Review of Health Board Services against the Wales Obesity Pathway

A report of a review of services provided to support individuals manage their weight by Health Boards in Wales undertaken by Public Health Wales in 2019.

Review of Health Board Services against the Wales Obesity Pathway (2010)	
Author: Sophia Bird, Principal Public Health Practitioner, Lucy O'Loughlin Consultant in Public Health, Dr Anna Schwappach, Specialty Registrar in Public Health, Dr Julie Bishop, Director of Health Improvement; Nike Arowobusoye, Consultant in Public Health	
Date of Publication: August 2021	**Version:** V2
Publication/ Distribution: Public Health Wales Internet	

Purpose and Summary of Document:

This document outlines the methodology and results of a rapid review process undertaken in 2019 with key partners and stakeholders to better understand the current All Wales Obesity pathway (2010), focusing on levels 2-4. The findings from the review suggested that across Wales there was local variation in service development, delivery, outcomes and costs. The review also highlights inconsistencies and complexity in the transitional arrangements between services and levels. This document concludes by providing recommendations for action to improve access, integration and quality of services across Wales.

Contents

List of Figures and Tables

1 Background

In Wales, in keeping with the rest of the UK nations and many others internationally, there is now a high and increasing prevalence of obesity. It is estimated that around 600,000 adults aged 16 and over in Wales are obese and 60,000 of those are severely obese, with a Body Mass Index (BMI)[1] > 40 kg/m^2 (PHW, 2018). This number is increasing, with an estimated 10,000 more adults becoming obese each year (PHW, 2018).

Over a quarter of children aged 4-5 years in Wales are overweight, including 12.4% who are obese (Child Measurement Programme Wales, 2019). Wales has a higher percentage of adolescents self-reporting to being overweight or obese compared to England; 10% higher among boys and 6% higher among girls (Health Behaviour in School-aged Children (HBSC), Welsh Government, 2015). For both adults and children, the prevalence of obesity rises with deprivation, with the prevalence 6% higher for 4-5 year olds living in the most deprived compared to the least deprived areas in Wales (Child Measurement Programme Wales, 2019) rising to 13% for adults, and 3% of the adult population is estimated to have a BMI>40 (classified as morbidly obese) (NSW 2018).

In response to this increasing problem, the Welsh Government (WG) published the national *Healthy Weight: Healthy Wales* strategy, launched in October 2019. The strategy outlines a wide range of multi-sector action planned over the next ten years to tackle obesity in Wales. In addition to a range of policies focussing on prevention and creating supportive environments, a key aim is to ensure that there is an appropriate national pathway in place across the nation to deliver equitably and evidence based services for people with overweight and obesity. The refreshed pathway is to feature clear definitions, transition points across each level and explicit governance and accountability for delivery (WG, 2016).

In preparation for Welsh Government's obesity prevention and reduction strategy, in Winter 2017/18 Public Health Wales undertook a rapid appreciative enquiry, to better understand the current pathway. Findings from this process suggested that across Wales there was local variation in service development, delivery, outcomes and costs. The enquiry also highlighted inconsistencies and complexity in the transitional arrangements between services and levels.

Building on this work, Welsh Government articulated the need to review the current All Wales Obesity pathway in the consultation draft of the *Healthy*

[1] BMI (Body Mass Index) is calculated as weight in kilograms (kg) divided by height squared (m^2). BMI categories are: underweight <18.5; healthy weight 18.5 to <25; overweight 25 to <30; obese 30 to <40; morbidly obese 40+.

Weight: Healthy Wales strategy in January 2019. Public Health Wales were tasked to lead a rapid review process working with all key partners and stakeholders. The scope of the task was to review levels 2 and 3 of the pathway, for children, young people and adults, alongside a separate review of level 4 bariatric services for adults. Public Health Wales was asked to undertake this work and make recommendations into a multi-disciplinary working group tasked with revising the pathway.

This report details the findings of this review, publication and finalisation of which was delayed by the COVID-19 pandemic in 2020-21.

