UNIVERSITY OF BIRMINGHAM AND UNIVERSITY OF YORK HEALTH ECONOMICS CONSORTIUM

(NICE EXTERNAL CONTRACTOR)

Health economic report on piloted indicator(s)

Pilot QOF indicator: The percentage of patients 79 years and under with a history of stroke or TIA in whom the last blood pressure reading (measured in the preceding 12 months) is 140/90mmHg or less.

Potential output: Recommendations for NICE Menu

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Introduction

This briefing paper presents a cost effectiveness analysis for a potential indicator from pilot 7 of the NICE Quality and Outcomes Framework (QOF) indicator development programme:

> ***The percentage of patients 79 years and under with a history of stroke or TIA in whom the last blood pressure reading (measured in the preceding 12 months) is 140/90mmHg or less.***[1]

The economic analysis is based on evidence of delivery costs and evidence of benefits expressed as quality-adjusted life years (QALYs). Additionally, the economic analysis takes account of potential QOF payments based on a range of available QOF points and a range of levels of achievement.

The possible range of QOF points for this analysis was agreed with the economic subgroup of the NICE QOF Advisory Committee prior to the analysis being undertaken.

A net benefit approach is used whereby an indicator is considered cost effective when net benefit is greater than zero for any given level of achievement and available QOF points:

Net benefit = monetised benefit – delivery cost – QOF payment.

For this indicator, the net benefit analysis is applied with a lifetime horizon at baseline.

The objective is to evaluate whether the proposed indicator represents a cost effective use of NHS resources. This report provides the QOF Advisory Committee with information on whether the indicator is economically justifiable, and will inform the Committee's decision making on recommendations about the indicator.

[1] The wording of the indicator during piloting was "The percentage of patients under 80 with a history of stroke or TIA in whom the last blood pressure reading (measured in the preceding 15 months) is 140/90 or less". The change in the indicator wording was agreed at the NICE QOF Advisory Committee and does not affect the results of the cost effectiveness analysis.

Economic Rationale for the Indicator

People with blood pressure persistently over 140/90mmHg are defined as being hypertensive. Above a blood pressure of 115/70mmHg the risk of cardiovascular events doubles for every 20/10mmHg rise in blood pressure, as well as risking other poor health outcomes such as kidney disease and cognitive decline [1].

Pharmaceutical treatment to lower blood pressure in hypertensive patients has been found to be highly cost effective given the low cost of anti-hypertensive drugs and high cost of health outcomes that they can avert. Any of the main classes of drugs to treat hypertension have been found to be both cost saving and to be more effective (generating more QALYs), than no intervention [1].

No NICE guidelines exist explicitly on the long-term management of stroke, although a guideline for stroke rehabilitation is in development. However, the published hypertension guidelines state that people with pre-existing cardiovascular conditions should have their blood pressure managed to targets for all hypertensive patients [1]. In the absence of evidence to the contrary and for the purpose of adopting a conservative estimate of the delivery costs for the indicator, it has been assumed that all people with a history of stroke or TIA also have hypertension.

NICE guidelines are explicit that there is no robust evidence that monitoring blood pressure to reduce it to a target – such as 140/90 – in hypertensive patients is cost effective [2]. However, this is largely due to a lack of evidence rather than evidence that the intervention does not work. For the purposes of modelling it has been assumed that the indicator is designed to lower blood pressure and that by definition hypertensive patients with BP less than 140/90 must have had high blood pressure successfully lowered. The evidence underpinning the NICE guidelines is that lowering blood pressure in hypertensive patients is highly cost effective with an implicit conclusion that this is the case even if the patient remains clinically hypertensive.

The Committee recommended staged/linked indicators for this disease area. This indicator forms one of a pair and will require implementation alongside current QOF indicator STIA003. Negotiators need to be clear on the rationale for this and ensure retention and implementation of these indicators together.

Summary of assumptions

- It is assumed that all people with a history of stroke or TIA also have hypertension, for the purpose of a conservative estimate;
- The indicator is designed to lower blood pressure;
- Hypertensive patients with BP less than 140/90mmHg must have had high blood pressure successfully lowered.

Evidence on Delivery Cost of the Indicator

The NICE guidance on hypertension has been used as the basis for costing the intervention associated with the indicator.

The NICE hypertension guidelines recommend both lifestyle modification and pharmaceutical interventions to lower blood pressure in hypertensive patients [2]. The guidelines point out evidence for the effectiveness of lifestyle modification, such as increasing exercise. The costs of such advice and support are generally minimal, although help to stop smoking could involve smoking cessation support that would have a cost. At the base case it has therefore been assumed that advice can be given as part of a GP consultation that lasts 17.2 minutes at a cost of £63 [3]. The total costs used in the model have been increased by £500 per patient to reflect the costs of other interventions such as smoking cessation drug therapy, which has been costed at £1,000 per successful quitter [4]. The £500 cost uses the assumption that 50% of people with hypertension smoke and that all of them will use pharmaceutical support to quit. This is likely to be a significant overestimate of the actual costs of delivering lifestyle interventions but will generate conservative estimates from the model. The estimate is intended to provide a proxy cost for the indicator to reflect the costs of lifestyle modification required for people with stroke and hypertension. It is used flexibly in the economic modelling through the use of sensitivity analysis.

Economic modelling underpinning the NICE hypertension guidance reported that for men aged 65, with a greater than 20% chance of cardiovascular disease (CVD) over 10 years, all pharmaceutical treatments saved healthcare resource and increased the number of QALYs. This finding was found to be reasonably robust as the risk of

CVD and age changed, for both men and women. Given the heterogeneity of the hypertensive population, to produce a conservative estimate it has been assumed that there is no cost saving from pharmaceutical treatment.

However, this modelling is for people who do not already have a pre-existing cardio-vascular condition. For patients with existing stroke no modelling was identified that demonstrated potential cost savings. As such it has been assumed that there are no cost savings from treating patients with stroke with anti-hypertensive medication and the drug costs (a maximum of £25 per year per patient for generic drugs of all classes) are added to the overall costs per patient [2].

For both costs and benefits it has been assumed that all patients with stroke have high blood pressure. This is in line with the NICE guideline that states all those with pre-existing cardio vascular conditions should have their blood pressure monitored to the target in the guideline.

Baseline costs

- The baseline costs are based on the NICE hypertension guideline and it has been assumed that this applied to people with hypertension and stroke/TIA;
- The incremental cost of providing lifestyle modification advice and support and pharmaceutical treatment at baseline is £588 per patient.

Evidence on the Benefits of the Indicator

There is evidence that lifestyle modification including reduction in alcohol consumption, salt intake and smoking, and increases in exercise all reduce blood pressure in people with hypertension [2]. This reduction in blood pressure would reduce the risk of CVD events and therefore would also increase QALYs. However, no evidence was found by NICE linking lifestyle modification to QALY gains, as part of their evidence gathering for the hypertension guidelines. For the purposes of modelling it has therefore been assumed that no QALY gains are generated from lifestyle modification for people with stroke or TIA with hypertension. This is a

conservative assumption, especially as costs to provide advice and support for lifestyle modification have been assumed in the modelling.

QALY gains from the use of anti-hypertensive medications are drawn from modelling in the NICE hypertension guidelines [1]. QALY gains vary between drugs in the model. As a conservative estimate it has therefore been assumed that the lowest lifetime QALY gain is used (0.32 for beta-blockers). However, this is based on lifetime compliance with treatment. The NICE guidelines noted that compliance can be as low as 20%, for all hypertensive patients.

