

Obesity - Next pandemic?

The role of a tier 3 weight management service

DR H I RANATHUNGA

CONSULTANT ENDOCRINOLOGIST

ASSOCIATE SPECIALIST IN DIABETES AND ENDOCRINOLOGY/NCIC NHS FT

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Declarations..

None

Topic outline

- The scale of the issue
- Aetiology
- Metabolic complications
- Management
- What are weight management services?
- Why invest in weight management services?
- Tier 3 weight management services
- NCIC NHS FT Tier 3 weight management service

What is obesity?

Obesity is a complex relapsing condition with multiple causes and significant implications for health and beyond.

Who is affected?

It has health implications at every stage across the life course, from pregnancy through to childhood and adulthood.

What are the complications?

Living with obesity increases the risk of developing chronic diseases, including type 2 diabetes, heart disease, many cancers, liver and respiratory disease.

The scale
of the
issue

Prevalence of overweight and obesity

Health Survey for England 2021*

In 2021 almost **6 out of 10 women** were overweight or living with obesity (59.0%)



In 2021 almost **7 out of 10 men** were overweight or living with obesity (68.6%)



Prevalence of obesity

Health Survey for England 2021*

In 2021 almost **3 out of 10 women** were living with obesity (26.5%)



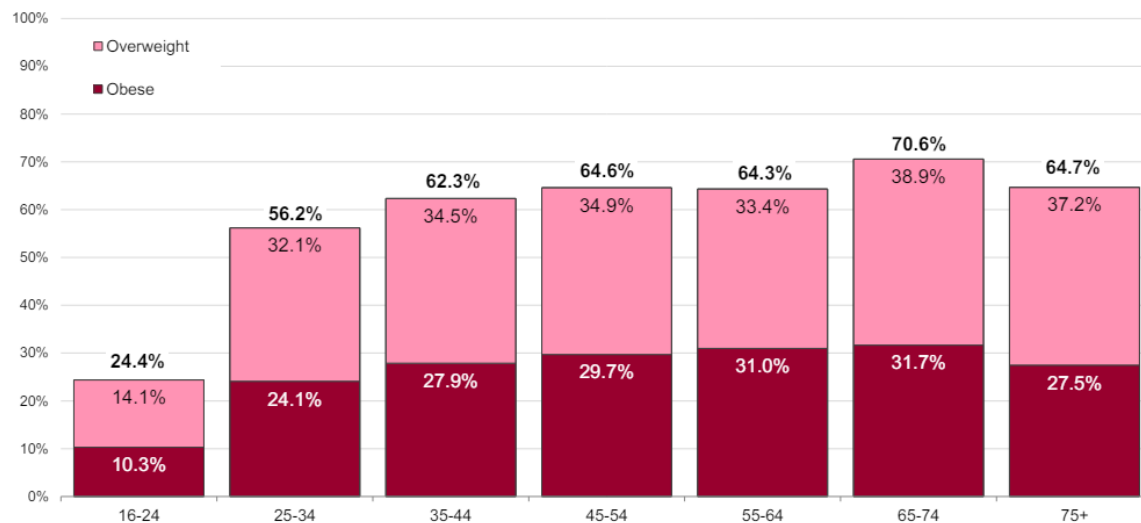
In 2021 more than **2 out of 10 men** were living with obesity (25.4%)



*2021 data not comparable with previous years

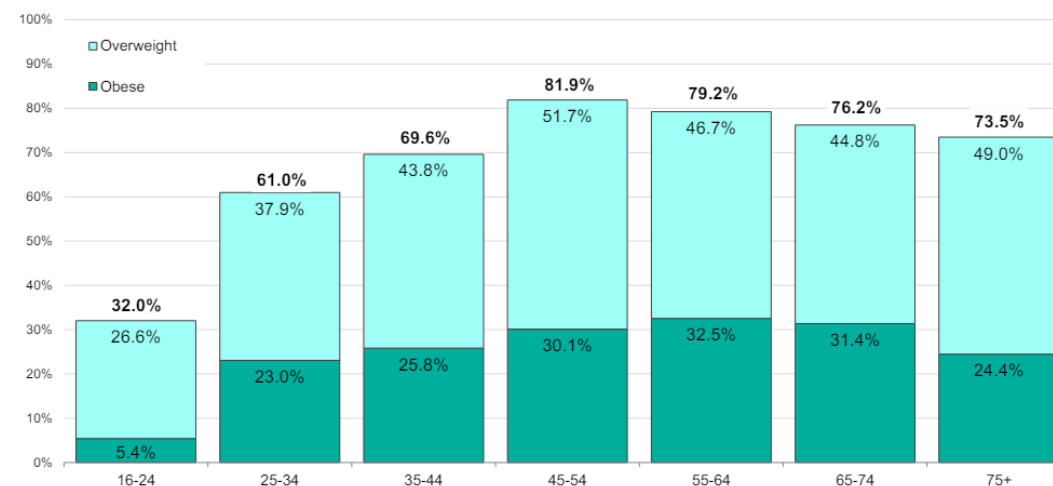
Prevalence of overweight and obesity by age: women

Health Survey for England 2021*



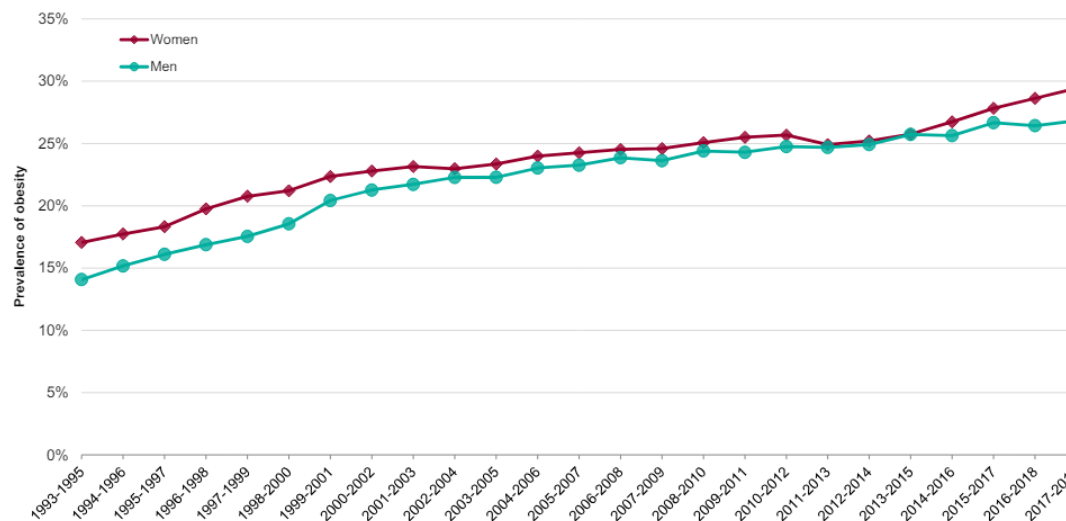
Prevalence of overweight and obesity by age: men