1.1 All Wales Obesity Pathway 2010

The All Wales Obesity Pathway published in 2010 (WG, 2010) set out a four-tiered approach to the management and treatment of obesity, with corresponding service descriptions and minimum service requirements for each level (Figure 1)(WG, 2016). There is an expectation that people move progressively through the tiers if additional intervention is required, however, those who are already obese or severely obese will enter at higher tiers of the pathway.

Figure 1: The four levels of the All Wales Obesity Pathway 2010

Level 1 - Community-based prevention - ensure opportunities are available for people to achieve and help maintain a healthy body weight

Level 2 - Early intervention services for people who wish to lose weight and have been identified at an increased risk by a doctor.

Level 3 - Specialist weight management services for people who are obese and have tried several methods of losing weight without success.

Level 4 - Bariatric surgery - specialist medical and surgical services for those people who have not managed to lose weight through conventional methods.

Previous small scale reviews of the pathway had also highlighted issues with Level 1, which encompassed a very broad range of activities that are not necessarily dedicated to overweight and obesity e.g. promotion of physical activity; at both a population and individual level, in addition to early help and intervention. This breadth has made it very difficult to obtain any meaningful understanding of the effectiveness of local delivery.

1.2 UK Guidance

In the ten years since the All Wales pathway was published, there have been a number of publications outlining core service components for different services. For example, the NICE guidance documents detailed in Figure 2 below detail key components of service provision at levels 2 and 3

informed by the best available evidence, and the Royal College of Surgeon's Commissioning Guide (2014) published by the British Obesity and Metabolic Surgery Society (BOMSS) describes optimum services at level 3.

Figure 2: NICE Guidance and Quality Standards related to overweight and obesity issued since 2010

NICE guidance and Quality Standards	Date
BMI: preventing ill health and premature death in black, Asian and other minority ethnic groups (PH46)	July 2013
Weight management: lifestyle services for overweight or obese children and young people (PH47)	October 2013
Behaviour change: individual approaches (PH49)	January 2014
Weight management: lifestyle services for overweight or obese adults (PH53)	May 2014
Obesity: identification, assessment and management (CG189)	November 2014
Obesity in children and young people: prevention and lifestyle weight management programmes (QS94)	July 2015
Obesity in adults: prevention and lifestyle weight management programmes (QS111)	January 2016
Obesity: clinical assessment and management (QS127)	August 2016

Since 2010, two All Wales service specifications for services at level 3, one for adults (2014) and another for children (2015) were developed collaboratively but not formally published. Although some of the elements outlined in the post 2010 NICE guidance were referenced in the service specifications, it is unknown how uniformly they have been applied across the country. The original All Wales obesity pathway has not been updated since publication in 2010.

2 Approach to the Review

Due to the breadth and lack of specificity of level 1 in the pathway and in recognition of the development of the new Obesity Strategy for Wales, the review intentionally focused on levels 2 – 4 with a focus on services to support individuals living with overweight and obesity. The work was undertaken through two separate reviews, one for services at level 2 and 3 of the pathway and a separate review of level 4 services.

The aim of the review for levels 2 and 3 was to assess weight management services across Wales for children, young people, and adults. The review objectives were to:

- Understand the provision of weight management services at levels 2 and 3 for children, young people, and adults in Wales by identifying what services were present in each health board area.
- Describe the services in terms of staffing, type and duration of support offered, capacity, efficiency, acceptability and accessibility.
- Identify the throughputs and costs of each service where possible
- Develop an understanding of the current and future demand for services at levels 2 and 3 in Wales
- Identify the services that fulfil the All Wales Obesity Pathway (2010) specification and those that fulfil an updated definition informed by NICE guidance (post 2010) and selected guidance from the Royal College of Physicians and British Obesity and Metabolic Surgery Society (BOMSS).

The review of level 4 bariatric surgery services in Wales sought to:

- Understand the provision of bariatric surgery services in Wales, including how surgery services are organised and which patients are able to access surgery
- Develop an understanding of the current and future demand for bariatric surgery in Wales
- Examine how many patients are being referred for bariatric surgery across Wales and the number of declined referrals
- Review the number of bariatric procedures that are being undertaken in Wales and whether patients are accessing bariatric surgery equitably across Wales

2.1 Methodology

The methodology adopted for the review of level 2 and level 3 services and that for the level 4 service review were different, reflecting the different arrangements for planning, commissioning and providing services.