A separate published study on adherence of hypertensive medication compliance in those with CHD found compliance rates in these patients to be 40% [5]. It has been assumed that people with stroke have a similar level of compliance with medication. This increase in compliance needs to be weighed against lower quality of life in patients with stroke compared to those without stroke, coupled with likely lower life expectancy. For simplicity, and to maintain a conservative estimate, it has therefore been assumed that any gain in utility from increased compliance is offset in patients with stroke over non-stroke patients by lower current quality of life and life expectancy. The QALY gain was therefore assumed to be the same for hypertensive patients with stroke and those without stroke.

This gives a QALY gain for people under the age of 80 with stroke and hypertension taking medication for the condition of 0.064 (0.32 x 20%). Due to the uncertainty around potential QALY gains sensitivity analysis was used to explore how the results differed with QALY gains varied by 50% more and 50% less than the baseline.

The baseline can be seen as a conservative estimate as the indicator itself is designed to ensure that patients' blood pressure is lowered (or kept low if it is already low), which would encourage GPs to ensure compliance with medication. It is also conservative because the assumed QALY gain is based on any reduction in blood pressure as a result of treatment rather than a specific reduction below a level of 140/90.

Baseline benefits

- To maintain a conservative approach it has been assumed that there are no benefits gained from lifestyle interventions and the lowest reported QALY gain for the benefits from pharmaceutical intervention has been used in modelling;
- People with stroke have a lower quality of life and life expectancy than those without stroke. Therefore, while they may have increased levels of compliance with anti-hypertensive medication this has been assumed to be offset by poorer quality of life in modelling;
- The incremental lifetime baseline QALY gain for treatment of stroke patients to a BP of 140/90 with drug therapy is 0.064.

Eligible Population

The eligible population is all patients aged under 80 who have experienced stroke. The British Heart Foundation reported a survey from 2006 that found that 1.0% of those over 16 and under 75 have experienced a stroke [6].

In addition, the NICE guidelines on acute stroke reported incidence rates of TIA approximates 5 times lower than that for stroke [7]. Whilst incidence rates cannot be translated directly into prevalence rates, especially given the correlation between TIA and stroke, for simplicity we have assumed that the incidence rate of TIA is 0.2% (ie. 5 times lower than that for stroke). This gives a prevalence rate of stroke or TIA in people aged over 16 and under 75 of 1.2%. Whilst not explicitly for those under 80, this rate was applied to population statistics from the ONS, which estimate that 76.5% of the UK population is aged between 16 and 79 [8]. Combining these two statistics suggests that 0.92% of an average practice population will be under 80 and have experienced stroke or TIA.

Baseline Level of Achievement

The pilot 7 data showed the indicator was achieved for 72.68% of eligible patients at the beginning of the pilot, falling to 54.50% at its conclusion. This fall is surprising and the points awarded and whether they are sufficient to incentivise GP activity

should be considered in light of this. A baseline level of achievement of 72.68% has therefore been assumed for this indicator.

Population

In the base case, the economic analysis was based on the total population registered with practices in England, that is, 8,316 practices with a mean practice size of 6,386 [9].

Table 1: Practice information for UK countries, 2011

Country	Number of practices	Number of patients
England	8,316	6,386
Scotland	1,002	5,245
Wales	483	6,344
Northern Ireland	353	5,119

NB: This practice information has been updated since the appendices were drafted. The changes are marginal and do not affect the conclusions in the report.

QOF Payments

Each QOF point is assumed to result in a payment of £156.92. This is the average value per point in England during 2013/14 (source; NHS Employers).

Societal Value of a QALY

The expected increase in QALYs was costed at both £20,000 and £25,000 per QALY. This is based on the bottom and the middle of the range £20,000 to £30,000, below which NICE generally considers something to be cost effective.

QOF Points

The economic analysis considers the cost-effectiveness of incentivising the proposed activity over a range of QOF points.

In the base case analysis, 10 points were allocated to the proposed indicator. This reflects the 5 points each allocated to the previous similar stroke hypertension indicator (STROKE6) and cholesterol indicator (STROKE8) and the fact that there is potential to achieve other points for the same patient due to the points on offer for the hypertension, peripheral arterial disease and stroke indicators. Sensitivity

analysis explored the agreed lower and upper bounds of 5 and 15 points respectively.

Thresholds

The pilot 7 GP practices showed baseline performance of between 40% and 100%. The majority of practices, however, fell between 50% and 90%. As such thresholds of 50-90% were considered to be appropriate for this indicator.

Results (assuming a value per QALY of £25,000)

Under the baseline assumptions of incremental delivery cost (£588), incremental benefit (0.064 QALYs with a value of £25,000 per QALY) and eligible population (0.92%), the net benefit analysis suggests that the indicator is highly cost effective, with QOF payments up to the upper bound of 15 points justifiable on economic grounds (Appendix A). The benefits of treating people with stroke/TIA and hypertension with medication outweigh the cost of delivering this care and the cost of QOF achievement payments. This finding holds provided that achievement rises from the hypertension pilot baseline figure of 72.7% to 74.3% at 10 points.

The indicator only ceases to be justifiable at baseline and 90% achievement on economic grounds at 64 points or when the value per QALY falls to £11,631. This is relevant given the potential for multiple points being awarded across the hypertension indicators proposed for achieving the BP target for a single patient.

Findings are highly insensitive to a 50% increase in costs (Appendix B), a 50% reduction in QALYs generated from anti-hypertensive medication (Appendix C) or a 50% reduction in the eligible population (Appendix D).

The indicator could no longer be recommended at 10 points with 90% achievement if:

- The cost of the intervention were to rise 146% to £1,444 for each patient with stroke/TIA;
- The QALYs generated from hypertensive medication were to fall by 53% to 0.030 QALYs per treated patient;

- The eligible population was to fall by 89% to 0.1%.

If the assumptions underpinning this analysis hold, then due to the potential size of the eligible population and the relatively low cost of the intervention compared to potential quality of life gains, there is a strong economic case for the indicator at a baseline of 10 points and up to the maximum QOF points appropriate for this indicator, i.e. 15 points.

Results (assuming a value per QALY of £20,000)

Under the baseline assumptions of incremental delivery cost (£588), incremental benefit (0.064 QALYs with a value of £20,000 per QALY) and eligible population (0.92%), the net benefit analysis suggests that the indicator is highly cost effective, with QOF payments up to the upper bound of 15 points justifiable on economic grounds (Appendix E). The benefits of treating people with Stroke/TIA and hypertension with medication outweigh the cost of delivering this care and the cost of QOF achievement payments. This finding holds provided that achievement rises from the hypertension pilot baseline figure of 72.7% to 75.1% at 10 points.

The indicator only ceases to be justifiable at baseline and 90% achievement on economic grounds at 44 points or when the value per QALY falls to £11,631. This is relevant given the potential for multiple points being awarded across the hypertension indicators proposed for achieving the BP target for a single patient.

Findings are highly insensitive to a 50% increase in costs (Appendix F) or a 50% reduction in the eligible population (Appendix H). At a 50% reduction in QALYs generated from anti-hypertensive medication (Appendix G) the indicator ceases to be cost effective across the range of points considered.

The indicator could no longer be recommended at 10 points with 90% achievement if:

- The cost of the intervention were to rise 91% to £1,124 for each patient with stroke/TIA;
- The QALYs generated from hypertensive medication were to fall by 42% to 0.037 QALYs per treated patient;

- The eligible population was to fall by 78% to 0.2%.

If the assumptions underpinning this analysis hold, then due to the potential size of the eligible population and the relatively low cost of the intervention compared to potential quality of life gains, there is a strong economic case for the indicator at a baseline of 10 points and up to the maximum QOF points appropriate for this indicator, i.e. 15 points. The caveat to this would be if the assumptions on QALYs generated do not hold and are overly optimistic. However, a pessimistic approach to estimating QALY gains was taken and provided the gain is no more than 42% lower than we have assumed than the findings would hold at 10 points.