Health Survey for England 2021*



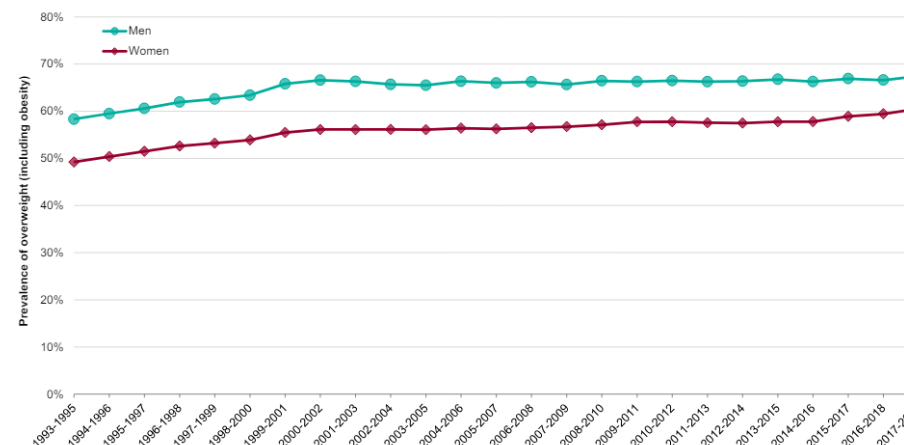
Prevalence of obesity

Health Survey for England 1993 to 2019* (three-year averages)

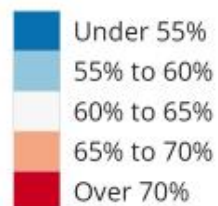


Prevalence of overweight (including obesity)

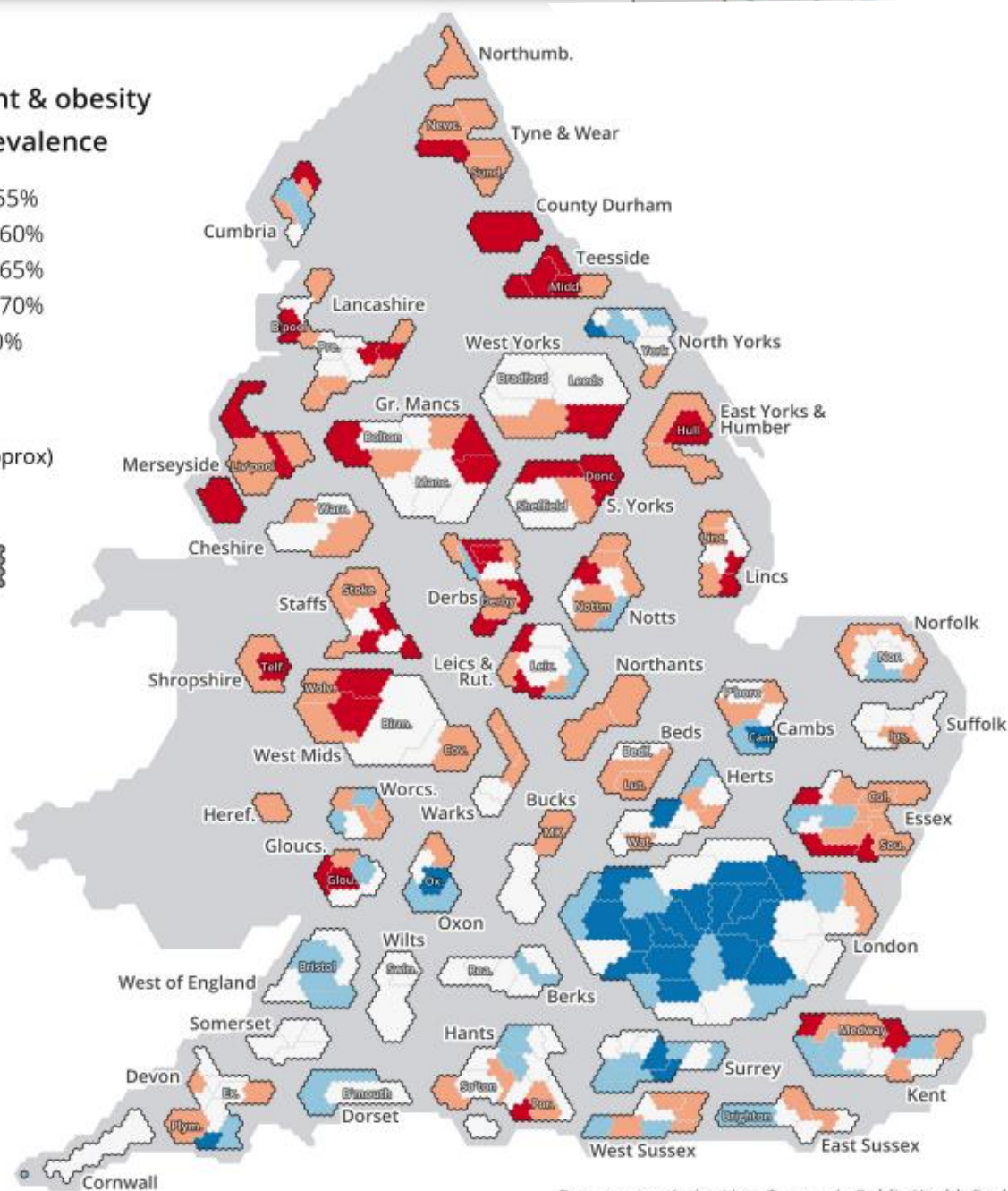
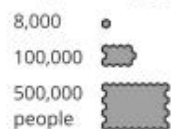
Health Survey for England 1993 to 2019* (three-year averages)



Overweight & obesity survey prevalence



Map scale (approx)

