UNIVERSITY OF BIRMINGHAM AND YORK HEALTH ECONOMICS CONSORTIUM

(NICE EXTERNAL CONTRACTOR)

Health economic report on piloted indicator

Pilot QOF indicator: The percentage of patients with diabetes who have had the following care processes performed in the preceding 12 months:

- BMI measurement;
- BP measurement;
- HbA1c measurement;
- Cholesterol measurement;
- Record of smoking status;
- Foot examination;
- Albumin: creatinine ratio;
- Serum creatinine measurement.

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 8 of the NICE Quality and Outcomes Framework (QOF) indicator development programme:

> ***The percentage of patients with diabetes who have had the following care processes performed in the preceding 12 months:***
>
> - ***BMI measurement;***
> - ***BP measurement;***
> - ***HbA1c measurement;***
> - ***Cholesterol measurement;***
> - ***Record of smoking status;***
> - ***Foot examination;***
> - ***Albumin: creatinine ratio (ACR);***
> - ***Serum creatinine measurement.***

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 sub-group 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

Economic Rationale for the Indicator

NICE Quality Standard 6 (QS6) and Clinical Guideline 87 (CG87) refer to the management of diabetes in adults, although the latter only relates to Type 2 diabetes [1, 2]. QS6 states that annual checks should be made of the risk of complications due to diabetes. The benefits of carrying out the checks specified in the QOF indicator are largely implicit in the QS except for albumin: creatinine ratio (ACR) testing where the NICE diabetes pathway explicitly asks for this to be undertaken as a means of early diagnosis of chronic kidney disease (CKD).

There are already incentives in the QOF currently for a number of tests for people with diabetes but this indicator is intended to incentivise the whole set of tests. The following indicators already exist:

- DM002 and DM003 - BP levels;
- DM004 - cholesterol;
- DM006 – nephropathy;
- DM007, DM008, DM009 - HbA1c
- DM012 - foot examination;
- SMOK002 - smoking status, and included people with diabetes.

Previous work on the QOF indicator for ACR testing in hypertensive patients suggested this was highly cost-effective. As CKD develops in 15%-23% of people with diabetes, testing and early treatment of the condition is likely to be even more cost-effective than in people with hypertension where the risk of CKD is lower [3].

The economic analysis undertaken for this indicator is solely around ACR testing. For the purposes of economic modelling, it has been assumed that the other checks in the indicator carry no benefit but that there is a cost involved in undertaking these checks. This provides a very conservative approach, essentially saying that provided one of the checks offers sufficient benefit to cover the costs involved in delivering all the checks and that none of the tests does harm, then the indicator can be seen to be cost-effective.

Summary of assumptions

- The indicator is designed to ensure a series of checks are carried out for people with diabetes designed to identify potential health risks or risks of complications associated with diabetes;
- While most of the checks do not have any evidence of economic benefit specified in NICE quality standards and guidance, modelling of the indicator for albumin: creatinine ratio testing for people with newly diagnosed hypertension demonstrates cost-effectiveness, and it is likely that this will also be true for people with diabetes.
- The assessment of cost-effectiveness is therefore based on the benefits resulting from carrying out just one check, compared with the costs of carrying out all of the checks.

Evidence on Delivery Cost of Indicator

The NICE guideline on chronic kidney disease incorporated an economic model that specifically assesses the cost-effectiveness of albumin: creatinine testing for CKD [4]. The model was based on people with hypertension rather than diabetes. The model incorporated all costs included in testing for, and potentially treating, CKD including GP time to administer the tests. The net total lifetime cost in the baseline analysis of testing and any resultant treatment for a 60-year old woman with hypertension but without diabetes was £611 in current prices.

The costs for other patient groups were not provided but it is assumed that the costs used are generalisable to all eligible patients. This is on the basis that the costs of treatment for a 60-year old woman would be more than for younger patients on average but less than older patients on average.

