

X-PERT Audit Results 2022



X-PERT Health HQ
Linden Mill
Linden Road
Hebden Bridge
West Yorkshire
HX7 7DP

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Introduction

At X-PERT Health, our aim is to provide members of the public and healthcare professionals with effective education that helps prevent or manage diabetes and other long-term health conditions associated with obesity. A person with diabetes spends on average, only a few hours with a healthcare professional every year. For the remaining 8,757 hours they must manage their condition themselves. Structured education is therefore an integral part of care to help people self-manage or prevent long-term health conditions by giving them the skills, knowledge and confidence in order to do so.

Current guidelines recommend that every person with diabetes and/or their carer and those eligible for a lifestyle weight management service should be offered well-designed and well-implemented education. Whilst there has been an increase in the number of people offered education in recent years, nationwide attendance is still low. An improvement in attendance, engagement, and support of diabetes and lifestyle weight management education for adults is needed as they have been shown to:

- improve day-to-day self-management, which affects quality of life and engagement with care
- improve clinical markers such as body weight, blood glucose, blood pressure and blood lipid profile
- reduce the risk of developing other long-term health conditions and serious complications

X-PERT Health has developed a range of structured education programmes that meet nationally agreed criteria (NICE 2016/SIGN 2017). The X-PERT Diabetes Programme has been shown to be effective in improving health and quality of life outcomes in people with newly diagnosed and existing diabetes both in a randomised controlled trial (RCT) and in routine national implementation (Deakin et al, 2006 & 2011). The X-PERT Insulin, X-PERT Weight and X-PERT Diabetes Digital Programmes were developed following the successes of this programme.

Self-management programmes have also been investigated and have shown to be the most cost effective, with one quality-adjusted life-year (QALY) gained costing less than €20,000 for the X-PERT Diabetes Programme (Jacobs-Van Der Bruggen, 2009).

Audit and reporting outcomes is specified in current guidance for implementing diabetes and lifestyle education. The X-PERT audit database was developed so that organisations can audit implementation against audit standards, which are based on the outcomes of the X-PERT RCT and national targets (see page 3) and can compare their effectiveness to the all centres mean. It is crucial to assess whether implementation of the X-PERT Programmes result in the improvement to health and wellbeing that was seen in the published clinical trial.

There were 72 organisations registered on the national X-PERT audit database for 2020-2021. Forty-two of these organisations (58%) entered sufficient data to be included in the 2022 national audit report.

Audit standards

The following audit standards have been used to benchmark the outcomes from X-PERT Programme implementation.

Outcome	Audit standard from RCT	Audit standard from national target
Number of participants per programme	-----	Structured education should be offered to every person and/or their carer at diagnosis. The audit standard is to deliver to at least 1,000 participants per year.
Participant attendance	<p>≥ 95% attend at least one session</p> <p>≥ 80% completer</p>	People will complete the programme if they feel they are benefitting from attending. If organisations experience poor attendance they should contact participants to investigate the reason for the poor attendance and how it could be improved.
Participant satisfaction	≥ 90%	NICE Quality Statements 2 & 3, Outcome: "patient satisfaction with ability to self-manage their diabetes after attending a structured education programme".
Participant empowerment	≥ 10% increase from baseline	NICE Quality Standard for adults with diabetes.
Glycated haemoglobin	<p>≥ 4 mmol/mol reduction at 6 months and ≥ 6 mmol/mol reduction at 12 months</p>	<p>< 48 mmol/mol normoglycaemia</p> <p>< 53 mmol/mol good diabetes control</p> <p>< 58 mmol/mol QOF target</p>
Outcome	Audit standard from RCT	Audit standard from national target
Body weight / BMI	No increase	4 kg or 5-10% weight loss
Waist circumference	≥ 2 cm reduction	<p>< 80 cm females</p> <p>< 94 cm males</p>

Systolic blood pressure	≥ 5 mmHg reduction (if relevant)	< 130 mmHg Type 1 and Type 2 with microvascular complications < 140 mmHg Type 2 (no complications)
Diastolic blood pressure	-----	< 80 mmHg
HDL cholesterol	-----	≥ 1.2 mmol/l females ≥ 1.0 mmol/l males
Total cholesterol to HDL	-----	-----
Triglycerides	-----	< 1.7 mmol/l
Triglyceride to HDL ratio	-----	< 0.87
Prescribed diabetes medication	50% of participants will have either reduced diabetes medication or have remained on the same dose.	-----

All centres results – data collected since launch (full mean data set)

The *all centres* report changes almost on a daily basis as organisations enter data, but the main outcomes have remained consistent for several years. All audit standards from the RCT have been met for the full data set, except for waist circumference, which fell slightly short of the ≥ 2 cm reduction target, and uptake (percentage who attended ≥ 1 session), which fell short of the 95% target at 80.9%.

*N.B. This report includes **matched participant data**, i.e. data is only included for each variable for participants who had the relevant data recorded at baseline **and** the stated post-programme time point. The 6 and 12 month results are not necessarily based on data from the same participants.*

X-PERT Programmes Report: All Localities (matched)- All Course Types- 01 Sep 2005

to 01 Dec 2022

Number of X-PERT programmes run in this period	14,179	
Total number participants registered	148,900	
Total number who attended 1 session	119,824	
Total percentage who attended 1 session	80.5%	
Total number who completed the programme	95,964	
Total percentage who completed the programme	80.1%	
Mean number of attendees per programme	8	
Attended Annual Update Module	21.9%	
Evaluation	6 Weeks	
Mean program evaluation score	94.4%	
No.(%) programmes with evaluation score	9,699 (68.4%)	
Empowerment	Baseline:	6 Weeks:
Participant Empowerment Score (1-5)	3.53	4.29
Participant Empowerment Score % Change		21.5%
No. (%) programmes with empowerment scores	9,338 (65.9%)	9,207 (64.9%)

Clinical Data

	6 month mean	SD (σ)	6 months change from baseline	95% CI	12 month mean	SD (σ)	1 year change from baseline	95% CI
Weight (Kg)	87.4	20.1	-2.2	-2.2, -2.1	85.6	20.0	-2.1	-2.2, -2.1
BMI (Kg/m²)	31.0	6.4	-0.7	-0.7, -0.7	30.6	6.3	-0.7	-0.7, -0.7
Waist Circumference (cm)	101.9	15.0	-1.8	-1.9, -1.7	102.6	14.5	-1.7	-1.8, -1.6
HbA_{1c} (mmol/mol)	54.3	14.7	-7.4	-7.5, -7.4	55.0	15.1	-7.0	-7.0, -7.0
Fasting Blood Glucose (mmol/l)	7.3	2.5	-0.9	-1.0, -0.8	7.3	2.7	-0.8	-0.9, -0.7
Systolic Blood Pressure (mmHg)	132	13	-2	-2, -2	131	14	-1	-1, -1
Diastolic Blood Pressure (mmHg)	76	9	-2	-2, -2	76	9	-1	-1, -1
Total Cholesterol (mmol/l)	4.2	1.1	-0.3	-0.3, -0.3	4.2	1.0	-0.3	-0.3, -0.3
LDL Cholesterol (mmol/l)	2.3	0.9	-0.2	-0.2, -0.2	2.2	0.8	-0.3	-0.3, -0.3
HDL Cholesterol (mmol/l)	1.3	0.5	0.0	0.0, 0.0	1.3	0.5	0.0	-0.0, 0.0
Non HDL Cholesterol (mmol/l)	3.0	1.0	-0.3	-0.3, -0.3	2.9	1.0	-0.4	-0.4, -0.4
Total Cholesterol to HDL Ratio	3.5	1.4	-0.4	-0.4, -0.4	3.5	1.3	-0.4	-0.4, -0.4
Triglycerides (mmol/l)	1.7	1.0	-0.2	-0.2, -0.2	1.7	1.0	-0.2	-0.2, -0.2
Triglycerides to HDL Ratio	1.5	1.3	-0.2	-0.2, -0.2	1.5	1.4	-0.2	-0.2, -0.2

All centres mean results: 1st January 2020 to 31st December 2021

X-PERT Programmes Report: All Localities (matched)- X-PERT Diabetes 01 Jan 2020 to 31 Dec 2021

<i>Number of X-PERT programmes run in this period:</i>	964	
<i>Total number registered:</i>	7,514	
<i>Total number who attended 1 session:</i>	5,237	
<i>Total percentage who attended 1 session:</i>	69.7%	
<i>Total number who completed the programme:</i>	4,074	
<i>Total percentage who completed the programme:</i>	77.8%	
<i>Mean number of attendees per programme:</i>	5	
<i>Attended Annual Update Module:</i>	0.1%	
<i>Evaluation</i>	6 Weeks	
<i>Mean program evaluation score</i>	93.7%	
<i>No.(%) programmes with evaluation score</i>	618 (64.1%)	
<i>Empowerment</i>	Baseline	6 Weeks
<i>Participant Empowerment Score (1-5)</i>	3.68	4.44
<i>Participant Empowerment Score % Change</i>		20.7%
<i>No. (%) programmes with empowerment scores</i>	705 (73.1%)	652 (67.6%)

Due to the COVID-19 pandemic, there have been 1,363 fewer programmes delivered in 2020-2021 compared to 2018-2019 (pre-COVID) resulting in 19,012 fewer patients being able to access structured education. With every challenge, there are opportunities, and it is now possible to increase the menu of delivery style options. In addition to in-person group sessions, virtual group sessions and self-directed learning via the digital programme are now possible.

	2018 – 2019	2020-2021	Percentage change
Number of programmes	2,327	964	-58%
Number of patients who attended at least 1 session	24,249	5,237	-78%

Clinical Data

	6 month mean	SD (σ)	6 month change from baseline	95% CI	12 month mean	SD (σ)	1 year change from baseline	95% CI
Weight (Kg)	88.3	22.7	-3.6	-3.8, -3.4	83.7	20.3	-2.4	-2.6, -2.2
BMI (Kg/m²)	31.2	7.4	-1.3	-1.4, -1.2	30.3	6.6	-0.9	-1.0, -0.8
Waist Circumference (cm)	98.4	13.6	-5.1	-5.5, -4.7	100.9	15.9	-5.3	-5.9, -4.7
HbA_{1c} (mmol/mol)	52.5	13.7	-10.8	-11.0, -10.6	54.1	15.3	-8.9	-9.1, -8.7
Fasting Blood Glucose (mmol/l)	7.0	2.7	-1.3	-2.0, -0.7	7.5	3.2	-2.3	-3.1, -1.5
Systolic Blood Pressure (mmHg)	129	13	-3	-3, -3	128	14	-3	-3, -3
Diastolic Blood Pressure (mmHg)	78	9	-2	-2, -2	78	9	-2	-2, -2
Total Cholesterol (mmol/l)	4.2	1.1	-0.4	-0.4, -0.3	4.3	1.2	-0.3	-0.4, -0.2
LDL Cholesterol (mmol/l)	2.4	0.9	-0.3	-0.4, -0.2	2.3	0.9	-0.2	-0.3, -0.1
HDL Cholesterol (mmol/l)	1.2	0.4	0.0	0.0, 0.0	1.2	0.4	0.0	0.0, 0.0
Non HDL Cholesterol (mmol/l)	3.0	1.0	-0.4	-0.5, -0.3	3.1	1.1	-0.3	-0.4, -0.2
Total Cholesterol to HDL Ratio	3.6	1.1	-0.4	-0.5, -0.3	3.7	1.2	-0.3	-0.4, -0.2
Triglycerides (mmol/l)	1.9	1.2	-0.4	-0.5, -0.3	2.1	1.8	-0.1	-0.3, 0.1
Triglycerides to HDL Ratio	1.7	1.4	-0.4	-0.6, -0.2	1.8	1.9	-0.2	-0.4, 0.0

Comparison between the 2022 audit and previous audits

As stated above, the COVID-19 pandemic has impacted on the number of programmes delivered between 1st January 2020 and 31st December 2021 with 58% fewer programmes and 78% fewer patients than in the 2021 Audit Report.

Furthermore, the percentage of people taking up the opportunity to attend is 69.73%, which is lower than the full mean data set score of 80.5%. There is variation between organisations with some having a much better uptake than others. The number of people completing the programme has slightly increased since the 2021 Audit Report (75.5% to 77.8%), but the evaluation score and the increase in empowerment remained similar. The mean number of participants per programme has reduced from 10 to 5 and this could be linked with social distancing regulations and the delivery of remote programmes.

This is the second year that organisations have been able to offer flexibility in the style of delivery with either group-based virtual delivery (delivered via video conferencing using platforms such as MS Teams or Zoom) or self-directed learning with the X-PERT Diabetes Digital Programme with individual health coaching being added to the menu of options and we have compared these to the full audit report in the table below:

Comparison between all centres data with virtual and digital delivery styles – 1 st Jan 2020 to 31 st Dec 2021				
	All	In-Person	Virtual	Digital
Number of X-PERT Programmes run in this period:	964	480	447	N/A
Total number registered:	7,514	4,557	2,666	844
Total number who attended 1 session:	5,237	3,286	1,705	451
Total percentage who attended 1 session:	69.7%	72.1%	64%	53.4%
Total number who completed the programme:	4,074	2,410	1,460	206
Total percentage who completed the programme:	77.8%	73.3%	85.6%	57.6%
Mean number of attendees per programme:	5	7	4	---
Attended annual update module:	0.1%	8.2%	0%	---
Mean program evaluation score:	93.7%	94.7%	92.4%	88.2%
Participant empowerment score % change:	+20.7%	+19.9%	+22.2%	+9.4%

Clinical Indicator comparison between delivery style

Indicator (change from baseline)	All group 6 months	All group 12 months	In-person 6 months	In-person 12 months	Virtual 6 months	Virtual 12 months	Digital 6 months	Digital 12 months
Weight	-3.6 kg (-3.8, -3.4)	-2.4 kg (-2.6, -2.2)	-2.0 kg (-2.1, -1.9)	-2.3 kg (-2.6, -2)	-4.1 kg (-4.4, -3.8)	-2.3 kg (-2.7, -1.9)	-7.7 kg (-8.6, -6.8)	-9 kg (-10, -8.0)
BMI	-1.3 kg/m ² (-1.4, -1.2)	-0.9 kg/m ² (-1.0, -0.8)	-0.7 kg/m ² (-0.7, -0.7)	-0.9 kg/m ² (-1.1, -0.7)	-1.4 kg/m ² (-1.6, -1.2)	-0.9 kg/m ² (-1.1, -0.7)	-2.5 kg/m ² (-3.0, -2.0)	-3.3 kg/m ² (-3.9, -2.7)
Waist	-5.1 cm (-5.5, -4.7)	-5.3 cm (-5.9, -4.7)	-1.6 cm (-1.7, -1.5)	-3.9 cm (-4.7, -3.1)	-3.7 cm (-4.5, -3.0)	-3.1 cm (-4.5, -1.7)	-12.7 cm (-15.6, -9.8)	-13.0 cm (-13.9, -12.1)
HbA1c	-10.8 mmol/mol (-11, -10.6)	-8.9 mmol/mol (-9.1, -8.7)	-7.4 mmol/mol (-7.4, -7.3)	-8.6 mmol/mol (-8.9, -8.3)	-11.8 mmol/mol (-12, -11.6)	-9.4 mmol/mol (-9.7, -9.1)	-23.1 mmol/mol (-24.1, -22.1)	-22.4 mmol/mol (-23.8, 21.0)

Matched participant data shows that, between 2020 and 2021, X-PERT Programme implementation has resulted in a mean weight loss of 3.6kg (6 months) and 2.4kg (12 months), which is greater than the previous year which was 2.8kg (6 months) and 2.3kg (12 months) and the full mean data set for 6 months (-2.2kg) and 12 months (-2.1kg). One reason for this may be because the curriculum has been updated with the scientific evidence that supports people in adopting a sustainable dietary approach which enables them to achieve their health goals, whilst recognising that one size does not fit all. This is also demonstrated with the X-PERT Weight Programme, which has a mean weight loss of 4.4kg at completion of the 12-week programme.

A mean reduction in HbA1c values from baseline is evident at both 6 months (-10.8 mmol/mol) and 12 months (-8.9 mmol/mol) and this is greater than the 2021 audit (6 months, -8.5 mmol/mol and 12 months -7.7mmol/mol and also an improvement on the full mean data set at both 6 months (-7.4 mmol/mol) and 12 months (-7.0 mmol/mol).

Observing the difference in outcomes between the delivery styles is interesting. Although update and completion of the digital programme is lower than the group programme, those who become engaged with the service achieve much better anthropometric and glycaemic outcomes. To some extent this is also the case when comparing group in-person delivery compared to virtual group delivery with the latter obtaining better outcomes.

Comparison of individual organisation outcomes 1st January 2020 to 31st

December 2021

The 2022 awards are for matched participant data entered between 1st January 2020 and 31st December 2021. The mean value for each outcome has been compared between organisations. **Data was only included if there was at least one set of matched participant data (N.B. "matched data" means that a clinical indicator had been recorded for a patient**

at both baseline and post programme for the time point in question). As there are four different time points (six weeks, three months, six months and 12 months) some participants had data recorded at just one or two time points. As such, the audit results reported at the time points are not comparable as they include different participants. The number of matched sets was taken into consideration for each health outcome award, i.e. outcomes were given greater weighting where they are based on a larger number of participants.

Organisations and abbreviations

Below is a table of the organisations and/or freelance educators who are registered on the X-PERT Audit Database and the geographical location where they deliver.