Discussion

Under the conservative baseline assumptions and the even more conservative sensitivity analysis it appears unambiguous that this indicator is highly cost effective.

However, this finding must be understood in the context that the modelling is based upon the NICE hypertension economic model that was for patients without stroke/TIA. The transferability of this model to this indicator is dependent on a number of assumptions:

- Hypertensive medications are as effective for those patients with stroke/TIA as for those without stroke/TIA at reducing blood pressure;
- The health benefits from reducing blood pressure in patients with stroke/TIA are comparable to those without stroke/TIA;
- QALY gains from health benefits from drug treatment for hypertension are comparable for patients with and without stroke/TIA;
- Everyone with stroke/TIA also has hypertension and that anyone with low blood pressure has had it reduced through interventions.

The last of these assumptions was accounted for in modelling by assuming that although compliance with medication is reported to be twice as high in patients with stroke/TIA as those without stroke/TIA (meaning a potential doubling of the potential

QALY benefit to patients with stroke/TIA), this was negated by reduced life expectancy and underlying utility of patients with stroke/TIA.

It must also be noted that treating hypertension to a target has not been modelled as no data were available to do this. However, we are confident that the approach we have taken indicates that the indicator is highly cost effective, on the basis that treatment of high blood pressure is relatively cheap (now that generic drugs are available) and the potential health benefits are so great. It is cost-effective to use medication and smoking cessation interventions to achieve better blood pressure outcomes for this population.

Finally, although there could be double counting of points across hypertension indicators for the same people, the large number of points that can be awarded to achieve target blood pressure suggests that this double counting does not stop the indicator being cost effective.

References

[1] National Clinical Guideline Centre. The clinical management of primary hypertension in adults. London: Royal College of Physicians, 2011

[2] National Institute for Health and Clinical Excellence. Hypertension: Clinical management of primary hypertension in adults. 2011

[3] Unit Costs of Health & Social Care 2012. Personal Social Services Research Unit (PSSRU). Complied by Lesley Curtis. University of Kent.

[4] Woolacott NF, Jones L, Forbes CA et al. The clinical effectiveness and cost effectiveness of bupropion and nicotine replacement therapy for smoking cessation: a systematic review and economic evaluation. Health Technol Assess 2002

[5] Newby LK, Lapointe NMA, Chen AY, Kramer JM et al; Long-term adherence to evidence based secondary prevention therapies in coronary artery disease. Circulation. 2006; 113:203-212

[6] Townsend N, Wickramasinghe K, Bhatnagar P, Smolina K, Nichols M, Leal J, Luengo-Fernandez R, Rayner M (2012). Coronary heart disease statistics 2012 edition

[7] The National Collaborating Centre for Chronic Conditions. Stroke: national clinical guidelines for diagnosis and initial management of acute stroke and transient ischaemic attack (TIA). London: Royal College of Physicians, 2008

[8] See http://www.neighbourhood.statistics.gov.uk/HTMLDocs/dvc1/UKPyramid.html

[9] General Practice Trends in the UK. NHS Information Centre. Published 23 January 2013.

Appendix A: Net Benefit Base Case Analysis (£25k/QALY)

Pilot 7 - Stroke and Hypertension Under 80: Net Benefit Analysis

Value per point achieved	£156.92	Societal value of a QALY	£25,000
Number of practices	8,228		
Mean practice population	6,297		

Basline achievement		Cost-effectiveness estimates	
Minimum threshold	50%	Eligible population (mean % of practice population)	0.9%	Incremental cost (£ per patient)	£588
Maximum threshold	90%	Baseline achievement (mean % of eligible patients)	72.7%	Incremental effect (QALYs per patient)	0.064

Points	5	6	7	8	9	10	11	12	13	14	15

National totals

Expected Achieveme	QOF payments (£000s)											Change in treatment cost (£)	Change in QALYs
30%	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	-£119,623,785	-13020
35%	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	-£105,609,752	-11495
40%	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	-£91,595,719	-9970
45%	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	-£77,581,686	-8444
50%	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	-£63,567,653	-6919
55%	£807	£968	£1,130	£1,291	£1,453	£1,614	£1,775	£1,937	£2,098	£2,259	£2,421	-£49,553,620	-5394
60%	£1,614	£1,937	£2,259	£2,582	£2,905	£3,228	£3,551	£3,873	£4,196	£4,519	£4,842	-£35,539,588	-3868
65%	£2,421	£2,905	£3,389	£3,873	£4,358	£4,842	£5,326	£5,810	£6,294	£6,778	£7,263	-£21,525,555	-2343
70%	£3,228	£3,873	£4,519	£5,165	£5,810	£6,456	£7,101	£7,747	£8,392	£9,038	£9,684	-£7,511,522	-818
75%	£4,035	£4,842	£5,649	£6,456	£7,263	£8,070	£8,877	£9,684	£10,490	£11,297	£12,104	£6,502,511	708
80%	£4,842	£5,810	£6,778	£7,747	£8,715	£9,684	£10,652	£11,620	£12,589	£13,557	£14,525	£20,516,544	2233
85%	£5,649	£6,778	£7,908	£9,038	£10,168	£11,297	£12,427	£13,557	£14,687	£15,816	£16,946	£34,530,577	3758
90%	£6,456	£7,747	£9,038	£10,329	£11,620	£12,911	£14,203	£15,494	£16,785	£18,076	£19,367	£48,544,610	5284
95%	£6,456	£7,747	£9,038	£10,329	£11,620	£12,911	£14,203	£15,494	£16,785	£18,076	£19,367	£62,558,643	6809
100%	£6,456	£7,747	£9,038	£10,329	£11,620	£12,911	£14,203	£15,494	£16,785	£18,076	£19,367	£76,572,676	8334

Net Benefit (£000s)

30%	-£205,883	-£205,883	-£205,883	-£205,883	-£205,883	-£205,883	-£205,883	-£205,883	-£205,883	-£205,883	-£205,883
35%	-£181,764	-£181,764	-£181,764	-£181,764	-£181,764	-£181,764	-£181,764	-£181,764	-£181,764	-£181,764	-£181,764
40%	-£157,644	-£157,644	-£157,644	-£157,644	-£157,644	-£157,644	-£157,644	-£157,644	-£157,644	-£157,644	-£157,644
45%	-£133,525	-£133,525	-£133,525	-£133,525	-£133,525	-£133,525	-£133,525	-£133,525	-£133,525	-£133,525	-£133,525
50%	-£109,406	-£109,406	-£109,406	-£109,406	-£109,406	-£109,406	-£109,406	-£109,406	-£109,406	-£109,406	-£109,406
55%	-£86,093	-£86,255	-£86,416	-£86,577	-£86,739	-£86,900	-£87,061	-£87,223	-£87,384	-£87,546	-£87,707
60%	-£62,781	-£63,103	-£63,426	-£63,749	-£64,072	-£64,395	-£64,717	-£65,040	-£65,363	-£65,686	-£66,009
65%	-£39,468	-£39,952	-£40,437	-£40,921	-£41,405	-£41,889	-£42,373	-£42,858	-£43,342	-£43,826	-£44,310
70%	-£16,156	-£16,801	-£17,447	-£18,093	-£18,738	-£19,384	-£20,029	-£20,675	-£21,320	-£21,966	-£22,612
75%	£7,157	£6,350	£5,543	£4,736	£3,929	£3,122	£2,315	£1,508	£701	-£106	-£913
80%	£30,469	£29,501	£28,532	£27,564	£26,596	£25,627	£24,659	£23,691	£22,722	£21,754	£20,785
85%	£53,781	£52,652	£51,522	£50,392	£49,262	£48,133	£47,003	£45,873	£44,743	£43,614	£42,484
90%	£77,094	£75,803	£74,512	£73,220	£71,929	£70,638	£69,347	£68,056	£66,765	£65,474	£64,183
95%	£101,213	£99,922	£98,631	£97,340	£96,049	£94,758	£93,466	£92,175	£90,884	£89,593	£88,302
100%	£125,333	£124,042	£122,750	£121,459	£120,168	£118,877	£117,586	£116,295	£115,004	£113,712	£112,421

Where the net benefit produces a non-negative outcome then it is cost effective for the NHS to adopt the indicator.