2.1.1 Level 2 and 3 Services

This review was led by Public Health Wales (PHW) in 2019 and undertaken with a wide range of public health practitioners, health board service managers and clinicians. In the scoping stage, Public Health Wales devised a simple proforma based on Maxwell's six dimensions of quality; acceptability, efficiency, access, equity and relevance (Maxwell, 1984) to guide data gathering for a review. Three health boards were already reviewing their services using a more in-depth approach, the CAREMORE

Evaluation Method[2] and it was agreed that the findings from these reviews would be incorporated into the review.

Public Health Wales outlined the data requirements and scope of the review in communications with obesity leads in Public Health, service managers and clinicians across Wales and shared the draft proforma which was adjusted following comment. The updated proforma was shared with clinicians, service managers and obesity leads at meetings in each Health Board area. Meetings and telephone calls were conducted to facilitate the data gathering process. Data already gathered within the CAREMORE process was incorporated. Once collated, the information was returned to health boards for verification.

2.1.2 Level 4 Services

This review was led by Public Health Wales (PHW) and undertaken by a working group consisting of representatives from the Welsh Institute of Metabolic and Obesity Surgery (WIMOS), Welsh Health Specialised Services Committee (WHSSC), PHW, and health board (HB) representatives. Two meetings were held in which the group agreed the methodology of the review, a definition of bariatric surgery and outlined the data requirements and limitations of the review. The process included a scoping stage and data collection.

Quantitative evidence for the review was obtained from a variety of sources, including the PHW Observatory, WIMOS and WHSSC. Qualitative feedback was obtained through a questionnaire sent to Local Medical Committees (LMCs), an interview with the WHSSC Specialised Services Planning Manager and discussions with other members of the working group.

This rapid review focusses on level 4 adult services only; there is currently no bariatric surgery undertaken on children in Wales.

2.1.3 Geography and Boundaries

In 2019 the responsibility for providing healthcare services for people in the Bridgend County Borough area transferred from Abertawe Bro Morgannwg University Health Board to Cwm Taf University Health Board (CTUHB), These Health Boards with their revised boundaries subsequently became known as Swansea Bay UHB and Cwm Taf Morgannwg UHB respectively. Some of the data referred to in this report reflects the original health board

[2] The CAREMORE Evaluation Method was developed by NHS Wales National Collaborative Commissioning Unit and adapted with Public Health Wales for this review work. CAREMORE was developed as a collaborative approach to improving health outcomes and patient experience within available resources (Nelson, et al, 2018),

boundaries and so references the original (pre-boundary change) health board names.

2.1.4 Review of Level 2 Services (Adults)

Level 2 services in the (2010) All Wales Obesity Pathway are described as *Community and Primary Care Weight Management Services*. A comparison between the All Wales Obesity pathway description and NICE guidance post 2010 for adults is summarised in Table 1 below.

Table 1: Comparison between the 2010 All Wales Pathway and NICE guidance for Level 2 weight management services

	All Wales Pathway (WG, 2010)	**NICE (QS111, CG189, PH46, PH53)**
Description	Community and Primary Care weight management services (multi-component)	Multi-component lifestyle weight management services
Route in	Identification by health professional	Referral or self-referral
Age	Not specified	18 years +
BMI kg/m2	BMI > 30 kg/m^2 BMI > 25 kg/m^2 with associated co-morbidities BMI > 18 kg/m^2 with very high waist circumference and associated co-morbidities	BMI > 30 kg/m^2 BMI > 25 kg/m^2 with associated co-morbidities (Reduced by 2.5 kg/m^2 of BMI in Asian (South Asian and Chinese), black African and African-Caribbean populations).
Co-morbidities	Not specified	Type 2 diabetes Hypertension Cardiovascular disease osteoarthritis Dyslipidaemia Sleep apnoea
Duration	Not specified	At least 3 months
Frequency	Not specified	Offered at least weekly or fortnightly
Core Components	psychological screening/ *work on:* healthy eating increased physical activity reduced sedentary behaviour behaviour change	*work on*: Dietary intake Physical activity Sedentary behaviour behaviour change strategies for weight maintenance
Designed and developed by	Not specified	With input from a MDT including Dietician, Psychologist, Physical Activity Instructor Achievable goals agreed and recorded
Delivered by	Appropriately trained professionals	Trained staff. May be run by the public, private or voluntary sector
Location	Based in community or primary care.	Based in the community, workplaces, primary care or online