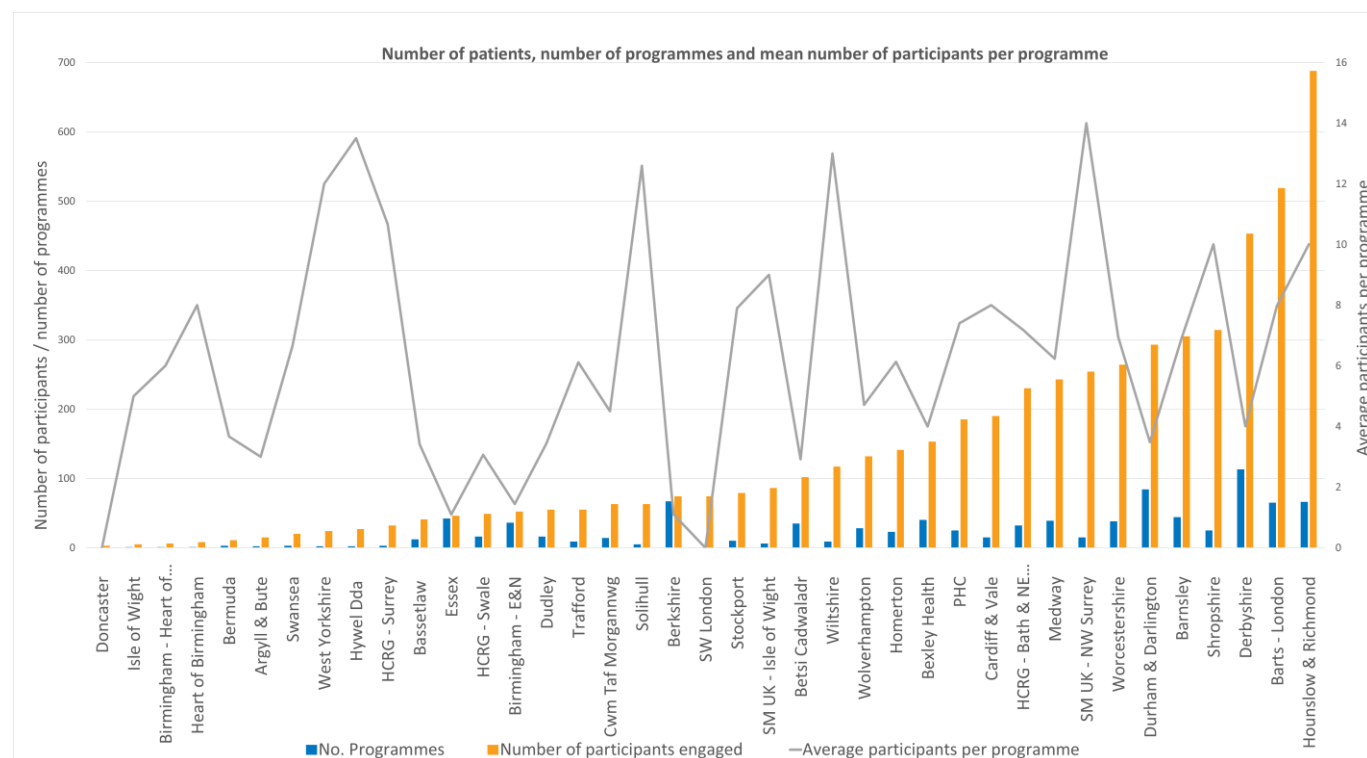
Location	Official name
Argyll & Bute	Argyll & Bute Community Health Partnership
Barnsley	Barnsley Hospital NHS FT
Barts - London	Barts Health NHS Trust
Bassetlaw	Nottinghamshire Healthcare NHS FT - NHS Bassetlaw CCG
Berkshire	Berkshire Healthcare NHS FT
Bermuda	Island Nutrition and Foundation Health
Betsi Cadwaladr	Betsi Cadwaladr University Health Board
Bexley Health	Bexley Health Neighbourhood Care CIC
Birmingham - E&N	Birmingham Community Healthcare - E&N
Birmingham - Heart of England	University Hospitals Birmingham NHS - Heart of England
Cambridge and Peterborough	Everyone Health
Cardiff & Vale	Cardiff & Vale University Health Board
Cwm Taf Morgannwg	Cwm Taf Morgannwg University Health Board
Derbyshire	Derbyshire Community Health Services
Doncaster	Doncaster CCG
Dudley	Dudley Group NHS Foundation Trust
Durham & Darlington	Durham & Darlington NHS FT
Essex	Essex Partnership University NHS Foundation Trust
HCRG - Bath & NE Somerset	HCRG Care Group
HCRG - Surrey	HCRG Care Group
HCRG - Swale	HCRG Care Group
Heart of Birmingham	Birmingham Community Healthcare - Heart of Birmingham
Homerton	Homerton University Hospital Trust
Hounslow & Richmond	HRCH NHS Trust
Hywel Dda	Hywel Dda University Health Board
Isle of Wight	Isle of Wight NHS Trust
Kirklees	Kirklees Council
Medway	Medway Community Healthcare
Northumbria	X-PERT Health
PHC	Public Health Collaboration
Shropshire	Shropshire Community Health NHS Trust
SM UK - NW Surrey	Self Management UK - North West Surrey CCG
SM UK - Isle of Wight	Self Management UK - Isle of Wight CCG
Solihull	University Hospitals Birmingham NHS - Solihull
Stockport	Stockport NHS

Stoke	Stoke-on-Trent City Council
SW London	South West London Health & Care Partnership
Swansea	Swansea Bay University Health Board
Trafford	Pennine Care NHS Foundation Trust - Trafford Division
West Yorkshire	X-PERT Health
Wiltshire	Wiltshire Health and Care
Wolverhampton	Wolverhampton Wanderers Foundation
Worcestershire	Worcestershire Acute Hospitals NHS Trust

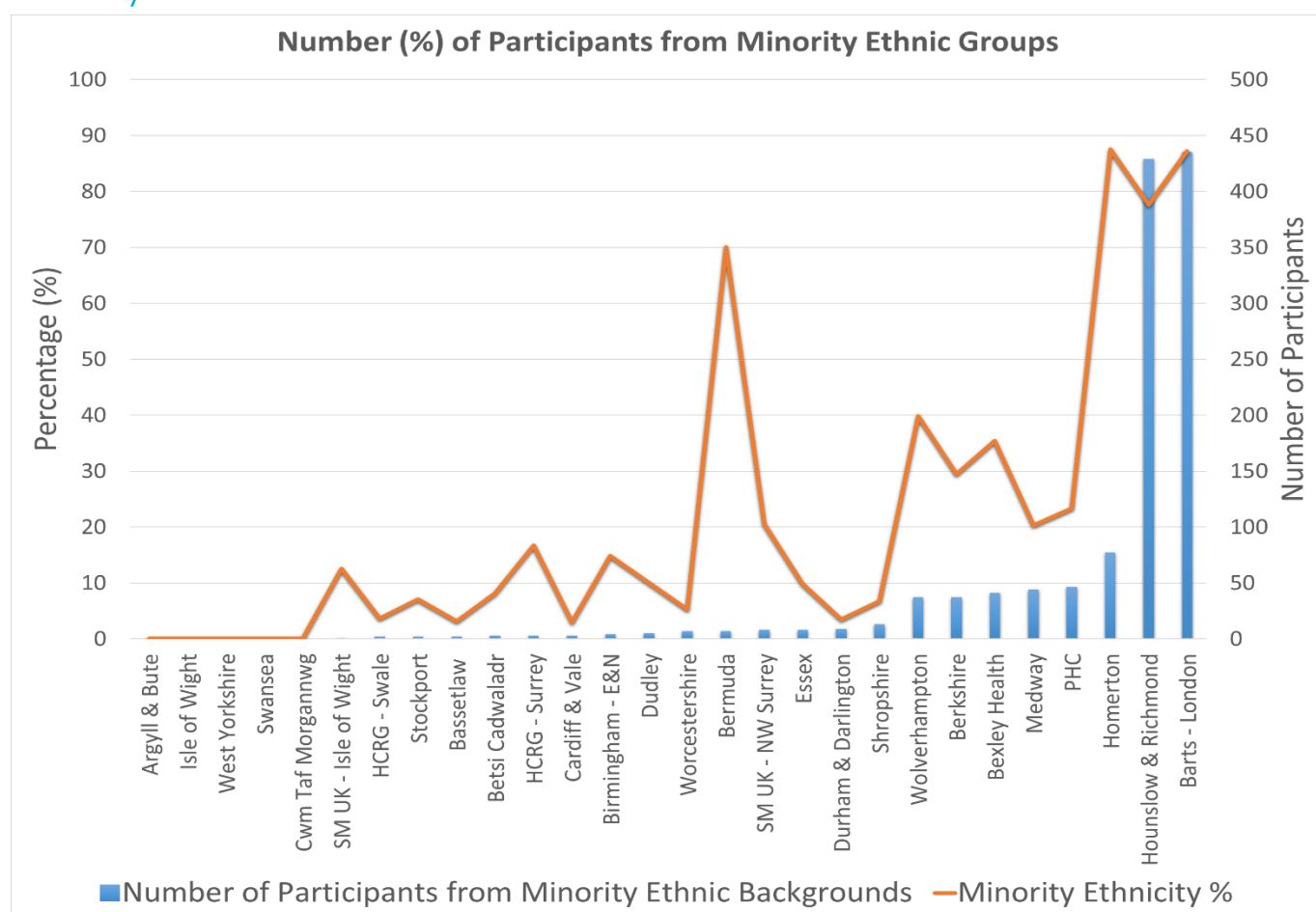
X-PERT Diabetes & Insulin - The best participant engagement

This award looked at the following criteria: number of programmes delivered; percentage from ethnic minority groups; number of participants per session; uptake (% attending at least one session); attendance (% attending four or more sessions); participant empowerment changes and participant satisfaction.

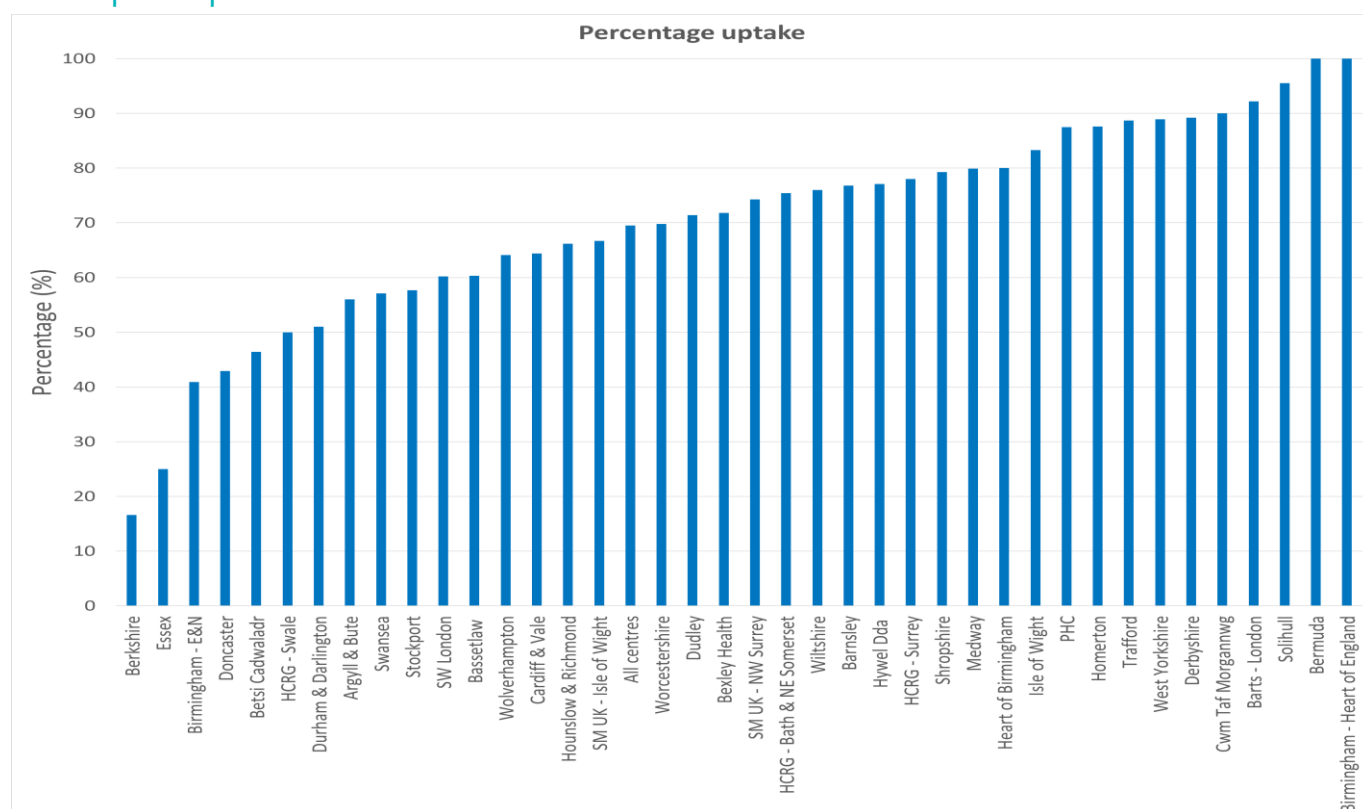
Number of participants and programmes and mean number of participants per programme



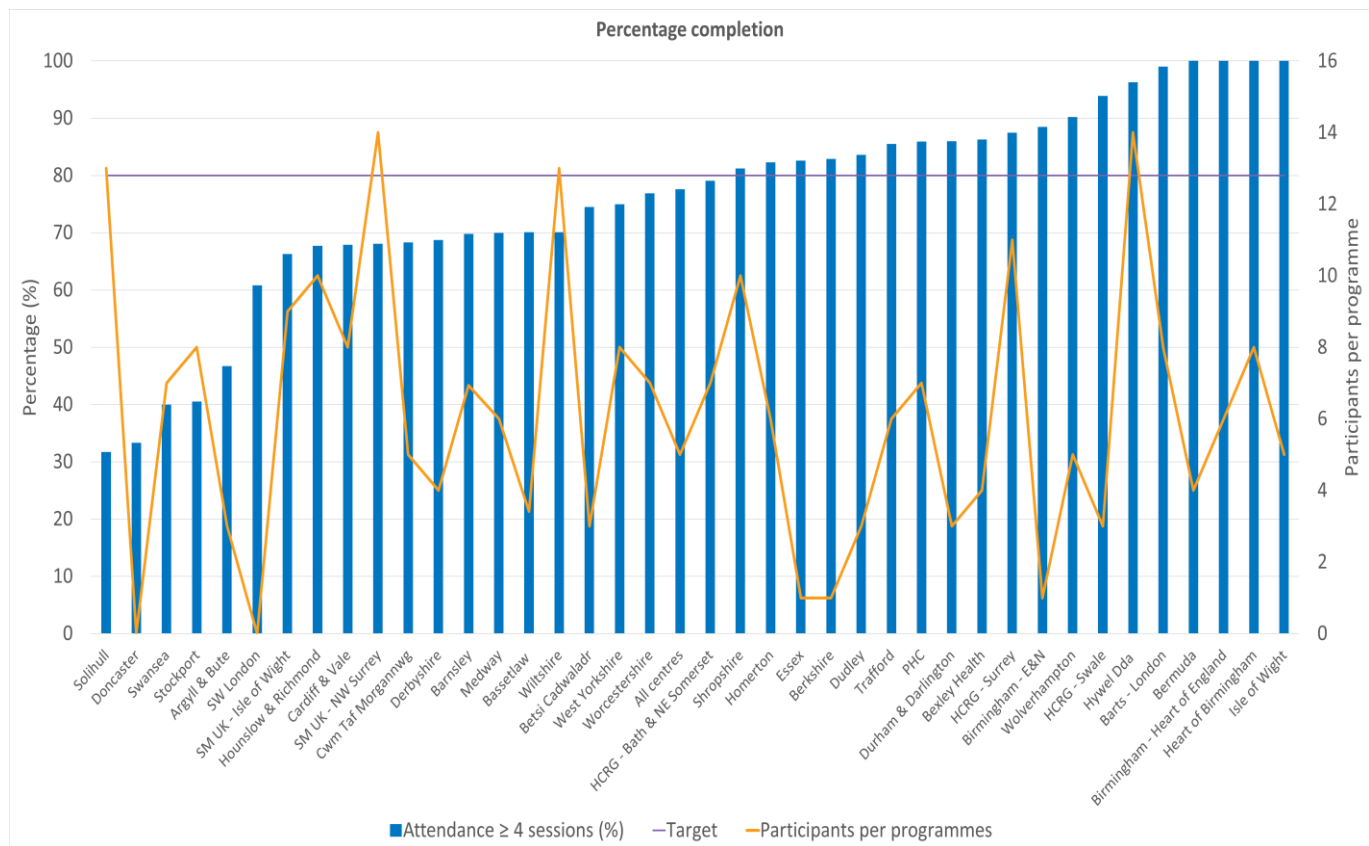
Ethnicity



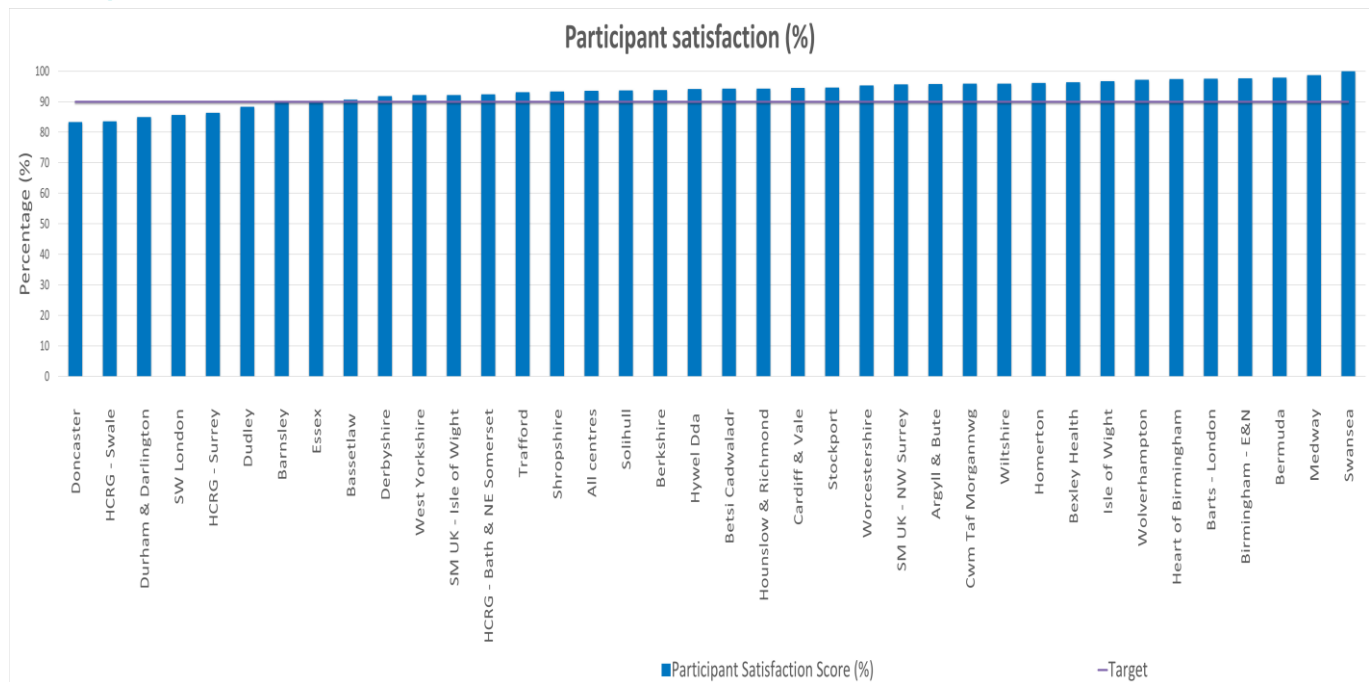
Participant uptake



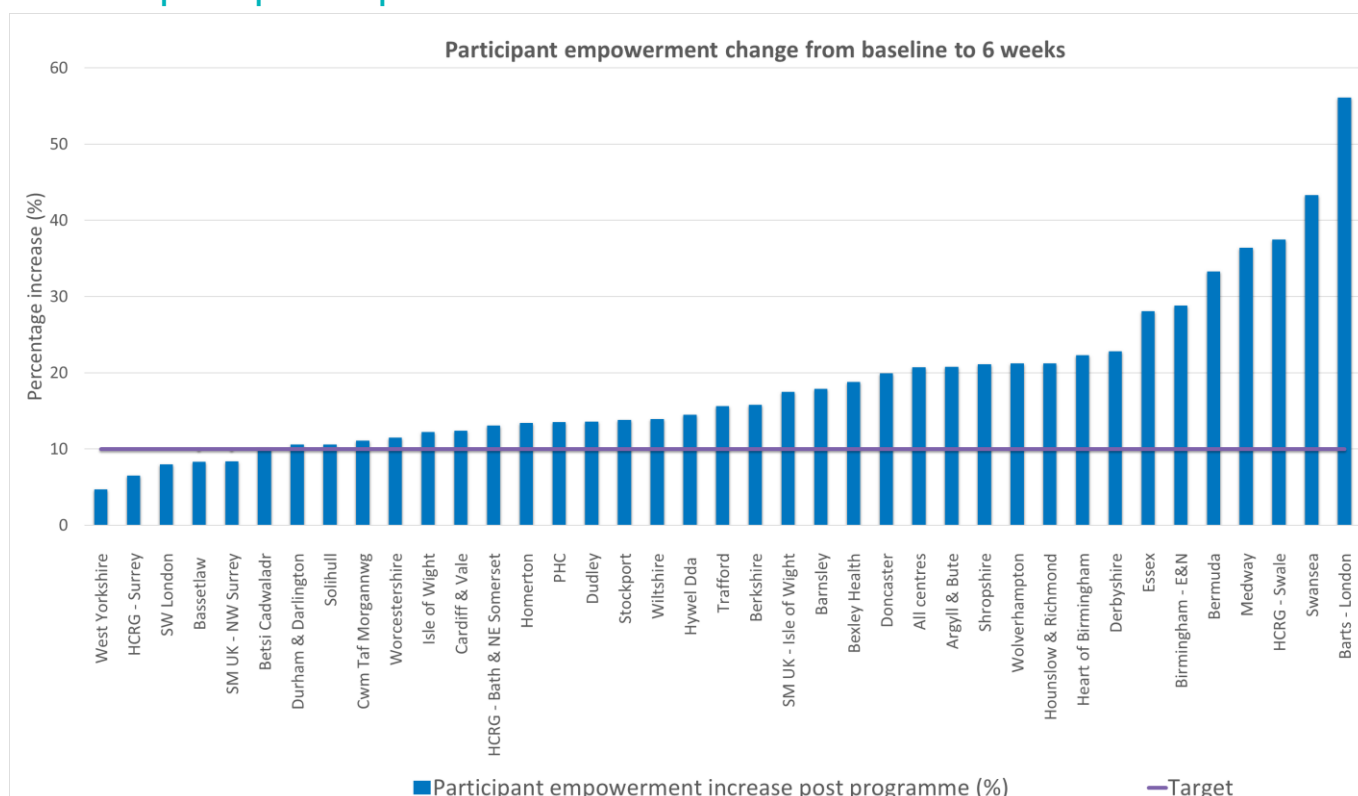
Participant attendance



Participant satisfaction



Increased participant empowerment



➤ Winner: Barts Health NHS Trust (London)