When this is the case, the cells are highlighted with a yellow background.

Appendix B: Net Benefit Analysis Assuming 50% Increase in Incremental Costs per Patient (£25k/QALY)

Pilot 7 - Stroke and Hypertension Under 80: Net Benefit Analysis

Value per point achieved	£156.92	Societal value of a QALY	£25,000		
Number of practices	8,228				
Mean practice population	6,297				
		Basline achievement		**Cost-effectiveness estimates**	
Minimum threshold	50%	Eligible population (mean % of practice population)	0.9%	Incremental cost (£ per patient)	£882
Maximum threshold	90%	Baseline achievement (mean % of eligible patients)	72.7%	Incremental effect (QALYs per patient)	0.064

Points	5	6	7	8	9	10	11	12	13	14	15

National totals

Expected Achieveme	QOF payments (£000s)											Change in treatment cost (£)	Change in QALYs
30%	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	-£179,435,678	-13020
35%	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	-£158,414,628	-11495
40%	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	-£137,393,579	-9970
45%	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	-£116,372,530	-8444
50%	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	-£95,351,480	-6919
55%	£807	£968	£1,130	£1,291	£1,453	£1,614	£1,775	£1,937	£2,098	£2,259	£2,421	-£74,330,431	-5394
60%	£1,614	£1,937	£2,259	£2,582	£2,905	£3,228	£3,551	£3,873	£4,196	£4,519	£4,842	-£53,309,381	-3868
65%	£2,421	£2,905	£3,389	£3,873	£4,358	£4,842	£5,326	£5,810	£6,294	£6,778	£7,263	-£32,288,332	-2343
70%	£3,228	£3,873	£4,519	£5,165	£5,810	£6,456	£7,101	£7,747	£8,392	£9,038	£9,684	-£11,267,282	-818
75%	£4,035	£4,842	£5,649	£6,456	£7,263	£8,070	£8,877	£9,684	£10,490	£11,297	£12,104	£9,753,767	708
80%	£4,842	£5,810	£6,778	£7,747	£8,715	£9,684	£10,652	£11,620	£12,589	£13,557	£14,525	£30,774,816	2233
85%	£5,649	£6,778	£7,908	£9,038	£10,168	£11,297	£12,427	£13,557	£14,687	£15,816	£16,946	£51,795,866	3758
90%	£6,456	£7,747	£9,038	£10,329	£11,620	£12,911	£14,203	£15,494	£16,785	£18,076	£19,367	£72,816,915	5284
95%	£6,456	£7,747	£9,038	£10,329	£11,620	£12,911	£14,203	£15,494	£16,785	£18,076	£19,367	£93,837,965	6809
100%	£6,456	£7,747	£9,038	£10,329	£11,620	£12,911	£14,203	£15,494	£16,785	£18,076	£19,367	£114,859,014	8334

Net Benefit (£000s)

30%	-£146,071	-£146,071	-£146,071	-£146,071	-£146,071	-£146,071	-£146,071	-£146,071	-£146,071	-£146,071	-£146,071
35%	-£128,959	-£128,959	-£128,959	-£128,959	-£128,959	-£128,959	-£128,959	-£128,959	-£128,959	-£128,959	-£128,959
40%	-£111,846	-£111,846	-£111,846	-£111,846	-£111,846	-£111,846	-£111,846	-£111,846	-£111,846	-£111,846	-£111,846
45%	-£94,734	-£94,734	-£94,734	-£94,734	-£94,734	-£94,734	-£94,734	-£94,734	-£94,734	-£94,734	-£94,734
50%	-£77,622	-£77,622	-£77,622	-£77,622	-£77,622	-£77,622	-£77,622	-£77,622	-£77,622	-£77,622	-£77,622
55%	-£61,316	-£61,478	-£61,639	-£61,800	-£61,962	-£62,123	-£62,285	-£62,446	-£62,607	-£62,769	-£62,930
60%	-£45,011	-£45,334	-£45,656	-£45,979	-£46,302	-£46,625	-£46,948	-£47,270	-£47,593	-£47,916	-£48,239
65%	-£28,705	-£29,190	-£29,674	-£30,158	-£30,642	-£31,126	-£31,611	-£32,095	-£32,579	-£33,063	-£33,547
70%	-£12,400	-£13,046	-£13,691	-£14,337	-£14,982	-£15,628	-£16,273	-£16,919	-£17,565	-£18,210	-£18,856
75%	£3,905	£3,098	£2,291	£1,484	£677	-£129	-£936	-£1,743	-£2,550	-£3,357	-£4,164
80%	£20,211	£19,242	£18,274	£17,306	£16,337	£15,369	£14,401	£13,432	£12,464	£11,496	£10,527
85%	£36,516	£35,386	£34,257	£33,127	£31,997	£30,867	£29,738	£28,608	£27,478	£26,348	£25,219
90%	£52,822	£51,530	£50,239	£48,948	£47,657	£46,366	£45,075	£43,784	£42,492	£41,201	£39,910
95%	£69,934	£68,643	£67,352	£66,061	£64,769	£63,478	£62,187	£60,896	£59,605	£58,314	£57,023
100%	£87,046	£85,755	£84,464	£83,173	£81,882	£80,591	£79,299	£78,008	£76,717	£75,426	£74,135

Where the net benefit produces a non-negative outcome then it is cost effective for the NHS to adopt the indicator.

When this is the case, the cells are highlighted with a yellow background.

Appendix C: Net Benefit Analysis Assuming 50% Reduction in QALYs (£25k/QALY)

Pilot 7 - Stroke and Hypertension Under 80: Net Benefit Analysis

Value per point achieved	£156.92	Societal value of a QALY	£25,000
Number of practices	8,228		
Mean practice population	6,297		
		Basline achievement	
Minimum threshold	50%	Eligible population (mean % of practice population)	0.9%
Maximum threshold	90%	Baseline achievement (mean % of eligible patients)	72.7%

Cost-effectiveness estimates	
Incremental cost (£ per patient)	£588
Incremental effect (QALYs per patient)	0.032

