than for the EU27 and EU15, but lower than for the EU12.

19. However, there are questions regarding rates of ascertainment of deaths due to pneumonia in the UK versus other European countries, raising some possibility that apparent higher UK mortality from respiratory disease might be at least partly artefactual (see Annex 3).

Standardised Death Rates (SDR), diseases of the respiratory system, ages 0-64 per 100,000



Source: WHO/Europe, European HFA Database, January 2010

B. What are the policy objectives and the intended effects (*the treatment goals*)?

20. The policy objective is to develop a set of indicators that can be used to hold the NHS Commissioning Board to account for securing improved outcomes for patients through the commissioning process.

21. The intended effect is to drive forward the improvement in the quality of NHS health care and ensure better healthcare outcomes for NHS patients that compare well with those of peer countries.

C. What are the underlying causes of the problem?

22. If the NHS Commissioning Board is to be responsible for the quality of health care delivered by the NHS, it needs to be itself held to account by the Secretary of State.

23. Setting up such a body without the appropriate accountability architecture could have very serious consequences in terms of the quality and continuity of care provided by the NHS. Past experience in England and elsewhere shows that designing effective accountability frameworks can be challenging. Most importantly, it is necessary to select indicators which will motivate high performance and improvement, whilst leaving the Commissioning Board sufficient flexibility of action and without generating perverse incentives. There is a tension here, due to the fact that, in healthcare, it is often considerably easier (and, indeed, sometimes more clinically relevant) to focus on clinical process measures rather than outcomes. Several past policies have targeted aspects of mortality outcomes with some success: e.g. *Our Healthier Nation* targeting CHD and stroke mortality, and a PSA target for reducing heart disease and stroke mortality by 40% in under-75s. Equally, other target frameworks have at times resulted in misspecified targets, displacement of effort in areas not being measured, and disincentivisation of innovation due to overly prescriptive process targets.

D. What policy options have been considered?

(i) Set out the baseline (Do Nothing Option – Option 1), against which other options are assessed:

24. The do-nothing option implies that the new NHS Commissioning Board is not subjected to an accountability framework involving outcomes. Otherwise it is assumed that current spending commitments are maintained.

25. As explained above, this do-nothing option implies that the NHS is likely to continue to under-perform when compared with its peers in several key health outcomes. It will also be likely to lead to a situation in which the NHS Board commissions from the NHS on the basis simply of what information and measures are currently available, rather than those which would emerge from a systematic attempt to develop a "balanced scorecard".

26. More importantly, the implication is that the new NHS Commissioning Board would not be explicitly held to account over the health outcomes relating to NHS patients. This would introduce a dangerous lack of accountability that could have serious consequences going forward.

(ii) List and summarise briefly the options assessed in the rest of the IA.

27. Option 2 consists of establishing an Outcomes Framework that can be used to hold the NHS Commissioning Board to account.

28. The Outcomes Framework for the NHS will shape the mandate between the Secretary of State for Health and the new NHS Commissioning Board. The framework is not meant to represent a set of priorities for the NHS. Rather, it should identify a focused but balanced set of outcome indicators that will act as a catalyst for driving up quality across all services and provide an indication of the overall performance of the NHS.

29. The consultation document accompanying this IA begins to describe what the Framework will look like. Taking into account the consultation responses, the final Outcomes Framework for the NHS will be developed. This will set out what the Secretary of State will expect of the NHS Commissioning Board (which will be in existence in its shadow form from 1 April 2011). It will act as a balanced scorecard that the Secretary of State will use to gauge the progress of the NHS Commissioning Board in managing the NHS.

30. To make sure that the Outcomes Framework provides an accurate reflection of the progress of the NHS, a balanced set of progressive outcomes should be chosen. This should span the definition of quality which Lord Darzi set out (High Quality Care For All: NHS Next Stage Review Final Report, 2008) and which the NHS has embraced as a clinically sound definition of quality:

    - Effectiveness
    - Patient experience
    - Safety

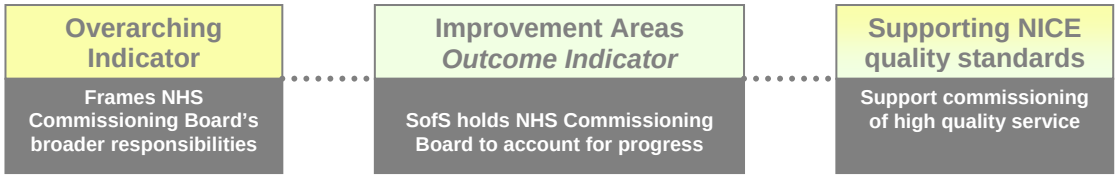
31. In spanning the aspects of quality, the outcomes chosen for the Outcomes Framework will need to cover a large part of the £80bn of annual expenditure currently allocated to PCTs (Table of PCT Revenue Allocations, 2009/10 prices).

32. To achieve this, the Outcomes Framework will be developed around a set of five outcomes that the NHS should be delivering for patients:

    - Preventing people from dying prematurely (EFFECTIVENESS)
    - Enhancing quality of life for people with long-term conditions (EFFECTIVENESS)
    - Helping people to recover from episodes of ill health or following injury (EFFECTIVENESS)
    - Ensuring people have a positive experience of care (PATIENT EXPERIENCE)

- Treating and caring for people in a safe environment and protecting them from avoidable harm (PATIENT SAFETY)

33. The figure below explains how the framework will be structured for each of the five outcome domains (please see the Consultation Document for further explanation):



34. For each domain, an outcome and an overarching indicator will be identified, allowing the Secretary of State to track the progress of the NHS.

35. There will then be specific areas identified in which the NHS Commissioning Board will be tasked with delivering quality improvement. These improvement areas are being consulted upon and will be chosen according to a robust, evidence-based rationale.

36. Under each of the specific improvement areas, the Outcomes Framework will include outcome indicators for which the NHS Commissioning Board will be held accountable. They will be constructed so as to make clear the extent to which the NHS Commissioning Board will be responsible for that outcome, in contrast to the contributions that can be made by public health or social care interventions.

37. The potential outcomes indicators are currently being consulted upon; current candidates and others identified during the course of the consultation will be assessed individually using the following criteria:

    - Meaningful to patients and clinicians as measures of the end-points of their care
    - Clinically credible
    - Measurable across the NHS
    - Statistically meaningful at local area level
    - Internationally comparable wherever possible
    - Show clear evidence that they are cost-effectively amenable to improvement

38. Further assessment and analysis will then consider how individual indicators can be combined into an overall basket or baskets (and appropriate levels of ambition set), to ensure that they do not deflect resources from areas where more cost-effective improvement would be possible; that they are conducive to reduction in health inequalities; and that they are consistent with the Government's wider objectives to improve the welfare of the population subject to the budget constraint.

39. It should be noted that Option 2 assumes that process measures will still be needed along the way in the normal management of organisations. However, the Government will not hold the NHS to account on points of process. As explained above it will develop an Outcomes Framework, including a set of outcomes and indicators, which allow it to hold the NHS, through the new NHS Commissioning Board, to account for improving the quality of healthcare and outcomes for patients.

E. Impacts, Costs and Benefits of Option 2

(i) Set out the mechanism by which Option 2 is intended to work, its expected scale of impact, and the evidence supporting these expectations:

40. The Outcomes Framework will provide the primary mechanism by which the Secretary of State will hold the NHS Commissioning Board to account for its progress. The Board itself will have a number of mechanisms available to it by which to ensure that the NHS delivers the high-level outcomes described in the Framework (e.g. the national contract, accountability arrangements between the

Board and commissioners, potential incentives for commissioners to achieve improved outcomes); these specific mechanisms are not the subject of this consultation. As explained above, the Outcomes Framework is currently being consulted upon and, beyond the principles started above, it is not known which set of outcomes will be selected as outcome indicators. The total impact of Option 2 cannot therefore be determined at this stage, as this will depend on the completed set of selected outcomes chosen to take part of the Outcomes Framework.

41. This Impact Assessment is concerned with the effect of setting up an Outcomes Framework in itself rather than with the benefits and costs of achieving each of the outcome indicators that will be selected with the input of consultation responses.

42. The impact of achieving different outcomes should be the object of a further Impact Assessment after the consultation. This impact will be dependent to a large extent on the outcomes chosen and the level of ambition that is associated with each outcome indicator. As an illustration of the costs and benefits of different levels of ambition, the potential impact of seven outcome indicators (taken from Outcomes Not Targets, Conservative Party, 2008) is analysed in Annex 2. These outcome indicators are:

    - Mortality amenable to healthcare
    - Five year survival rates for cancer
    - Premature mortality from stroke and heart disease
    - Premature mortality from lung disease
    - Long Term Condition PROMs
    - Making sure patients have as positive an experience as possible
    - Patient safety

43. The processes needed to achieve each outcome can be split into those relating to:

    - Collecting data and disseminating the outcome indicators
    - Making the necessary changes to ensure the outcome is achieved.

44. The processes involved for each of these outcomes is explained below.

(ii) Set out the costs and benefits of option 2 arising from the impacts listed in section Ei.

Costs

Costs from diverting NHS expenditure to collecting and disseminating the outcome indicators:

45. Collecting the necessary data to construct the outcome indicators will in most cases have costs for the NHS. In some cases, data on this outcome will already be collected by the NHS or the ONS, and so the costs will be small, although the frequency and timeliness of the indicator may have to be improved in order to be suitable for the purposes of holding the NHS Commissioning Framework to account. As an illustration, the costs estimated for improving the collection of data of adverse incidents in order to produce a suitable outcome indicator for patient safety are explained below.