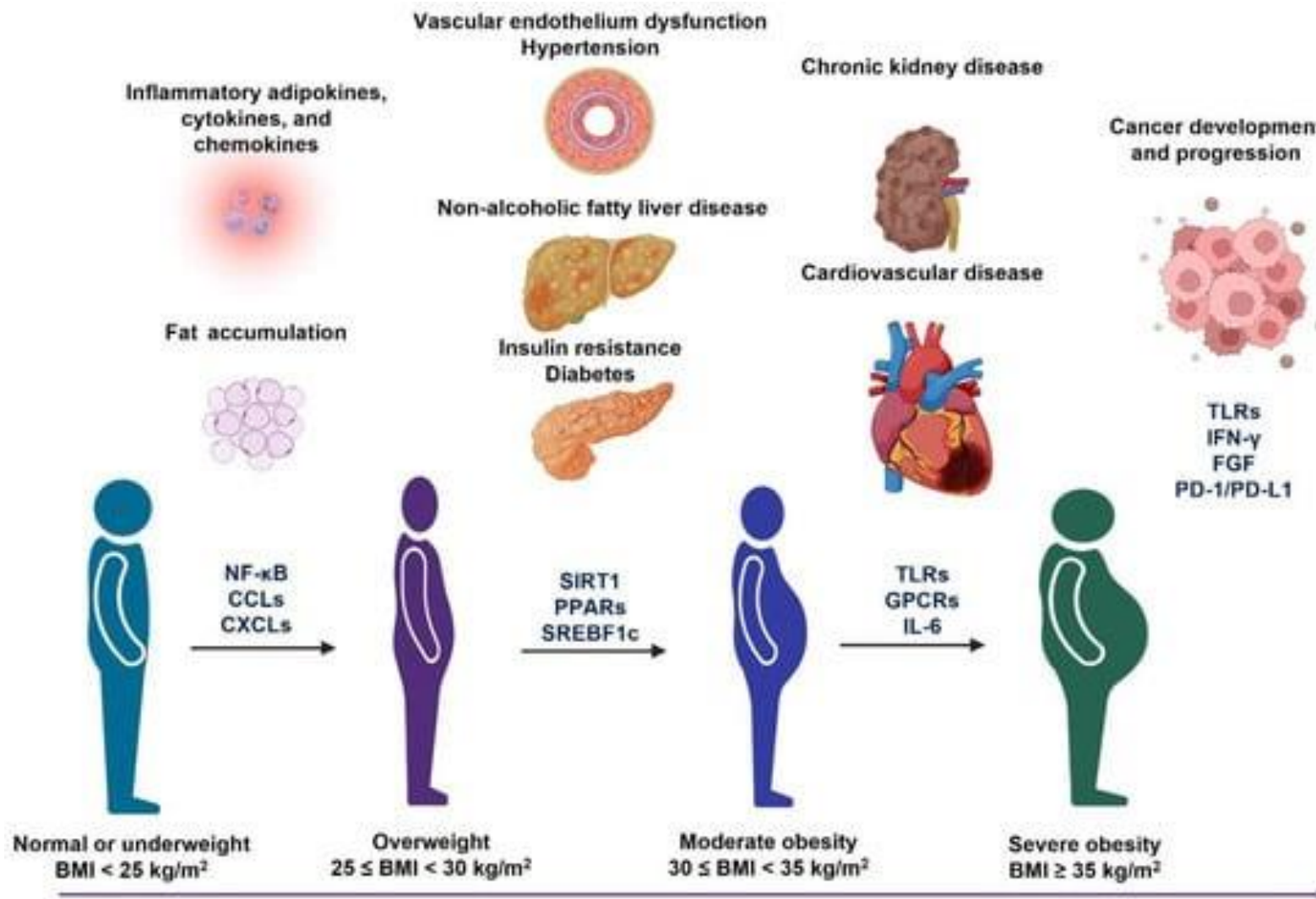


Data source: Active Lives Survey via Public Health England

Aetiology



Metabolic disorders associated with obesity



CCLs- C motif chemokine ligands
 CXCLs- C-X-C motif chemokine ligands
 SIRT1 - Sirtuin 1
 PPAR-α -peroxisome proliferator-activated receptor alpha
 SREBF1c- sterol regulatory element-binding transcription factor 1c
 TLRs- Toll-like receptors
 GPCR- G protein-coupled receptors
 PD1/PDL1- programmed cell death/programmed death-ligand 1

Management



Available anti-obesity medications

Drug (trade name)	Mechanism of action
Orlistat (Xenical, Alli)	Gastric and pancreatic lipase inhibitor
Phentermine/Topiramate (Qsymia)	NE agonist/GABA agonist, glutamate antagonist
Naltrexone/Bupropion (Contrave/Mysimba)	Opioid receptor antagonist/DA and NE reuptake inhibitor
Liraglutide (Saxenda)	GLP-1 analogue
Semaglutide (Wegovy)	GLP-1 analogue
Setmelanotide (Imcivree)	MC4R agonist
Tirzepatide ^c	GIP/GLP-1 dual agonist

GIP- glucose-dependent insulintropic polypeptide
GLP-1-glucagon-like peptide-1

A Randomized, Controlled Trial of 3.0 mg of Liraglutide in Weight Management/SCALE

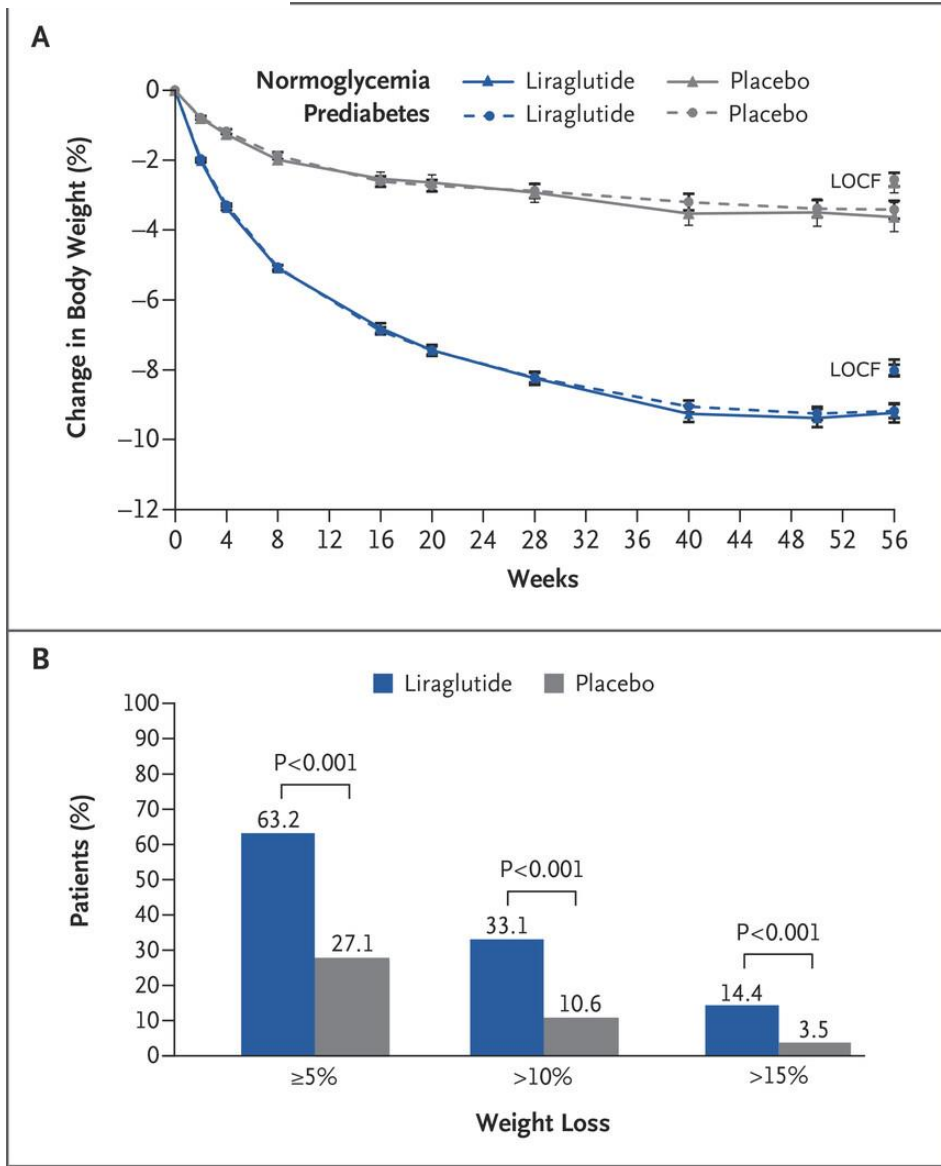


Table 2. Changes in Coprimary End Points and Cardiometabolic Risk Factors between Baseline and Week 56.*