Points	5	6	7	8	9	10	11	12	13	14	15

National totals

Expected Achieveme	QOF payments (£000s)											Change in treatment cost (£)	Change in QALYs
30%	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	-£119,623,785	-6510
35%	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	-£105,609,752	-5747
40%	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	-£91,595,719	-4985
45%	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	-£77,581,686	-4222
50%	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	-£63,567,653	-3459
55%	£807	£968	£1,130	£1,291	£1,453	£1,614	£1,775	£1,937	£2,098	£2,259	£2,421	-£49,553,620	-2697
60%	£1,614	£1,937	£2,259	£2,582	£2,905	£3,228	£3,551	£3,873	£4,196	£4,519	£4,842	-£35,539,588	-1934
65%	£2,421	£2,905	£3,389	£3,873	£4,358	£4,842	£5,326	£5,810	£6,294	£6,778	£7,263	-£21,525,555	-1171
70%	£3,228	£3,873	£4,519	£5,165	£5,810	£6,456	£7,101	£7,747	£8,392	£9,038	£9,684	-£7,511,522	-409
75%	£4,035	£4,842	£5,649	£6,456	£7,263	£8,070	£8,877	£9,684	£10,490	£11,297	£12,104	£6,502,511	354
80%	£4,842	£5,810	£6,778	£7,747	£8,715	£9,684	£10,652	£11,620	£12,589	£13,557	£14,525	£20,516,544	1117
85%	£5,649	£6,778	£7,908	£9,038	£10,168	£11,297	£12,427	£13,557	£14,687	£15,816	£16,946	£34,530,577	1879
90%	£6,456	£7,747	£9,038	£10,329	£11,620	£12,911	£14,203	£15,494	£16,785	£18,076	£19,367	£48,544,610	2642
95%	£6,456	£7,747	£9,038	£10,329	£11,620	£12,911	£14,203	£15,494	£16,785	£18,076	£19,367	£62,558,643	3405
100%	£6,456	£7,747	£9,038	£10,329	£11,620	£12,911	£14,203	£15,494	£16,785	£18,076	£19,367	£76,572,676	4167

Net Benefit (£000s)

30%	-£43,130	-£43,130	-£43,130	-£43,130	-£43,130	-£43,130	-£43,130	-£43,130	-£43,130	-£43,130	-£43,130
35%	-£38,077	-£38,077	-£38,077	-£38,077	-£38,077	-£38,077	-£38,077	-£38,077	-£38,077	-£38,077	-£38,077
40%	-£33,024	-£33,024	-£33,024	-£33,024	-£33,024	-£33,024	-£33,024	-£33,024	-£33,024	-£33,024	-£33,024
45%	-£27,972	-£27,972	-£27,972	-£27,972	-£27,972	-£27,972	-£27,972	-£27,972	-£27,972	-£27,972	-£27,972
50%	-£22,919	-£22,919	-£22,919	-£22,919	-£22,919	-£22,919	-£22,919	-£22,919	-£22,919	-£22,919	-£22,919
55%	-£18,673	-£18,835	-£18,996	-£19,157	-£19,319	-£19,480	-£19,642	-£19,803	-£19,964	-£20,126	-£20,287
60%	-£14,428	-£14,750	-£15,073	-£15,396	-£15,719	-£16,041	-£16,364	-£16,687	-£17,010	-£17,333	-£17,655
65%	-£10,182	-£10,666	-£11,150	-£11,634	-£12,119	-£12,603	-£13,087	-£13,571	-£14,055	-£14,539	-£15,024
70%	-£5,936	-£6,582	-£7,227	-£7,873	-£8,518	-£9,164	-£9,809	-£10,455	-£11,101	-£11,746	-£12,392
75%	-£1,690	-£2,497	-£3,304	-£4,111	-£4,918	-£5,725	-£6,532	-£7,339	-£8,146	-£8,953	-£9,760
80%	£2,555	£1,587	£619	-£350	-£1,318	-£2,286	-£3,255	-£4,223	-£5,191	-£6,160	-£7,128
85%	£6,801	£5,671	£4,542	£3,412	£2,282	£1,152	£23	-£1,107	-£2,237	-£3,367	-£4,496
90%	£11,047	£9,756	£8,465	£7,173	£5,882	£4,591	£3,300	£2,009	£718	-£573	-£1,865
95%	£16,099	£14,808	£13,517	£12,226	£10,935	£9,644	£8,353	£7,062	£5,770	£4,479	£3,188
100%	£21,152	£19,861	£18,570	£17,279	£15,988	£14,696	£13,405	£12,114	£10,823	£9,532	£8,241

Where the net benefit produces a non-negative outcome then it is cost effective for the NHS to adopt the indicator.

When this is the case, the cells are highlighted with a yellow background.

Appendix D: Net Benefit Base Case Analysis Assuming 50% Reduction in Eligible Population (£25k/QALY)

Pilot 7 - Stroke and Hypertension Under 80: Net Benefit Analysis

Value per point achieved	£156.92	Societal value of a QALY	£25,000		
Number of practices	8,228				
Mean practice population	6,297				
		Basline achievement		**Cost-effectiveness estimates**	
Minimum threshold	50%	Eligible population (mean % of practice population)	0.5%	Incremental cost (£ per patient)	£588
Maximum threshold	90%	Baseline achievement (mean % of eligible patients)	72.7%	Incremental effect (QALYs per patient)	0.064

Points	5	6	7	8	9	10	11	12	13	14	15

National totals

Expected Achieveme	QOF payments (£000s)											Change in treatment cost (£)	Change in QALYs
30%	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	-£58,511,634	-6369
35%	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	-£51,656,944	-5623
40%	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	-£44,802,254	-4876
45%	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	-£37,947,564	-4130
50%	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	-£31,092,874	-3384
55%	£807	£968	£1,130	£1,291	£1,453	£1,614	£1,775	£1,937	£2,098	£2,259	£2,421	-£24,238,184	-2638
60%	£1,614	£1,937	£2,259	£2,582	£2,905	£3,228	£3,551	£3,873	£4,196	£4,519	£4,842	-£17,383,494	-1892
65%	£2,421	£2,905	£3,389	£3,873	£4,358	£4,842	£5,326	£5,810	£6,294	£6,778	£7,263	-£10,528,804	-1146
70%	£3,228	£3,873	£4,519	£5,165	£5,810	£6,456	£7,101	£7,747	£8,392	£9,038	£9,684	-£3,674,114	-400
75%	£4,035	£4,842	£5,649	£6,456	£7,263	£8,070	£8,877	£9,684	£10,490	£11,297	£12,104	£3,180,576	346
80%	£4,842	£5,810	£6,778	£7,747	£8,715	£9,684	£10,652	£11,620	£12,589	£13,557	£14,525	£10,035,266	1092
85%	£5,649	£6,778	£7,908	£9,038	£10,168	£11,297	£12,427	£13,557	£14,687	£15,816	£16,946	£16,889,956	1838
90%	£6,456	£7,747	£9,038	£10,329	£11,620	£12,911	£14,203	£15,494	£16,785	£18,076	£19,367	£23,744,646	2584
95%	£6,456	£7,747	£9,038	£10,329	£11,620	£12,911	£14,203	£15,494	£16,785	£18,076	£19,367	£30,599,336	3331
100%	£6,456	£7,747	£9,038	£10,329	£11,620	£12,911	£14,203	£15,494	£16,785	£18,076	£19,367	£37,454,026	4077

Net Benefit (£000s)