46. In other cases, new data collection systems will need to be set up, which will tend to be more costly and can include the setting up and evaluation of pilots. An illustration of these issues can be read in Annex 2 under the description of the likely costs of setting up new PROMs indicators for Long Term Conditions.

Costs from diverting NHS expenditure to meeting the levels of ambition set, including opportunity costs:

Definition of levels of ambition:

47. Different levels of ambition can be chosen for each outcome indicator depending on the feasibility and cost of improvements. It can be useful to consider several generic levels of ambition that can be chosen for each outcome (set out in increasing order of ambition):

    - Measuring and publishing the outcome indicator
    - Achieving year-on-year improvements in the outcome indicator
    - Making progress towards convergence with peer countries
    - Achieving a comparable level to peer countries, represented as the EU-15 average level, by a given date.

Feasibility of different levels of ambition:

48. *Measuring and publishing the outcome indicator:* This level of ambition should be feasible for all outcome indicators. This should be ensured by the outcome indicator selection process as, by definition, an indicator that is not measurable would not be useful.

49. *Achieving year-on-year improvements in the outcome indicator.* Feasibility will depend on the current performance in each outcome indicator. Because the performance of the outcome indicator may follow a time trend, this level of ambition could be specified in terms of improving on the trend rather than in absolute terms. In this way, an indicator that is already improving could be required to improve faster than the existing trend. This approach could be useful for outcome indicators such as mortality outcomes, where historical improvements in technology and health care may lead to improvements in outcomes.

50. *Achieving a comparable level to peer countries, represented as the EU-15 average level, by a given date:* Feasibility for indicators where there are shortfalls will depend on the current performance in this indicator and its historical trend, but also on the performance of other EU-15 countries. While the NHS can control the former, the latter is outside of its control and may introduce uncertainty to the feasibility of achieving this level of ambition. Another approach is to not set a given deadline, but rather to use convergence with EU-15 average in those indicators where there are shortfalls as a longer-term aspiration, and requiring year-on-year reductions in the shortfall.

51. Annex 2 sets out the potential impacts of setting different levels of ambition on feasibility for seven illustrative examples of outcomes.

Cost of different levels of ambition:

52. *Measuring and publishing the outcome indicator:* The costs from this level of ambition are likely to vary between different types of outcome indicators. Many of them (for instance, those related to mortality) will already be published and so there will be no additional cost. For other indicators, the frequency of collection and timeliness of publication will need to be improved in order to be useful as indicators of NHS performance (an example is discussed in Annex 2's illustrative costings for developing an adverse outcome indicator). Finally, for some indicators, new data systems will need to be developed, sometimes at a great potential cost (as illustrated by the costings for the PROMs LTC indicator discussed in Annex 2).

53. *Achieving year-on-year improvements in the outcome indicator:* The cost of this will depend on the current performance of the NHS in each outcome indicator, but also on the technical aspect of producing specific improvements in the indicator. The illustrative costings below for seven outcomes provide an overview of the likely range of the costs. Once again, the historical trajectory and current evolution of the outcome indicator will be taken into account when deciding on the suitable level of ambition for each outcome. These considerations will be supplemented by considering the affordability of different levels of ambition.

54. *Achieving a comparable level to peer countries, represented as the EU-15 average level:* The cost of this will depend on NHS performance but also on concurrent performance of the selected

international peers. While the NHS can control the former, the latter is outside of its control and may introduce uncertainty to the cost of achieving this level of ambition. As explained above, this uncertainty can have a knock on effect on the costs of achieving the outcome and its affordability. A system where longer-term convergence is set as an aspirational goal and year-on-year improvements are required in the longer term could be useful in reducing this uncertainty. Some of the illustrative costings shown in Annex 2 for seven example outcome indicators provide an overview of the likely range of the costs, including how these might vary with differing levels of ambition.

Benefits

Improvement in quality of healthcare from achieving different levels of ambition

55. Different levels of ambition will potentially lead to different levels of benefits.

56. *Measuring and publishing the outcome indicator as part of an Outcomes Framework* is likely to give the outcome indicators greater visibility than they currently have in some cases and, where it is a new indicator, it can provide a new way to indicate the performance of the NHS through the NHS Commissioning Board. Even when no explicit target is set, this is likely to provide incentives to improve the quality of healthcare. The strength of these incentives is however difficult to determine and with no available evidence should be assumed to be small. Evidence will be gathered from international experience on the extent to which the introduction of such an outcomes framework (without specifying concrete levels of ambition) may or may not influence the level of outcome attained; and whether international benchmarking via such a framework shows evidence of improving outcomes.

57. *Levels of ambition that explicitly require year-on-year improvements, progress towards convergence or achieving a level comparable to peer countries by a given date* are all likely to produce benefits, particularly if the concerns around feasibility and affordability considered above are taken into account. Requiring the NHS Commissioning Board to achieve a given improvement in an outcome indicator will give it incentives to achieve this improvement. Overall if, as explained in the description of Option 2, the outcomes selected are appropriate and representative of the quality care in the NHS, this should provide a good system of incentives for the NHS Commissioning Board to improve the quality of health care in the NHS. However, it will be important to ensure through rigorous analysis that proposed levels of ambition are cost-effective and do not represent a diversion of resources from more cost-effective alternatives.

58. This quality of care would be expressed in different ways depending on the type of outcomes selected, but it would cover the main areas of health care effectiveness, patient experience and patient safety. The potential benefits cannot be quantified at this early stage, but could potentially be very large.

59. Annex 2 sets out the potential impacts of setting different levels of ambition on benefits for seven illustrative examples of outcomes.

(iii) Set out the assumptions upon which projections for Option 2 have been based, and the risks to which they are subject.

60. While the potential to improve outcomes (and hence yield health benefits) can often be confirmed by a number of analytical approaches, in some cases it has been assumed that a poorer UK outcome relative to other countries' outcomes is, in and of itself, suggestive of scope for improvement. Where the only data on scope for improvement are derived purely from an international comparison, two risks must be recognised: i) that there is some risk that the apparent difference is purely artefactual (i.e. there will be no real gains to be made); ii) even if not artefactual, it is not necessarily always clear what actions would be required to close the gap in outcomes, which may call into question the feasibility of effective clinical or policy responses.

61. The Outcomes Framework is only one part of the future accountability frameworks that the NHS Commissioning Board will need in order to operate correctly. If only the Outcomes Framework is

implemented, then there is the risk that the accountability framework is incomplete. Consideration will need to be given as to how best to achieve adequate accountability of the NHS Board for its obligation to provide access to a comprehensive set of NHS services for the population of England. A manageable and meaningful Outcomes Framework of the form proposed in Option 2 can necessarily only encompass a proportion of the huge range and variety of services that the Board must ultimately commission. Future policy options and analysis will need to explore whether there is a need for supplementary approaches to ensuring that the Board can account effectively for its comprehensive service obligation, alongside the envisioned small set of "representative" outcome indicators. Clearly, the Board will also need to account financially for its use of public funds, and potentially for a number of other legal requirements. It is assumed that the NHS Board will, in due course, develop its own accountability framework for use with commissioners. It is hard to anticipate how the national outcomes framework will inform this commissioning accountability framework. It must also be recognised that outcome data suitable for use at national level may not necessarily be capable of disaggregation to local level in a timely or granular form.

62. This Impact Assessment assumes that selected outcomes will represent accurately the overall quality of health care provided by the NHS. Two important potential risks must be recognised here: that the specific outcomes chosen may not, in fact, represent the best use of limited resources, and that the framework itself may distort incentives and behaviours in undesirable ways. It is possible that specific outcomes identified as components of the Outcomes Framework (on grounds such as international comparisons) may not necessarily represent the most cost-effective means of maximising the health outcomes of the population.

63. For example, for a given condition ***a***, there may appear to be more scope to reduce mortality relative to international benchmarks than for another condition ***b***. However, it is possible that greater QALY gain can be achieved by focusing on condition ***b*** (due perhaps to lower costs, greater potential to reduce morbidity etc.) than on ***a***. Future analysis of the candidate outcome indicators will – as far as possible – attempt to consider their opportunity costs, in terms of their marginal cost-effectiveness relative to focusing on other conditions or problems. Use of an explicit cost-effectiveness criterion as part of the selection process will mitigate this risk.

64. More broadly, future policy development and analysis on the Outcomes Framework following the Consultation should focus on the risks that the precise components of the Framework might attract disproportionate effort and focus by the Board, commissioners and providers, with the consequent risk that they "crowd out" attention to other important (but excluded) outcomes. Ensuring that the Board's own incentive structure (and its incentive arrangements for commissioners) does not distort effort disproportionately towards individual outcomes will also be important to consider. This may need to link with the preceding discussion on possible approaches to holding the Board to account more broadly for its comprehensive service obligation.

65. This Impact Assessment assumes that selected outcomes will be attributable to the NHS Commissioning Board and will therefore be useful in holding it to account. Future analysis of outcomes considered in the Consultation should attempt to quantify the relative contribution of the NHS, public health and social care to individual indicators, and consider alternative approaches to apportioning responsibility across shared indicators. It is also assumed that a worse relative outcome is indicative of room for improvement, although it is not always clear-cut on what needs to be done to achieve it – and improvement may be difficult to achieve in practice where there is not clarity on the actions required.

(iv) Set out expected impacts upon Equality and Human Rights:

66. The impacts on Equality and Human Rights are set out in the Equality Impact Assessment attached to this Impact Assessment.