End Point	Liraglutide (N=2437)	Placebo (N=1225)	Estimated Treatment Difference, Liraglutide vs. Placebo (95% CI)†	P Value
Coprimary end points				
Change in body weight				
% of body weight	-8.0±6.7	-2.6±5.7	-5.4 (-5.8 to -5.0)	<0.001
Kilograms of body weight	-8.4±7.3	-2.8±6.5	-5.6 (-6.0 to -5.1)	<0.001
Loss of ≥5% body weight (%)‡	63.2	27.1	4.8 (4.1 to 5.6)	<0.001
Loss of >10% body weight (%)‡	33.1	10.6	4.3 (3.5 to 5.3)	<0.001
Body weight-related end points				
Body-mass index	-3.0±2.6	-1.0±2.3	-2.0 (-2.2 to -1.9)	<0.001
Waist circumference (cm)	-8.2±7.3	-3.9±6.6	-4.2 (-4.7 to -3.7)	<0.001

Once-Weekly 2.4 mg Semaglutide in Adults with Overweight or Obesity/STEP 1

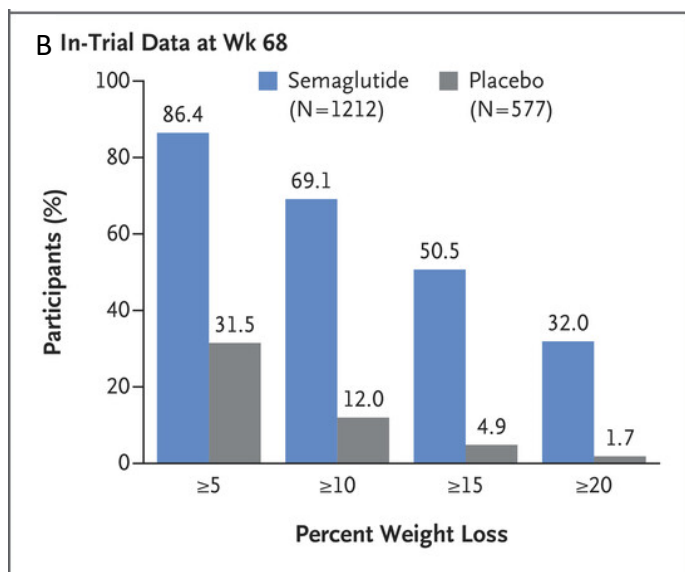
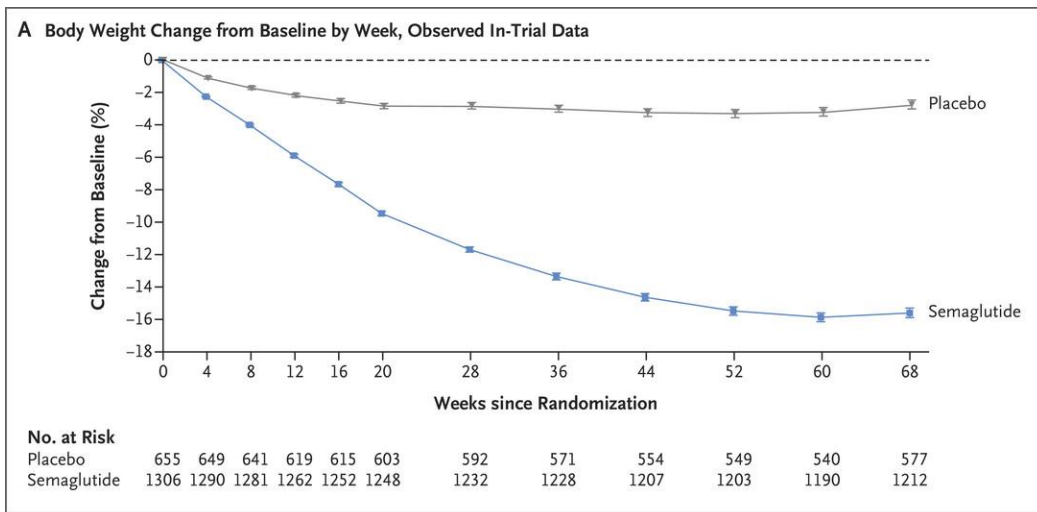


Table 2. Coprimary, Confirmatory, and Selected Supportive Secondary and Exploratory End Points for the Treatment Policy Estimand.*

End Point	Semaglutide (N = 1306)	Placebo (N = 655)	Difference between Semaglutide and Placebo (95% CI)†	Odds Ratio	P Value
Coprimary end points assessed in the overall population					
Percent body-weight change from baseline to wk 68	-14.85	-2.41	-12.44 (-13.37 to -11.51)		<0.001
Participants with body-weight reduction ≥5% at wk 68 — %‡	86.4	31.5		11.2 (8.9 to 14.2)	<0.001
Confirmatory secondary end points assessed in the overall population					
Participants with body-weight reduction ≥10% at wk 68 — %‡	69.1	12.0		14.7 (11.1 to 19.4)	<0.001
Participants with body-weight reduction ≥15% at wk 68 — %‡	50.5	4.9		19.3 (12.9 to 28.8)	<0.001
Change from baseline to wk 68					
Waist circumference — cm	-13.54	-4.13	-9.42 (-10.30 to -8.53)		<0.001
Systolic blood pressure — mm Hg	-6.16	-1.06	-5.10 (-6.34 to -3.87)		<0.001
SF-36 physical functioning score	2.21	0.41	1.80 (1.18 to 2.42)		<0.001
IWQOL-Lite-CT physical function score	14.67	5.25	9.43 (7.50 to 11.35)		<0.001

Tirzepatide Once Weekly for the Treatment of Obesity/SURMOUNT-1

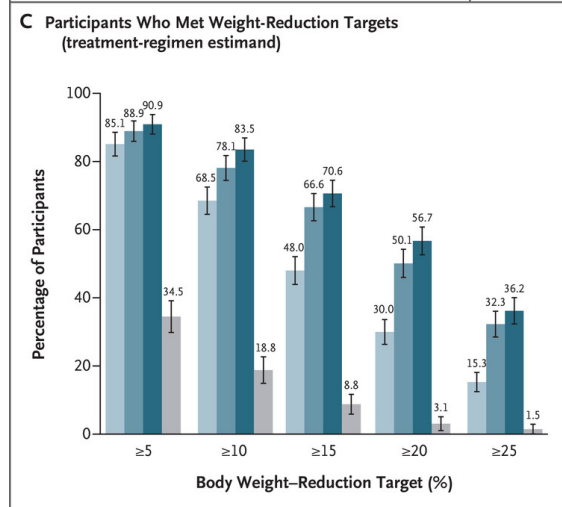
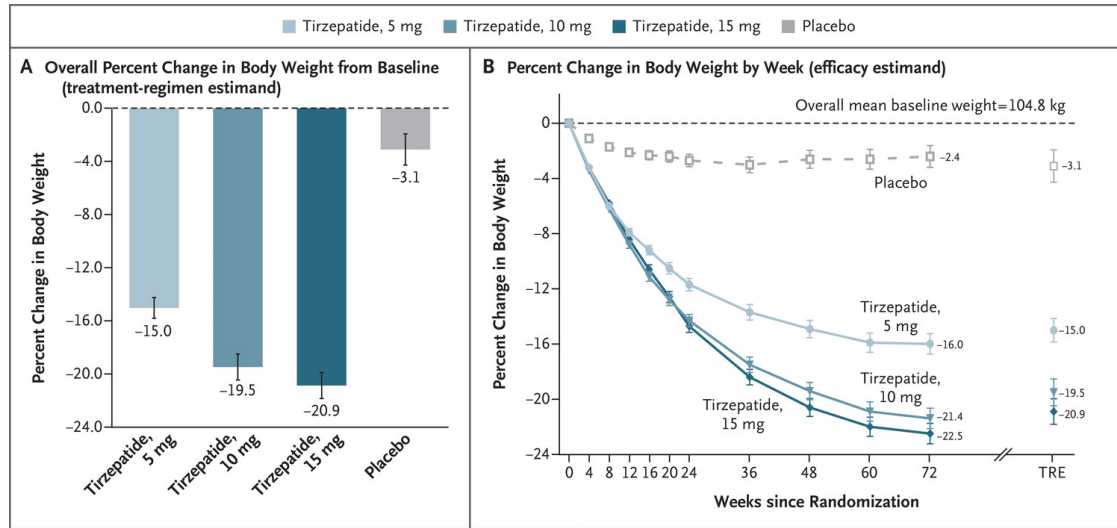