30%	-£100,704	-£100,704	-£100,704	-£100,704	-£100,704	-£100,704	-£100,704	-£100,704	-£100,704	-£100,704	-£100,704
35%	-£88,906	-£88,906	-£88,906	-£88,906	-£88,906	-£88,906	-£88,906	-£88,906	-£88,906	-£88,906	-£88,906
40%	-£77,109	-£77,109	-£77,109	-£77,109	-£77,109	-£77,109	-£77,109	-£77,109	-£77,109	-£77,109	-£77,109
45%	-£65,311	-£65,311	-£65,311	-£65,311	-£65,311	-£65,311	-£65,311	-£65,311	-£65,311	-£65,311	-£65,311
50%	-£53,514	-£53,514	-£53,514	-£53,514	-£53,514	-£53,514	-£53,514	-£53,514	-£53,514	-£53,514	-£53,514
55%	-£42,523	-£42,684	-£42,846	-£43,007	-£43,169	-£43,330	-£43,491	-£43,653	-£43,814	-£43,976	-£44,137
60%	-£31,532	-£31,855	-£32,178	-£32,501	-£32,824	-£33,146	-£33,469	-£33,792	-£34,115	-£34,438	-£34,760
65%	-£20,542	-£21,026	-£21,510	-£21,994	-£22,479	-£22,963	-£23,447	-£23,931	-£24,415	-£24,899	-£25,384
70%	-£9,551	-£10,197	-£10,842	-£11,488	-£12,134	-£12,779	-£13,425	-£14,070	-£14,716	-£15,361	-£16,007
75%	£1,439	£632	-£175	-£982	-£1,789	-£2,596	-£3,403	-£4,209	-£5,016	-£5,823	-£6,630
80%	£12,430	£11,461	£10,493	£9,525	£8,556	£7,588	£6,620	£5,651	£4,683	£3,715	£2,746
85%	£23,420	£22,291	£21,161	£20,031	£18,901	£17,772	£16,642	£15,512	£14,382	£13,253	£12,123
90%	£34,411	£33,120	£31,829	£30,538	£29,246	£27,955	£26,664	£25,373	£24,082	£22,791	£21,500
95%	£46,208	£44,917	£43,626	£42,335	£41,044	£39,753	£38,462	£37,171	£35,879	£34,588	£33,297
100%	£58,006	£56,715	£55,424	£54,133	£52,841	£51,550	£50,259	£48,968	£47,677	£46,386	£45,095

Where the net benefit produces a non-negative outcome then it is cost effective for the NHS to adopt the indicator.

When this is the case, the cells are highlighted with a yellow background.

Appendix E: Net Benefit Base Case Analysis (£20k/QALY)

Pilot 7 - Stroke and Hypertension Under 80: Net Benefit Analysis

Value per point achieved	£156.92	Societal value of a QALY	£20,000
Number of practices	8,228		
Mean practice population	6,297		

		Basline achievement		**Cost-effectiveness estimates**	
Minimum threshold	50%	Eligible population (mean % of practice population)	0.9%	Incremental cost (£ per patient)	£588
Maximum threshold	90%	Baseline achievement (mean % of eligible patients)	72.7%	Incremental effect (QALYs per patient)	0.064

Points	5	6	7	8	9	10	11	12	13	14	15

National totals

Expected Achieveme	**QOF payments (£000s)**											**Change in treatment cost (£)**	**Change in QALYs**
30%	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	-£119,623,785	-13020
35%	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	-£105,609,752	-11495
40%	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	-£91,595,719	-9970
45%	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	-£77,581,686	-8444
50%	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	-£63,567,653	-6919
55%	£807	£968	£1,130	£1,291	£1,453	£1,614	£1,775	£1,937	£2,098	£2,259	£2,421	-£49,553,620	-5394
60%	£1,614	£1,937	£2,259	£2,582	£2,905	£3,228	£3,551	£3,873	£4,196	£4,519	£4,842	-£35,539,588	-3868
65%	£2,421	£2,905	£3,389	£3,873	£4,358	£4,842	£5,326	£5,810	£6,294	£6,778	£7,263	-£21,525,555	-2343
70%	£3,228	£3,873	£4,519	£5,165	£5,810	£6,456	£7,101	£7,747	£8,392	£9,038	£9,684	-£7,511,522	-818
75%	£4,035	£4,842	£5,649	£6,456	£7,263	£8,070	£8,877	£9,684	£10,490	£11,297	£12,104	£6,502,511	708
80%	£4,842	£5,810	£6,778	£7,747	£8,715	£9,684	£10,652	£11,620	£12,589	£13,557	£14,525	£20,516,544	2233
85%	£5,649	£6,778	£7,908	£9,038	£10,168	£11,297	£12,427	£13,557	£14,687	£15,816	£16,946	£34,530,577	3758
90%	£6,456	£7,747	£9,038	£10,329	£11,620	£12,911	£14,203	£15,494	£16,785	£18,076	£19,367	£48,544,610	5284
95%	£6,456	£7,747	£9,038	£10,329	£11,620	£12,911	£14,203	£15,494	£16,785	£18,076	£19,367	£62,558,643	6809
100%	£6,456	£7,747	£9,038	£10,329	£11,620	£12,911	£14,203	£15,494	£16,785	£18,076	£19,367	£76,572,676	8334

Net Benefit (£000s)

30%	-£140,782	-£140,782	-£140,782	-£140,782	-£140,782	-£140,782	-£140,782	-£140,782	-£140,782	-£140,782	-£140,782
35%	-£124,289	-£124,289	-£124,289	-£124,289	-£124,289	-£124,289	-£124,289	-£124,289	-£124,289	-£124,289	-£124,289
40%	-£107,796	-£107,796	-£107,796	-£107,796	-£107,796	-£107,796	-£107,796	-£107,796	-£107,796	-£107,796	-£107,796
45%	-£91,304	-£91,304	-£91,304	-£91,304	-£91,304	-£91,304	-£91,304	-£91,304	-£91,304	-£91,304	-£91,304
50%	-£74,811	-£74,811	-£74,811	-£74,811	-£74,811	-£74,811	-£74,811	-£74,811	-£74,811	-£74,811	-£74,811
55%	-£59,125	-£59,287	-£59,448	-£59,609	-£59,771	-£59,932	-£60,094	-£60,255	-£60,416	-£60,578	-£60,739
60%	-£43,439	-£43,762	-£44,085	-£44,408	-£44,731	-£45,053	-£45,376	-£45,699	-£46,022	-£46,344	-£46,667
65%	-£27,754	-£28,238	-£28,722	-£29,206	-£29,690	-£30,175	-£30,659	-£31,143	-£31,627	-£32,111	-£32,595
70%	-£12,068	-£12,714	-£13,359	-£14,005	-£14,650	-£15,296	-£15,941	-£16,587	-£17,232	-£17,878	-£18,524
75%	£3,618	£2,811	£2,004	£1,197	£390	-£417	-£1,224	-£2,031	-£2,838	-£3,645	-£4,452
80%	£19,304	£18,335	£17,367	£16,398	£15,430	£14,462	£13,493	£12,525	£11,557	£10,588	£9,620
85%	£34,989	£33,860	£32,730	£31,600	£30,470	£29,341	£28,211	£27,081	£25,951	£24,822	£23,692
90%	£50,675	£49,384	£48,093	£46,802	£45,510	£44,219	£42,928	£41,637	£40,346	£39,055	£37,764
95%	£67,168	£65,877	£64,585	£63,294	£62,003	£60,712	£59,421	£58,130	£56,839	£55,548	£54,256
100%	£83,660	£82,369	£81,078	£79,787	£78,496	£77,205	£75,914	£74,622	£73,331	£72,040	£70,749

Where the net benefit produces a non-negative outcome then it is cost effective for the NHS to adopt the indicator.

When this is the case, the cells are highlighted with a yellow background.