67. The Health Impact Assessment screening questions have been applied, and all were assessed as not relevant, other than the first, "direct impact on health, mental health and wellbeing". The likely impact in this area is positive, and will be assessed directly in the Final Impact Assessment, based on responses to the consultation and ongoing analysis.

F. SUMMARY AND WEIGHING OF OPTIONS

68. Option 2, representing the setting up of an Outcomes Framework that allows the new NHS Commissioning Board to be held to account, is the preferred option.

69. We expect benefits to outweigh costs if the outcome indicators and levels of ambition selected are appropriate and fulfil the conditions explained above and in the Consultation document.

70. However, the full costs and benefits of establishing an Outcomes Framework will be determined in detail via the Final Impact Assessment, which will consider the full range of potential indicators and baskets, and possible levels of ambition.

Annexes

Annex 1 should be used to set out the Post Implementation Review Plan as detailed below. Further annexes may be added where the Specific Impact Tests yield information relevant to an overall understanding of policy options.

Annex 1: Post Implementation Review (PIR) Plan

A PIR should be undertaken, usually three to five years after implementation of the policy, but exceptionally a longer period may be more appropriate. A PIR should examine the extent to which the implemented regulations have achieved their objectives, assess their costs and benefits and identify whether they are having any unintended consequences. Please set out the PIR Plan as detailed below. If there is no plan to do a PIR please provide reasons below.

Basis of the review: [The basis of the review could be statutory (forming part of the legislation), it could be to review existing policy or there could be a political commitment to review]; DH intends to undertake a review of the Outcomes Framework (provisionally during 2015/16 given the longer-term nature of health outcomes)
Review objective: [Is it intended as a proportionate check that regulation is operating as expected to tackle the problem of concern?; or as a wider exploration of the policy approach taken?; or as a link from policy objective to outcome?] To consider the extent to which the Outcomes Framework has indeed led to improvements in health outcomes, and to identify and unintended consequences of the approach
Review approach and rationale: [e.g. describe here the review approach (in-depth evaluation, scope review of monitoring data, scan of stakeholder views, etc.) and the rationale that made choosing such an approach] A detailed review strategy will be developed in the light of the consultation responses and the final form of the Outcomes Framework.
Baseline: [The current (baseline) position against which the change introduced by the legislation can be measured] Baseline data will exist for all currently collected outcome measures; baseline data will be collected as part of the development of any new indicators.
Success criteria: [Criteria showing achievement of the policy objectives as set out in the final impact assessment; criteria for modifying or replacing the policy if it does not achieve its objectives] To be determined
Monitoring information arrangements: [Provide further details of the planned/existing arrangements in place that will allow a systematic collection systematic collection of monitoring information for future policy review] Monitoring requirements above and beyond the collection of outcomes measures themselves will be considered in the light of the consultation responses and the final form of the Outcomes Framework.
Reasons for not planning a PIR: [If there is no plan to do a PIR please provide reasons here] It will be developed following the consultation as part of the next phase of development.

Add annexes here.

Annex 2: Illustrative outcome costs and benefits of selecting specific options

1. The complete set of outcome indicators that will constitute the proposed Outcomes Framework is currently being consulted upon. The consultation presents a selection of alternative outcome indicators and asks for further suggestions.
2. For the purposes of this Impact Assessment Annex, seven outcomes have been analysed in order to illustrate the cost of setting up and achieving outcomes within an Outcomes Framework. These outcome indicators have been taken from Outcomes Not Targets, Conservative Party, 2008.
3. The processes needed to achieve each outcome can be split into those relating to:
   - Collecting data and disseminating the outcome indicators
   - Making the necessary changes to ensure the outcome is achieved
4. The impact of the outcomes can be split into:
   - The cost of collecting and disseminating the outcome indicators
   - The cost of making the necessary changes to ensure the outcome is achieved
   - The benefits from achieving the outcome
5. The second of these will depend crucially on the level of ambition chosen for each outcome. As explained above, the generic levels of ambition chosen for each outcome are likely to be:
   - Measuring and publishing the outcome indicator
   - Achieving year-on-year improvements in the outcome indicator
   - Achieving a comparable level to peer countries, represented as the EU-15 average level
6. We expect the Outcomes Framework to encourage or incentivise improvement in outcomes above and beyond that which we would expect in the absence of such a framework; we do not know what this impact will be because it depends upon the quality of the indicators chosen, on the levels of ambition to be set and on the assumed counterfactual.

Costs

Mortality amenable to healthcare

Costs of measuring outcome:

7. This outcome is already measured at present, so there would be no additional costs of collection and measurement.

Costs of achieving outcome:

8. As amenable mortality is an aggregate measure, the costs of reducing this outcome indicator to EU15 levels would depend on an improvement in the outcomes that contribute to it.

	Males			Females		
UK age standardised rate	1997-98	2002-03	change	1997-98	2002-03	change
All amenable	148.62	116.62	-22%	111.93	89.64	-20%
Infectious diseases	1.9	2.03	7%	1.43	1.53	7%
Neoplasms	19.12	17.18	-10%	40.75	35.29	-13%
Diabetes	0.7	0.65	-7%	0.36	0.38	6%
IHD (50%)	63.05	46.28	-27%	22.6	15.44	-32%
Other circ diseases	31.21	25.87	-17%	23.88	19.56	-18%
Resp. Diseases	17.52	9.79	-44%	11.83	6.48	-45%
Surgical Cond & medical errors	7.37	7.21	-2%	5.89	6.2	5%
Perinatal, maternal, and congenital conditions	5.82	5.44	-7%	4.04	3.45	-15%
Other	1.93	2.16	12%	1.15	1.33	16%

9. Most of the conditions that contribute to amenable mortality are likely to be captured by specific outcomes within the final set of outcomes. Therefore, the additional cost from achieving a reduction in amenable mortality to a certain level of ambition is expected to be minimal beyond the cost of achieving that level of ambition for those specific outcomes.

Five year survival rates for cancer

Costs of measuring outcome:

10. This outcome is already measured at present, so there would be no additional costs.

Costs of achieving outcome:

11. DH has identified four key actions to improve five-year cancer survival:

    - Continuing to roll out and improve screening programmes, including the planned age extensions for colorectal and breast cancer screening and introduction of a flexible-sigmoidoscopy for everyone at 55
    - Improving early diagnosis, through working to improve knowledge of the signs and symptoms of cancer and encourage early presentation at primary care; and supporting GPs to make better use of the 2 week wait urgent referral pathway to ensure speedy referral to secondary care
    - Improving appropriate intervention rates in older people, through streamlining the geriatric assessment and providing practical support to older cancer patients where necessary
    - Physical activity programmes for secondary prevention, reducing mortality and recurrence through physiotherapist-led physical activity programmes for secondary prevention.

12. These costs have been estimated for two distinct levels of ambition. The first level of ambition would involve a 2% increase in five-year survival for cancer patients by 2015/16, and the second level of ambition would involve a 4% increase in survival, up to the level of the EU average. The difference in the actions taken to secure each level of ambition correspond to differences in the speed of implementation in improving earlier diagnosis and interventions in older people – the lower level of ambition assumes a slower roll out / reduced activity, with correspondingly lower impact on survival.

13. It should be noted that even if the high level of ambition achieves an improvement of 4% in five-year survival by 2015/16, whether this is sufficient to meet the future EU15 average will depend to a large extent on the progress made by EU countries in this area.

14. The following table shows that either level of ambition would mean costs of several hundred million pounds per year.

Key actions to improve 5 year survival

	2011/12	2012/13	2013/14	2014/15	2015/16
	£m	£m	£m	£m	£m
Costs (net)					
Screening - current programme extensions	50.1	59.6	77.6	77.6	77.6
Screening - new programmes	10.3	6.1	4.1	14.1	24.1
Earlier diagnosis	302.6	411.8	279.6	372.8	400.0
Cost for reduced ambition	151.3	205.9	139.8	186.4	200.0
Older people	negligible	negligible	11.2	24.8	47.0
Cost for reduced ambition	negligible	negligible	5.6	12.4	23.5
Secondary prevention	2.0	2.0	6.0	10.0	14.7
Total	**365.0**	**479.5**	**378.5**	**499.3**	**563.4**
Total for reduced ambition (halving activity in earlier diagnosis and older people)	**213.7**	**273.6**	**233.1**	**300.5**	**339.9**

Premature mortality from stroke and heart disease

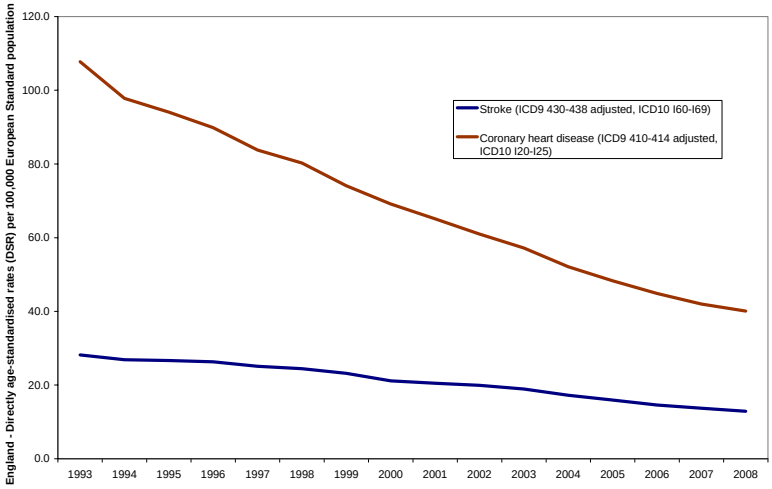
Costs of measuring outcome:

15. No additional expenditure is needed to monitor national rates of mortality from stroke or ischemic heart disease. The ONS already reports the raw numbers, and it is simple to calculate the standardised mortality rates from these. WHO/Europe international comparative data is reported with a 2-3 year lag. Death rates for particular sub-populations at a local authority level tend to need averaging over a three to five year period to give statistically significant trends. Some further work may need to be undertaken to develop mortality outcomes indicators if they are to be useful in local commissioning arrangements.