In deciding how this value should equate to patients with diabetes, consideration needs to be given to how the cost figure would change for a population more likely to have CKD. Costs of treatment will be higher for the average patient although early detection may mean more costly treatments (such as kidney transplant) could be avoided, and could outweigh the costs of testing and early treatment. For a conservative estimate it has been assumed that ACR testing and resultant treatment has a net cost for people with diabetes twice that for hypertensive patients, i.e. £1,222.

The costs of the other checks in the indicator also need to be included. The cost of measuring serum creatinine was included as part of the NICE CKD model so these do not need to be included. The remaining checks are a combination of GP time and routine blood tests. It has been assumed that the cost of the other checks would be the equivalent of 2 hours GP time at a cost of £460 [5]. It has been assumed that there are no further investigation or treatment costs following the other checks and this is balanced by also ignoring any benefits from treatment associated with those checks.

This provides a baseline cost of delivering the indicator of £1,682. In scenario analysis we varied the total costs by +-50%.

Baseline costs

- The baseline costs are taken from the NICE CKD guideline (for ACR testing) and assumptions about the time taken to provide tests for other diabetes complications;
- The costs of testing and resultant treatment for CKD through ACR testing are assumed to be £1,222 for people with diabetes. This is on the basis of a doubling of the costs for a person with hypertension but without diabetes (£611);
- The costs of carrying out the other test are assumed to be £460 (2 hours of GP time);
- The incremental lifetime cost of undertaking a range of health checks on patients with diabetes is £1,682 per patient.

Evidence on the Benefits of the Indicator

The NICE CKD model provides an estimate of the QALY gain from albumin: creatinine ratio testing in people with hypertension. The estimated lifetime QALY gain for tested, as opposed to untested, patients (again for a woman aged 60 with hypertension and no diabetes) was 0.1005 QALYs.

Given the higher prevalence of CKD among people with diabetes the potential QALY gain is likely to be higher than for people with hypertension, accepting that there may be some difference in life expectancy in favour of people with hypertension but no diabetes. In addition there are likely QALY gains from the other checks that are not considered here. As such the QALY gain at baseline has been taken to be the same as that reported for ACR testing in people with hypertension, as a conservative estimate of the QALY benefit of the indicator and assuming that the benefits identified for women aged 60 are applicable to the rest of the eligible population.

As was the case with costs, we used scenario analysis to explore the impact of changing QALY gains by +-50% on findings.

Baseline benefits

- It has been assumed that the baseline benefits identified for women aged 60 in the CKD model are generalisable across the broader population of people with hypertension and are also applicable, as a minimum, for people with diabetes;
- There are likely to be higher QALY gains from the intervention for people with diabetes and hypertension because of a higher prevalence of CKD compared to people with hypertension alone. These additional gains may be balanced out by a shorter life expectancy for people with diabetes and hypertension compared to people with hypertension alone.
- The QALY gain used is a conservative assumption because it ignores any gains from any of the other checks carried out.
- The incremental lifetime baseline QALY gain of undertaking a range of health checks on diabetic patients is 0.1005 per patient.

Eligible Population

The eligible population (i.e. people who would make up the indicator denominator) is all people with diabetes aged 17 and above. The Health and Social Care Information Centre has reported that approximately 4.85% of the UK population has diabetes and this has been used as the baseline figure [6]. Scenario analysis was used to explore the impact on findings of changing the eligible population by +-25%.

Baseline Level of Achievement

Pilot 8 data showed the indicator was achieved for 46.4% of eligible patients at the beginning of the pilot. Because it is likely that a QOF indicator would be implemented at higher achievement thresholds, we carried out an alternative analysis to explore the use of 45% as the minimum threshold for achievement.

Population

In the base case, the economic analysis was based on the total practice population registered with practices in England, that is, 8,088 practices with a mean practice size of 6,891 [7].