Review Definition: Level 2 Multi-component weight management services (Adults)

Multi-component weight management interventions addressing dietary intake, physical activity levels, sedentary behaviour and behaviour change, offered to people who meet the agreed threshold of overweight/obesity and risk factors set out in the updated All Wales Weight Management Pathway. People meeting the agreed inclusion criteria can refer or self-refer. The different components may be delivered together or separately, either online, in primary care or in a range of community locations. Sessions should be offered at least weekly or fortnightly and include a 'weigh in' at each session. A participant's initial goals are noted, their overall programme is co-ordinated and their progress reviewed by an appropriately trained professional, with next steps agreed with the participant and documented after a minimum period of 12 weeks. Exit routes may include Level 3, or a maintenance or discharge plan detailing continued support in the community.

As can be seen, the main differences between the descriptions are that NICE guidance recommends that services last for a minimum of 3 months, involve weekly or fortnightly contact with 'weigh ins' at each session and that lower thresholds of BMI should be applied to those from Asian, black African and African-Caribbean populations. Co-morbidities are defined by NICE but not defined in the All Wales Pathway. Additionally NICE recommend that level 2 services are designed by a multi-disciplinary team. A working definition for an updated service description at level 2 which incorporates the NICE guidance above has been used as the basis of this review.

2.1.5 Review of Level 2 services (children, young people and families)

Level 2 services in the (2010) All Wales Obesity Pathway for children and young people are described as *Community and Primary Care Weight Management Services.* In the All Wales Pathway, the level 2 service description does not differentiate between services for children and young people and adults. A comparison between the All Wales pathway description and NICE guidance for children, young people and families (CYPF) is summarised in the table below (see Table 2).

There are many differences between the All Wales Pathway service description and subsequently published NICE guidance. Most notably, NICE guidance specifies the importance of involving parents, carers and close family; highlights that the mental health needs of the child should be assessed; and, that positive parenting skills are addressed. NICE guidance documents state that level 2 services should be designed by a multi-disciplinary team with paediatric expertise. NICE highlight the importance

of delivering the services in accessible, non-threatening venues, at convenient times for families, and clarify the expectation that ongoing support is offered after programme completion, with outcomes monitoring at 6 months and 1 year. A working definition for an updated service description at level 2 for children, young people and families, which incorporates the NICE guidance above has been used in this review.

Table 2: Level 2 Service description in the All Wales Pathway 2010 compared with Nice Guidance for children, young people and families.

	All Wales Pathway 2010	**NICE** (PH47, QS95)
Description	Community and Primary Care weight management services (multi-component)	Multi-component lifestyle weight management services
Age	Not specified	>2 years
BMI kg/m2	BMI for CYP Not specified	Tailored clinical intervention should be considered if BMI ≥91st centile
Family members/ carers	Not mentioned	Invited to attend regardless of their weight.
Duration	Not specified	Not specified
Frequency	Not specified	Not specified
Core Components	identification of overweight/obesity psychological screening/ behaviour change *work on:* healthy eating increased physical activity reduced sedentary behaviour	Record BMI Assess /or refer for assessment of obesity related co-morbidities Identify mental health needs Work on: • diet and healthy eating habits • planning in physical activity • reducing sedentary time • strategies for changing the behaviour of child/ young person, close family • Positive parenting skills • Budgeting, cooking, nutritional labelling Ensure- A range of enjoyable practical physical activity for child/ young person/family A tailored plan integrating agreed family goals Ongoing support offered Monitoring at 6 months and 1 year
Designed and developed by	Not specified	With input from a MDT (Paediatric) including Dietician, Psychologist, Physical Activity Instructor Take views of children, young people and families into account.
Delivered by	Appropriately trained professionals	Trained staff experienced in working with children, young people and their families. May be run by the public, private or voluntary sector
Location and timing	Community or primary care.	Easily accessible community venues reached quickly/easily by walking, cycling or public transport, where CYPF feel comfortable. Range of times convenient for families with children of different ages, working parents and carers.