Appendix F: Net Benefit Analysis Assuming 50% Increase in Incremental Costs per Patient (£20k/QALY)

Pilot 7 - Stroke and Hypertension Under 80: Net Benefit Analysis

Value per point achieved	£156.92	Societal value of a QALY	£20,000	
Number of practices	8,228			
Mean practice population	6,297			
		Basline achievement		**Cost-effectiveness estimates**
Minimum threshold	50%	Eligible population (mean % of practice population)	0.9%	Incremental cost (£ per patient) £882
Maximum threshold	90%	Baseline achievement (mean % of eligible patients)	72.7%	Incremental effect (QALYs per patient) 0.064

Points	5	6	7	8	9	10	11	12	13	14	15

National totals

Expected Achieveme	QOF payments (£000s)											Change in treatment cost (£)	Change in QALYs
30%	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	-£179,435,678	-13020
35%	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	-£158,414,628	-11495
40%	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	-£137,393,579	-9970
45%	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	-£116,372,530	-8444
50%	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	-£95,351,480	-6919
55%	£807	£968	£1,130	£1,291	£1,453	£1,614	£1,775	£1,937	£2,098	£2,259	£2,421	-£74,330,431	-5394
60%	£1,614	£1,937	£2,259	£2,582	£2,905	£3,228	£3,551	£3,873	£4,196	£4,519	£4,842	-£53,309,381	-3868
65%	£2,421	£2,905	£3,389	£3,873	£4,358	£4,842	£5,326	£5,810	£6,294	£6,778	£7,263	-£32,288,332	-2343
70%	£3,228	£3,873	£4,519	£5,165	£5,810	£6,456	£7,101	£7,747	£8,392	£9,038	£9,684	-£11,267,282	-818
75%	£4,035	£4,842	£5,649	£6,456	£7,263	£8,070	£8,877	£9,684	£10,490	£11,297	£12,104	£9,753,767	708
80%	£4,842	£5,810	£6,778	£7,747	£8,715	£9,684	£10,652	£11,620	£12,589	£13,557	£14,525	£30,774,816	2233
85%	£5,649	£6,778	£7,908	£9,038	£10,168	£11,297	£12,427	£13,557	£14,687	£15,816	£16,946	£51,795,866	3758
90%	£6,456	£7,747	£9,038	£10,329	£11,620	£12,911	£14,203	£15,494	£16,785	£18,076	£19,367	£72,816,915	5284
95%	£6,456	£7,747	£9,038	£10,329	£11,620	£12,911	£14,203	£15,494	£16,785	£18,076	£19,367	£93,837,965	6809
100%	£6,456	£7,747	£9,038	£10,329	£11,620	£12,911	£14,203	£15,494	£16,785	£18,076	£19,367	£114,859,014	8334

Net Benefit (£000s)

30%	-£80,970	-£80,970	-£80,970	-£80,970	-£80,970	-£80,970	-£80,970	-£80,970	-£80,970	-£80,970	-£80,970
35%	-£71,484	-£71,484	-£71,484	-£71,484	-£71,484	-£71,484	-£71,484	-£71,484	-£71,484	-£71,484	-£71,484
40%	-£61,998	-£61,998	-£61,998	-£61,998	-£61,998	-£61,998	-£61,998	-£61,998	-£61,998	-£61,998	-£61,998
45%	-£52,513	-£52,513	-£52,513	-£52,513	-£52,513	-£52,513	-£52,513	-£52,513	-£52,513	-£52,513	-£52,513
50%	-£43,027	-£43,027	-£43,027	-£43,027	-£43,027	-£43,027	-£43,027	-£43,027	-£43,027	-£43,027	-£43,027
55%	-£34,348	-£34,510	-£34,671	-£34,833	-£34,994	-£35,155	-£35,317	-£35,478	-£35,639	-£35,801	-£35,962
60%	-£25,670	-£25,992	-£26,315	-£26,638	-£26,961	-£27,284	-£27,606	-£27,929	-£28,252	-£28,575	-£28,897
65%	-£16,991	-£17,475	-£17,959	-£18,443	-£18,928	-£19,412	-£19,896	-£20,380	-£20,864	-£21,348	-£21,833
70%	-£8,312	-£8,958	-£9,603	-£10,249	-£10,894	-£11,540	-£12,186	-£12,831	-£13,477	-£14,122	-£14,768
75%	£367	-£440	-£1,247	-£2,054	-£2,861	-£3,668	-£4,475	-£5,282	-£6,089	-£6,896	-£7,703
80%	£9,045	£8,077	£7,109	£6,140	£5,172	£4,204	£3,235	£2,267	£1,298	£330	-£638
85%	£17,724	£16,594	£15,465	£14,335	£13,205	£12,075	£10,946	£9,816	£8,686	£7,556	£6,427
90%	£26,403	£25,112	£23,820	£22,529	£21,238	£19,947	£18,656	£17,365	£16,074	£14,782	£13,491
95%	£35,888	£34,597	£33,306	£32,015	£30,724	£29,433	£28,142	£26,850	£25,559	£24,268	£22,977
100%	£45,374	£44,083	£42,792	£41,501	£40,210	£38,918	£37,627	£36,336	£35,045	£33,754	£32,463

Where the net benefit produces a non-negative outcome then it is cost effective for the NHS to adopt the indicator.

When this is the case, the cells are highlighted with a yellow background.

Appendix G: Net Benefit Analysis Assuming 50% Reduction in QALYs (£20k/QALY)

Pilot 7 - Stroke and Hypertension Under 80: Net Benefit Analysis

Value per point achieved	£156.92	Societal value of a QALY	£20,000
Number of practices	8,228		
Mean practice population	6,297		
		Basline achievement	
Minimum threshold	50%	Eligible population (mean % of practice population)	0.9%
Maximum threshold	90%	Baseline achievement (mean % of eligible patients)	72.7%

Cost-effectiveness estimates	
Incremental cost (£ per patient)	£588
Incremental effect (QALYs per patient)	0.032

Points	5	6	7	8	9	10	11	12	13	14	15

National totals

Expected Achieveme	QOF payments (£000s)											Change in treatment cost (£)	Change in QALYs
30%	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	-£119,623,785	-6510
35%	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	-£105,609,752	-5747
40%	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	-£91,595,719	-4985
45%	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	-£77,581,686	-4222
50%	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	-£63,567,653	-3459
55%	£807	£968	£1,130	£1,291	£1,453	£1,614	£1,775	£1,937	£2,098	£2,259	£2,421	-£49,553,620	-2697
60%	£1,614	£1,937	£2,259	£2,582	£2,905	£3,228	£3,551	£3,873	£4,196	£4,519	£4,842	-£35,539,588	-1934
65%	£2,421	£2,905	£3,389	£3,873	£4,358	£4,842	£5,326	£5,810	£6,294	£6,778	£7,263	-£21,525,555	-1171
70%	£3,228	£3,873	£4,519	£5,165	£5,810	£6,456	£7,101	£7,747	£8,392	£9,038	£9,684	-£7,511,522	-409
75%	£4,035	£4,842	£5,649	£6,456	£7,263	£8,070	£8,877	£9,684	£10,490	£11,297	£12,104	£6,502,511	354
80%	£4,842	£5,810	£6,778	£7,747	£8,715	£9,684	£10,652	£11,620	£12,589	£13,557	£14,525	£20,516,544	1117
85%	£5,649	£6,778	£7,908	£9,038	£10,168	£11,297	£12,427	£13,557	£14,687	£15,816	£16,946	£34,530,577	1879
90%	£6,456	£7,747	£9,038	£10,329	£11,620	£12,911	£14,203	£15,494	£16,785	£18,076	£19,367	£48,544,610	2642
95%	£6,456	£7,747	£9,038	£10,329	£11,620	£12,911	£14,203	£15,494	£16,785	£18,076	£19,367	£62,558,643	3405
100%	£6,456	£7,747	£9,038	£10,329	£11,620	£12,911	£14,203	£15,494	£16,785	£18,076	£19,367	£76,572,676	4167

Net Benefit (£000s)