Table 1: Practice information for UK countries, 2012

Country	Number of practices	Number of patients
England	8,088	6,891
Scotland	991	5,586
Wales	474	6,694
Northern Ireland	351	5,406

QOF Payments

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

Value of a QALY

The expected increase in QALYs was costed at £20,000 per QALY. This is the bottom of the range £20,000 to £30,000 below which NICE generally considers an intervention 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, 5 points were allocated to the proposed indicator. This reflects the fact the current QOF includes indicators relating to the undertaking of routine care processes and whose QOF points range from 3 to 5:

- DM005 (albumin:creatine ratio);
- DM011 (retinal screening);
- DM012 (foot examination);

- DM013 (dietary review).

The current QOF also has indicators relating to the health status of diabetes patients around blood pressure, cholesterol, and HbA1c. Sensitivity analysis explored the agreed lower and upper bounds of 2 and 10 points respectively.

Thresholds

The pilot 8 GP practices showed average baseline performance of 46.4%. The final pilot performance was 26.8%. Despite this fall from baseline, we used a threshold range of 45% to 80% as this is consistent with other indicators in the QOF.

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

Under the baseline assumptions of incremental delivery cost (£1,682), incremental benefit (0.1005 QALYs, with a value of £20,000 per QALY) and eligible population (4.85%), the net benefit analysis suggests that the indicator is highly cost-effective, with QOF payments at 5 points justifiable on economic grounds (Appendix A). Under our conservative assumptions, the value of the increase in quality of life offered by annual health checks for people with diabetes (specifically ACR testing) outweighs the additional healthcare costs of advice and treatment in a net benefit analysis, if the value per QALY is assumed to be £20,000.

The indicator remains justifiable at baseline and 80% achievement on economic grounds at a maximum of 235 points or when the value per QALY falls to £16,806. The reason the indicator remains cost-effective at such a large number of points is the large population with diabetes equating to a large total benefit being generated to offset QOF payments.

Findings are sensitive to a 50% increase in costs (Appendix B) and a 50% decrease in the QALY gain per patient (Appendix C). They are insensitive to a 25% decrease in the eligible population (Appendix D).

The indicator could not be recommended at 5 points and 90% achievement if:

- The combined set of interventions increases in cost by 19% to £2,003;
- The QALY gain per patient falls 16% to 0.0844;
- The eligible population falls 93% to 0.1%.

If the assumptions underpinning this analysis hold, then there is strong economic evidence that the indicator is cost-effective at 5 points if the value per QALY is £20,000. There is evidence under our assumptions to offer up to 10 points, also considered in the analysis for the indicator.

Discussion

Under the conservative baseline assumptions there is robust evidence that the indicator is likely to be cost-effective at 5 points.

The sensitivity analysis suggests that if even more conservative assumptions on cost and benefit were taken the indicator would not be cost-effective. However, the baseline assumptions were so conservative as to make such scenarios unlikely. Benefits were only included from one check but all of the costs of the other checks were included. The analysis assumed no additional benefit from testing people with diabetes for CKD compared with testing a lower risk population and assumed that costs of testing and treatment would be double in a higher risk group, even when early treatment could prevent potentially high cost future treatment.

Due to the large potential population that can benefit from the indicator, but also the amount of work that this would involve for practitioners, in our opinion the economic evidence strongly supports offering up to 10 points for this indicator to incentivise the additional work.

References

[1] National Institute for Health and Care Excellence. QS6: Diabetes in Adults. 2011

[2] National Institute for Health and Care Excellence. CG87 Type 2 diabetes - newer agents (a partial update of CG66). 2011

[3] Middleton RJ, Foley RN, Hegarty J, et al, New JP: The unrecognized prevalence of chronic kidney disease in diabetes. Nephrol Dial Transplant 21:88–92, 2006

[4] National Institute for Health and Care Excellence. Chronic kidney disease. Early identification and management of chronic kidney disease in adults in primary and secondary care. 2008

[5] Unit Costs of Health & Social Care 2013. Personal Social Services Research Unit (PSSRU). Complied by Lesley Curtis. University of Kent.