16. Currently it is difficult to systematically link mortality by cause for an individual patient to healthcare interventions prior to death. Holding to account providers for particular healthcare interventions to end outcomes for stroke and heart diseases would add a significant extra burden for data collection which can not be estimated here.

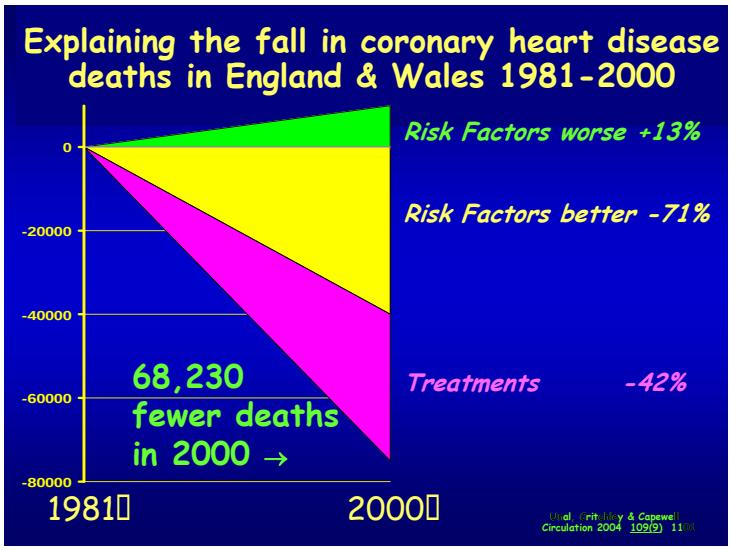
Costs of achieving outcome:

17. The death rate for stroke and heart disease has been falling for over 20 years in England. It has been already discussed earlier in this document that this continually falling death rate has lagged behind some of our close international comparison countries. For example, the death rate for heart disease lags behind Germany by about three years. The difference between England and France is much larger, which is possibly due a much lower incidence of heart attacks in common with the counties in the Mediterranean region.



The age standardised death rate in the under 75 age group for stroke and coronary heart disease 1993 – 2008

18. The death rate from stroke and heart attacks can of course be reduced by providing more high quality healthcare interventions. However work studying the fall in death rates in the US and England suggests that only around 40% of the fall in death rates between 1980 and 2000 could be explained by better healthcare. The majority of the gain was due the general reduction in risk factors, principally smoking, diet and exercise.



19. The inter-relationship between spending on public and personal healthcare in achieving outcomes can make it difficult to attribute what benefit might be achieved from an incremental increase in spending in one area compared with another. It is generally believed that investment in public health interventions have a greater potential cost / benefit ratio compared to medical interventions, but the benefits usually take longer to achieve.

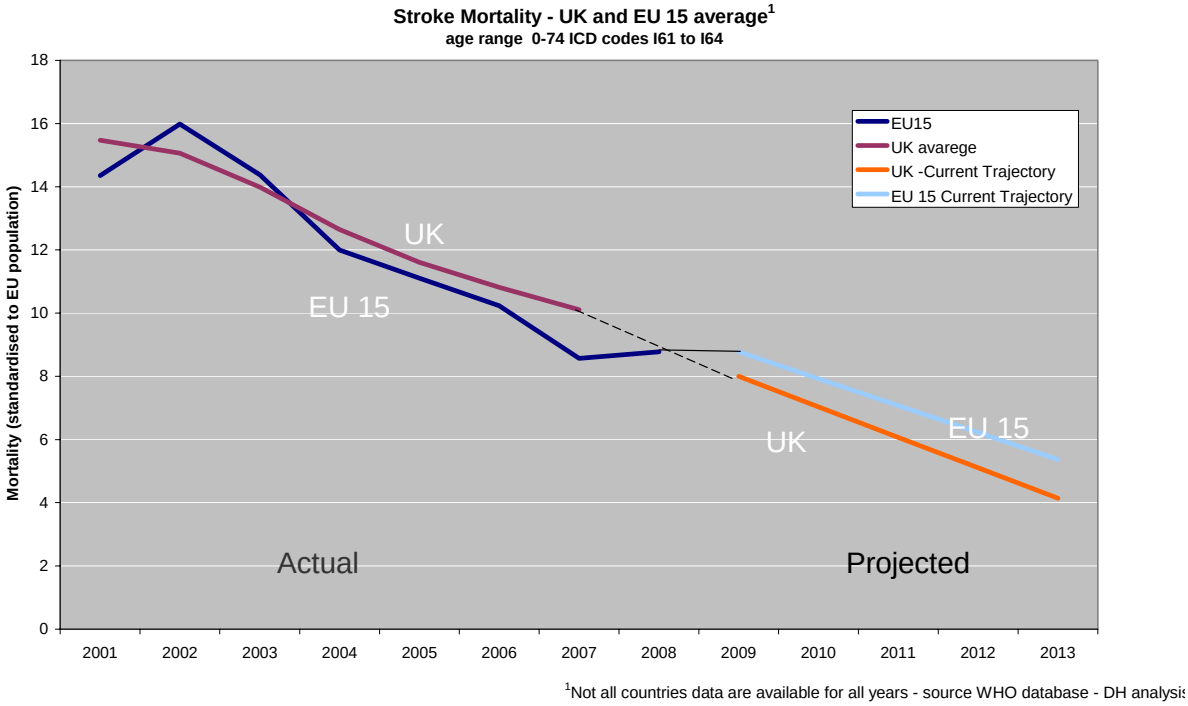
20. The programme budget costs for problems of circulation incurred by the NHS are shown in the table below:

PBC Co	Programme Budgeting Category	Gross Expenditure £000					
		2003/04	2004/05	2005/06	2006/07	2007/08	2008/09
10	Problems of Circulation	5,715,032	6,187,935	6,361,965	6,898,410	7,227,743	7,420,201
10A	Problems of Circulation - Coronary Heart Disease	-	-	-	2,307,992	2,440,612	2,440,476
10B	Problems of Circulation - Cerebrovascular Disease	-	-	-	836,856	918,886	1,030,953
10C	Problems of Circulation - Problems of Rhythm	-	-	-	383,400	450,497	463,141
10X	Problems of Circulation - Other	-	-	-	3,370,163	3,417,749	3,485,631

21. This shows than between 2006/7 and 2008/09 the spending on CHD increased by 2.8% and cerebrovascular disease by 10.4% per year.

Estimated costs of meeting the EU15 average mortality for stroke:

22. The UK stroke death rate for the 0-74 age range has fallen year-on-year since the WHO database permitted EU average comparisons in 2001. Early results from the 2008 mortality figures (the latest year for which figures are available) suggest that if the UK improvement rate is maintained, it is possible that that we may achieve our outcome goal of matching the EU 15 average for this age range by the end of 2010.



[1]Not all countries data are available for all years - source WHO database - DH analysis

23. The Stroke Strategy was started in 2008/09 and is due to be fully rolled out by 2017/18. It has three major components: a) the rapid assessment and treatment of TIAs to prevents a stoke occurring, b) the rapid assessment and treatments of strokes on dedicated units to reduce death and disability, and c) prompt rehabilitation to ensure that disabilities from a stroke are minimised.

24. This programme has been costed and the additional resources needed to fully fund the additional services are as follows:

	10/11	11/12	12/13	13/14	14/15
Total In Year Costs (current prices) £m	83	94	104	111	118
Increase over 2008/09 programme budget (£1,030 m)	8%	9%	10%	11%	11%

Cash resource - 2010/2011 prices

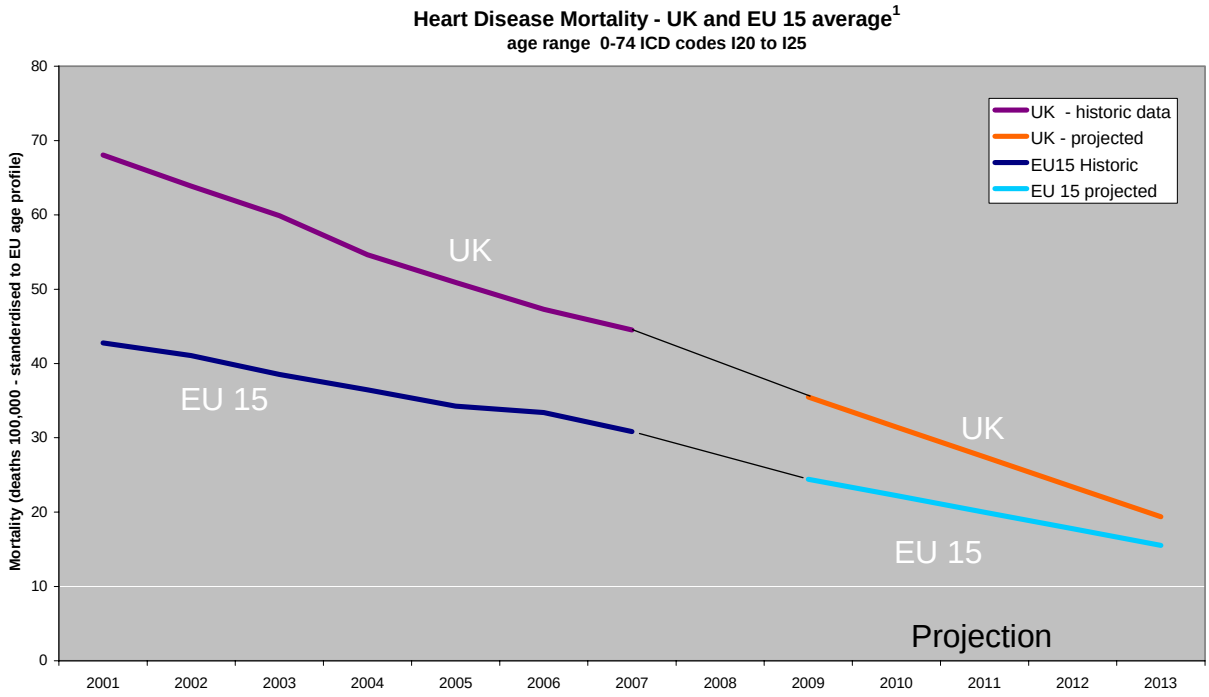
25. This assumes that the public health benefits to vascular risk reduction continue at the same or increasing rates.