30%	-£10,579	-£10,579	-£10,579	-£10,579	-£10,579	-£10,579	-£10,579	-£10,579	-£10,579	-£10,579	-£10,579
35%	-£9,340	-£9,340	-£9,340	-£9,340	-£9,340	-£9,340	-£9,340	-£9,340	-£9,340	-£9,340	-£9,340
40%	-£8,100	-£8,100	-£8,100	-£8,100	-£8,100	-£8,100	-£8,100	-£8,100	-£8,100	-£8,100	-£8,100
45%	-£6,861	-£6,861	-£6,861	-£6,861	-£6,861	-£6,861	-£6,861	-£6,861	-£6,861	-£6,861	-£6,861
50%	-£5,622	-£5,622	-£5,622	-£5,622	-£5,622	-£5,622	-£5,622	-£5,622	-£5,622	-£5,622	-£5,622
55%	-£5,189	-£5,351	-£5,512	-£5,673	-£5,835	-£5,996	-£6,158	-£6,319	-£6,480	-£6,642	-£6,803
60%	-£4,757	-£5,080	-£5,402	-£5,725	-£6,048	-£6,371	-£6,694	-£7,016	-£7,339	-£7,662	-£7,985
65%	-£4,325	-£4,809	-£5,293	-£5,777	-£6,261	-£6,745	-£7,230	-£7,714	-£8,198	-£8,682	-£9,166
70%	-£3,892	-£4,538	-£5,183	-£5,829	-£6,474	-£7,120	-£7,766	-£8,411	-£9,057	-£9,702	-£10,348
75%	-£3,460	-£4,267	-£5,074	-£5,881	-£6,688	-£7,495	-£8,302	-£9,108	-£9,915	-£10,722	-£11,529
80%	-£3,027	-£3,996	-£4,964	-£5,932	-£6,901	-£7,869	-£8,837	-£9,806	-£10,774	-£11,743	-£12,711
85%	-£2,595	-£3,725	-£4,854	-£5,984	-£7,114	-£8,244	-£9,373	-£10,503	-£11,633	-£12,763	-£13,892
90%	-£2,163	-£3,454	-£4,745	-£6,036	-£7,327	-£8,618	-£9,909	-£11,201	-£12,492	-£13,783	-£15,074
95%	-£923	-£2,214	-£3,506	-£4,797	-£6,088	-£7,379	-£8,670	-£9,961	-£11,252	-£12,544	-£13,835
100%	£316	-£975	-£2,266	-£3,557	-£4,849	-£6,140	-£7,431	-£8,722	-£10,013	-£11,304	-£12,595

Where the net benefit produces a non-negative outcome then it is cost effective for the NHS to adopt the indicator.

When this is the case, the cells are highlighted with a yellow background.

Appendix H: Net Benefit Base Case Analysis Assuming 50% Reduction in Eligible Population (£20k/QALY)

Pilot 7 - Stroke and Hypertension Under 80: Net Benefit Analysis

Value per point achieved	£156.92	Societal value of a QALY	£20,000		
Number of practices	8,228				
Mean practice population	6,297				
		Basline achievement		**Cost-effectiveness estimates**	
Minimum threshold	50%	Eligible population (mean % of practice population)	0.5%	Incremental cost (£ per patient)	£588
Maximum threshold	90%	Baseline achievement (mean % of eligible patients)	72.7%	Incremental effect (QALYs per patient)	0.064

National totals

Expected Achieveme	QOF payments (£000s)											Change in treatment cost (£)	Change in QALYs
Points	5	6	7	8	9	10	11	12	13	14	15		
30%	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	-£58,511,634	-6369
35%	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	-£51,656,944	-5623
40%	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	-£44,802,254	-4876
45%	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	-£37,947,564	-4130
50%	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	-£31,092,874	-3384
55%	£807	£968	£1,130	£1,291	£1,453	£1,614	£1,775	£1,937	£2,098	£2,259	£2,421	-£24,238,184	-2638
60%	£1,614	£1,937	£2,259	£2,582	£2,905	£3,228	£3,551	£3,873	£4,196	£4,519	£4,842	-£17,383,494	-1892
65%	£2,421	£2,905	£3,389	£3,873	£4,358	£4,842	£5,326	£5,810	£6,294	£6,778	£7,263	-£10,528,804	-1146
70%	£3,228	£3,873	£4,519	£5,165	£5,810	£6,456	£7,101	£7,747	£8,392	£9,038	£9,684	-£3,674,114	-400
75%	£4,035	£4,842	£5,649	£6,456	£7,263	£8,070	£8,877	£9,684	£10,490	£11,297	£12,104	£3,180,576	346
80%	£4,842	£5,810	£6,778	£7,747	£8,715	£9,684	£10,652	£11,620	£12,589	£13,557	£14,525	£10,035,266	1092
85%	£5,649	£6,778	£7,908	£9,038	£10,168	£11,297	£12,427	£13,557	£14,687	£15,816	£16,946	£16,889,956	1838
90%	£6,456	£7,747	£9,038	£10,329	£11,620	£12,911	£14,203	£15,494	£16,785	£18,076	£19,367	£23,744,646	2584
95%	£6,456	£7,747	£9,038	£10,329	£11,620	£12,911	£14,203	£15,494	£16,785	£18,076	£19,367	£30,599,336	3331
100%	£6,456	£7,747	£9,038	£10,329	£11,620	£12,911	£14,203	£15,494	£16,785	£18,076	£19,367	£37,454,026	4077

Net Benefit (£000s)

30%	-£68,861	-£68,861	-£68,861	-£68,861	-£68,861	-£68,861	-£68,861	-£68,861	-£68,861	-£68,861	-£68,861
35%	-£60,794	-£60,794	-£60,794	-£60,794	-£60,794	-£60,794	-£60,794	-£60,794	-£60,794	-£60,794	-£60,794
40%	-£52,726	-£52,726	-£52,726	-£52,726	-£52,726	-£52,726	-£52,726	-£52,726	-£52,726	-£52,726	-£52,726
45%	-£44,659	-£44,659	-£44,659	-£44,659	-£44,659	-£44,659	-£44,659	-£44,659	-£44,659	-£44,659	-£44,659
50%	-£36,592	-£36,592	-£36,592	-£36,592	-£36,592	-£36,592	-£36,592	-£36,592	-£36,592	-£36,592	-£36,592
55%	-£29,332	-£29,494	-£29,655	-£29,816	-£29,978	-£30,139	-£30,301	-£30,462	-£30,623	-£30,785	-£30,946
60%	-£22,072	-£22,395	-£22,718	-£23,040	-£23,363	-£23,686	-£24,009	-£24,332	-£24,654	-£24,977	-£25,300
65%	-£14,812	-£15,296	-£15,780	-£16,264	-£16,749	-£17,233	-£17,717	-£18,201	-£18,685	-£19,170	-£19,654
70%	-£7,552	-£8,197	-£8,843	-£9,489	-£10,134	-£10,780	-£11,425	-£12,071	-£12,716	-£13,362	-£14,007
75%	-£292	-£1,099	-£1,906	-£2,713	-£3,520	-£4,326	-£5,133	-£5,940	-£6,747	-£7,554	-£8,361
80%	£6,968	£6,000	£5,032	£4,063	£3,095	£2,127	£1,158	£190	-£778	-£1,747	-£2,715
85%	£14,229	£13,099	£11,969	£10,839	£9,710	£8,580	£7,450	£6,320	£5,191	£4,061	£2,931
90%	£21,489	£20,198	£18,906	£17,615	£16,324	£15,033	£13,742	£12,451	£11,160	£9,868	£8,577
95%	£29,556	£28,265	£26,973	£25,682	£24,391	£23,100	£21,809	£20,518	£19,227	£17,936	£16,644
100%	£37,623	£36,332	£35,041	£33,749	£32,458	£31,167	£29,876	£28,585	£27,294	£26,003	£24,711

Where the net benefit produces a non-negative outcome then it is cost effective for the NHS to adopt the indicator.

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