[6] Health and Social Care Information Centre. Quality and Outcomes Framework 2012-13. Annex 1, Report tables and charts. October 29, 2013. http://www.hscic.gov.uk/catalogue/PUB12262

[7] General practice trends in the UK. NHS Information Centre. Published 31 October 2013.

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

Pilot Diabetes Annual Health Check

Value per point achieved	£156.92	Societal value of a QALY	£20,000	
Number of practices	8,088			
Mean practice population	6,891			
		Basline achievement		**Cost-effectiveness estimates**
Minimum threshold	45%	Eligible population (mean % of practice population)	4.85%	Incremental cost (£ per patient) £1,682.00
Maximum threshold	80%	Baseline achievement (mean % of eligible patients)	46.4%	Incremental effect (QALYs per patient) 0.1005

Points	2	3	4	5	6	7	8	9	10

National totals

Expected Achievement	QOF payments (£000s)									Change in treatment cost (£)	Change in QALYs
30%	£0	£0	£0	£0	£0	£0	£0	£0	£0	-£745,649,911	-44553
35%	£0	£0	£0	£0	£0	£0	£0	£0	£0	-£518,317,621	-30970
40%	£0	£0	£0	£0	£0	£0	£0	£0	£0	-£290,985,331	-17386
45%	£0	£0	£0	£0	£0	£0	£0	£0	£0	-£63,653,041	-3803
50%	£363	£544	£725	£907	£1,088	£1,269	£1,450	£1,632	£1,813	£163,679,249	9780
55%	£725	£1,088	£1,450	£1,813	£2,176	£2,538	£2,901	£3,264	£3,626	£391,011,539	23363
60%	£1,088	£1,632	£2,176	£2,720	£3,264	£3,808	£4,351	£4,895	£5,439	£618,343,829	36946
65%	£1,450	£2,176	£2,901	£3,626	£4,351	£5,077	£5,802	£6,527	£7,252	£845,676,119	50529
70%	£1,813	£2,720	£3,626	£4,533	£5,439	£6,346	£7,252	£8,159	£9,065	£1,073,008,409	64113
75%	£2,176	£3,264	£4,351	£5,439	£6,527	£7,615	£8,703	£9,791	£10,879	£1,300,340,699	77696
80%	£2,538	£3,808	£5,077	£6,346	£7,615	£8,884	£10,153	£11,423	£12,692	£1,527,672,989	91279
85%	£2,538	£3,808	£5,077	£6,346	£7,615	£8,884	£10,153	£11,423	£12,692	£1,755,005,279	104862
90%	£2,538	£3,808	£5,077	£6,346	£7,615	£8,884	£10,153	£11,423	£12,692	£1,982,337,569	118445
95%	£2,538	£3,808	£5,077	£6,346	£7,615	£8,884	£10,153	£11,423	£12,692	£2,209,669,859	132028
100%	£2,538	£3,808	£5,077	£6,346	£7,615	£8,884	£10,153	£11,423	£12,692	£2,437,002,150	145612

Net Benefit (£000s)