Uptake 92%, 65 programmes to 519 participants (of which 435 from minority ethnic groups) with mean 8 participants per session, 99% completion, 98% satisfaction and 56% increased empowerment

Justification – Addressing diversity. Excellent uptake, completion, satisfaction and empowerment scores. Greater participant numbers with 8 per session

➤ 2nd Homerton University Hospital Trust (London)

Uptake 88%, 23 programmes to 141 participants (of which 77 from minority ethnic groups) with a mean 6 participants per session, 82% completion, 96% satisfaction and 13% increased empowerment

Justification – excellent uptake and completion scores with a diverse population along with excellent satisfaction scores and increased empowerment

➤ 3rd Medway Community Healthcare (Kent)

Uptake 80%, 39 programmes to 243 participants (of which 44 from minority ethnic groups) with a mean 6 participants per session, 70% completion, 99% satisfaction and 36% increased empowerment

Justification – Good uptake and excellent satisfaction and empowerment scores but slightly reduced completion rates compared to 1st and 2nd place

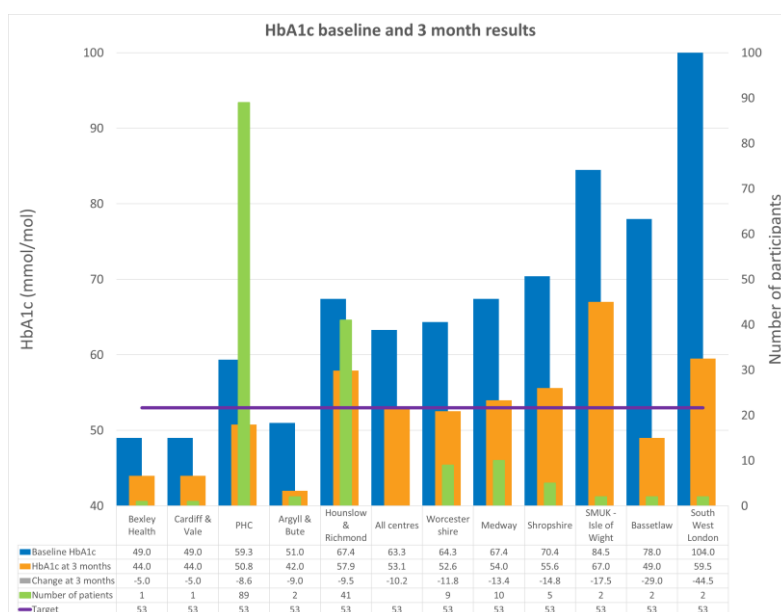
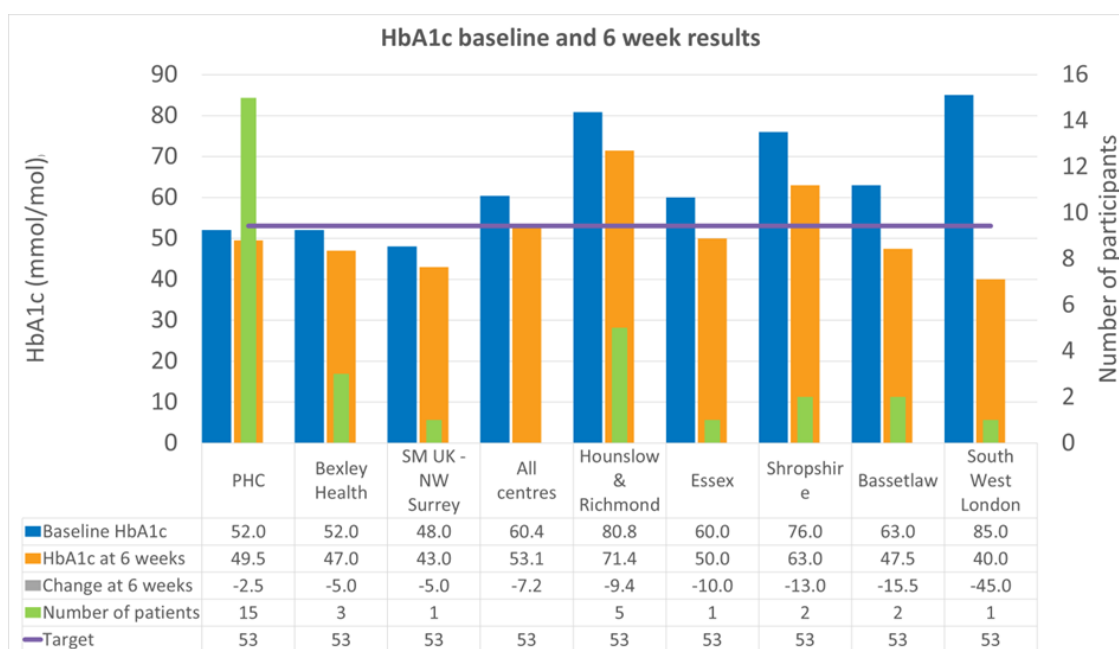
➤ **Commended: HRCH NHS Trust (Hounslow & Richmond, London)**

Uptake 66%, 66 programmes to 688 participants (of which 429 from minority ethnic groups) with a mean 10 participants per session, 68% completion, 94% satisfaction and 21% increased empowerment

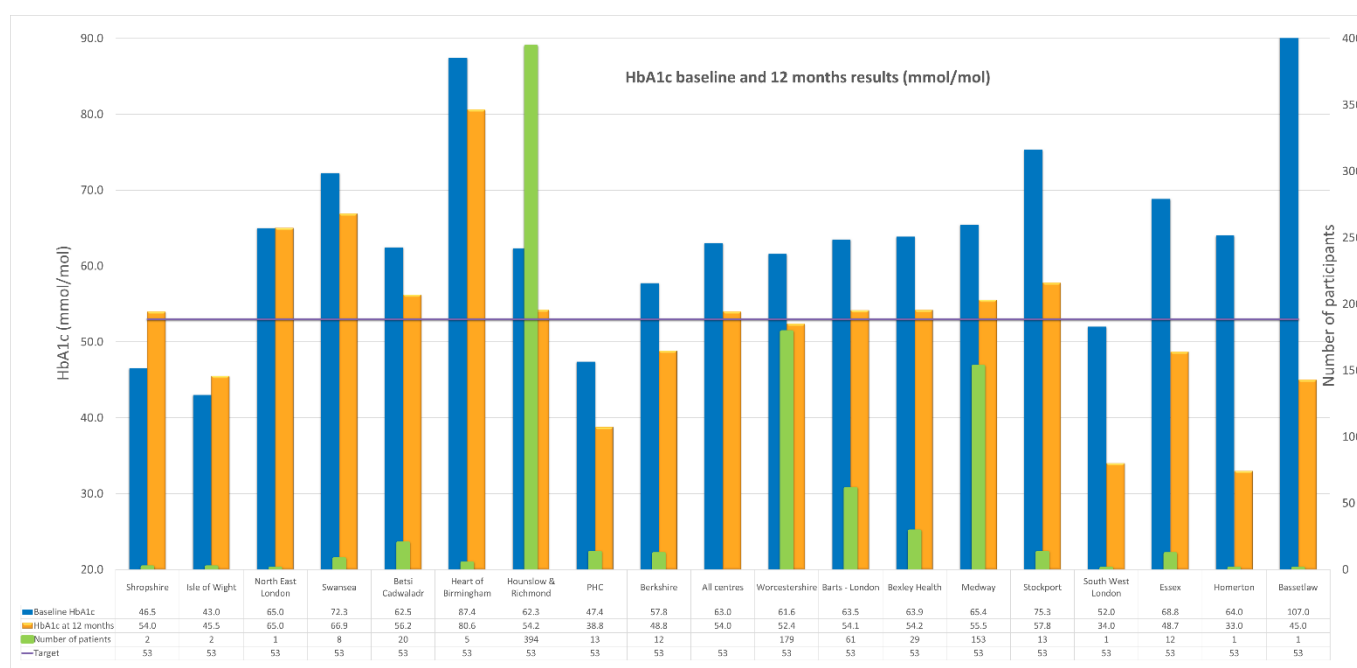
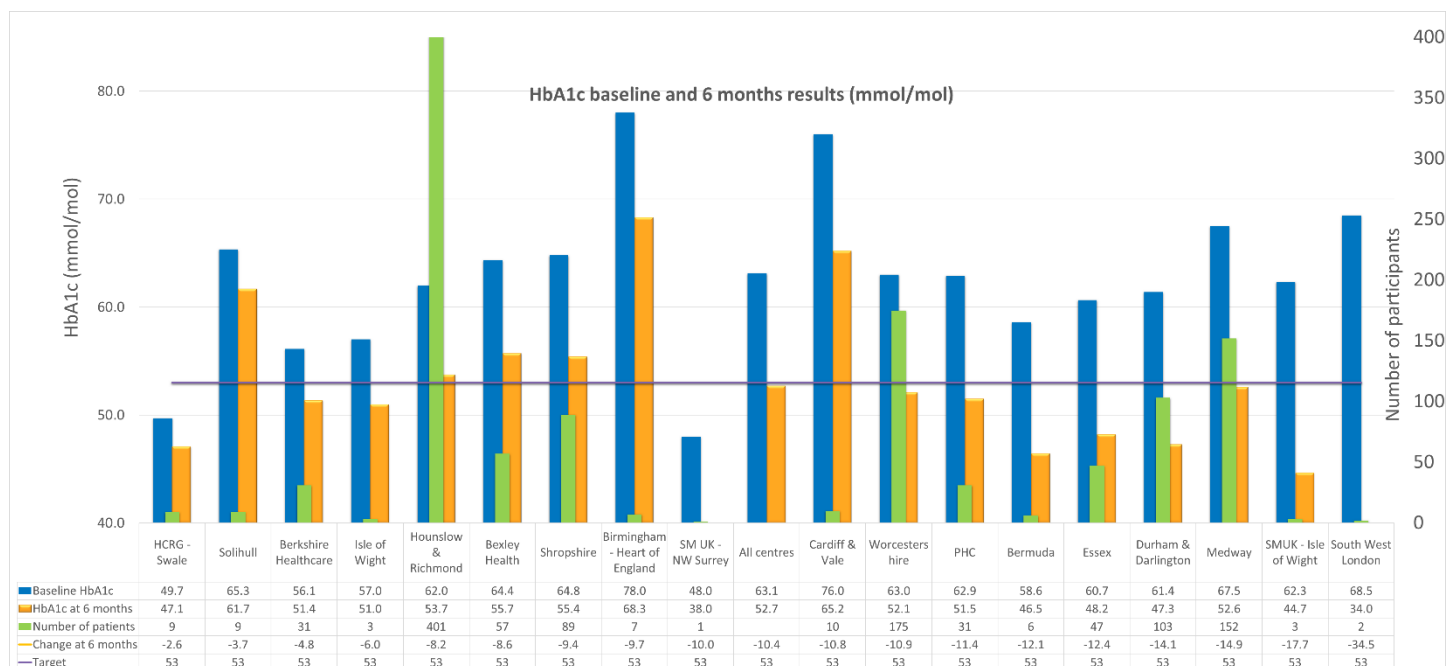
Justification – good patient numbers whilst also addressing diversity with overall good satisfaction and increased empowerment scores. However, lower uptake and completion compared to the winning organisations.

Greatest improvement in glycated haemoglobin (HbA1c)

To be considered for an award the following criteria were taken into consideration: HbA1c reduction at different time points; number of participants for whom matched data had been entered; percentage of attendees that had matched data, robust 6 and 12 months 95% confidence intervals.



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➤ Winner: HRCH NHS Trust (Hounslow & Richmond, London)

6w -9.4 (5 participants)

3m -9.5 (41 participants)

6m -8.2 (401 participants)

12m -8.1 (394 participants)

Justification – all time points with consistent and robust results. The greatest participant numbers for 6 and 12 months

➤ **Joint 2nd place: Medway Community Healthcare (Kent) and Worcestershire Acute Hospitals NHS Trust**

Medway

6w	no results
3m	-13.4 (10 participants)
6m	-14.9 (152 participants)
12m	-9.9 (153 participants)

Worcestershire

6w	No results
3m	-11.8 (9 participants)
6m	-10.9 (175 participants)
12m	-9.2 (179 participants)

Justification for both – excellent HbA_{1c} reduction with good participant numbers at 6 and 12 months (Medway – slightly better HbA_{1c} reduction but Worcestershire, slightly higher participant numbers)

➤ **3rd place: The Public Health Collaboration (various locations throughout England)**

6w	-2.5 (15 participants)
3m	-8.6 (89 participants)
6m	-11.4 (31 participants)
12m	-8.6 (13 participants)

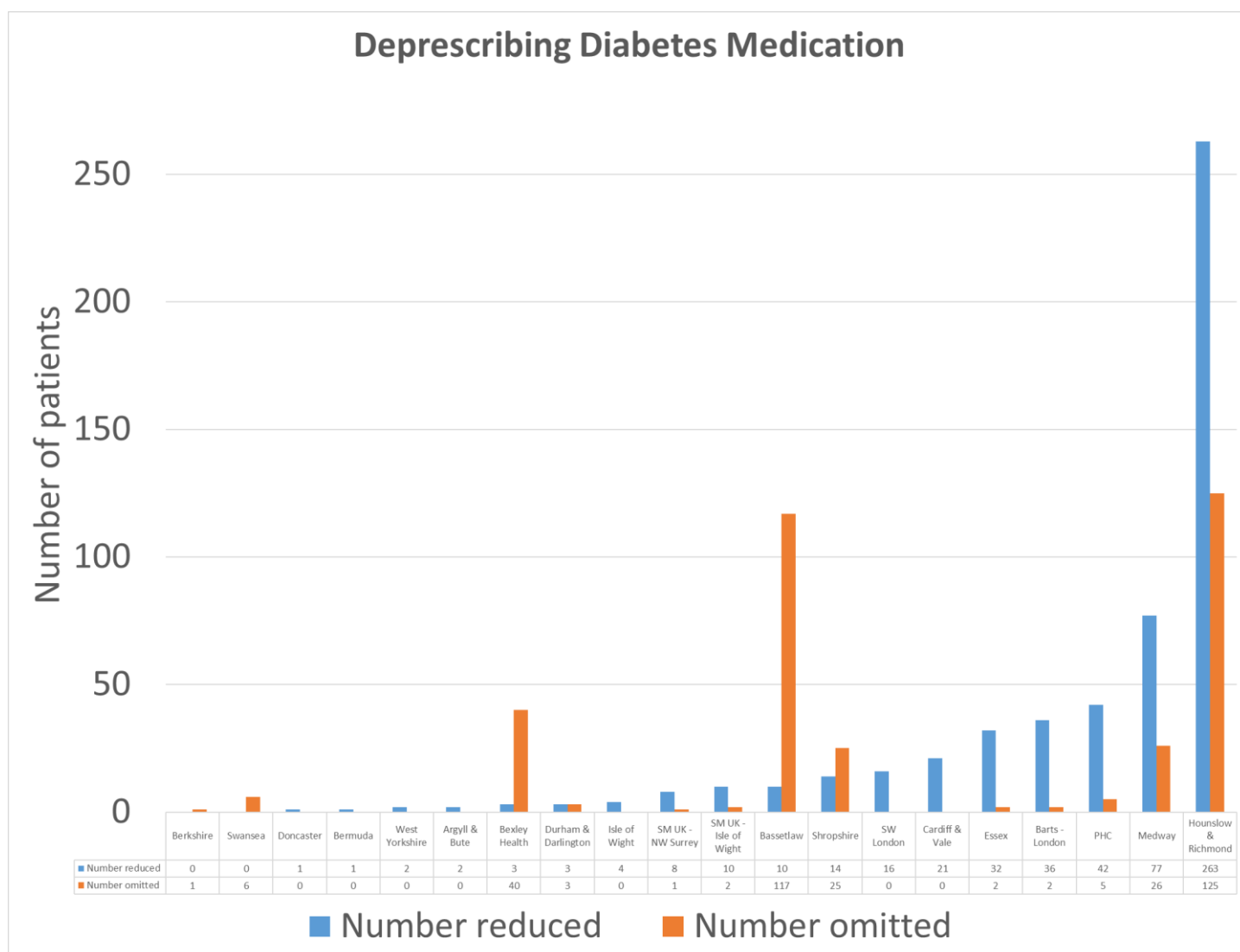
Justification – all time points covered, good HbA_{1c} reduction with sufficient participant numbers

Commended:

- **Bexley Health Neighbourhood Care CIC (Greater London)** for 6 and 12 month data
- **Shropshire Community Health NHS Trust and Durham & Darlington NHS FT** for 6 month data
- **Essex Partnership University NHS Foundation Trust, Stockport NHS and Barts Health NHS Trust (London)** for 12 month data

Deprescribing

The following criteria were taken into consideration: number of participants reducing prescribed diabetes medication and number of participants omitting it.