Estimated costs of meeting the EU15 average mortality for heart disease:

26. In 2007, with the exception of Finland, the UK had the worst heart disease mortality rate compared to the EU15 countries that provided date to WHO. The UK is lagging Germany by three years and the Netherlands by more than seven years.

27. As shown in the graph below the gap between the UK and the EU 15 countries is closing but at the current rate it will be 2015 or later that we catch up.

28. The new NHS Health Checks programme is anticipated to further reduce the vascular condition mortality rate. However, because of the preventive nature of the interventions, the impact on health outcomes will not show up quickly but will build up over a 20-year period.



[1]Not all countries data are available for all years - source WHO database - DH analysis

29. To increase the rate of improvements, targeted additional resources have been identified by the DH vascular programme team from expert advice as follows:

Priority areas	**Intervention**	**Approximate cost (£million)**
Atrial Fibrillation	Identification and appropriate anticoagulation	**63.5**
Cardiac Rehabilitation	Increasing access	**20- 40**
Heart Failure:		
Diagnostics	Ensuring primary care access to BNP testing	**3.1**
Medication	Optimising medication – specialist staff	**0.5 – 155**
Coordinating care	Access to specialist staff	(see above under medication)
TOTAL		**88 - 262**

30. The rationales for these costs are as follows:

- Atrial Fibrillation (AF) is common, affecting over 600,000 people in England (1.2% has been the accepted prevalence). Recent surveys by NHS Improvement of over one million patients in general practice have given an estimate of the prevalence of known AF in England as 1.59%, or approximately 800,000 people.
- It is a major predisposing factor for severe stroke: 12,500 strokes per annum are attributed to AF, and estimates suggest that appropriate anti-coagulation could prevent 4,500 strokes per year in patients with AF.
- Admissions for AF and flutter have increased by 56% since 1998/99 and by 38% since 2000/01.
- Evidence is that Cardiac Rehabilitation gives heart attack patients a 26% greater chance of surviving in the 5 years post diagnosis (and significantly improves quality of life) – Taylor et al 2004.

- Heart failure (HF) continues to be a major cause of emergency admission, accounting for 1% of all emergency admissions (HES data 2007/08). In 2008/9, there were 53,164 emergency admissions for HF, down slightly from 2007/8. 90% of all HF admissions are emergencies.
- There is evidence that mortality in newly diagnosed HF has decreased but the use of neurohormonal antagonists was still suboptimal. The cost of optimising medication is mainly around HF nurse, practice nurse and GP time. The medications are largely generic. Hull costed a GP appointment at £36 and a nurse appointment at £29 (with a longer appointment but less expensive staff) but pointed out that actually this work was already in their normal work.

31. From this, a high and low estimate has been made on what a accelerated heart mortality reduction programme might cost which would aim to eliminate the difference between English and EU15 average morality rate before 2015/16, as follows:

	2010/11	2011/12	2012/13	2013/14	2014/15
Heart programme - low estimate		22	44	66	88
% of 2008/09 programme budget (£2,440m)		1%	2%	3%	4%
Heart programme - high estimate		66	131	197	262
% of 2008/09 programme budget (£2,440m)		3%	5%	8%	11%

(Costs £m)

Premature mortality from lung disease

Costs of measuring outcome:

32. No additional expenditure is needed to monitor rates of mortality from lung disease. The ONS already reports the raw numbers, and it is simple to calculate the mortality rates from these. WHO/Europe international comparative data is reported with a 2-3 year lag. Additional data spend may be needed as part of a strategy to achieve the outcome and to understand better the true differences in respiratory and pneumonia deaths between countries.

Costs of achieving outcome:

33. The costs of achieving improvements in this outcome indicator are very difficult to estimate, as the required interventions have not been fully identified and the UK may have an over-diagnosis of pneumonia as a cause of death (see Annex 3). Given their potentially large magnitude, estimates of the potential costs have been derived from the number of QALYs that would be saved by achieving the outcome, and applying a cost of £10,000 per QALY. See Annex 3 for more details on the data and method. These are very rough estimates and their significant assumptions should be borne in mind during interpretation.
34. Three levels of ambition have been considered in constructing these estimates:
    - Achieve convergence with EU parity by (start of) 2015 (most ambitious) - the full benefits are achieved in the 2014/15 figures
    - Achieve EU parity by (start of) 2020 (as in Outcomes Not Targets)
    - Achieve EU parity by (start of) 2030 (less ambitious)

35. Costs of achieving different levels of ambition in reducing lung disease mortality:

	2011-12	2012-13	2013-14	2014-15
Achieve EU15 average parity by (start of) 2015 (most ambitious)	£140m	£240m	£340m	£420m
Achieve EU15 average parity by 2020	£70m	£110m	£160m	£200m
Achieve EU15 parity by 2030 (less ambitious)	£40m	£60m	£80m	£100m

36. Further details on the technique used to calculate these estimates can be found in Annex 3.

Improvement in Long Term Condition (LTC) PROMs

Costs of measuring outcome:

37. In the short-run, PROMs for patients with LTCs could be implemented by using a survey methodology. An existing survey could be used to test the data collection and confirm that it is suitable for the intended purposes.

38. For example, the Health Survey for England (HSE) has historically collected data on LTC and EQ-5D and may a useful starting point. It collects data on the self-reported overall health of patients (via a generic PROM) and an indicator for chronic disease. This dataset could be employed as a means of measuring outcomes over time albeit for a small sample of patients with LTCs. Provided this was agreed, the HSE could begin collecting data in 2011-12 for use in 2012-13, albeit in a relatively restricted scale.

39. The cost of including the EQ-5D in the HSE would be an estimated annual spend of £35k. Improving the sample size of the survey would lead to greater cost.

40. The currently ongoing LTC PROMs pilot could, in the medium term, inform the design of an improved and more rigorous methodology. The cost of this is currently unknown and will depend crucially on the results of the pilot (which will give an indication of who should collect the data, what the response rates are and what sample size is needed to generate meaningful results). A broad estimate of the possible cost to the Department could be below £1m per annum.

Costs of achieving outcome:

41. The costs of achieving this outcome cannot be determined at present for any specific level of ambition, as the current level of performance cannot be determined.

Patient experience

Costs of measuring outcome:

42. A key assumption is that measurement of patient experience outcomes will build on local measurement systems that are already in place through a combination of real-time and patient experience surveys. The National Survey programme currently coordinated by CCQ provides part of the infrastructure. However, there are significant gaps in coverage (pathways of care and level of detail down to service line level). Therefore, the costs also include the review and development of the appropriate infrastructure for new survey instruments. An indicative 27 new survey instruments are estimated to be required covering a service line and pathway focus over the next four years. This infrastructure also contributes to the White Paper / Coalition commitments on real-time patient feedback and patient ratings. The estimated costs are:

    - 2011/12 £21m
    - 2012/13 £30m

- 2013/14 £39m
- 2014/15 £46m

Costs of achieving outcome:

43. The organisational costs associated with improvements in patient experience would be extremely difficult to estimate. Improvements in patient experience are often associated with broader organisational issues that can include culture and leadership and costs are difficult to attribute.