Review Definition: Level 2 Multi-component weight management services for children and young people and families.

Age-appropriate, multi-component weight management interventions addressing dietary intake, physical activity levels, sedentary behaviour, positive parenting skills and behaviour change, offered to children and young people who meet the agreed threshold of overweight/obesity and risk factors set out in the updated All Wales Weight Management Pathway. Those meeting the agreed inclusion criteria can refer or self-refer. Parents and or carers are invited to attend. Sessions should be offered in accessible, non-threatening locations at convenient times. The child/young person/family's initial goals are noted, their overall programme is co-ordinated and their progress reviewed by an appropriately trained professional, with next steps agreed. Frequency of input and duration of programmes is dependent on individual need. Once programmes end, families are offered ongoing support and outcomes are monitored for 12 months.

2.1.6 Review of level 3 services (Adults)

Level 3 services in the (2010) All Wales Obesity Pathway are described as *Specialist multidisciplinary team weight management services*. A service specification for Level 3 services for adults was written in 2014 and provides further details for health boards developing services across Wales. A comparison between the All Wales Pathway description (Welsh Government 2010), service specification (2014) and NICE guidance for adults is summarised in Table 3 below.

Table 3: Level 3 Service description in the All Wales Pathway 2010 compared with Nice Guidance for Adults

	All Wales Pathway 2010[3]	**NICE[4]**
Description	Specialist multidisciplinary team weight management services	Specialist Obesity Services
Age	*≥18 years*	≥18 years
BMI kg/m²	BMI > 40 kg/m2 BMI > 35 kg/m2 with associated co-morbidities *reduced by 2.5 kg/m2 of BMI in Asian (South Asian and Chinese) populations* people who have one or more co-morbidities and who have tried several interventions without success	BMI ≥40 BMI ≥ 35 kg/m2 with obesity-related comorbidities Reduced by 2.5 kg/m2 of BMI in Asian (South Asian and Chinese), black African and African-Caribbean populations.

[3] Details in italics are from the level 3 service specification written in 2014

[4] Refers to Royal College of Surgeons British Obesity and Metabolic Surgery Society (2014) (QS127) (NICE 2016)

	All Wales Pathway 2010[3]	NICE[4]
	or Those with complex emotional relationships with food. or *Been assessed by the Level 2 Community Dietetic Services as having complex emotional and / or physical needs*	
Co-morbidities	*Metabolic syndrome* *Hypertension* *Diabetes* *Obstructive sleep apnoea* *Functional disability* *Infertility* *Depression*	Metabolic Syndrome, Hypertension, Type 2 Diabetes Obstructive Sleep Apnoea Functional Disability Infertility Depression
Duration	*Dependent on needs of patient max 24 months*	Not specified
Frequency	Frequent appointments	Not specified
Components	MDT assessment Medical support Dietetics Physical activity Psychology Behavioural change Pharmacological interventions *Post-surgery aftercare*	MDT assessment Dietetics Physical activity Psychology Behavioural change Pharmacological interventions Specialist interventions (e.g. VLCD) Assess eligibility for Level 4
Location	In the community, intermediate or secondary care located in accessible locations in each Health Board area in Wales	Not specified
Bariatric surgery assessment.	Assess eligibility for Level 4	Offer an expedited assessment for bariatric surgery to people with a BMI $\geq$35 with diagnosis of type 2 diabetes in last 10 years Consider an assessment for bariatric surgery for people with a BMI 30–34.9 with diagnosis of type 2 diabetes in last 10 years Adults with a BMI >50 are offered a referral for bariatric surgery assessment.