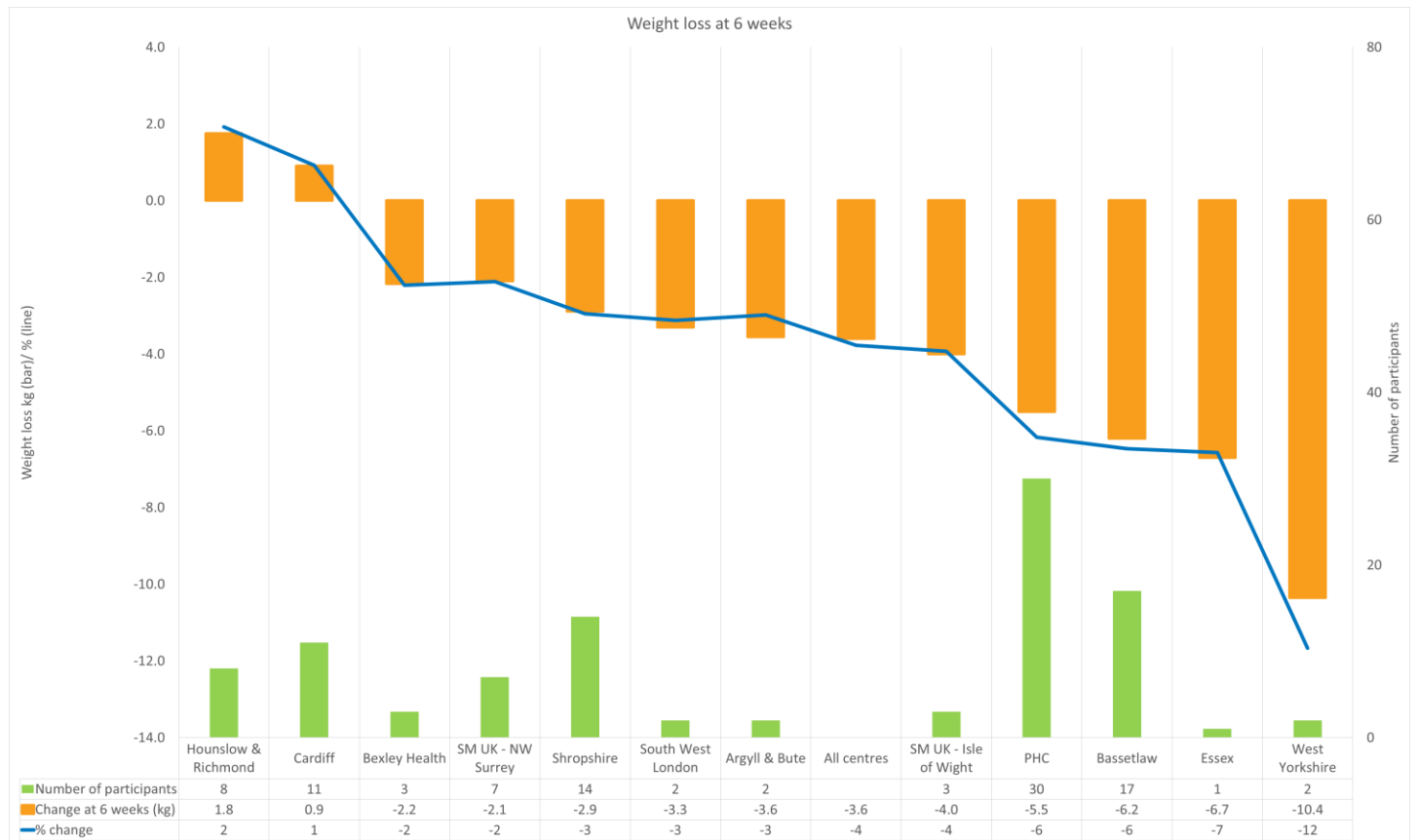


- **Winner: HRCH NHS Trust (Hounslow & Richmond, London)** (263 reduced and 125 omitted)
- **2nd place: Nottinghamshire Healthcare NHS FT (Bassetlaw)** (10 reduced and 117 omitted)
- **3rd place: Medway Community Healthcare (Kent)** (77 reduced and 26 omitted)

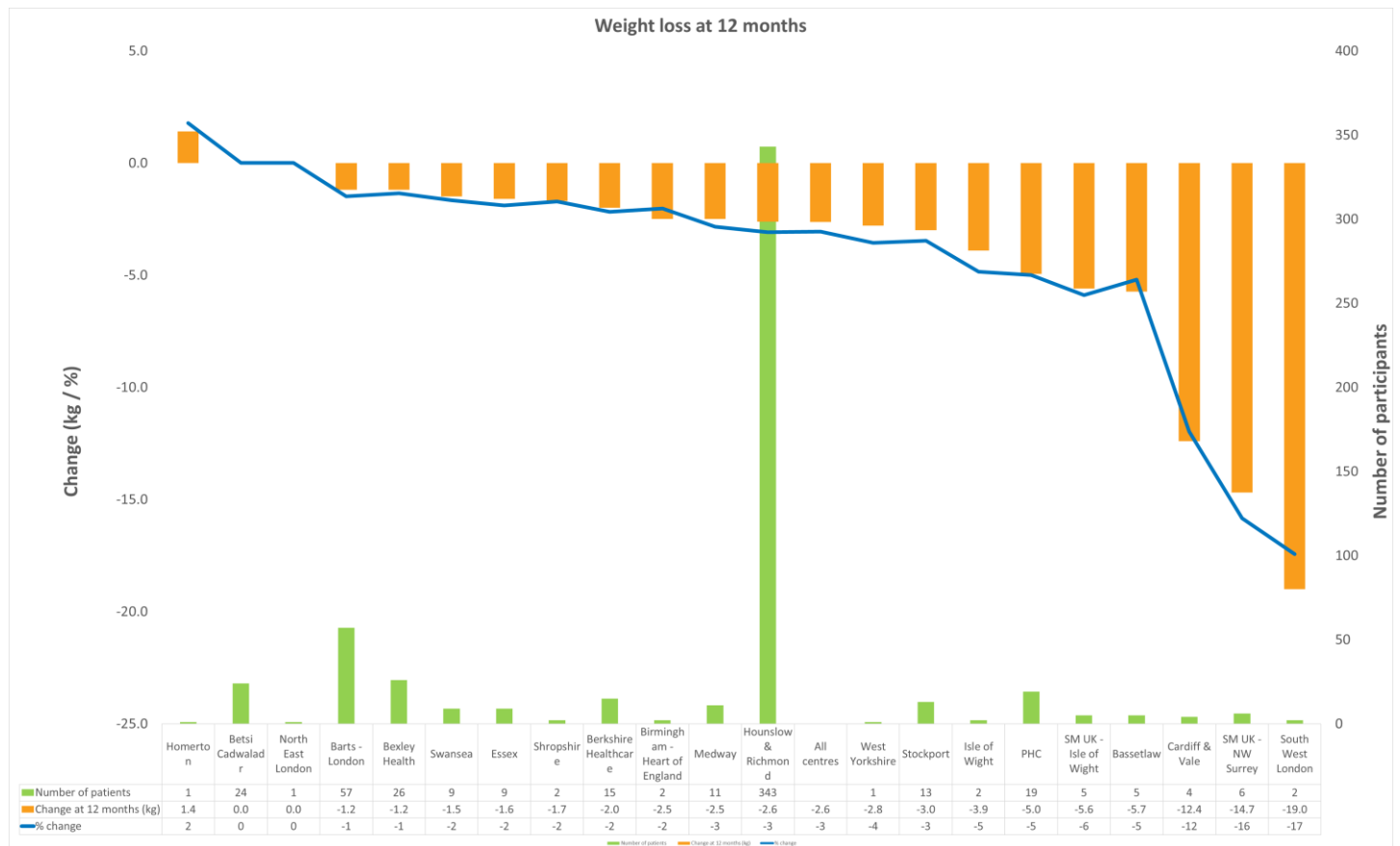
The largest impact on body weight and waist circumference

For the anthropometric award category, the following criteria were taken into consideration: body weight, BMI and waist circumference reduction at different time points. For all timelines, the number of participants for whom matched data was available and the total number of participants were taken into consideration.

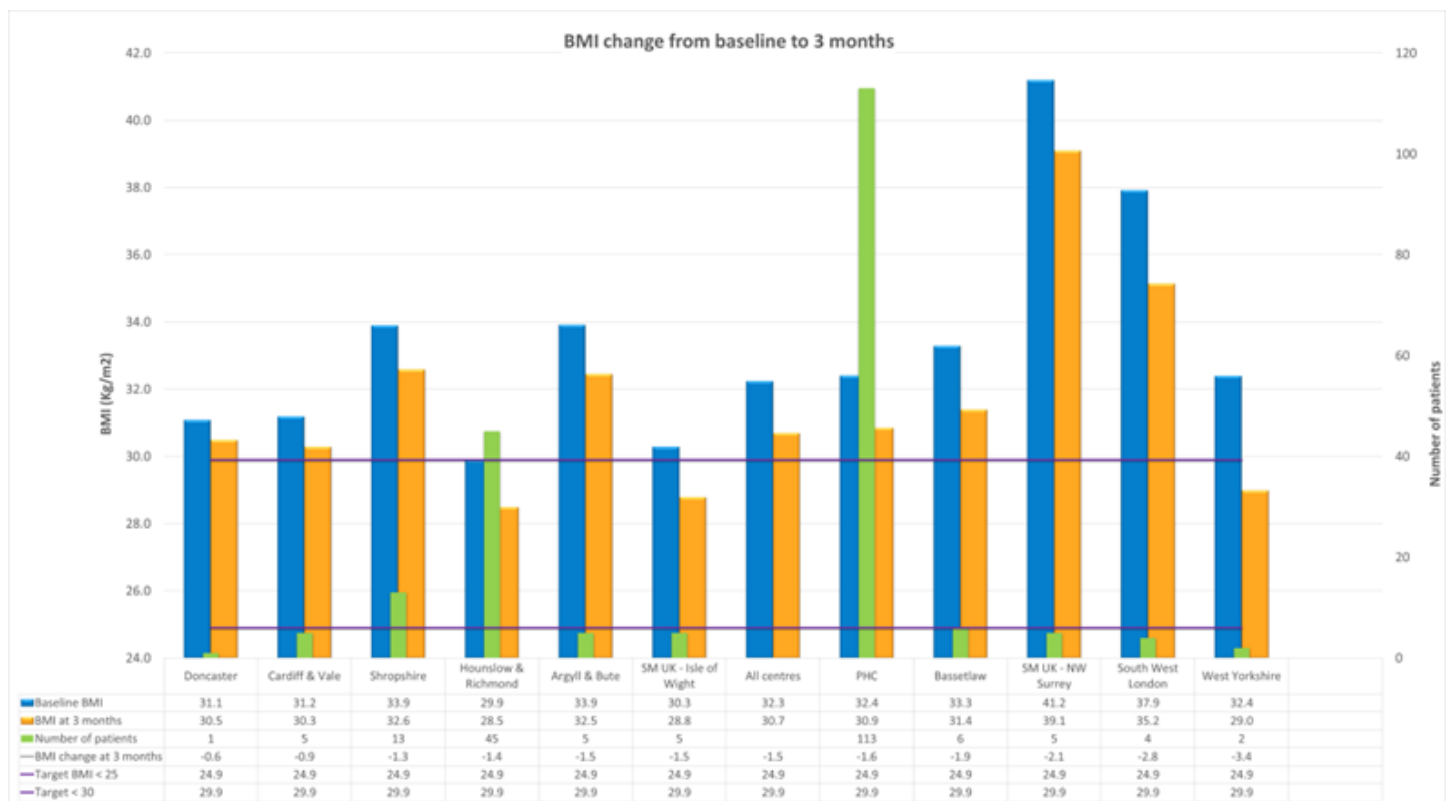
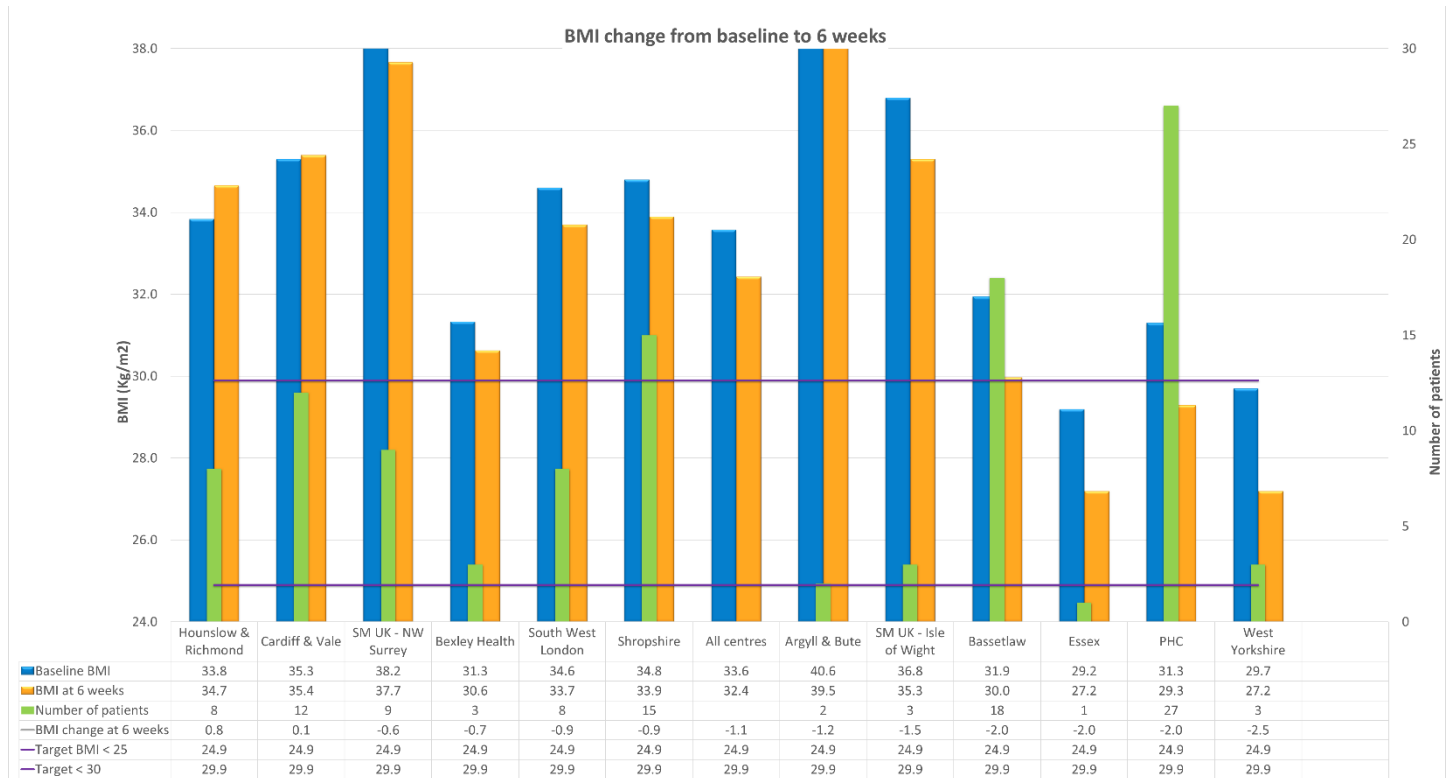
Body weight



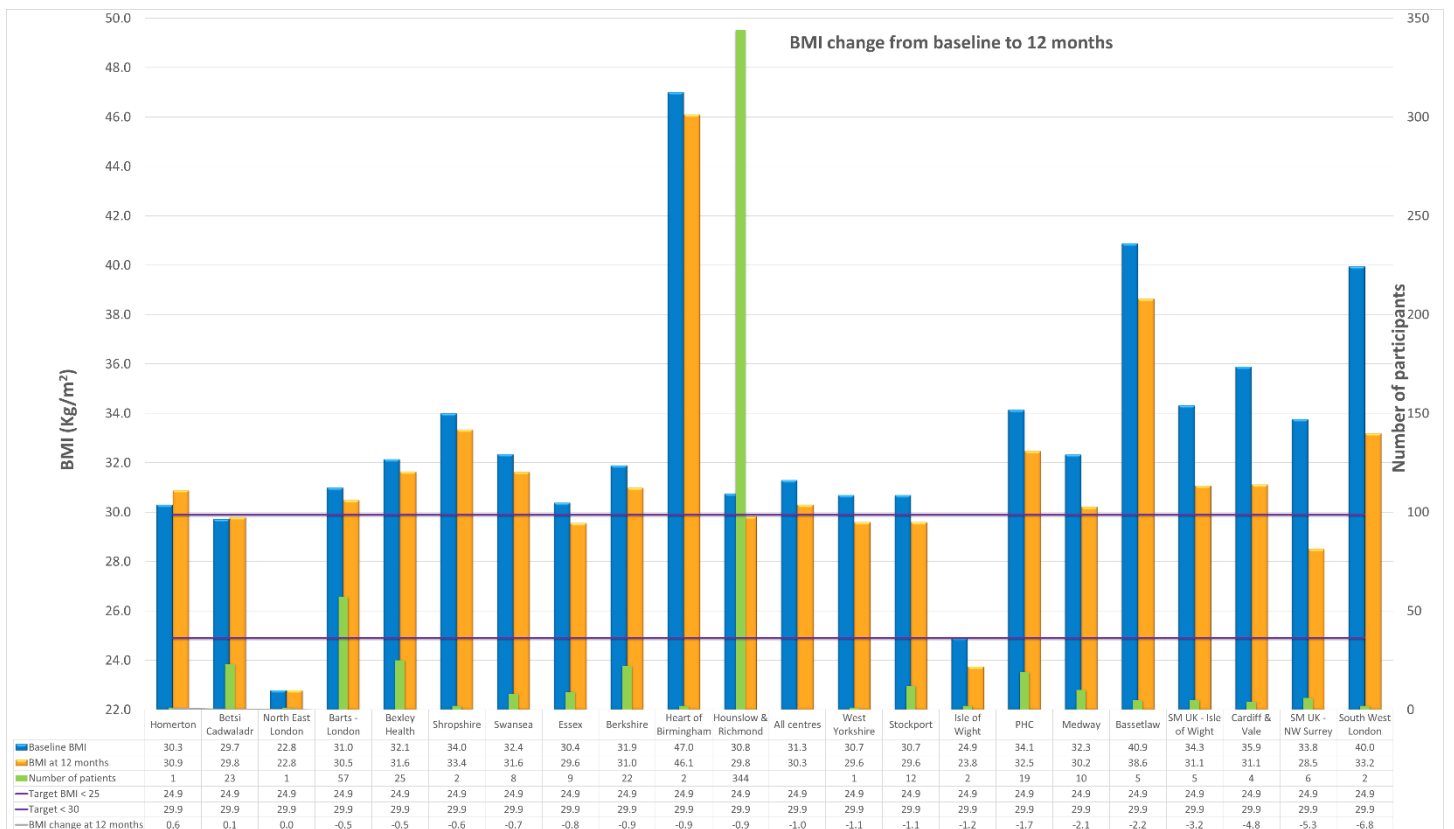
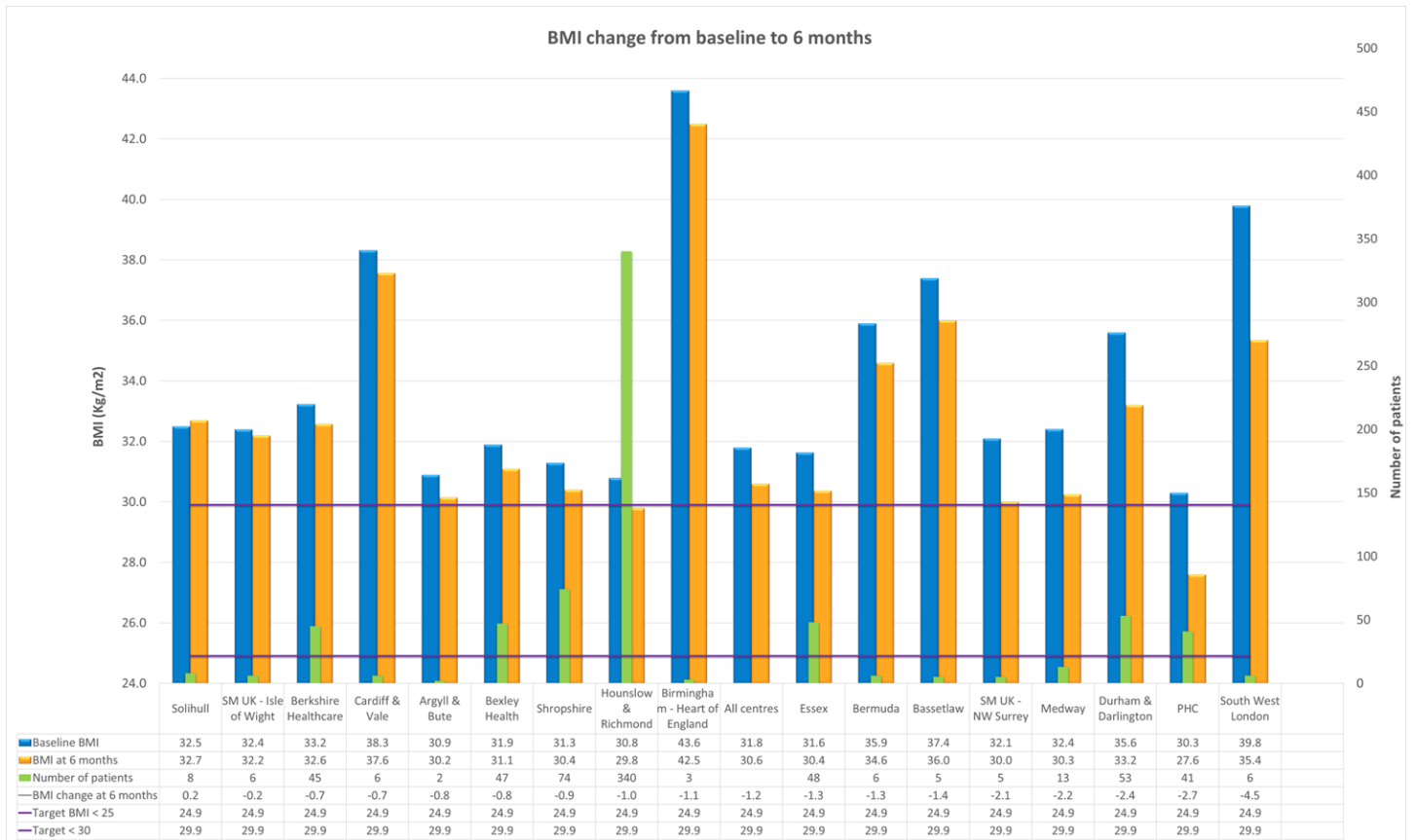
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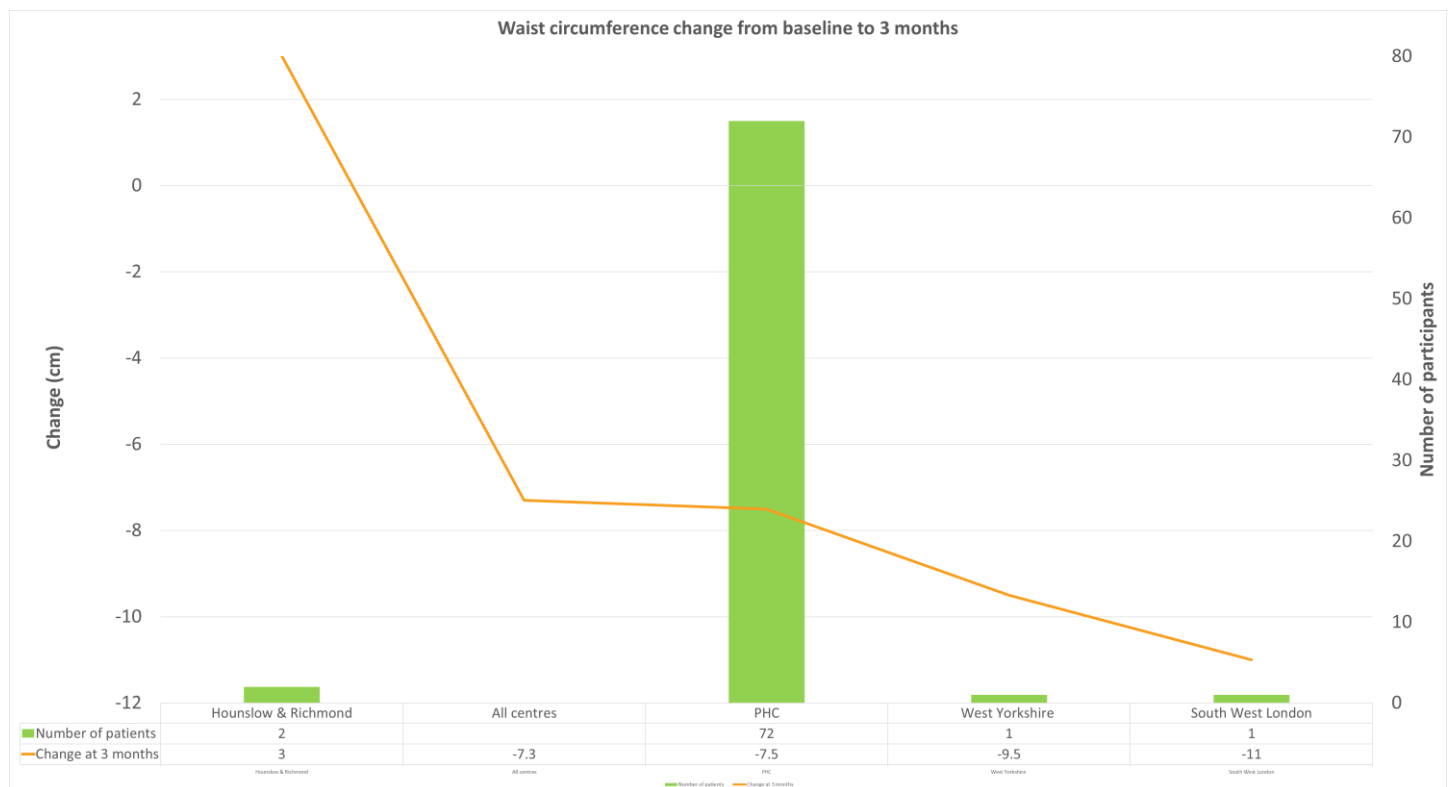
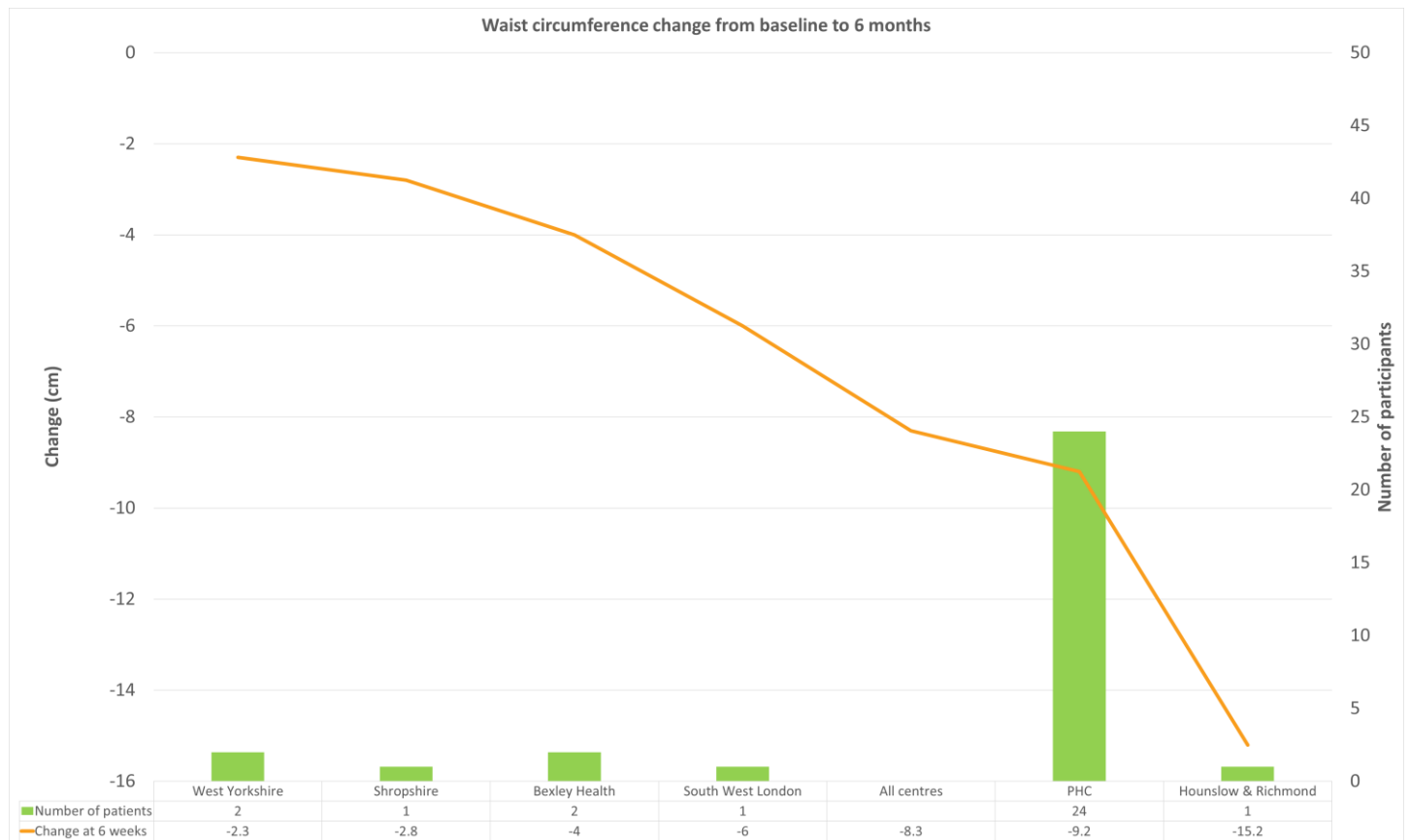
Body Mass Index (BMI)