Table 3. Key Secondary and Additional Secondary End Points for Pooled Tirzepatide Dose Groups (Treatment-Regimen Estimand).*

End Points	Pooled Tirzepatide Groups†	Placebo (N=643)	Estimated Treatment Difference from Placebo (95% CI)
<i>least-squares mean (95% CI)</i>			
Key secondary end points‡:			
Change from baseline to week 20 in body weight — kg§	-12.8 (-13.1 to -12.5)	-2.7 (-3.2 to -2.2)	-10.1 (-10.7 to -9.6)

What are weight management services?



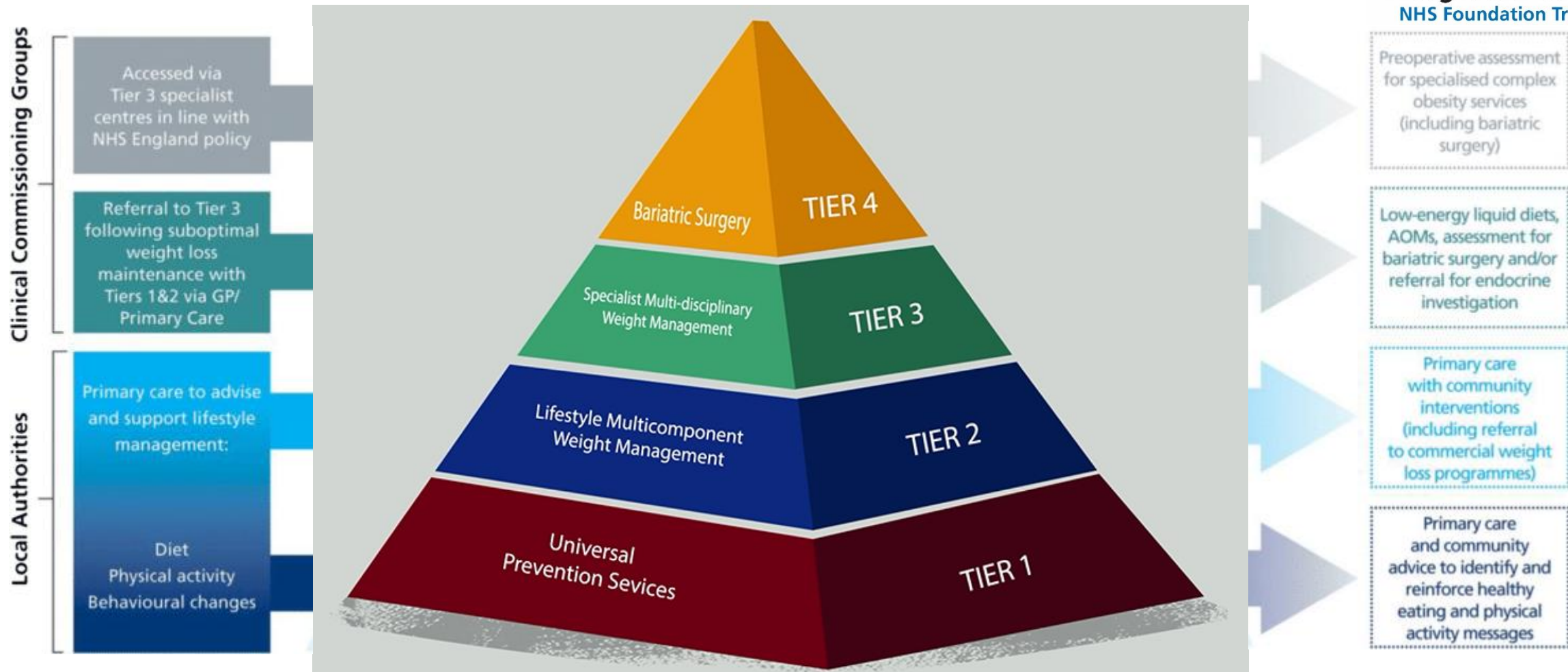
Multi-component programmes that aim to reduce a person's energy intake, improve their dietary health and help them to be more physically active by changing their behavior.



There are different levels/tiers of weight management services.



Different tiers of weight management services cover different activities



Why invest in weight management services?

A moderate weight loss of 5-10% of body weight associated with:

1. Reduction in blood pressure and cholesterol
2. Improved control of blood sugars
3. Reduced incidence of type 2 Diabetes
4. Reduction in Osteoarthritis of the knee
5. Reduction in hepatic steatosis and NAFLD
6. Improvement in Quality of Life, Depression, Mobility, Sexual Dysfunction, and Urinary Stress Incontinence
7. Improvement in symptoms of Polycystic Ovarian Syndrome and infertility in women
8. Reduction in health care costs and mortality
9. Reduction of cancer

(Refs: SIGN 2010, NICE, 2006, Greaves et al, 2011)

Ryan DH, Yockey SR. Weight Loss and Improvement in Comorbidity: Differences at 5%, 10%, 15%, and Over. *Curr Obes Rep.* 2017 Jun;6(2):187-194. doi: 10.1007/s13679-017-0262-y. PMID: 28455679; PMCID: PMC5497590

Interventions with best evidence of success include the following elements:

- addresses both eating and physical activity
- well-established behaviour change techniques (*specific goal setting, relapse prevention, self monitoring*)
- encourages the development of social support in the planned changes
- includes a strong focus on maintenance.