Patient safety: reduction in adverse events

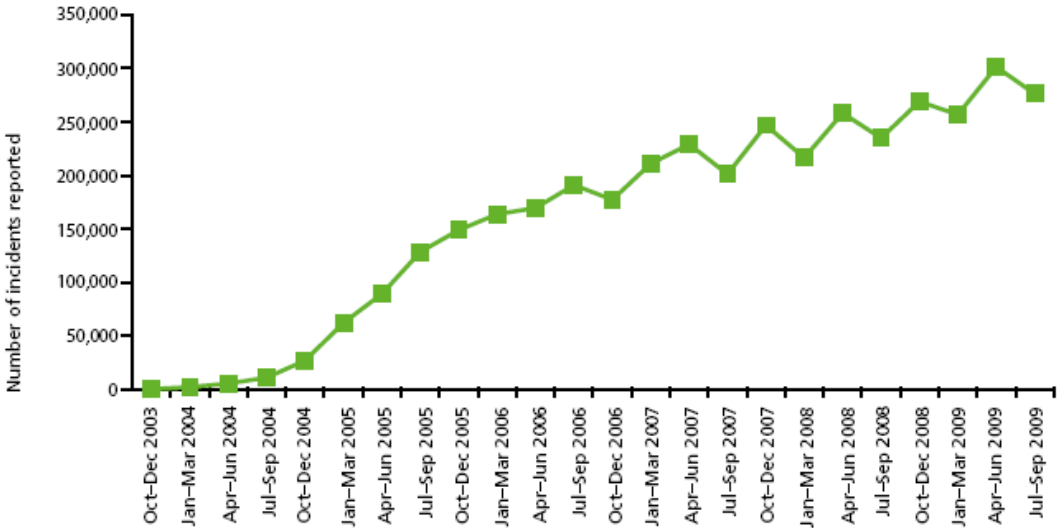
Costs of measuring outcome:

44. Three key measures for patient safety can be combined to provide a sound outcome indicator of the effectiveness of an organisation's patient safety culture. An effective patient safety culture is one where an organisation is reporting incidents on an increasing basis, demonstrating a good reporting culture (i). However, this has to be balanced by a decrease in the levels of severity, particularly incidents resulting in severe harm and death, demonstrating a good learning culture (ii). There should also be a reduction in number of the same types of event as this is a good indication that the organisation is implementing and complying with guidance and best practice, and safety alerts (iii).
45. This type of data is currently being collected by the National Patient Safety Agency. Its database has over 4 million incident reports already and it is now collecting information on over a million new incidents each year.
46. At the moment, there is a lag between an incident occurring and a report being made (50% of incidents are reported more than 50 days after the event). Also, at the moment, data is only released every six months. In order to be usable as an outcome indicator, this data should be reported more quickly and released monthly.
47. The estimated costs to continue publishing this data are as follows. The difference between the two bounds depends on the development or not of a new patient safety adverse event reporting system.
    - 2010/11 - £5.2 million
    - 2011/12 - £1 to £4.3 million
    - 2012/13 - £0.5 to £1 million
    - 2013/14 - £0.5 to £1 million
    - 2014/15 - £0.5 to £1 million
48. There should be little or no additional net costs to the NHS in reporting.

Costs of achieving outcome:

49. In recent years, there has been an increase in reported incidents and a decrease in the rate of adverse events leading to severe harm. This is likely to have been driven by the work on increasing reporting and reducing the likelihood of adverse events by the NPSA, CQC and Clinical Governance policy developments. Therefore, the additional cost of year-on-year improvements over the medium term in the patient safety indicator described above is expected to be minimal.

Number of incidents reported in England, October 2003 to September 2009



Benefits

Mortality amenable to healthcare

50. As amenable mortality is an aggregate measure, the benefits of improving this outcome indicator would be better expressed through the benefits from the improvement in the outcomes that contribute to it.

Five year survival rates for cancer

51. The benefits from improvements in five-year survival rates for cancer for the two proposed levels of ambition of improving five-year mortality by 4% or 2% by 2015/16 are shown in the table below.

Benefits (for maximum ambition)	*11/12*	*12/13*	*13/14*	*14/15*	*15/16*
Screening	flexi-sig: 13k per QALY bowel extension: 3k per QALY breast extension: 400 lives each year when fully rolled out				
Earlier Diagnosis (Life-Years)	0	139,924	175,759	86,937	119,102
Benefit for reduced ambition		69,962	87,879	43,468	59,551
Older People (QALYs)	negligible	negligible	765	2,296	3,827
Benefit for reduced ambition	negligible	negligible	383	1,148	1,913
Secondary Prevention (QALYs)	0	0	4,284.17	14,682.51	25,728.58

Premature mortality from stroke and heart disease

52. It has been assumed that of the patients that would have previously died from a stroke but now survive, half will be free from disability and have a normal life expectancy for their age and the other half have a 50% reduction in their QALY outcome.

53. The overall benefits from further reducing stroke mortality by an additional 3% and 6% per year have been calculated as follows:

Stroke QALY Gain

	2011/12	2012/13	2013/14	2014/15
additional 3% per year reduction in mortality rate	329	461	573	668
additional 6% per year reduction in mortality rate	658	920	1143	1331

54. Using a similar methodology, the QALY gain for a reduction in Ischemic heart disease mortality has been calculated as follows:

IHD QALY Gain

	2011/12	2012/13	2013/14	2014/15
additional 5% per year reduction in mortality rate	1310	1830	2272	2644
additional 10% per year reduction in mortality rate	2616	3647	4520	5251

55. A 5% additional reduction in mortality rate may achieve the desired position of England having a CHD mortality rate equal to the EU15 average by 2014/15. A 10% reduction should achieve that position earlier.

Premature mortality from lung disease

56. Estimates of the potential benefits have been derived from the number of QALYs that would be saved by achieving the outcome. The derivation technique is described in Annex 3.

Number of lifetime QALYs saved by the deaths averted within specified year

	2011/12	2012/13	2013/14	2014/15
Higher	12,875	23,175	33,475	41,200
Mid	5,722	10,300	14,878	19,455
Lower	2,711	4,879	7,047	9,216

Long term conditions PROMs

57. Establishing the benefits of improving the patient reported outcomes by LTC patients is not possible at present, as the current performance level still needs to be established.

Patient experience

58. Publishing an outcome indicator that reflects patient experience (as described above) will provide incentives to improve patient experience. Higher levels of ambition, such as requiring year-on-year

improvements and (if appropriate international comparisons can be found) outcomes at the level of international peers are likely to improve patient experience further.

59. The main benefit of improvements in the outcome indicator that reflects patient experience, will be improvements in the standards of service that patients receive. The largest gains are likely to be in avoiding rare events where patients have an unsatisfactory or even harmful experience. In patient experience surveys, around 90% of patients record their overall care as good, very good or excellent (source: CQC surveys). There are around 11.2m inpatient episodes, 66.1m outpatient episodes and 296.0m GP consultations each year. Moving another 1% of patients into this 'satisfied' group would affect 96,000, 661,000 and 2,960,000 episodes/consultations respectively. The average length of stay for inpatients is 5.7 days, and we might assume that the effect of a bad experience is felt during that stay and perhaps longer. The average length of an outpatient appointment/GP consultation is much shorter and we assume that the effect lasts for 1 hour.

60. Research by TOMBOLA group, published in 2008, examined the relationship between various factors and overall well-being. It showed that patients recording an anxiety level of 'moderately anxious or depressed' typically had a well-being score 0.05 QALYs lower than those who were not anxious or depressed (and for 'extremely anxious or depressed' the figure was 0.2 QALYs). Initiatives to improve patient experience are likely to reduce patient anxiety and therefore have a positive effect on the health of patients.

61. It is difficult to *a priori* establish the potential overall benefits from improvements in the patient experience outcome indicator, but, as established above, they are likely to be significant.

Patient Safety: adverse events

62. The increased reporting of adverse events described above is likely to (in itself) lead to an improvement in patient safety. Higher levels of ambition, such as requiring year-on-year improvements and (if appropriate international comparisons can be found) outcomes at the level of international peers are likely to improve patient safety further.

63. The main benefit from fewer adverse events is obviously in terms of improved health outcomes for patients. This can involve faster recovery; shorter length of stay, reduction in further treatment required or readmission, reduction in permanent disabilities and improved quality of life amongst others.

64. As well as better health care outcomes, benefits are likely to include increased confidence in healthcare and healthcare professionals, improved efficiencies through less variation and waste; reduction in loss of earnings and loss of societal costs associated with being off work and requiring 'support' as well as increased turnover of patients.

65. It has been estimated that the cost in additional bed days resulting from unsafe care is around £2 billion-£3 billion a year. If the most costly adverse events – those leading to severe harm – are reduced, even if few in number this is likely to result in a cost saving. If we can also target a reduction in moderate harm cases, the NHS might be able to save more.

Sources: Charles Vincent, Graham Neale, and Maria Woloshynowych: Adverse events in British hospitals: preliminary retrospective record review. BMJ, Mar 2001; 322: 517 – 519, and subsequent reports, such as: NAO "A Safer Place for Patients" (2005).

Conclusions from the illustrative outcomes set out in this Annex:

66. This analysis of the seven illustrative outcomes demonstrates that it is possible to make plausible, quantified estimates of the costs of collecting outcome indicators, and of the costs and benefits of setting and achieving alternative levels of ambition for such outcomes. This kind of analysis should therefore be applied for the potential full sets of outcomes that should emerge from the consultation process. It is, however, much harder to estimate the benefits which might accrue simply from using an Outcomes Framework in which no specific levels of ambition were set.

67. The analysis clearly indicates that – in most cases – it is the costs of achieving a specific level of ambition for an outcome that are the main drivers of overall cost. Not surprisingly, the likely level of

costs and benefits varies directly if different levels of ambition are specified. Hence the question of setting appropriate levels of ambition – given the opportunity costs of devoting resources to achieving outcomes – must form an essential part of future analysis and debate as this policy is developed further.

68. This analysis has also illustrated some of the risks inherent in relying on international comparisons as the sole basis for estimating potential improvements in domestic outcomes. The example of mortality from respiratory disease reflects the risk that apparent international differences may, in part, simply reflect artefactual differences in recording, rather than real differences in outcome. Even where differences are real, the quite reasonable aspiration to achieve convergence of domestic outcomes with superior international outcomes may be more complex than it first appears. Some understanding of differences in clinical practice and system operation / organisation is required to provide a clear picture of what actions must be taken to yield improvement. Where this is not available, a strong assumption is required, namely that – axiomatically – if other countries can achieve a given outcome, so can we; and estimates of the cost of doing so must necessarily be based upon current marginal costs, rather than on a more informed picture of the costs entailed by the specific actions actually needed. In such cases, there will therefore be a greater risk of error in cost estimates, and a greater risk that the goal itself may ultimately prove not to be attainable.