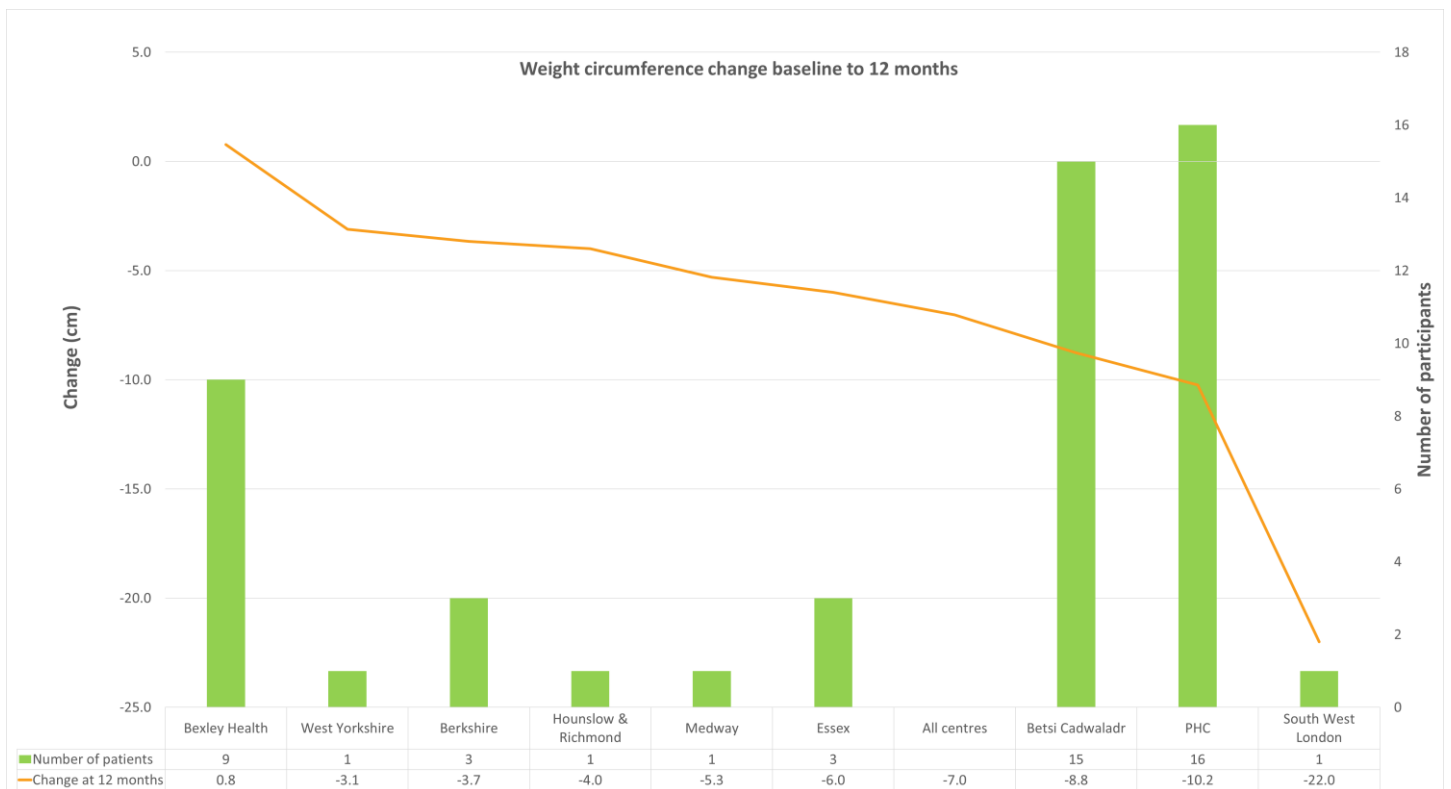
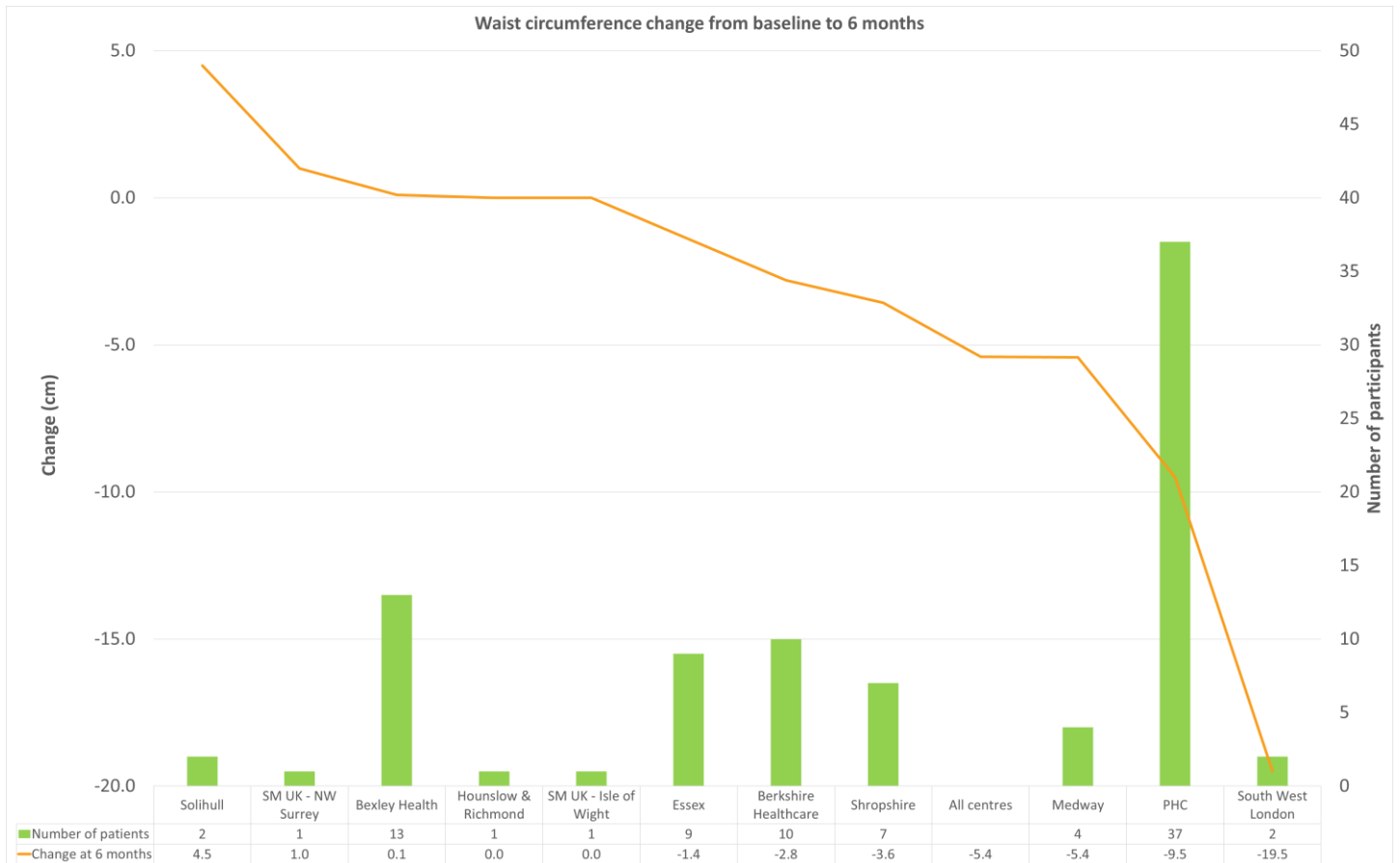


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Waist circumference





➤ **Winner: The Public Health Collaboration (PHC)**

PHC (weight loss kg & % / BMI / waist / number of matched records in brackets)

6w: -5.5kg [-6%] (30), -2kg/m²(27), -9.2cm(24)

3m: -4.4kg [-5%] (106), -1.6kg/m²(113), -7.5cm(72)

6m: -8kg [-9%] (41), -2.7kg/m²(41), -9.5cm(37)

12m: -5kg [-5%] (19), -1.7kg/m²(19), -10.2cm(16)

Justification: consistent improvement in all anthropometric indicators throughout the different time points with sufficient participant numbers

➤ **2nd place: HRCH NHS Trust (Hounslow & Richmond, London)**

Hounslow & Richmond (weight loss kg & % / BMI / waist / number of matched records in brackets)

6w: +1.8kg [+2%] (8), +0.8kg/m²(8), -15.2cm(1)

3m: -4g [-5%] (44), -1.4kg/m²(45), +3cm(2)

6m: -2.7kg [-3.2%] (339), -1kg/m²(340), 0cm(1)

12m: -2.6kg [-3%] (343), -0.9kg/m²(344), -4cm(1)

Justification: a high number of matched participant records at 6 and 12 months demonstrating robust anthropometric improvements for weight reduction, percentage weight loss and BMI

➤ **3rd place: Shropshire Community Health NHS Trust**

Shropshire (weight loss kg & % / BMI / waist / number of matched records in brackets)

6w: -2.9kg [-3%] (14), -0.9kg/m²(15), -2.8cm(1)

3m: -4.5kg [-5%] (12), -1.3kg/m²(13), no waist

6m: -2.5kg [-2.7%] (75), -0.9kg/m²(74), -3.6cm(7)

12m: -1.7kg [-2%] (2), -0.6kg/m²(2), no waist

Justification: good and consistent improvements over the time points

Commended for 6 month data: Essex Partnership University NHS FT and Durham & Darlington NHS FT (weight loss kg & % / BMI / waist / number of matched records in brackets)

Essex Partnership University NHS Foundation Trust

6w: -6.7kg [-7%] (1), -2kg/m²(1), no waist

3m: none

6m: -4.5kg [-4.9%] (51), -1.3kg/m²(48), -1.4cm(9)

12m: -1.6kg [-2%] (9), -0.8kg/m²(9), -6cm(3)

Durham & Darlington NHS FT

6w: none

3m: none

6m: -5.5kg [-6.3%] (53), -2.4kg/m²(53), no waist

12m: none

Commended for excellent results over the time points but only a few participants (weight loss kg & % / BMI / waist / number of matched records in brackets):

South West London Health & Care Partnership

6w: -3.3kg [-3%] (2), -0.9kg/m²(8), -6cm(1)

3m: -8.6kg [-7%] (31), -2.8kg/m²(4), -11cm(1)

6m: -13.2kg [-11.3%] (6), -4.5kg/m²(6), -19.5cm(2)

12m: -19kg [-17%] (2), -6.8kg/m²(2), -22cm(1)

Self Management UK - North West Surrey CCG

6w: -2.1kg [-2%] (8), -0.6kg/m²(9), no waist

3m: -6.5g [-5%] (5), -2.1kg/m²(5), no waist

6m: -7.9kg [-7.3%] (4), -2.1kg/m²(7), +1cm(1)

12m: -14.7kg [-16%] (6), -5.3kg/m²(6), no waist

Nottinghamshire Healthcare NHS FT (Bassetlaw)

6w: -6.2kg [-6%] (17), -2kg/m²(18), no waist

3m: -5.8g [-6%] (6), -1.9kg/m²(6), no waist

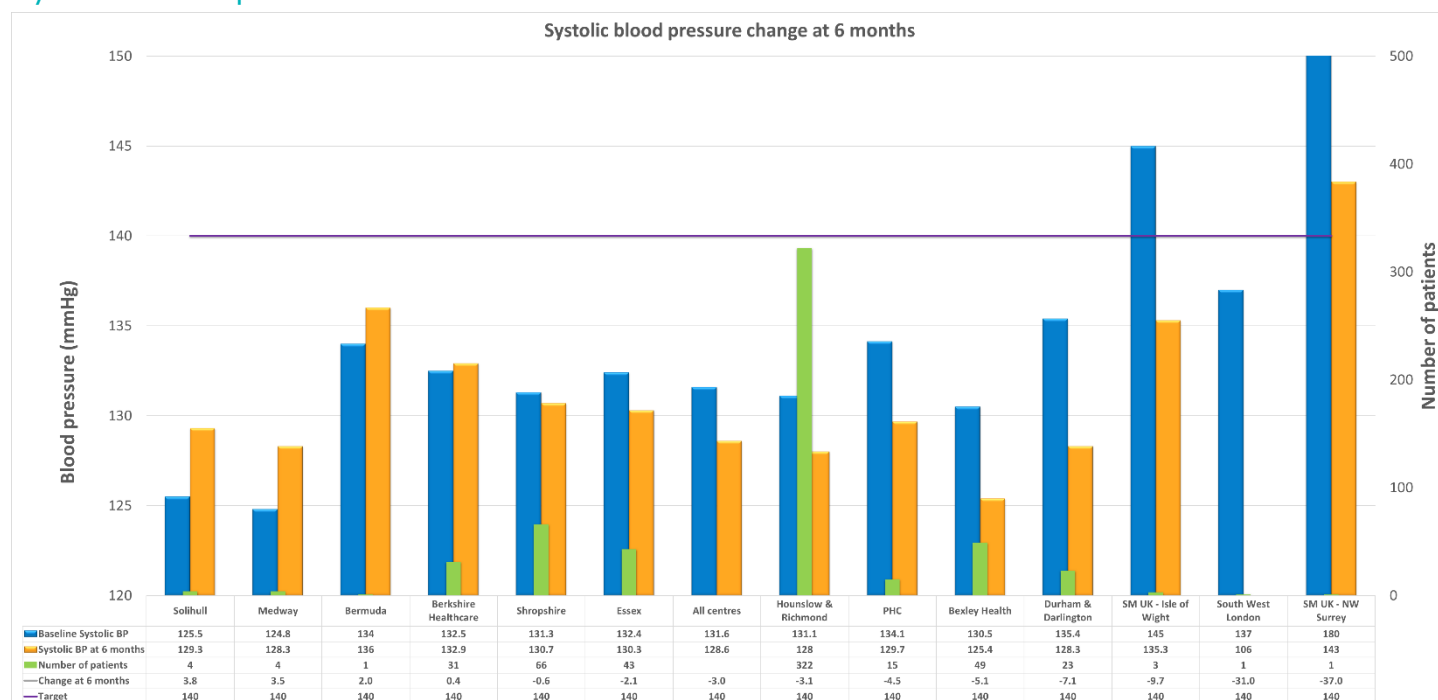
6m: -4.3kg [-4.3%] (5), -1.4kg/m²(5), no waist