The All Wales Pathway service specification for Level 3 written in 2014 reflects the British Obesity and Metabolic Surgery Society guidance (BOMSS 2014) referred to as the detailed guidance of choice by NICE (2016). Consequently, the All Wales Pathway and NICE expectations at level 3 are very similar. The key differences are that the All Wales Pathway sets a maximum duration of 2 years at level 3. NICE (2016) highlights the needs of people who have been diagnosed with type 2 diabetes in the last 10 years

and recommends, depending on the BMI, that they are either considered for, or offered an expedited assessment for bariatric surgery.

A working definition for an updated service description at level 3 which incorporates the NICE guidance above has been used as in this review.

Review Definition: Level 3 Specialist multi-disciplinary assessment and weight management services

Services at level 3 are delivered by members of the level 3 multi-disciplinary team (MDT). The MDT offer specialist assessment and multi-component interventions to those who meet an agreed threshold of overweight/obesity and risk factors. Specialist dietary, psychological, pharmacological and physical activity/mobility interventions are tailored to each individual's needs, to optimise their health and wellbeing. A participant's overall progress is monitored and reviewed by the MDT and those who may be eligible for a bariatric surgery assessment are identified and referred to level 4. Post-surgical patients are offered aftercare in level 3 in conjunction with the Level 4 team. To improve access, programme offers include support provided online or via digital/telehealth.

2.1.7 Review of Level 3 Services (children, young people and families)

Level 3 services in the (2010) All Wales Obesity Pathway for children and young people are described as *Specialist multidisciplinary team weight management services*. A National Obesity Level Three Service Specification and Clinical Access Policy for children was recommended in 2014 by the National Assembly for Wales Children, Young People and Education Committee Inquiry into Childhood Obesity (2014) but remains unpublished. A comparison between the All Wales pathway description (Welsh Government 2010), the service specification (National Assembly for Wales, 2014) with NICE guidance for children and young people is summarised in Table 4 below.

Table 4: Level 3 Service description in the All Wales Pathway 2010 compared with Nice Guidance for Children and Young People

	All Wales Pathway 2010[5]	**NICE** (CG189, PH47, QS127)
Description	Specialist multidisciplinary team weight management services	Specialist services
Age	*4-16 years*	>2 years
BMI kg/m2	*≥98th centile* *or* *91st centile and one or more co-morbidities and who have tried several interventions without success* or Those with complex emotional relationships with food.	≥98th centile with significant co-morbidities, complex needs or with other special needs (including learning disabilities, chronic illness, physical disability)
Co-morbidities	Not specified	Benign intracranial hypertension Sleep apnoea Obesity hypoventilation syndrome Hyperinsulinemia Type 2 diabetes Dyslipidaemia Orthopaedic problems Psychological morbidity
Duration	*Max 24 months*	Not specified
Frequency	Frequent appointments	Not specified
Core Components	MDT assessment Medical support Dietetics Physical activity Psychology Behavioural change Pharmacological interventions psychological screening/ Work on: healthy eating increased physical activity reduced sedentary behaviour	Assessment by paediatrician with a special interest in obesity for obesity related co-morbidities Identify mental health needs Work on: diet and healthy eating habits physical activity reducing time spent sedentary behaviour change strategies for child or young person and all close family members Positive parenting skills training May include the use of drugs
Designed and developed by	Not specified	Multidisciplinary team Informed by views of children, young people and their families.
Location	In the community, intermediate or secondary care (*as accessible as possible to those using the service).*	

[5] Details in italics are from the level 3 service specification written in 2015

The All Wales Pathway description for level 3 services reflects NICE guidance, particularly with the addition of the subsequently drafted service specification for Level 3 for children written in 2015. The main differences between the descriptions are that NICE guidance specify co-morbidities to consider for children and young people, recommends that the mental health needs of the child/young person should be assessed and that parents, carers, children and young people should be involved in the design of the services in addition to the multi-disciplinary team. Frequency and duration of programmes is not specified by either NICE or the All Wales pathway.