Tier 3 weight management service

- Clinician led multidisciplinary team (MDT) – potentially including physician (including consultant or GP with a specialist interest), specialist nurse, specialist dietitian, psychologist, psychiatrist, and physiotherapist.”
- Specialist weight management clinics
- Provide non-surgical intensive medical management with an MDT approach

NCIC NHS FT Tier 3 weight management service

Bariatric Physician

Dietician

Physiotherapist

CBT
Therapist/Psycholo
gist



Group Education

One to One
consultations

Sign posting for
support

Onward Specialist
Referrals

Tier 4
Bariatric
Surgery
Services



Medical Pathway

24 months

Entry criteria

In scope

- Adults with BMI >40 or >35 with other obesity related comorbidities:
 - Type 2 diabetes
 - Hypertension
 - obstructive sleep apnoea (OSA)
 - benign intracranial hypertension (BIH)
 - functional disability,
 - infertility
 - depression
- Patients who have been refused elective surgery (non-bariatric) due to high BMI
- Patients who have had bariatric surgery presenting with problems such as weight regain, nutritional deficiencies, or where revisional surgery may be considered
- Patients with complex mental health and psychological issues with raised BMI
- Patients with BMI between 30-34.9 with onset of Type diabetes within 10 years

Out of scope

- Under 18s
- Adults with BMI >34 or <40, who could be supported within Tier 2 services
- Patients with severe uncontrolled diseases – aortic stenosis, heart failure, renal failure
- Patients with active cancer with ongoing treatment
- Patients with severe cognitive impairment/ uncontrolled mental health/ personality disorders
- Active alcohol/ substance misuse
- Self-harm/ suicidal behaviours
- Active eating disorders (binge eating/ bulimia)

NCIC NHS FT Tier 3 weight management service

- 3 month, individually tailored package of support
- Introductory session
- Meet NICE guidance
- Offer practical, safe advice about physical activity and healthy eating
- Use evidence-based behavioural change techniques
- Provide on-going motivational support and follow up
- Aims-target weight loss of 5-10% body weight, for realistic pace 0.5-1.0 kg per week.
- Minimum 9 sessions in 12 weeks
- 2 years since inception

Medical pathway

- Liraglutide/Semaglutide... Tirzapatide..
- Eligibility criteria-NICE
- Titration phase followed by maintenance phase
- Close contact for side effects
- Weight loss targets
- Regular visits to assess outcomes of weight loss

Recruitment data

Chart 1

Referral activity

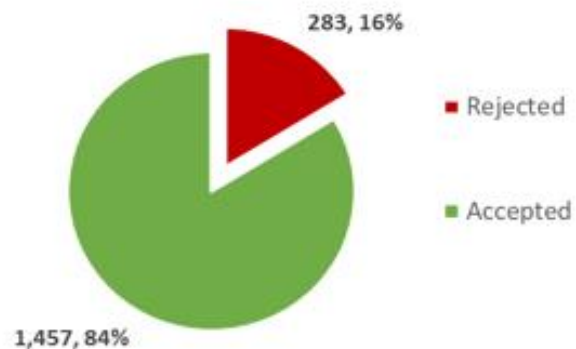


Chart 3

Referrals by Indices of Multiple Deprivation Score

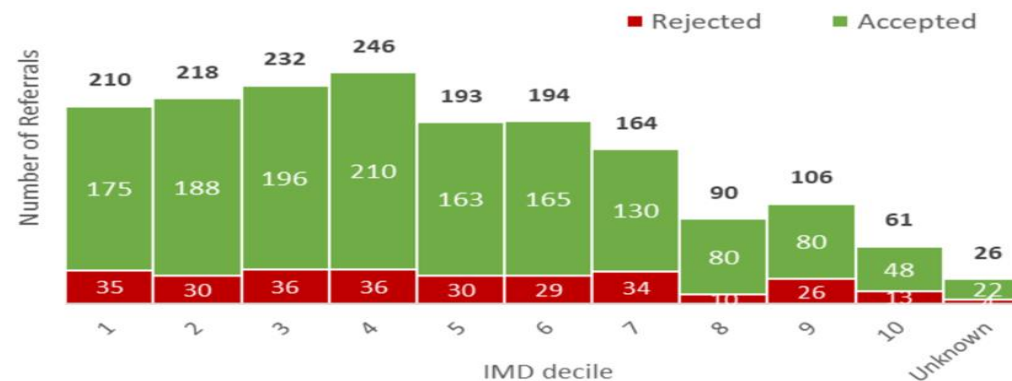


Chart 2

Accepted Referrals by Patient sex

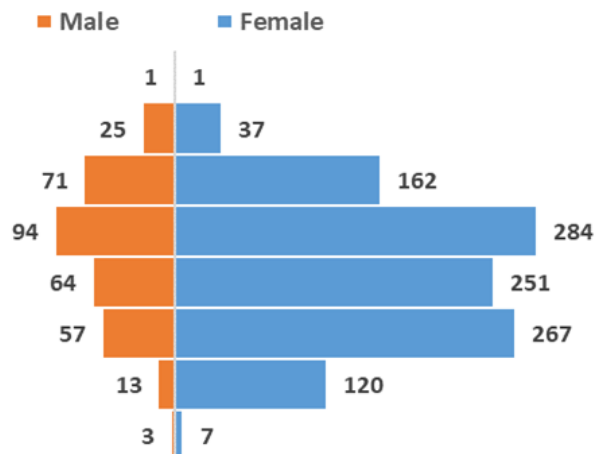
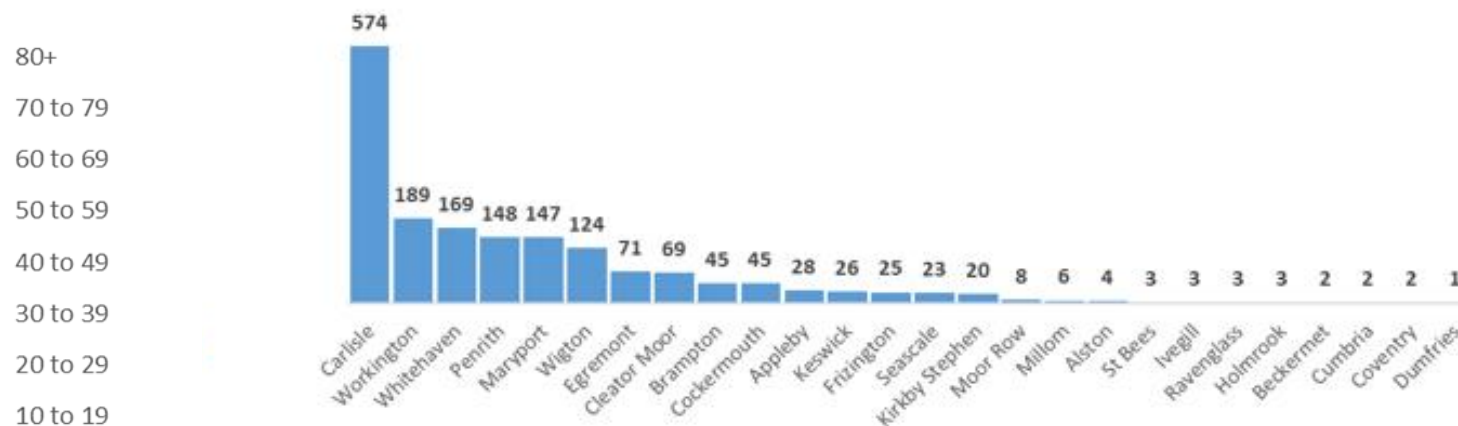