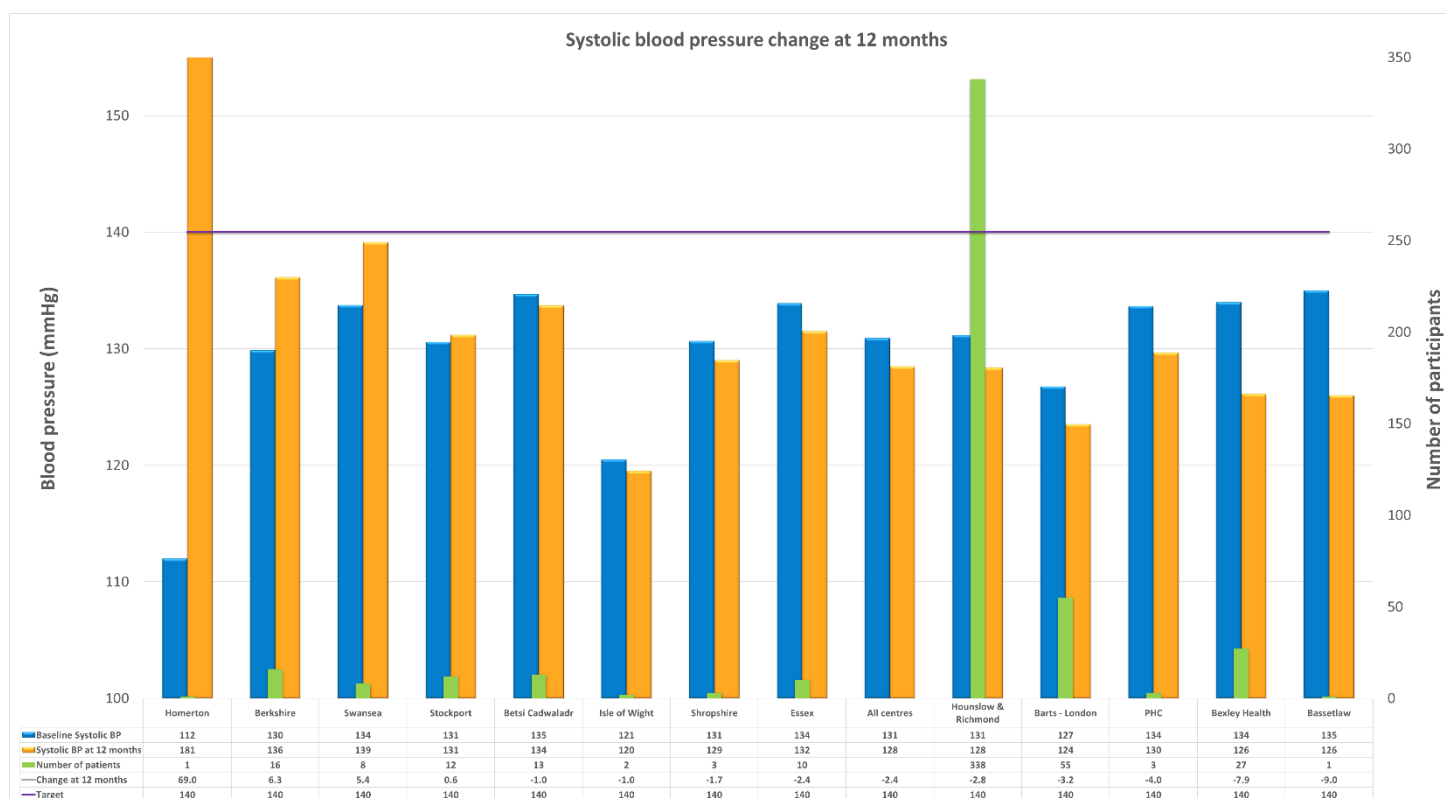
12m: -5.7kg [-5%] (5), -2.2kg/m²(5), no waist

Cardiovascular disease (CVD) risk reduction

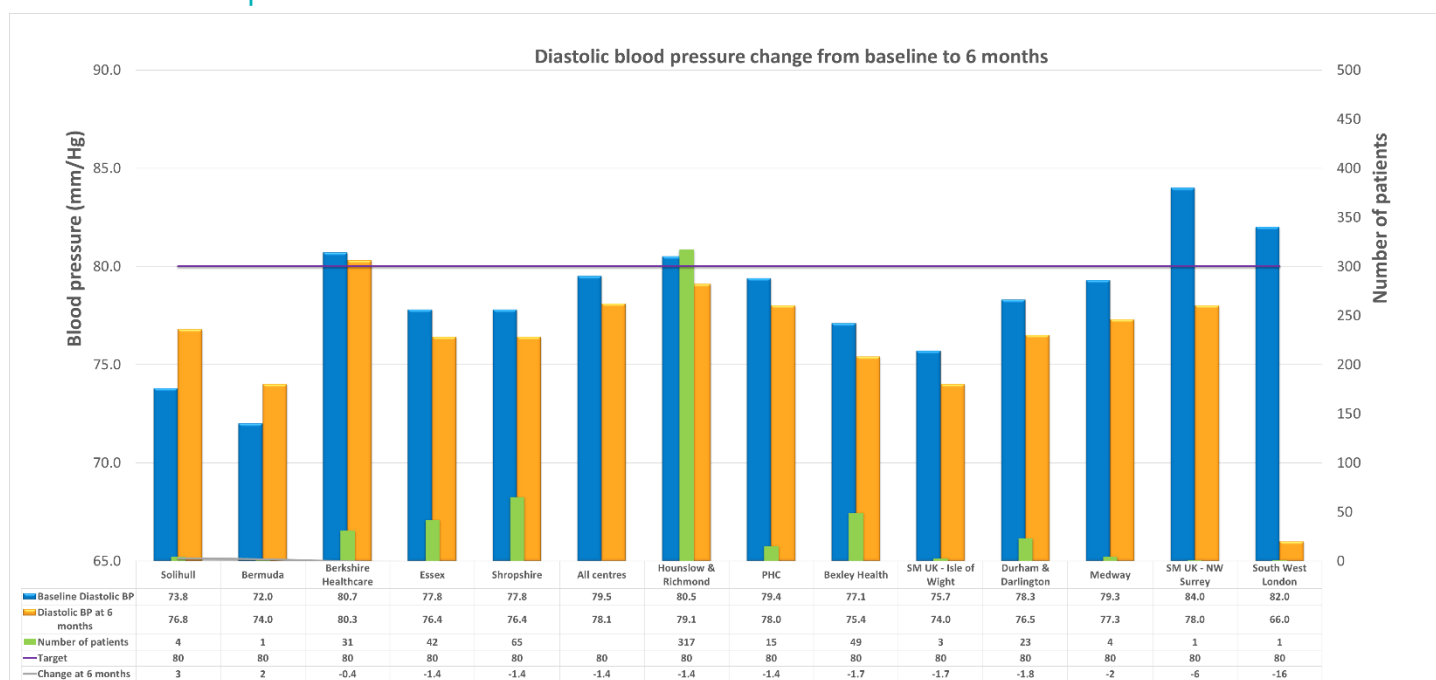
This award category considered the following criteria: reduction in systolic and diastolic blood pressure at 6 and 12 months; reduction in total cholesterol to HDL ratio; reduction in triglyceride to HDL ratio; number of participants for whom matched data was available; robust 95% confidence intervals.

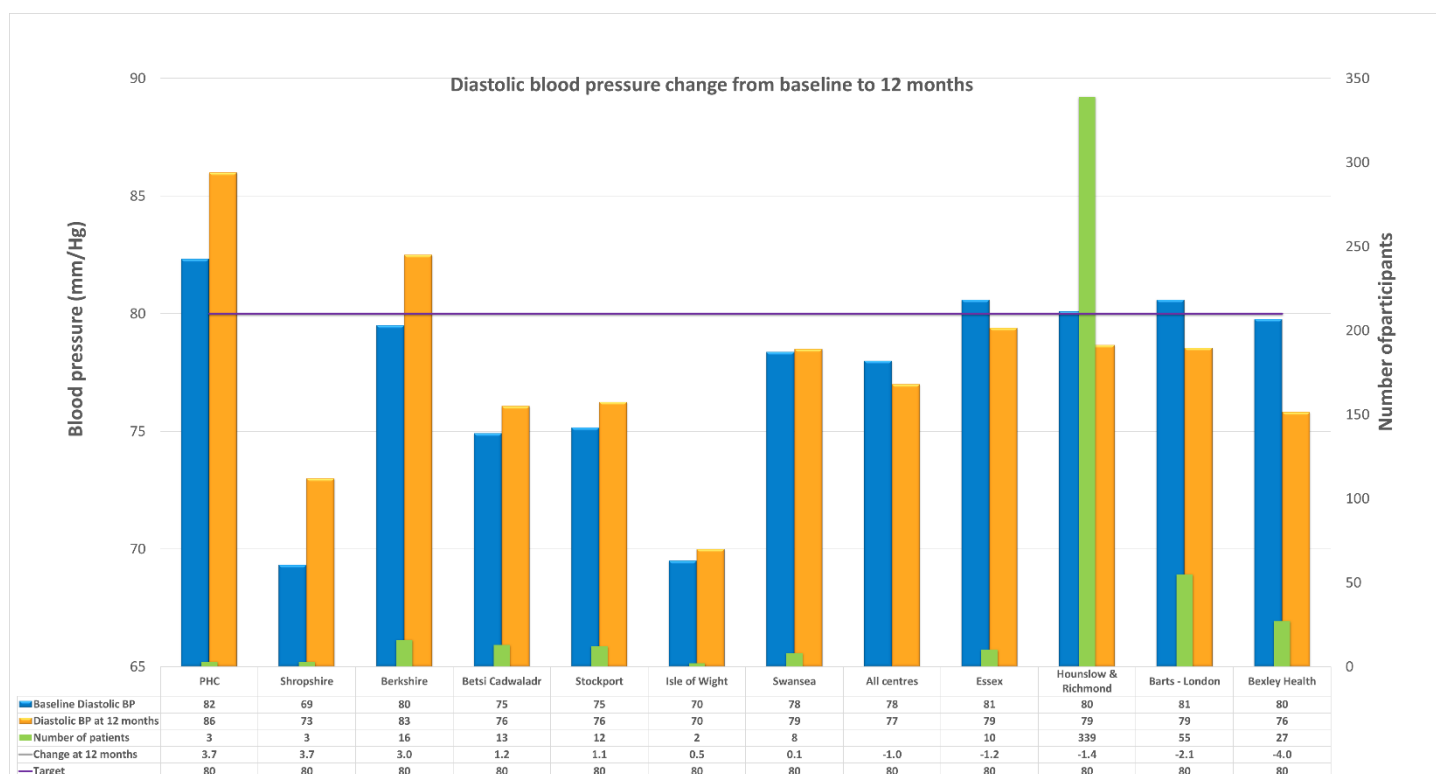
Systolic blood pressure





Diastolic blood pressure

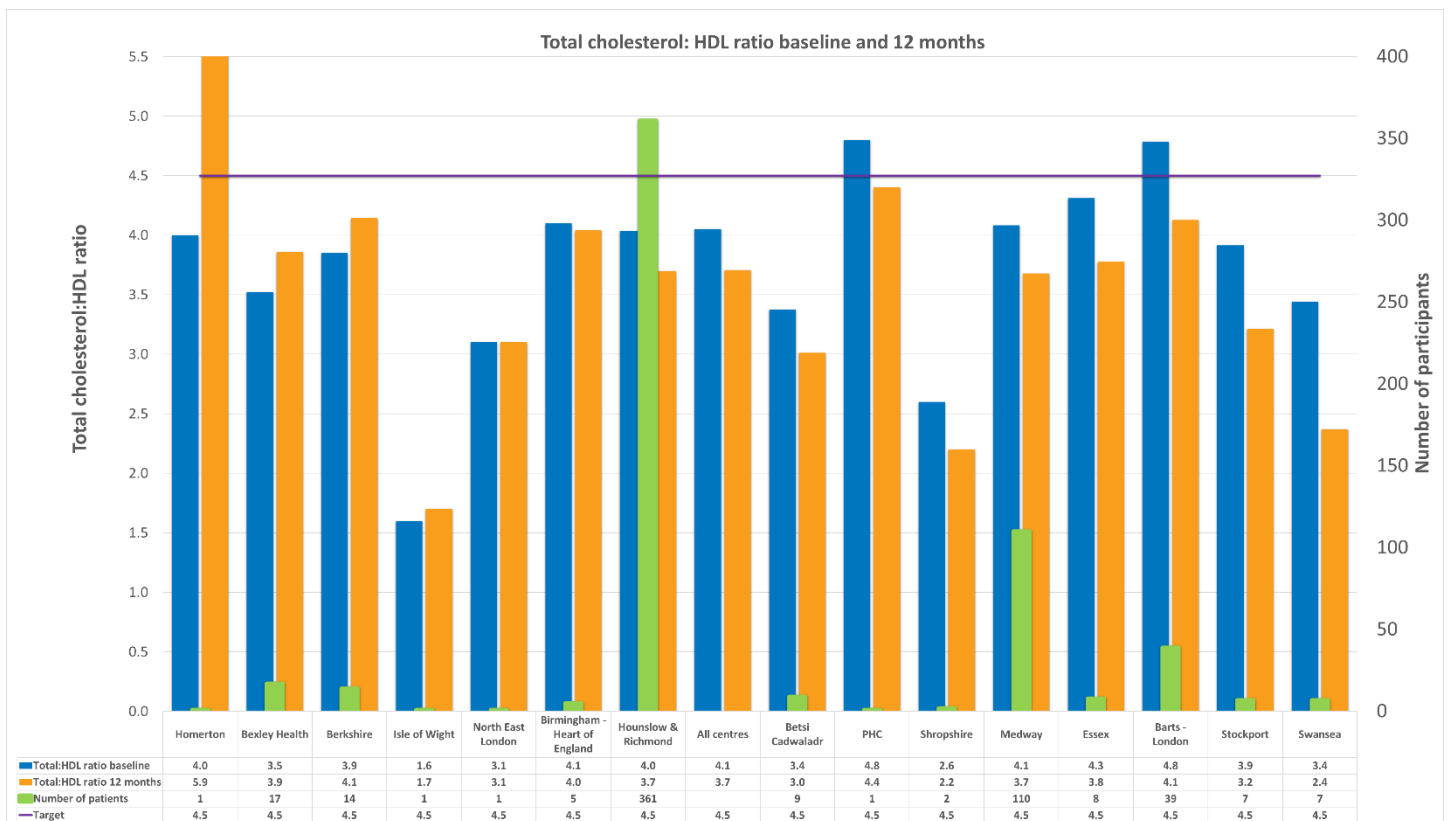
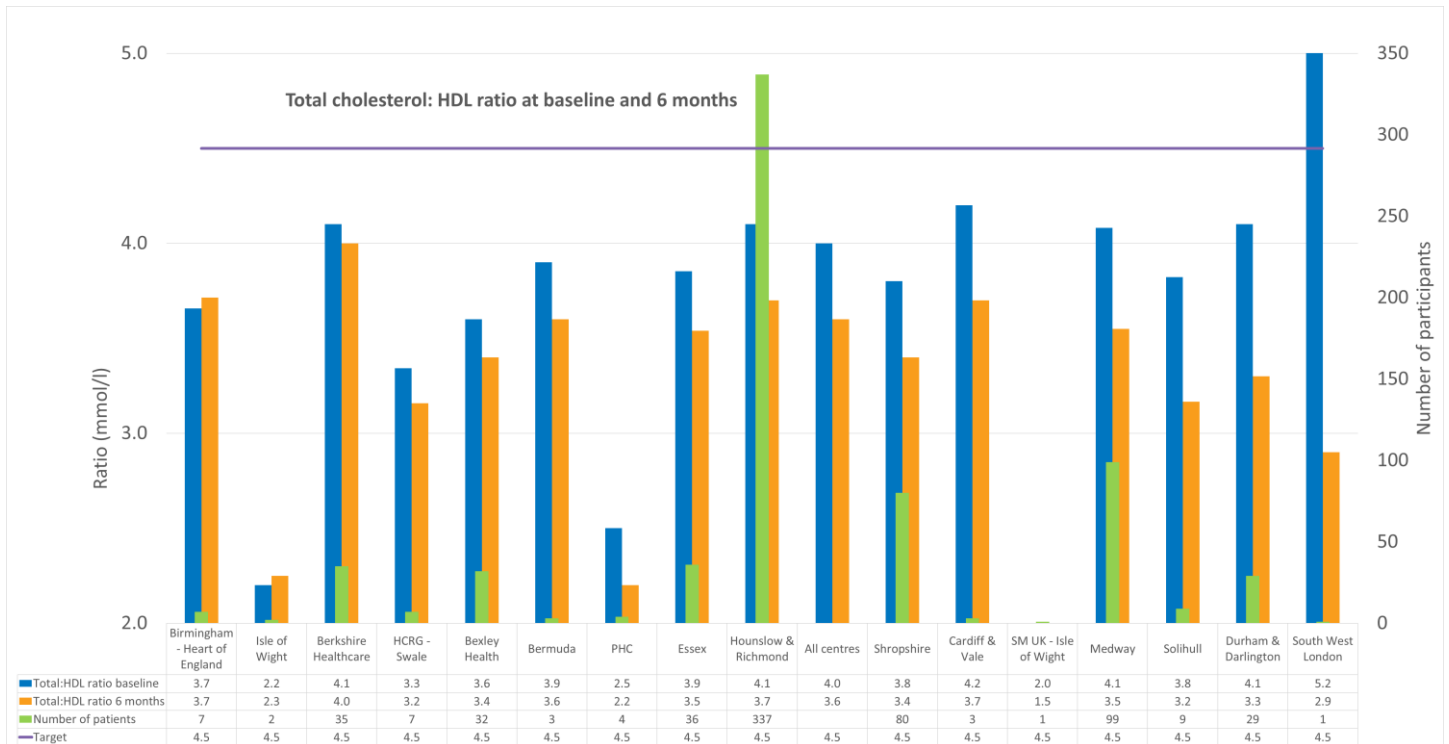