Annex 3: Explanation of methods on the costs and benefits of reducing respiratory mortality

Note on the achievability of the respiratory mortality outcome

1. Whilst pneumonia is a major respiratory cause of death (around 27,000 all-age deaths a year out of 71,700; 1650 out of 5,742 deaths for under-65s), and is included in the OECD data and our calculations, it is not a lung disease, rather it is an infectious agent, and it can affect people who have perfectly healthy lungs. DH does not currently include pneumonia in its policy activities aimed at improving lung health and reducing deaths in this group is more problematic.
2. Following existing clinical BTS guidelines is one main intervention for reducing pneumonia mortality. If pneumonia were included in the objective, but there were no effective interventions to reduce mortality, we would need a massive percentage fall in the number of deaths from the other lung conditions in order to meet the objective, which has implications for its feasibility.
3. However, pneumonia is currently thought to be over-diagnosed as a cause of death, as (unlike in some EU countries) this diagnosis is not confirmed by x-ray after death. **Part of the difference in respiratory mortality with the EU-15 may therefore be artefactual.** Additionally, whilst correctly classifying pneumonia as cause of death may reduce numbers of people recorded as dying from this condition, it will make death rates in other disease areas higher (and more accurate).
4. Similarly with seasonal flu, which causes a few hundred deaths, the vaccinations programme against influenza and pneumococcal disease is the only major intervention; these vaccinations are offered to those in clinical risk groups, including those with chronic respiratory disease and asthma.

Description of respiratory mortality benefits calculations, i.e. the benefits of achieving full parity with EU-15 respiratory mortality assuming that the difference is not partly artefactual

5. If the difference in premature respiratory mortality with the EU-15 is not regarded as partly artefactual, it is possible to calculate the QALY benefit of achieving parity, which is summarised as follows. It is not yet clear exactly what interventions would be required to achieve parity. The QALY benefits calculation for the respiratory mortality outcome is summarised as follows.
6. Each year's benefits are monetised lifetime discounted QALYs (£60k each) gained by the individuals who are saved during that year in England. A 1.5% discount rate is used. Linear progress to EU-15 parity is assumed across time. Individuals saved are assumed to live out the average remaining QALY expectancy at the age they would otherwise have died of lung disease. The calculations use European Standard Population age bands, and the reduction in mortality is assumed to have same proportional reduction in each age band. The calculations use ONS mortality data, interim life tables and population data. For QALY weights, EQ-5D is used from the Health Survey for England 2006.
7. The following sub-headings provide a fuller description of the calculation. Data sources are summarised using footnotes.

Identifying the percentage reduction in number of deaths needed to reach the EU-15 average

8. The calculation begins with the European Standard population and its age bands, as set out at http://www.statistics.gov.uk/StatBase/xsdataset.asp?vlnk=1260&More=Y.

9. The number of respiratory deaths (defined as ICD-10 codes beginning with J) in each age band is then identified from Table 5.10 of ONS Mortality Statistics 2008[2]. The actual England and Wales population in each age band is calculated from ONS mid-2008 population data[3]. (The England and

[2] Office for National Statistics, Mortality statistics: deaths registered in England and Wales (Series DR) 2008. See http://www.statistics.gov.uk/statbase/product.asp?vlnk=15096

[3] Office for National Statistics, Mid year population estimates 2008. See http://www.statistics.gov.uk/statbase/product.asp?vlnk=15106

Wales population is used here because the mortality statistics are also at the England and Wales level). Using the number of deaths and the actual population in each age band, the 2008 mortality rate per 100,000 population is then calculated for each age band.

10. Lastly, from the calculated mortality rates in each age band, a 2008 directly age standardised mortality rate is calculated for (i) all lung disease mortality, and (ii) lung disease mortality below the age of 65. (Directly age standardised mortality rates are a weighted average of the mortality rates in each age band of the European Standard Population; the weights are the percentage of the European Standard Population in each age band).

11. Using the 2008 data described above, the calculated directly age standardised mortality rates are as follows:

    - ***All age mortality:*** 73.43 per 100,000 population. From WHO/Europe[4], the EU average was 45.72 in 2007. If the UK were to achieve this rate, the EU-15 average would fall; it can be shown that if the UK mortality rate fell to 43.69 per 100,000, it would equal this new EU-15 average.
        - It is assumed that the reduction in deaths to achieve this rate is (proportionately) evenly spread amongst the aforementioned age bands. If the number of deaths in each age band were to fall to 59.5% of their current level, this would be consistent with achieving the new EU-15 average.
    - ***Under-65 mortality:*** 11.35 per 100,000 population. From WHO/Europe, the EU average was 6.88 per 100,000 population in 2007. If the UK were to achieve this rate, the EU-15 average would fall; it can be shown that if the UK mortality rate fell to 6.56 per 100,000, it would equal this new EU average.
        - It is assumed that the reduction in deaths to achieve this rate is (proportionately) evenly spread amongst the aforementioned age bands. If the number of deaths in each age band were to fall to 58% of their current level, this would be consistent with achieving the new EU-15 average.

12. Clearly, the EU-15 average may have changed by 2015, making it more or less difficult for the UK to match the EU-15 level. There is no clear pattern in recent years for the WHO/Europe EU-15 average, so no forecasting has been applied – the above calculations imply no overall change in the EU-15 average by 2015.

Identifying the number of averted deaths implied by the above

13. From the above, the new number of deaths would equal 58% of the numbers of deaths set out in ONS Mortality Statistics 2008 (59.5% for the under-65 calculation). The averted number of deaths in each age band are calculated using these statistics, and are then linearly scaled to the English population using ONS population data (op cit.), as they would otherwise be in England and Wales terms.

Identifying the number of discounted Quality Adjusted Life Years (QALYs) saved

14. Each averted death will be associated with a certain number of Quality Adjusted Life Years (QALYs) saved. This section aims to estimate this number of QALYs depending on the age band in which the individual would otherwise have died.

15. ONS Interim Life Tables for England (2006 to 2008) show the remaining life expectancy at each age, given that an individual has already survived to that age. The 2006 Health Survey for England reports EQ-5D health state scores for just under 13,000 individuals aged 16 and over. These two sources can be used together to calculate the remaining *QALY* expectancy at each age (as opposed to *life* expectancy), given that the individual has already survived to that age:

[4] World Health Organisation Regional Office for Europe, European Health For All Database (HFA-DB). Accessed 10th June 2010. See http://data.euro.who.int/hfadb/

- The QALY expectancy is derived from the life expectancy as follows. The HSE data allows the calculation of the average EQ-5D health state at each year of age (survey weights are used here). The relationship between these EQ-5D weights and age is then smoothed using a third order polynomial trend, as otherwise there is some noise in the EQ-5D average between each year of age (particularly at the older ages, where sample sizes are smaller). The QALY expectancy is then:

$$QALYe_x = \sum_{i=x}^{x+e_x-1} QALY_i$$

Where $QALYe_x$ = remaining QALY expectancy at age x, e_x = remaining life expectancy at age x, $QALY_i$ = smoothed EQ-5D QALY value at age i. This sum can also be discounted at 1.5%, i.e. the HM Treasury Green Book rate of 3.5% minus the Green Book's long-term growth rate of 2%. (Willingness to pay for QALYs is assumed to grow in line with long-term growth).

16. In order to identify the total number of discounted life years saved if mortality were reduced to the EU-15 level, the following procedure is used:
    - The number of deaths in each age band is multiplied by the QALY expectancy for the middle age in the band

Benefits results: numbers of discounted QALYs saved per annum

17. Using a 1.5% discount rate, the annual number of QALYs saved (if English respiratory mortality matched the EU-15 rate) is estimated to be:

    - ***Reducing all age respiratory mortality to EU-15 level:***
      160,460 discounted QALYs per annum once the full effect is achieved.
    - ***Reducing under-65 respiratory mortality to EU-15 level:***
      41,200 discounted QALYs per annum once the full effect is achieved.

Limitations of benefits calculations:

18. Whilst the above calculations are fairly detailed and are driven by a number of different sources of UK data, they still have important limitations:
    - It is assumed that individuals whose death from respiratory disease is averted will live out the average QALY expectancy for the age at which they would otherwise have died. In reality, it may be that these individuals will be less healthy than the average for their age (or will live for fewer years), meaning that their QALY expectancy will be lower than the value modelled.
    - It is assumed that the reduction in mortality is evenly spread amongst the European Standard Population age bands (in proportionate terms). This is an important part of the context of these calculations.
    - The number of age bands limits the granularity of the calculation, although this limitation is driven by the available data.

Description of respiratory mortality costs calculations, i.e. the estimated costs of achieving full parity with EU-15 respiratory mortality assuming (i) that the difference is not partly artefactual, and (ii) that it is possible to achieve this reduction

19. Because the steps that would be taken to reduce mortality have not yet been decided, it is only possible to consider **very rough estimates** of costings. The following costings contain **very significant assumptions** and must be read with these assumptions in mind.

20. The respiratory mortality costs calculations are summarised as follows.

- The previous section sets out a calculation of the number of discounted QALYs that would be saved if mortality from (i) all respiratory disease and, separately, (ii) under-65 respiratory disease were to fall to the EU-15 average. Whilst the calculations are driven by a significant volume of data, the limitations of these calculations are set out at the end of that section.
- It is then assumed that the cost of these QALY savings would average very approximately £10,000 per QALY. This is an uncertain figure, although evidence is cited below to justify a rough ballpark around £10,000 per QALY. This evidence is not specific to premature mortality.