30%	-£145,406	-£145,406	-£145,406	-£145,406	-£145,406	-£145,406	-£145,406	-£145,406	-£145,406
35%	-£101,075	-£101,075	-£101,075	-£101,075	-£101,075	-£101,075	-£101,075	-£101,075	-£101,075
40%	-£56,744	-£56,744	-£56,744	-£56,744	-£56,744	-£56,744	-£56,744	-£56,744	-£56,744
45%	-£12,413	-£12,413	-£12,413	-£12,413	-£12,413	-£12,413	-£12,413	-£12,413	-£12,413
50%	£31,556	£31,374	£31,193	£31,012	£30,831	£30,649	£30,468	£30,287	£30,105
55%	£75,524	£75,162	£74,799	£74,436	£74,074	£73,711	£73,349	£72,986	£72,623
60%	£119,493	£118,949	£118,405	£117,861	£117,317	£116,773	£116,229	£115,685	£115,141
65%	£163,461	£162,736	£162,011	£161,286	£160,560	£159,835	£159,110	£158,385	£157,659
70%	£207,430	£206,523	£205,617	£204,710	£203,804	£202,897	£201,991	£201,084	£200,178
75%	£251,398	£250,311	£249,223	£248,135	£247,047	£245,959	£244,871	£243,783	£242,696
80%	£295,367	£294,098	£292,829	£291,559	£290,290	£289,021	£287,752	£286,483	£285,214
85%	£339,698	£338,429	£337,160	£335,891	£334,621	£333,352	£332,083	£330,814	£329,545
90%	£384,029	£382,760	£381,491	£380,222	£378,953	£377,683	£376,414	£375,145	£373,876
95%	£428,360	£427,091	£425,822	£424,553	£423,284	£422,015	£420,745	£419,476	£418,207
100%	£472,692	£471,422	£470,153	£468,884	£467,615	£466,346	£465,077	£463,807	£462,538

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 (£20k/QALY)

Pilot – Diabetes – Annual Health Check

Value per point achieved	£156.92	Societal value of a QALY	£20,000	
Number of practices	8,088			
Mean practice population	6,891			
		Basline achievement		**Cost-effectiveness estimates**
Minimum threshold	45%	Eligible population (mean % of practice population)	4.85%	Incremental cost (£ per patient) £2,523.00
Maximum threshold	80%	Baseline achievement (mean % of eligible patients)	46.4%	Incremental effect (QALYs per patient) 0.1005

Points	2	3	4	5	6	7	8	9	10

National totals

Expected Achievement	QOF payments (£000s)									Change in treatment cost (£)	Change in QALYs
30%	£0	£0	£0	£0	£0	£0	£0	£0	£0	-£1,118,474,867	-44553
35%	£0	£0	£0	£0	£0	£0	£0	£0	£0	-£777,476,432	-30970
40%	£0	£0	£0	£0	£0	£0	£0	£0	£0	-£436,477,997	-17386
45%	£0	£0	£0	£0	£0	£0	£0	£0	£0	-£95,479,562	-3803
50%	£363	£544	£725	£907	£1,088	£1,269	£1,450	£1,632	£1,813	£245,518,873	9780
55%	£725	£1,088	£1,450	£1,813	£2,176	£2,538	£2,901	£3,264	£3,626	£586,517,308	23363
60%	£1,088	£1,632	£2,176	£2,720	£3,264	£3,808	£4,351	£4,895	£5,439	£927,515,743	36946
65%	£1,450	£2,176	£2,901	£3,626	£4,351	£5,077	£5,802	£6,527	£7,252	£1,268,514,179	50529
70%	£1,813	£2,720	£3,626	£4,533	£5,439	£6,346	£7,252	£8,159	£9,065	£1,609,512,614	64113
75%	£2,176	£3,264	£4,351	£5,439	£6,527	£7,615	£8,703	£9,791	£10,879	£1,950,511,049	77696
80%	£2,538	£3,808	£5,077	£6,346	£7,615	£8,884	£10,153	£11,423	£12,692	£2,291,509,484	91279
85%	£2,538	£3,808	£5,077	£6,346	£7,615	£8,884	£10,153	£11,423	£12,692	£2,632,507,919	104862
90%	£2,538	£3,808	£5,077	£6,346	£7,615	£8,884	£10,153	£11,423	£12,692	£2,973,506,354	118445
95%	£2,538	£3,808	£5,077	£6,346	£7,615	£8,884	£10,153	£11,423	£12,692	£3,314,504,789	132028
100%	£2,538	£3,808	£5,077	£6,346	£7,615	£8,884	£10,153	£11,423	£12,692	£3,655,503,224	145612