Total cholesterol to HDL cholesterol ratio

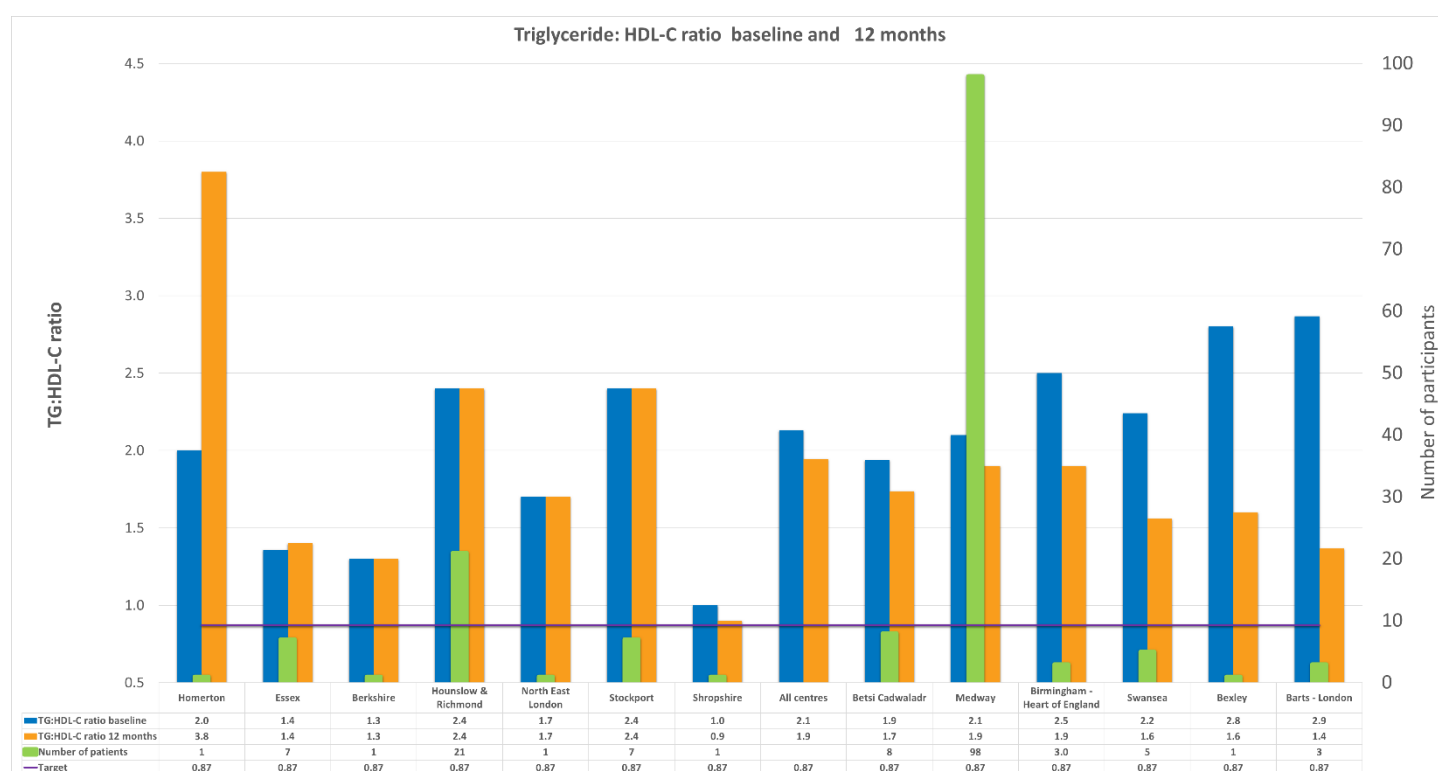
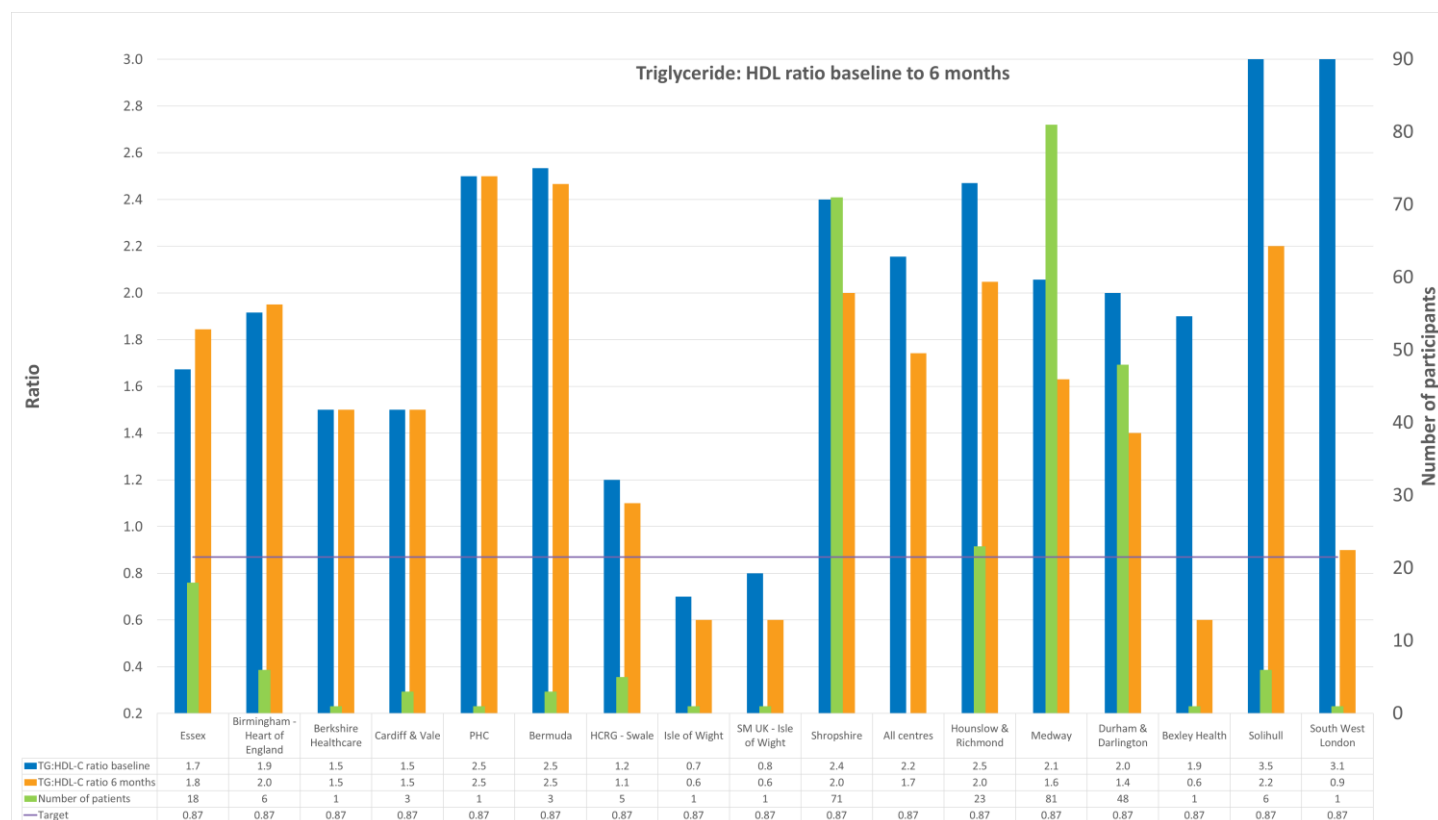
Total cholesterol to high-density lipoprotein (HDL) cholesterol ratio is a good predictor of cardiovascular risk. This ratio is calculated by dividing total cholesterol level by HDL. Ideally it should be below 4.5, with a higher ratio indicating an increased risk of heart disease. A ratio above 6 is regarded as representing a high risk of heart disease. Where organisations enter total cholesterol and HDL cholesterol into the X-PERT Audit Database this ratio is automatically calculated.

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Triglyceride to HDL cholesterol ratio

The triglyceride to HDL cholesterol ratio (TG:HDL-C ratio) correlates CVD risk in both men and women. The ideal ratio is less than 0.87, with higher levels, especially those above 2.62, indicating increased risk. Where organisations enter triglyceride and HDL cholesterol into the X-PERT audit database this ratio is automatically calculated.



➤ **Winner: HRCH NHS Trust (Hounslow & Richmond, London)**

Hounslow & Richmond (TC:HDL / TG:HDL / SBP / DBP with matched records in brackets)

6m: -0.4, -10% (337) / -0.4, -17.1% (23) / -3.1 (322) / -1.4 (317)

12m: -0.3, -8% (361) / 0, 0% (21) / -2.8 (338) / -1.4 (339)

Justification: robust data for TC:HDL ratio and BP with risk reductions

Commended for 6 and 12 month lipid results

Medway Community Healthcare (Kent) (TC:HDL / TG:HDL with matched records in brackets)

6m: -0.5, -13% (99) / -0.4, -20.7% (81)

12m: -0.4, -10% (110) / -0.2, -9.5% (98)

Justification: excellent and robust reduction in both lipid ratios at 6 and 12 months

Commended for 6 and 12 month BP results

Bexley Health Neighbourhood Care CIC (Greater London) (SBP / DBP with matched records in brackets)

6m: -5.1 (49) / -1.7 (49)

12m: -7.9 (27) / -4 (27)

Justification: impressive reductions in BP at 6 and 12 months

Commended for 6 month results

Shropshire Community Health NHS Trust (TC:HDL / TG:HDL / SBP / DBP with matched records in brackets)

6m: -0.4, -11% (80) / -0.4, -16.7% (71) / -0.6 (66) / -1.4 (65)

Durham & Darlington NHS FT (TC:HDL / TG:HDL / SBP / DBP with matched records in brackets)

6m: -0.8, -20% (29) / -0.6, -30% (48) / -7.1 (23) / -1.8 (23)

Justification: Good 6 month data but little or no 12 month data

Commended for 12 month results

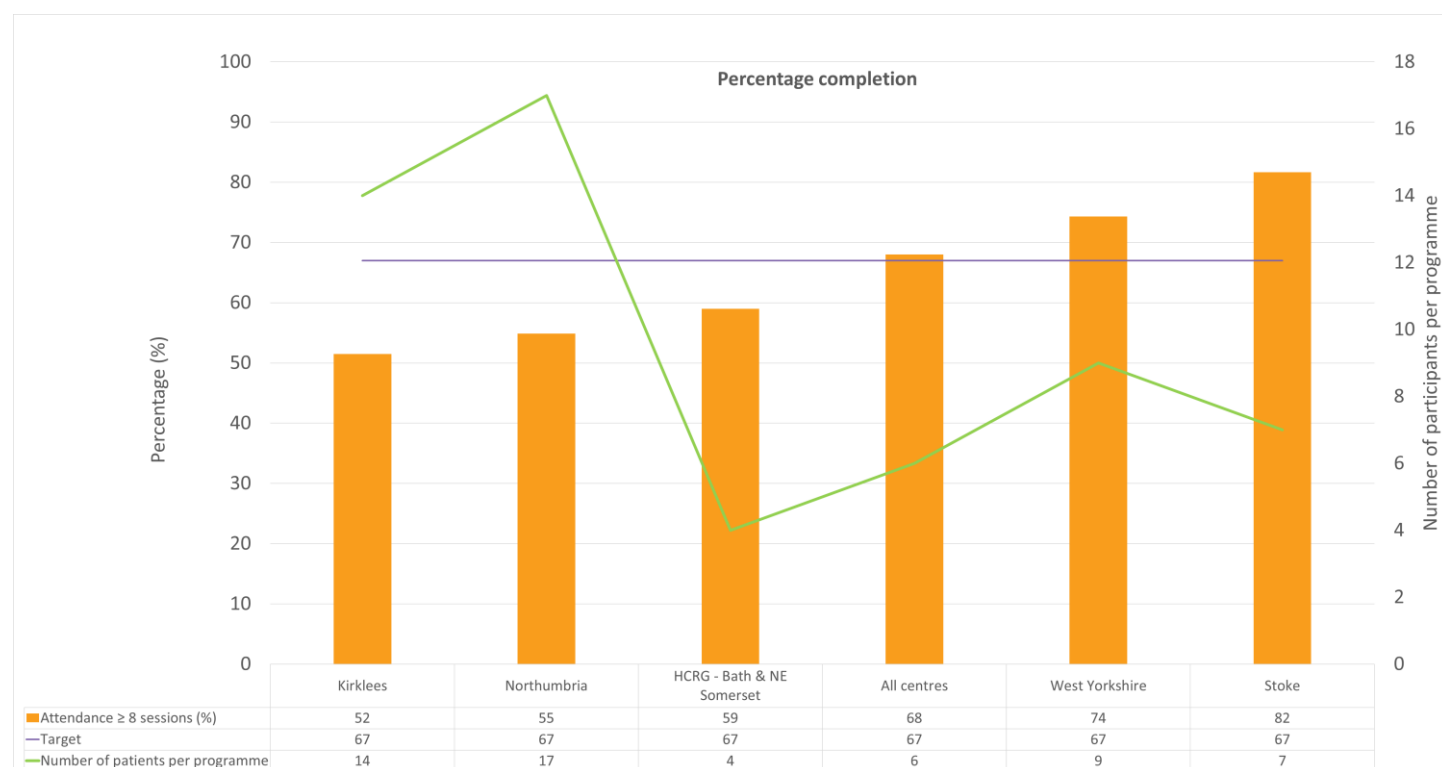
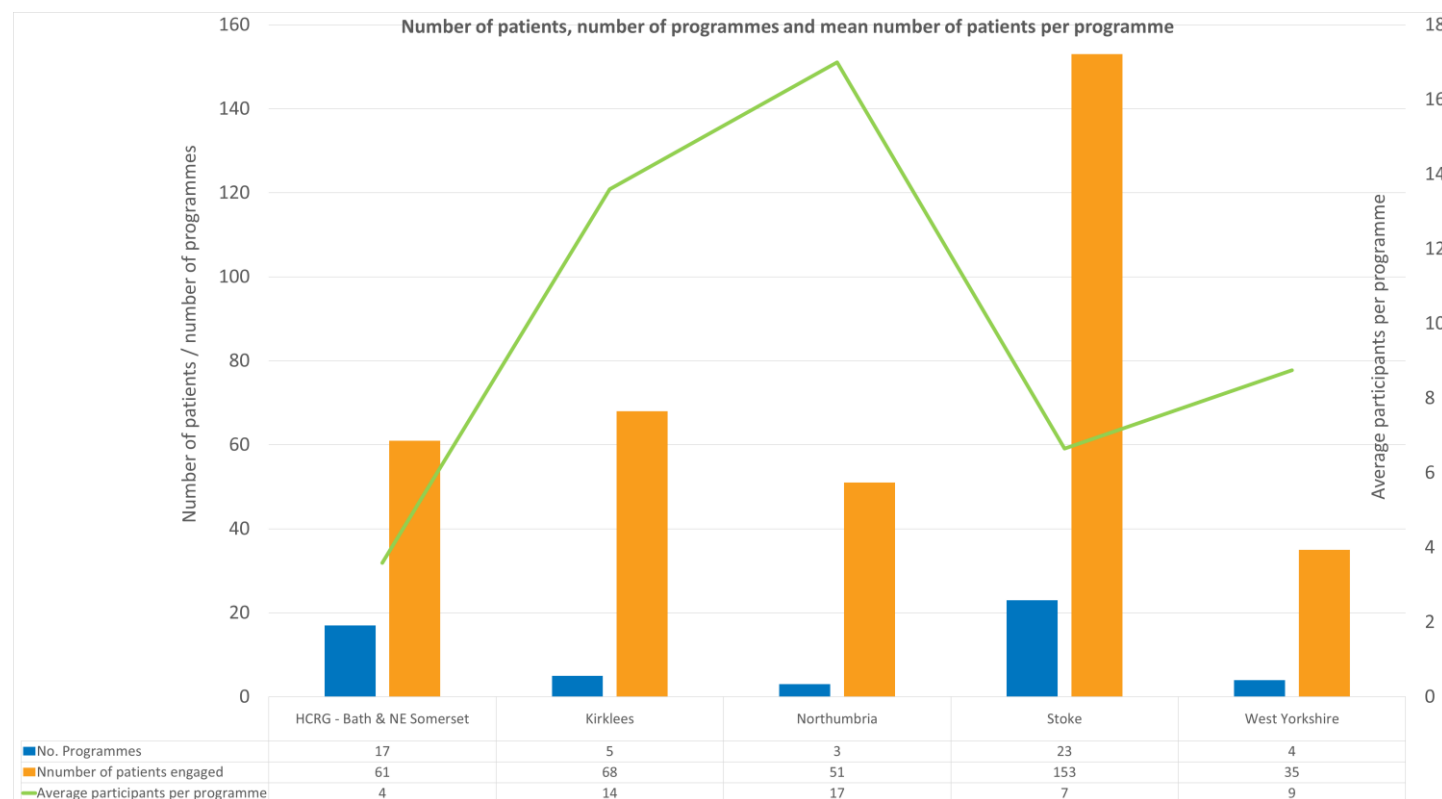
Barts Health NHS Trust (London) (TC:HDL / TG:HDL / SBP / DBP with matched records in brackets)

12m: -0.7, -14% (39) / -1.5, -52% (3) / -3.2 (55) / -2.1 (55)