Chart 4

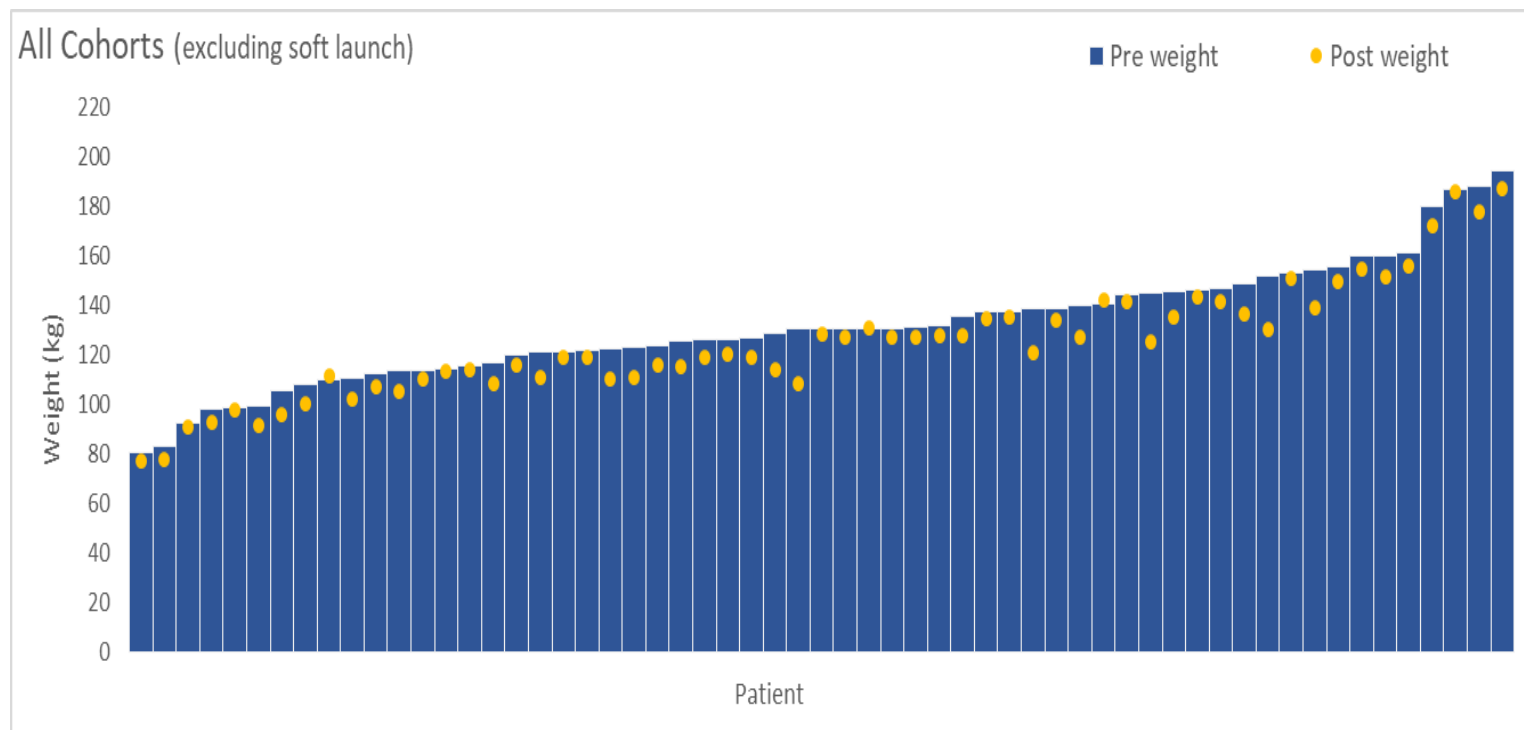
All Referrals by Town



Outcome data

Sep/2022-Feb/2024-157 patients

Chart 1



Referred to Tier 4= 83 patients

Indicator	KG	%
Average starting weight	131.4	
Lowest starting weight	80.6	
Highest starting weight	194.2	
Number Increasing	3	5%
Number reducing	56	95%
Highest Increase	1.6	1.1%
No change		0.0%
Highest Reduction	-21.7	-16.6%
Average change	-6.9	-5.3%
Average Loss	-7.3	-5.6%