Net Benefit (£000s)

30%	£227,419	£227,419	£227,419	£227,419	£227,419	£227,419	£227,419	£227,419	£227,419
35%	£158,084	£158,084	£158,084	£158,084	£158,084	£158,084	£158,084	£158,084	£158,084
40%	£88,749	£88,749	£88,749	£88,749	£88,749	£88,749	£88,749	£88,749	£88,749
45%	£19,414	£19,414	£19,414	£19,414	£19,414	£19,414	£19,414	£19,414	£19,414
50%	-£50,284	-£50,465	-£50,646	-£50,828	-£51,009	-£51,190	-£51,372	-£51,553	-£51,734
55%	-£119,981	-£120,344	-£120,707	-£121,069	-£121,432	-£121,795	-£122,157	-£122,520	-£122,882
60%	-£189,679	-£190,223	-£190,767	-£191,311	-£191,855	-£192,399	-£192,943	-£193,487	-£194,030
65%	-£259,377	-£260,102	-£260,827	-£261,552	-£262,278	-£263,003	-£263,728	-£264,453	-£265,179
70%	-£329,074	-£329,981	-£330,887	-£331,794	-£332,700	-£333,607	-£334,514	-£335,420	-£336,327
75%	-£398,772	-£399,860	-£400,948	-£402,035	-£403,123	-£404,211	-£405,299	-£406,387	-£407,475
80%	-£468,470	-£469,739	-£471,008	-£472,277	-£473,546	-£474,815	-£476,085	-£477,354	-£478,623
85%	-£537,805	-£539,074	-£540,343	-£541,612	-£542,881	-£544,150	-£545,420	-£546,689	-£547,958
90%	-£607,140	-£608,409	-£609,678	-£610,947	-£612,216	-£613,485	-£614,755	-£616,024	-£617,293
95%	-£676,475	-£677,744	-£679,013	-£680,282	-£681,551	-£682,820	-£684,090	-£685,359	-£686,628
100%	-£745,810	-£747,079	-£748,348	-£749,617	-£750,886	-£752,155	-£753,425	-£754,694	-£755,963

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% Decrease in Utility Gains Per Patient (£20k/QALY)

Pilot – Diabetes Annual Health Check

Value per point achieved	£156.92	Societal value of a QALY	£20,000		
Number of practices	8,088				
Mean practice population	6,891				
		Basline achievement		**Cost-effectiveness estimates**	
Minimum threshold	45%	Eligible population (mean % of practice population)	4.85%	Incremental cost (£ per patient)	£1,682.00
Maximum threshold	80%	Baseline achievement (mean % of eligible patients)	46.4%	Incremental effect (QALYs per patient)	0.0502

Points	2	3	4	5	6	7	8	9	10

National totals

Expected Achievement	QOF payments (£000s)									Change in treatment cost (£)	Change in QALYs
30%	£0	£0	£0	£0	£0	£0	£0	£0	£0	-£745,649,911	-22254
35%	£0	£0	£0	£0	£0	£0	£0	£0	£0	-£518,317,621	-15469
40%	£0	£0	£0	£0	£0	£0	£0	£0	£0	-£290,985,331	-8685
45%	£0	£0	£0	£0	£0	£0	£0	£0	£0	-£63,653,041	-1900
50%	£363	£544	£725	£907	£1,088	£1,269	£1,450	£1,632	£1,813	£163,679,249	4885
55%	£725	£1,088	£1,450	£1,813	£2,176	£2,538	£2,901	£3,264	£3,626	£391,011,539	11670
60%	£1,088	£1,632	£2,176	£2,720	£3,264	£3,808	£4,351	£4,895	£5,439	£618,343,829	18455
65%	£1,450	£2,176	£2,901	£3,626	£4,351	£5,077	£5,802	£6,527	£7,252	£845,676,119	25240
70%	£1,813	£2,720	£3,626	£4,533	£5,439	£6,346	£7,252	£8,159	£9,065	£1,073,008,409	32024
75%	£2,176	£3,264	£4,351	£5,439	£6,527	£7,615	£8,703	£9,791	£10,879	£1,300,340,699	38809
80%	£2,538	£3,808	£5,077	£6,346	£7,615	£8,884	£10,153	£11,423	£12,692	£1,527,672,989	45594
85%	£2,538	£3,808	£5,077	£6,346	£7,615	£8,884	£10,153	£11,423	£12,692	£1,755,005,279	52379
90%	£2,538	£3,808	£5,077	£6,346	£7,615	£8,884	£10,153	£11,423	£12,692	£1,982,337,569	59164
95%	£2,538	£3,808	£5,077	£6,346	£7,615	£8,884	£10,153	£11,423	£12,692	£2,209,669,859	65949
100%	£2,538	£3,808	£5,077	£6,346	£7,615	£8,884	£10,153	£11,423	£12,692	£2,437,002,150	72733