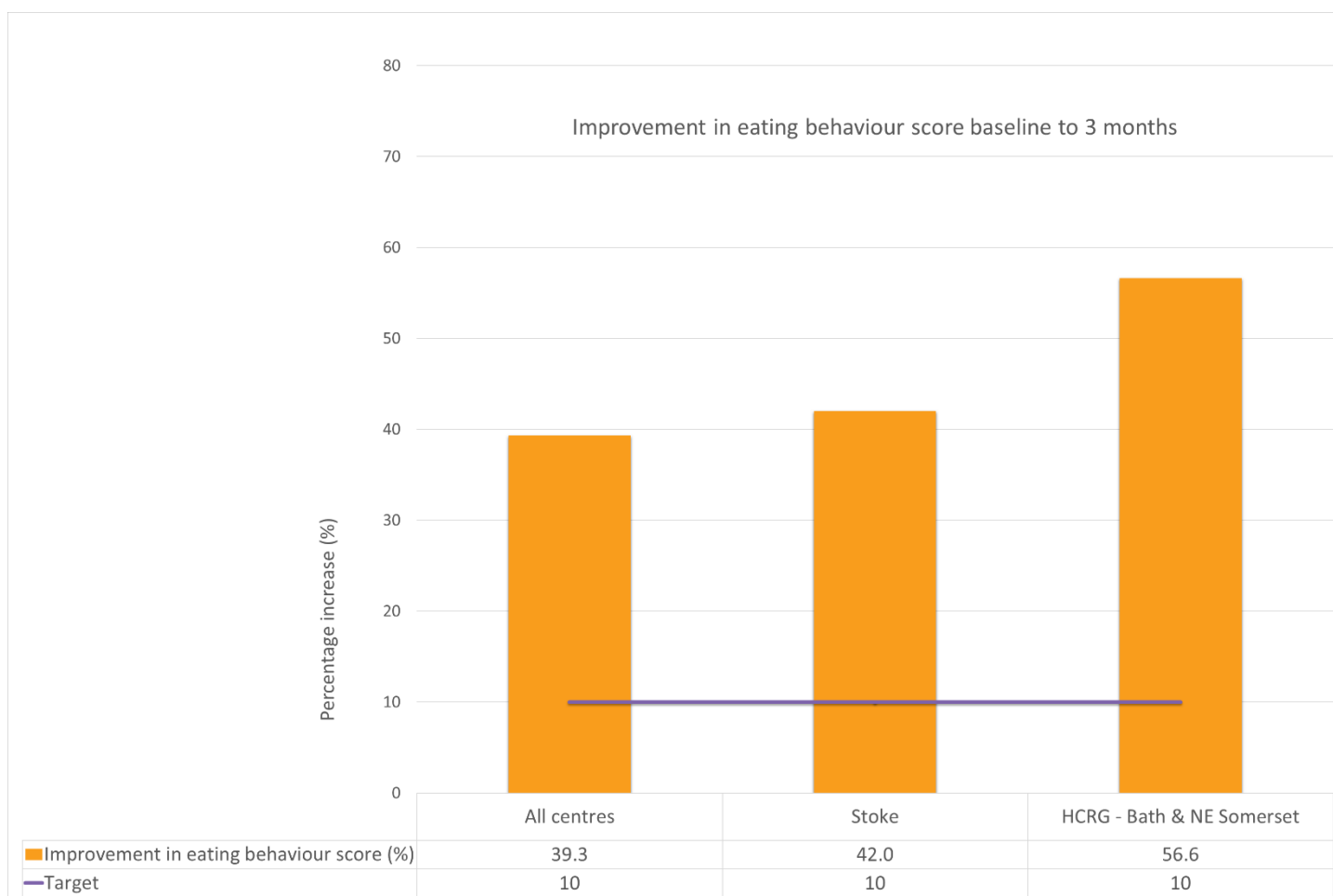
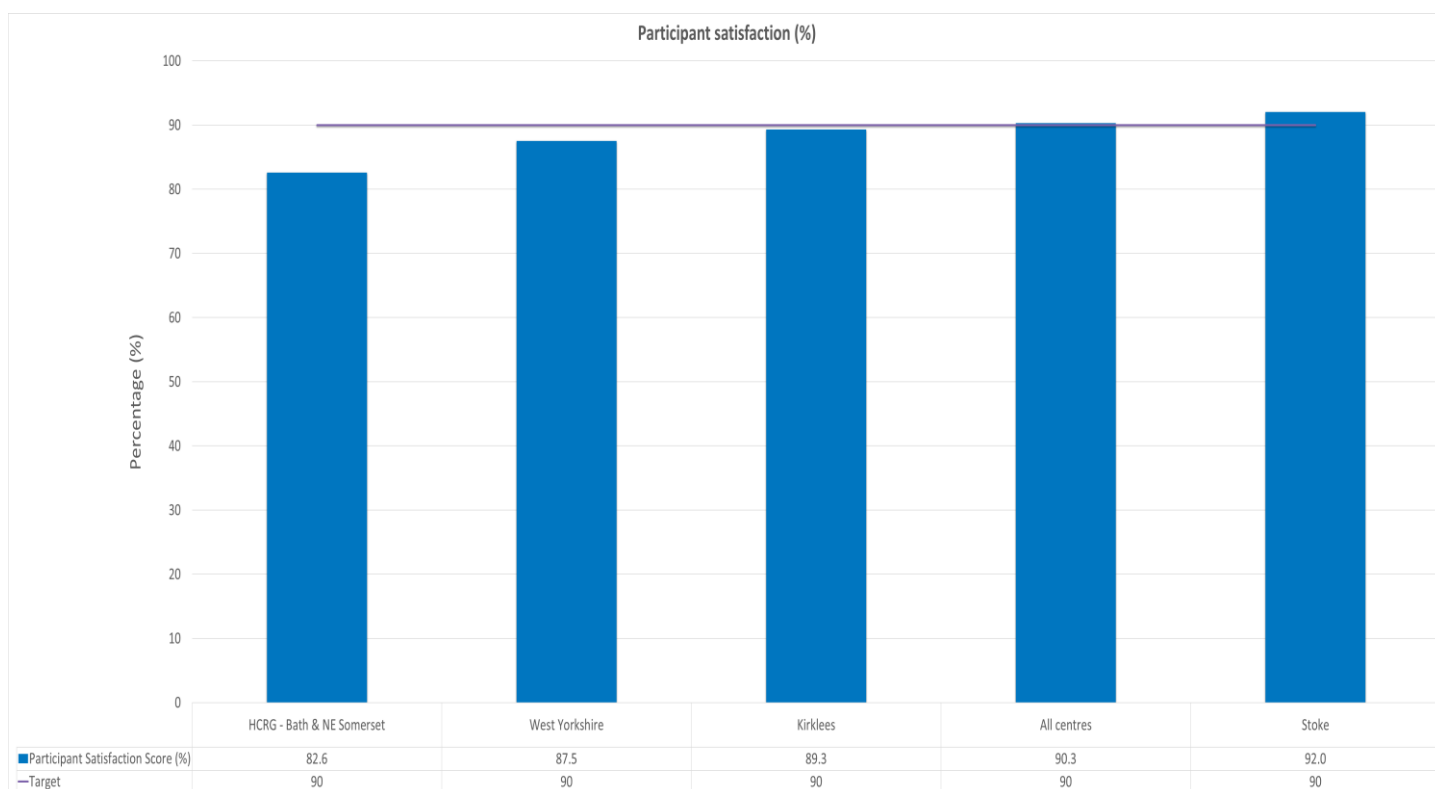
Justification: No 6 month data but good reductions for 12 month data

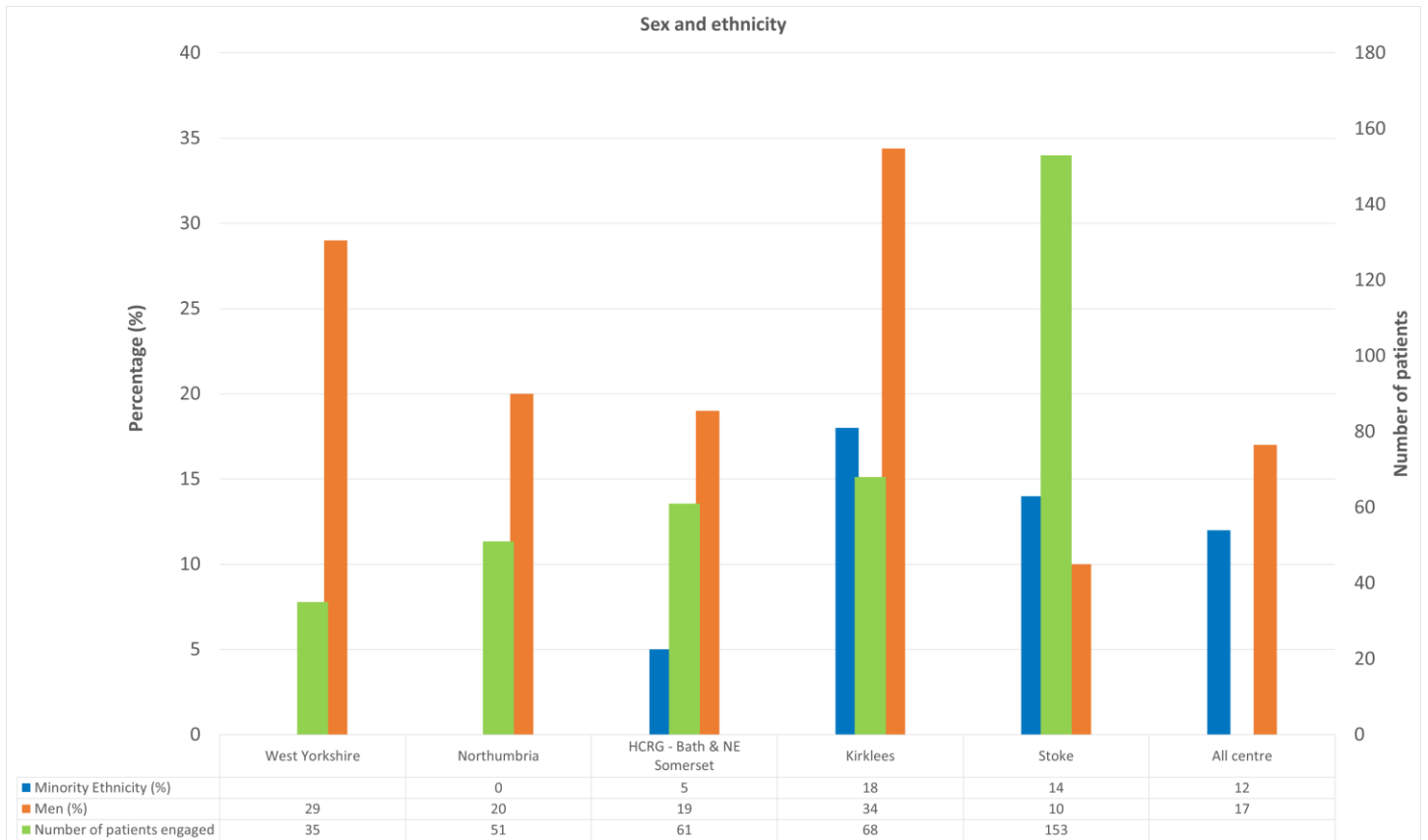
X-PERT Weight & Wellbeing – implementation and anthropometric results

The following criteria were taken into consideration: number of participants; attendance; satisfaction; eating behaviour improvement; 12-week anthropometric outcomes.

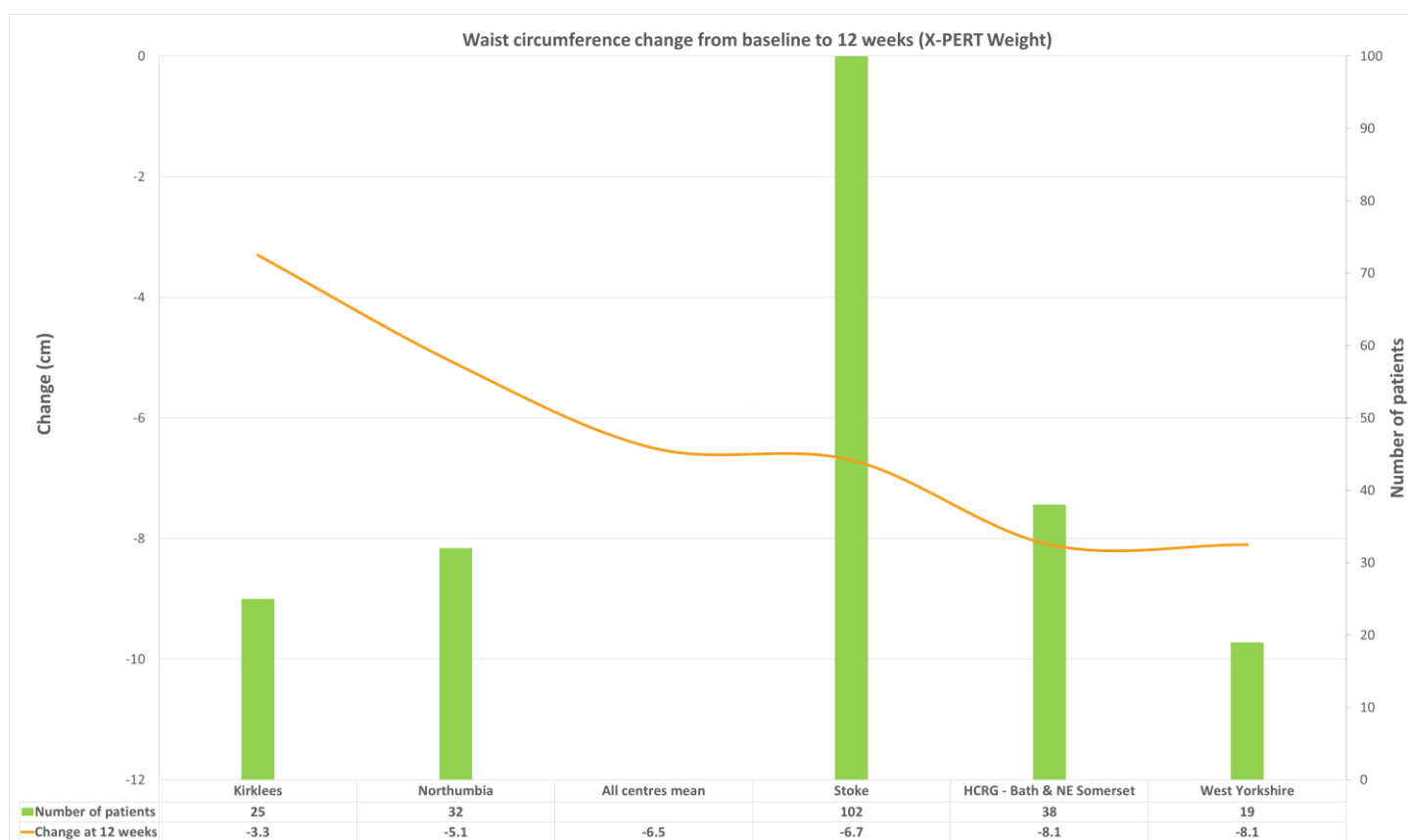
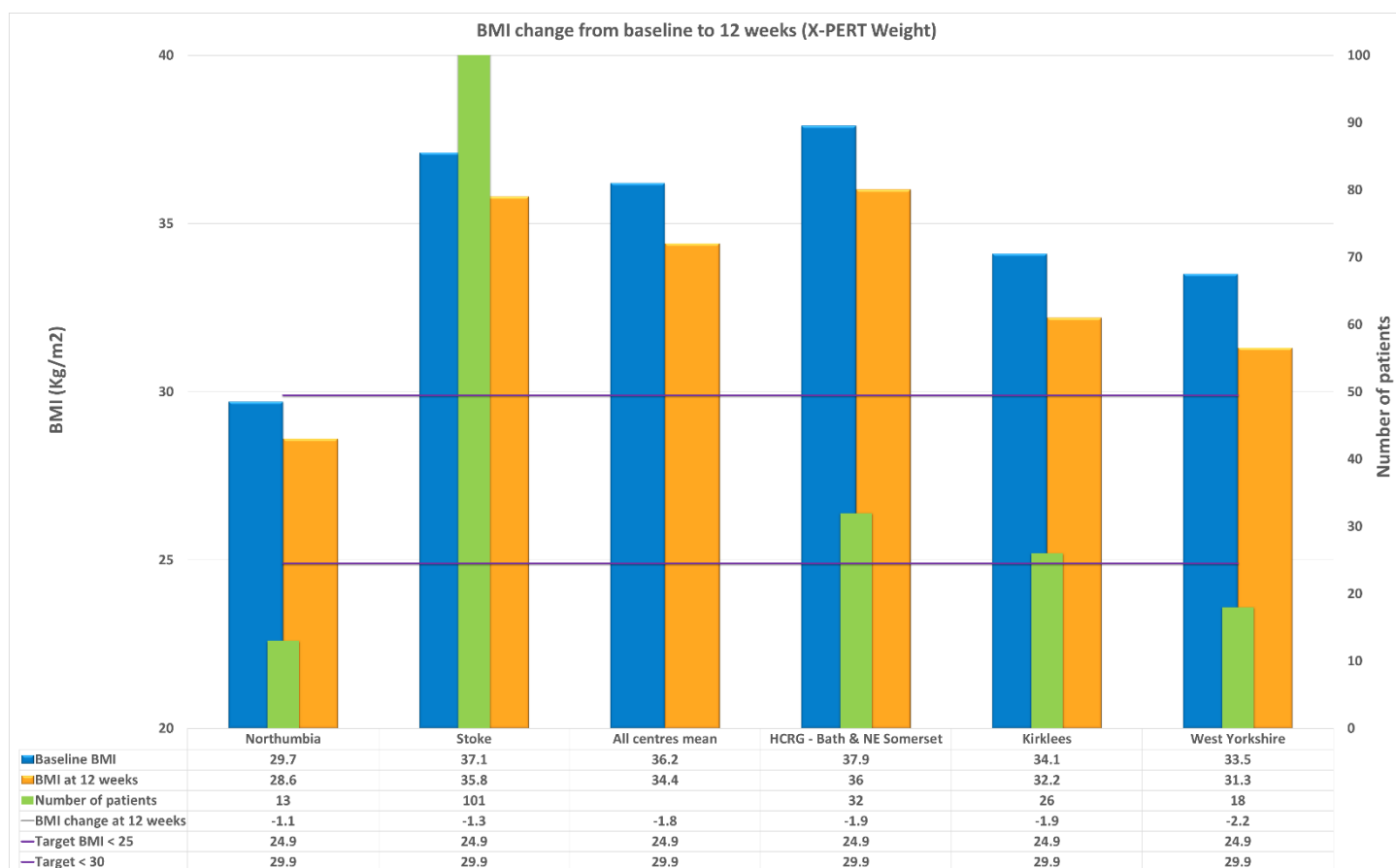


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➤ **Winner: Stoke-on-Trent City Council**

Number patients engaged: 153

Number participants per programme: 7

Completion: 82%

Satisfaction: 92%

Improvement in eating behaviour: 42%

Minority ethnic groups: 14%

Men: 10%

12wk weight loss: -3.7 kg, -4% (102)

12wk BMI reduction: -1.3kg/m² (101)

12wk waist circumference reduction: -6.7cm (102)

Justification: Greater participant numbers with excellent completion and satisfaction with good weight loss results

➤ **2nd place: HCRG Care Group (Bath & NE Somerset)**

Number patients engaged: 61

Number participants per programme: 4

Completion: 59%

Satisfaction: 82.6%

Improvement in eating behaviour: 56.6%

Minority ethnic groups: 5%

Men: 19%

12wk weight loss: -6.2kg, -6% (40)

12wk BMI reduction: -1.9kg/m² (32)

12wk waist circumference reduction: -8.1cm (38)

Justification: Impressive weight loss and eating behaviour results but poorer completion rate, fewer participants and smaller group size than the winner

➤ **3rd place: Kirklees Council (West Yorkshire)**

Number patients engaged: 68

Number participants per programme: 14

Completion: 52%

Satisfaction: 89.3%

Improvement in eating behaviour: no result

Minority ethnic groups: 18%

Men: 34%

12wk weight loss: -5.2 kg, -5% (30)

12wk BMI reduction: -1.9kg/m² (26)

12wk waist circumference reduction: -3.3cm (25)

Justification: Impressive weight loss result but not as good as 2nd place. Excellent group size and addressing diversity by engaging with men and minority ethnic groups. No eating behaviour results and poorer completion rate

Discussion

The evidence base demonstrating the success of the X-PERT Programme has already been established from the randomised controlled trial. The purpose of the audit is to benchmark the results from implementation against the published evidence base to determine whether national implementation is as effective as the clinical trial.

This year's results are encouraging and demonstrate that implementation of the X-PERT Programmes continue to be effective. During these challenging times with the COVID-19 pandemic, it has become necessary to extend the interface of group-based structured education to virtual and digital means. Fortunately, we now have a menu of options available to enable participants to access, and engage in, education in their own homes:

1. In-person group-based programmes using the traditional magnetic boards and labels or the digital boards.
2. Virtual group-based programmes via video conferencing platforms such as Microsoft Teams and Zoom utilising the digital boards that enable discovery learning using 'drag and drop' resources.
3. The X-PERT Diabetes Digital Programme where the content of the structured education programme can be accessed via an app - iOS, Android or Web in 15 different languages. This is both QISMET and ORCHA-accredited.

N.B. All the above options require an X-PERT Diabetes, X-PERT Insulin or X-PERT Weight Handbooks to be mailed to each participant.

Audit is essential to assess whether programme implementation is effective, and so it is important that efforts are made to maximise the collection and entry of relevant data. The 2017-18 audit data was published (Wheatley et al, 2021) in a peer-reviewed journal (Practical Diabetes, see reference list on page 42).

Limitations

On-going audit does not have the same meticulous regulation as collecting data as part of a controlled trial, and as such there are several limitations. Principle amongst these is the lack of time available for healthcare professionals to follow up with participants and/or to enter data, especially during the COVID-19 pandemic. One advantage of the digital programme is that participants can enter their own data and this will be automatically transferred to the Audit Database.

To maximise the validity of the presented data X-PERT only uses matched data as part of its audit process, in contrast to many other organisations who compare baseline and post-programme averages despite these averages being based on different sets of participants. This method does however also reduce the amount of data that is available. For example, some organisations have only entered baseline results and therefore no matched data is available. Other organisations have not entered sufficient follow-up data, meaning that the number of matched data sets is often limited with wide confidence intervals.

Many organisations are obtaining excellent results whilst others are struggling to meet the audit standards for some outcomes. Some organisations have obstacles in obtaining or entering the data. Educators need to scrutinise less favourable results to ascertain whether it is due to the small sample sizes at follow-up or due to programme delivery. This audit report should help to identify priorities for continuous quality improvement within organisations and X-PERT Health are happy to help and assist with this process.

Conclusion

X-PERT Health is happy to advise and support organisations in achieving audit standards and improving key performance indicators. Please contact admin@xperthealth.org.uk for more information. Attending regular X-PERT Educator Update Training and the annual X-PERT Conference & Awards also helps with the sharing of good practice to further drive quality improvement.

The results from the comprehensive audit of X-PERT implementation have demonstrated that it is feasible and practical to continue to evaluate the effectiveness of structured education outside a clinical research trial. Although the results of an audit are not as valid and robust as those published from a randomised controlled trial, the number of participants is greater and it is more of a true reflection of real-life practice.

Overall, results demonstrate that national implementation of the X-PERT Programmes in the prevention and management of diabetes and obesity equips people with the skills to make informed decisions and take control of their condition, leading to improved health.

The audit will continue to be repeated annually and we strongly encourage educators to continue auditing implementation so that we can determine the content and impact of different delivery styles on uptake, completion, satisfaction, empowerment, clinical outcomes and prescribed medications.

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