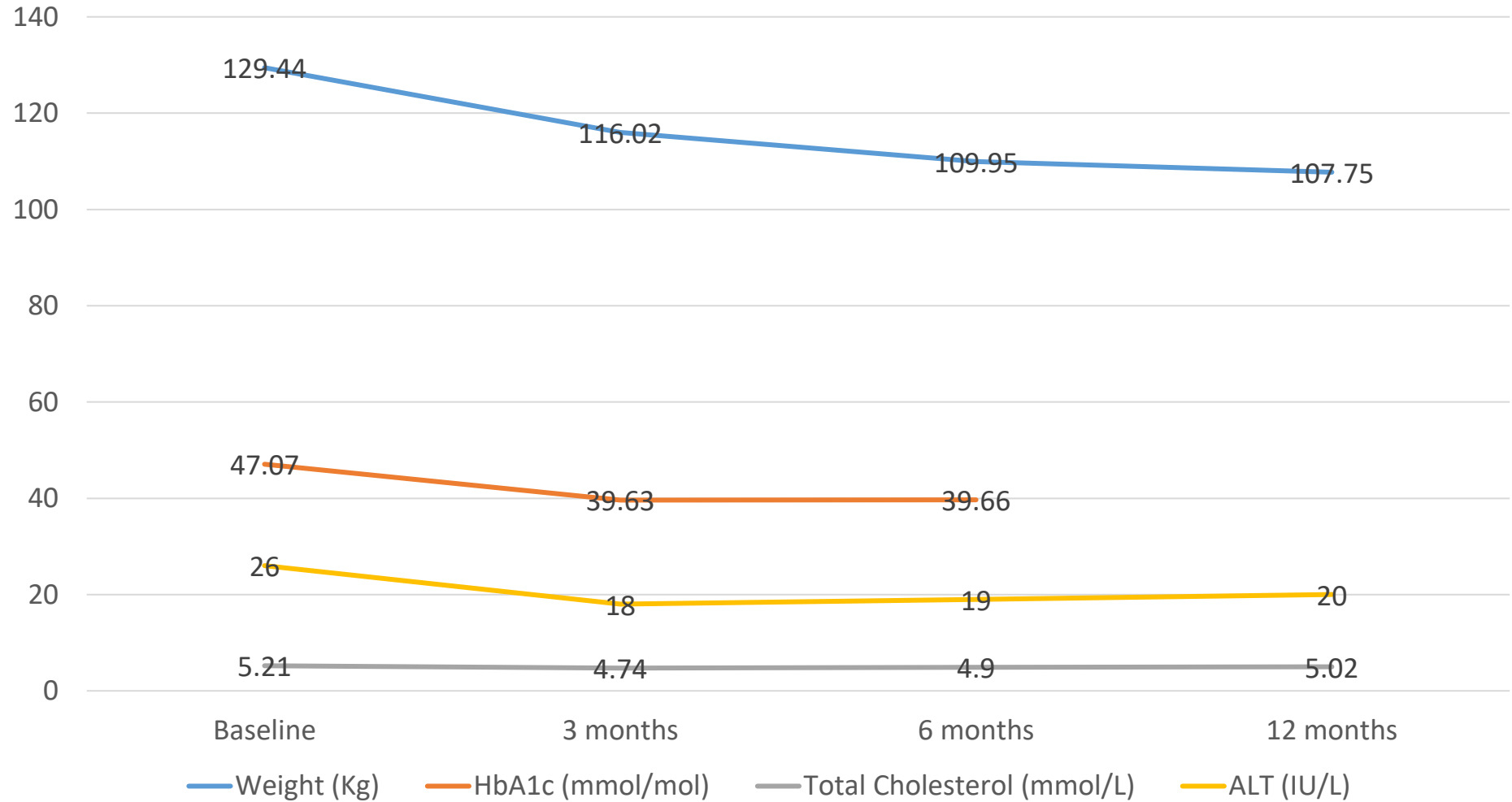
Medical Pathway

Number started on Saxenda=50

N=26	Minimum	Maximum	Mean	Standard deviation
Age	28	68	51.85	10.66
Height (cm)	151	191	169.85	9.18
Weight (kg)	82.6	160.6	129.44	18.67
BMI (kg/m ²)	35	54.3	44.99	5.66
Weight loss at 3 months (kg)	5.35	29.95	13.4	5.16
Weight loss % at 3 months	4.3	22.65	10.39	3.94
Weight loss at 6 months (kg)	10.85	36.65	20.36	6.22
Weight loss % at 6 months	8.77	28.57	15.74	4.73
Weight loss at 12 months (kg)	6.65	33	21.01	8.69
Weight loss % at 12 months	5.37	21.55	16.33	6.96

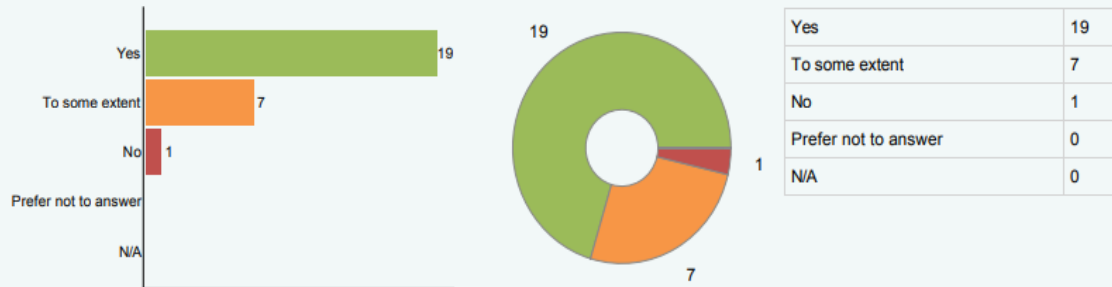


Medical Pathway



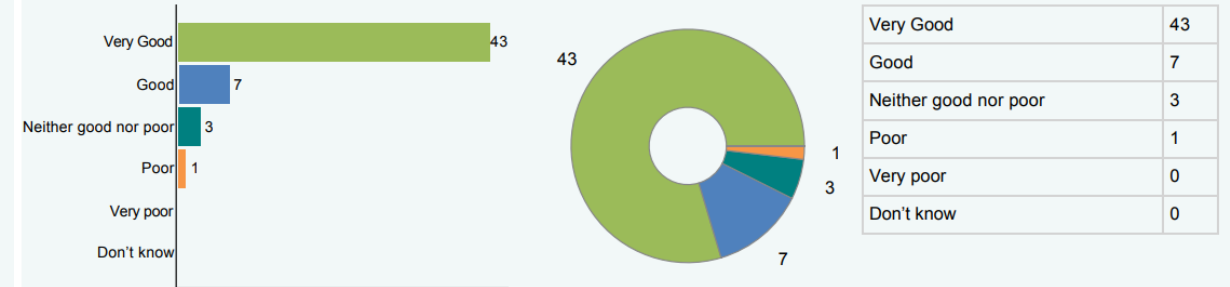
Patient feedback

8. On reflection, did you get the help that mattered to you?



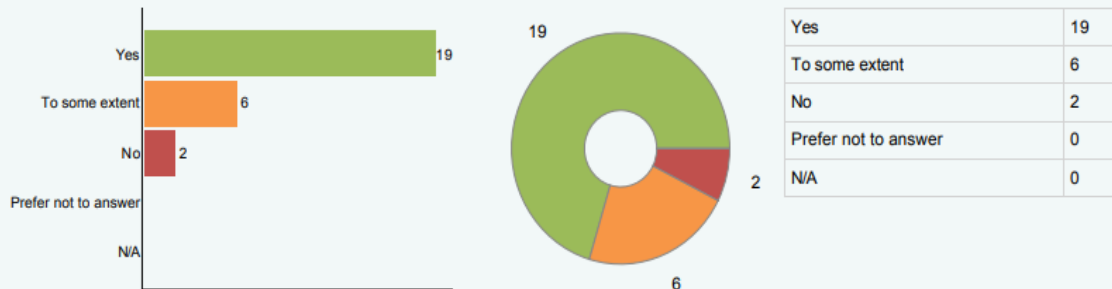
Score for this question: 83.33% (based on 27 responses)

18. Overall, how was your experience of our service?



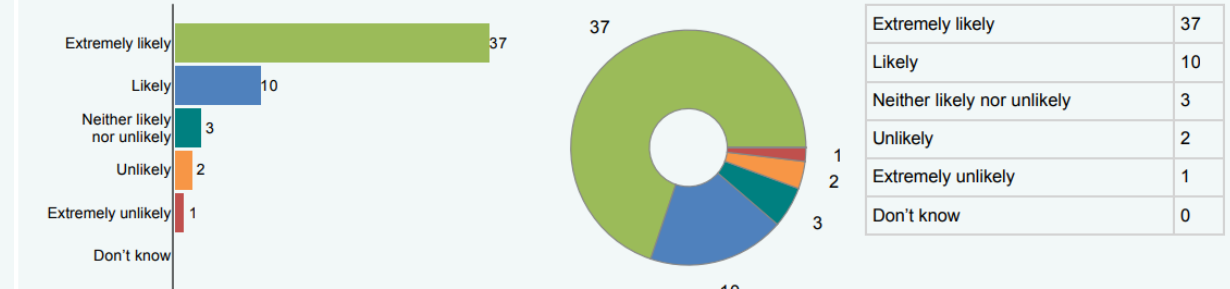
Score for this question: 92.59% (based on 54 responses)

9. Do you feel that the service has helped you to better understand and address your difficulties?



Score for this question: 81.48% (based on 27 responses)

20. How likely are you to recommend this department to your friends and family?



Score for this question: 87.74% (based on 53 responses)

Testimonial..

- Mr Alan Smith
- 69 years old
- From Cockermouth
- Pre-diabetes, Hypertension, Osteoarthritis, Atrial Fibrillation
- Lost 28.6 kg (20.4%) at 12 months
- HbA1c normalized (42 ->37), come off most of the antihypertensive medications



QUESTIONS...?

THANK YOU..



**Dr Ishara
Ranathunga**



**Dr Fathima
Pambinezhut**



**Joy Lamb
CBT therapist**



**Nesmah Maguire
Specialist
Dietitian**



**Jane Shaw
Senior
Psychological Therapist**



**Tracy Nixon
Admin Coordinator**



**Jo Wills
Service Manager**



**Tracey Williams
Consultant
Psychologist**



**Christine Holliday
Senior Physiotherapist**