21. Evidence suggesting a rough figure of £10,000 per QALY is as follows:

- The CEA Registry[5] was searched for all cost-per-QALY ratios using the search term 'respiratory'. 74 results were obtained. 12 results were excluded because they were judged to have limited relevance to respiratory disease. A further 10 results were excluded because they did not report a numeric cost per QALY. The results were then grouped by the 19 papers that they came from (as some papers report several results), and an average cost per QALY was calculated for each paper. 7 papers with an average cost per QALY of greater than $39,000 (2008 US dollars) were then excluded on the grounds that the NHS could not afford them[6], leaving a total of 12 papers. These 12 papers exhibit an average cost per QALY of $20,000 (2008 US dollars), which is equivalent to around £13,000 per QALY. This is of course a very rough estimate of the overall cost of respiratory interventions because:
  - It is a small sample that may well not be representative of the cost of respiratory interventions as a whole. The papers are also of international origin, so will not be wholly representative of NHS costs.
  - The method used to derive the estimate using this data source is subjective.
- The highest overall respiratory mortality rate in WHO/Europe for 2005 is 130 per 100,000 people. This is around 80% higher than the UK's rate for 2008; If the UK were to have such a rate, it would amount to 317,000 discounted QALYs lost per annum (using the methodology from the separate benefits document). If it were assumed that this difference in QALYs were entirely due to NHS respiratory spend, which Programme Budgeting data costs at £4.2bn in 2008/9, this amounts to £13,400 per QALY. This is a very rough estimate partly because of the following biases:
  - ***Bias implying that this cost per QALY is an overestimate:*** the calculation does not identify the QALY outcomes of NHS interventions that improve morbidity.
  - ***Bias implying that this cost per QALY is an underestimate:*** other factors will drive part of the difference, such as a higher smoking rate in the comparison country. This implies that respiratory healthcare spending explains a smaller fraction of the difference in mortality rate, meaning a higher cost per QALY (as the same cost is being linked to a smaller number of QALYs saved).

Costing results: illustrative estimates

22. The costs of reducing respiratory mortality to EU-15 levels are presented in the bullets below. As noted above, these costings contain very significant assumptions and must be read with these assumptions in mind.

- ***Reducing all age respiratory mortality to EU-15 level:***
  £1.6bn per annum once the full effect is achieved.
- ***Reducing under-65 respiratory mortality to EU-15 level:***
  £400m per annum once the full effect is achieved.

[5] Center for the Evaluation of Value and Risk in Health, The Cost-Effectiveness Analysis Registry. Institute for Clinical Research and Health Policy Studies, Tufts Medical Center (Boston, USA). Accessed 22nd June 2010. See https://research.tufts-nemc.org/cear/search/search.aspx

[6] A NICE threshold of £25,000 is combined with a 2009 OECD purchasing power parity exchange rate of £1=US$1.55

Other costs that would be faced

23. The following costs would also be faced as part of a respiratory outcomes target. They would not be included in the cost per QALY estimates used above.

    - £1.2m per annum to x-ray every body that would otherwise have had pneumonia diagnosed as the cause of death. This will enable more accurate, internationally comparable recording of pneumonia as a cause of death. The cost reflects the £19 2005/6 reference cost for x-ray, uplifted to 2010/11 prices, multiplied by the 27,000 currently recorded pneumonia deaths, and multiplied by 2 to reflect the additional complexity of taking x-rays of bodies, which the reference costs will not well reflect.
    - £2m per annum to support audits of new indicators, patient education to support self management, and research into the most efficient linkages with social care.
    - £5.6m per annum, £1.2m of which is for the extension of the Lung Improvement Programme (with NHS Improvement), £3.4m for extended programme support at SHA level and central team costs of £1m. The current expenditure in these areas is not focused on all respiratory disease, and the additional resources would enable this to be achieved.

Description of how benefits and costs are assumed to evolve over time

24. The results tables consider three levels of ambition:

    - Matching the EU-15 (premature) respiratory mortality rate by 2015
    - Matching the EU-15 (premature) respiratory mortality rate by 2020 (this is the level of ambition that was originally set out in the Conservative Party's Outcomes Not Targets Green Paper).
    - Matching the EU-15 (premature) respiratory mortality rate by 2030

25. For both costs and benefits, it is assumed that progress towards the EU-15 level would be linear, that progress would begin by the end of 2010 and that it would complete by the end of 2014, 2019 or 2029 (depending on the scenario). Financial year estimates are interpolated, e.g. the 2012/13 estimate is made up of 75% of the 2012 estimate, and 25% of the 2013 estimate.

26. The linearity assumption will be inappropriate for costs, if (as is likely) there is a need for upfront spending and investment before improvements in mortality rates are seen.

Summary of overall benefit and cost estimates over time:

Discounted QALYs saved

	(All age mortality same as EU-15)			(Under-65 mortality same as EU-15)		
Benefit or cost by end of year:	By 2015	By 2020	By 2030	By 2015	By 2020	By 2030
2010	0	0	0	0	0	0
2011	40,115	17,829	8,445	10,300	4,578	2,168
2012	80,230	35,658	16,890	20,600	9,155	4,337
2013	120,345	53,487	25,336	30,900	13,733	6,505
2014	160,460	71,315	33,781	41,200	18,311	8,674
2015		89,144	42,226		22,889	10,842
2016		106,973	50,671		27,466	13,010
2017		124,802	59,117		32,044	15,179
2018		142,631	67,562		36,622	17,347
2019		160,460	76,007		41,200	19,516
2020			84,452			21,684
2021			92,898			23,852
2022			101,343			26,021
2023			109,788			28,189
2024			118,233			30,358
2025			126,679			32,526
2026			135,124			34,694
2027			143,569			36,863
2028			152,014			39,031
2029			160,460			41,200

Monetised value of discounted QALYs saved (£m, £60k per QALY)

	(All age mortality same as EU-15)			(Under-65 mortality same as EU-15)		
Benefit or cost by end of year:	By 2015	By 2020	By 2030	By 2015	By 2020	By 2030
2010	£0	£0	£0	£0	£0	£0
2011	£2,407	£1,070	£507	£618	£275	£130
2012	£4,814	£2,139	£1,013	£1,236	£549	£260
2013	£7,221	£3,209	£1,520	£1,854	£824	£390
2014	£9,628	£4,279	£2,027	£2,472	£1,099	£520
2015	£0	£5,349	£2,534	£0	£1,373	£651
2016	£0	£6,418	£3,040	£0	£1,648	£781
2017	£0	£7,488	£3,547	£0	£1,923	£911
2018	£0	£8,558	£4,054	£0	£2,197	£1,041
2019	£0	£9,628	£4,560	£0	£2,472	£1,171
2020	£0	£0	£5,067	£0	£0	£1,301
2021	£0	£0	£5,574	£0	£0	£1,431
2022	£0	£0	£6,081	£0	£0	£1,561
2023	£0	£0	£6,587	£0	£0	£1,691
2024	£0	£0	£7,094	£0	£0	£1,821
2025	£0	£0	£7,601	£0	£0	£1,952
2026	£0	£0	£8,107	£0	£0	£2,082
2027	£0	£0	£8,614	£0	£0	£2,212
2028	£0	£0	£9,121	£0	£0	£2,342
2029	£0	£0	£9,628	£0	£0	£2,472

Estimated cost of discounted QALYs saved (£m, £10k per QALY)

	(All age mortality same as EU-15)			**(Under-65 mortality same as EU-15)**		
Benefit or cost by end of year:	By 2015	By 2020	By 2030	By 2015	By 2020	By 2030
2010	£0	£0	£0	£0	£0	£0
2011	£401	£178	£84	£103	£46	£22
2012	£802	£357	£169	£206	£92	£43
2013	£1,203	£535	£253	£309	£137	£65
2014	£1,605	£713	£338	£412	£183	£87
2015	£0	£891	£422	£0	£229	£108
2016	£0	£1,070	£507	£0	£275	£130
2017	£0	£1,248	£591	£0	£320	£152
2018	£0	£1,426	£676	£0	£366	£173
2019	£0	£1,605	£760	£0	£412	£195
2020	£0	£0	£845	£0	£0	£217
2021	£0	£0	£929	£0	£0	£239
2022	£0	£0	£1,013	£0	£0	£260
2023	£0	£0	£1,098	£0	£0	£282
2024	£0	£0	£1,182	£0	£0	£304
2025	£0	£0	£1,267	£0	£0	£325
2026	£0	£0	£1,351	£0	£0	£347
2027	£0	£0	£1,436	£0	£0	£369
2028	£0	£0	£1,520	£0	£0	£390
2029	£0	£0	£1,605	£0	£0	£412

27. Note the additional costs of £8.8m per annum noted above under ‘other costs to be faced’. This includes the cost of 27,000 additional x-rays per annum to achieve more accurate, internationally comparable pneumonia death rates, £5.6m per annum to extend current improvement programmes (which are only focused on particular areas of respiratory illness) and £2.2m per annum on additional research activities, given the broader focus. These costs would not be captured in the cost per QALY estimate used in the above table.

Annex 4 – Equalities IA Screening Template

We are preparing an initial screening Equality Impact Assessment, which will then be replaced by a full Equality Impact Assessment, once the Outcomes Framework has been developed and published later on in the year. Findings from the initial screening suggest that:

- the overarching indicators in the framework are necessarily broad and aim to cover all groups and are therefore not expected to have any negative impact on the promotion of equality.
- recognition that the improvement areas may result in some groups being disproportionately affected.

These issues will be considered in depth in the full EQIA, and the consultation will seek advice on ways to mitigate the risk of inequalities developing.