Net Benefit (£000s)

30%	£300,565	£300,565	£300,565	£300,565	£300,565	£300,565	£300,565	£300,565	£300,565
35%	£208,929	£208,929	£208,929	£208,929	£208,929	£208,929	£208,929	£208,929	£208,929
40%	£117,294	£117,294	£117,294	£117,294	£117,294	£117,294	£117,294	£117,294	£117,294
45%	£25,658	£25,658	£25,658	£25,658	£25,658	£25,658	£25,658	£25,658	£25,658
50%	-£66,340	-£66,522	-£66,703	-£66,884	-£67,066	-£67,247	-£67,428	-£67,610	-£67,791
55%	-£158,339	-£158,701	-£159,064	-£159,427	-£159,789	-£160,152	-£160,514	-£160,877	-£161,240
60%	-£250,337	-£250,881	-£251,425	-£251,969	-£252,513	-£253,057	-£253,601	-£254,145	-£254,688
65%	-£342,335	-£343,061	-£343,786	-£344,511	-£345,236	-£345,962	-£346,687	-£347,412	-£348,137
70%	-£434,334	-£435,240	-£436,147	-£437,053	-£437,960	-£438,866	-£439,773	-£440,680	-£441,586
75%	-£526,332	-£527,420	-£528,508	-£529,596	-£530,684	-£531,771	-£532,859	-£533,947	-£535,035
80%	-£618,330	-£619,600	-£620,869	-£622,138	-£623,407	-£624,676	-£625,945	-£627,215	-£628,484
85%	-£709,966	-£711,235	-£712,504	-£713,774	-£715,043	-£716,312	-£717,581	-£718,850	-£720,120
90%	-£801,602	-£802,871	-£804,140	-£805,409	-£806,679	-£807,948	-£809,217	-£810,486	-£811,755
95%	-£893,238	-£894,507	-£895,776	-£897,045	-£898,314	-£899,583	-£900,853	-£902,122	-£903,391
100%	-£984,873	-£986,142	-£987,412	-£988,681	-£989,950	-£991,219	-£992,488	-£993,758	-£995,027

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 Analysis Assuming 25% Decrease in Eligible Population (£20k/QALY)

Pilot – Diabetes Annual Health Check

Value per point achieved	£156.92	Societal value of a QALY	£20,000		
Number of practices	8,088				
Mean practice population	6,891				
		Basline achievement		**Cost-effectiveness estimates**	
Minimum threshold	45%	Eligible population (mean % of practice population)	3.64%	Incremental cost (£ per patient)	£1,682.00
Maximum threshold	80%	Baseline achievement (mean % of eligible patients)	46.4%	Incremental effect (QALYs per patient)	0.1005

Points	2	3	4	5	6	7	8	9	10

National totals

Expected Achievement	QOF payments (£000s)									Change in treatment cost (£)	Change in QALYs
30%	£0	£0	£0	£0	£0	£0	£0	£0	£0	-£559,237,434	-33415
35%	£0	£0	£0	£0	£0	£0	£0	£0	£0	-£388,738,216	-23227
40%	£0	£0	£0	£0	£0	£0	£0	£0	£0	-£218,238,998	-13040
45%	£0	£0	£0	£0	£0	£0	£0	£0	£0	-£47,739,781	-2852
50%	£363	£544	£725	£907	£1,088	£1,269	£1,450	£1,632	£1,813	£122,759,437	7335
55%	£725	£1,088	£1,450	£1,813	£2,176	£2,538	£2,901	£3,264	£3,626	£293,258,654	17522
60%	£1,088	£1,632	£2,176	£2,720	£3,264	£3,808	£4,351	£4,895	£5,439	£463,757,872	27710
65%	£1,450	£2,176	£2,901	£3,626	£4,351	£5,077	£5,802	£6,527	£7,252	£634,257,089	37897
70%	£1,813	£2,720	£3,626	£4,533	£5,439	£6,346	£7,252	£8,159	£9,065	£804,756,307	48084
75%	£2,176	£3,264	£4,351	£5,439	£6,527	£7,615	£8,703	£9,791	£10,879	£975,255,524	58272
80%	£2,538	£3,808	£5,077	£6,346	£7,615	£8,884	£10,153	£11,423	£12,692	£1,145,754,742	68459
85%	£2,538	£3,808	£5,077	£6,346	£7,615	£8,884	£10,153	£11,423	£12,692	£1,316,253,960	78647
90%	£2,538	£3,808	£5,077	£6,346	£7,615	£8,884	£10,153	£11,423	£12,692	£1,486,753,177	88834
95%	£2,538	£3,808	£5,077	£6,346	£7,615	£8,884	£10,153	£11,423	£12,692	£1,657,252,395	99021
100%	£2,538	£3,808	£5,077	£6,346	£7,615	£8,884	£10,153	£11,423	£12,692	£1,827,751,612	109209

Net Benefit (£000s)

30%	-£109,055	-£109,055	-£109,055	-£109,055	-£109,055	-£109,055	-£109,055	-£109,055	-£109,055
35%	-£75,806	-£75,806	-£75,806	-£75,806	-£75,806	-£75,806	-£75,806	-£75,806	-£75,806
40%	-£42,558	-£42,558	-£42,558	-£42,558	-£42,558	-£42,558	-£42,558	-£42,558	-£42,558
45%	-£9,310	-£9,310	-£9,310	-£9,310	-£9,310	-£9,310	-£9,310	-£9,310	-£9,310
50%	£23,576	£23,395	£23,214	£23,032	£22,851	£22,670	£22,488	£22,307	£22,126
55%	£56,462	£56,099	£55,737	£55,374	£55,011	£54,649	£54,286	£53,924	£53,561
60%	£89,348	£88,804	£88,260	£87,716	£87,172	£86,628	£86,084	£85,540	£84,996
65%	£122,233	£121,508	£120,783	£120,058	£119,332	£118,607	£117,882	£117,157	£116,432
70%	£155,119	£154,213	£153,306	£152,400	£151,493	£150,586	£149,680	£148,773	£147,867
75%	£188,005	£186,917	£185,829	£184,741	£183,653	£182,566	£181,478	£180,390	£179,302
80%	£220,891	£219,621	£218,352	£217,083	£215,814	£214,545	£213,276	£212,006	£210,737
85%	£254,139	£252,870	£251,601	£250,332	£249,062	£247,793	£246,524	£245,255	£243,986
90%	£287,387	£286,118	£284,849	£283,580	£282,311	£281,042	£279,772	£278,503	£277,234
95%	£320,636	£319,367	£318,097	£316,828	£315,559	£314,290	£313,021	£311,752	£310,482
100%	£353,884	£352,615	£351,346	£350,077	£348,807	£347,538	£346,269	£345,000	£343,731

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.