A working definition for an updated service description at level 3 for children, young people and families, which incorporates the NICE guidance above has been used as a comparator in this review:

Review Definition: Level 3 Specialist multi-disciplinary assessment and weight management services for children and young people and families.

Services at level 3 are delivered by members of the level 3 multi-disciplinary team (MDT). The MDT offer specialist assessment and multi-component interventions to those children and young people who meet an agreed threshold of overweight/obesity and risk factors. Specialist dietary, psychological, pharmacological and physical activity/mobility interventions are tailored to each individual's needs, to optimise their health and wellbeing. A participant's overall progress is monitored and reviewed by the MDT. To improve access, programme offers will include support provided online or via digital/telehealth.

2.1.8 The review level 4 services

In Wales, the Welsh Health Specialised Services Committee (WHSSC) commissions bariatric surgery services on behalf of the seven health boards in Wales. Bariatric surgery services are provided by the Welsh Institute of Metabolic and Obesity Surgery (WIMOS), now based in Swansea Bay University Health Board (previously Abertawe Bro Morgannwg University Health Board).

In the UK, bariatric surgery is recommended by NICE under specific criteria, (Table 5; see appendix 5 for full criteria)(NICE, 2014). In Wales, the WHSSC Commissioning Policy (CP29A) sets out access criteria for bariatric surgery in Wales (Table 5; see Appendix 6 for full criteria)(WHSSC, 2018). There are significant differences between WHSSC criteria and NICE clinical guidance, most notably the WHSSC requirement for the patient to have spent 24 months in a level 2/3 service. Furthermore, the WHSSC policy does not include people with a BMI of between 35 and 40 kg/m^2 if other

significant diseases, such as type 2 diabetes or high blood pressure, are present that could be improved with weight loss. NICE guidance also suggests that recent-onset diabetes as well as the family origin of a patient should be taken into consideration as factors when deciding whether a patient would benefit from surgery at a lower BMI, however WHSSC does not consider these groups of patients in their access criteria.

Table 5: Comparison of the WHSSC policy and NICE guidance for criteria for access to bariatric surgery (WHSSC, 2018; NICE, 2014)

	WHSSC	NICE
Age	Aged 18 years or over	Covers children in exceptional circumstances
BMI kg/m^2	40 or greater	40 or more, or between 35 and 40, with other significant disease
Duration	Morbid/severe obesity has been present for at least five years	No duration specified
Weight Management	Level 2/3 service for at least 24 months	Has been receiving or will receive intensive management in a level 3 service
MDT	Approved for surgery by the bariatric MDT at WIMOS	MDT management specified
Recent onset diabetes	Not addressed	Expedited assessment for bariatric surgery if BMI >35 with recent-onset type 2 diabetes and consider assessment for surgery if BMI 30–34.9 with recent-onset type 2 diabetes
Specific groups	Not addressed	Consider assessment for bariatric surgery for people of Asian family origin who have recent-onset type 2 diabetes at a lower BMI than other populations

3 Key Findings: Level 2 Services (Adults)

All seven Health Boards engaged fully with the review and provided information that was easily available as requested. Health Boards were not expected to dedicate excessive time retrieving and collating data that was not readily available. Summary descriptions of the services identified within each Health Board are located in Appendix 1. Analysis of the data highlights the following common issues.

3.1 Variability in offer

The review findings indicate that there is a lack of consistency in how the All Wales pathway guidance (2010) has been interpreted and prioritised by the different health boards, resulting in varying levels of investment in service delivery. This has resulted in different offers for people with similar weight management needs depending upon where they live in Wales (Table 6).

Whilst all health boards have an offer available for adults at level 2, only two health boards have invested in multi-component level 2 services for adults, namely Aneurin Bevan University Health Board (ABUHB), and Cardiff

and Vale University Health Board (C&VUHB). In the remaining five health boards, services do not meet the requirements outlined within the All Wales Pathway (2010).

Table 6: Current weight management service provision by health board

Health Board	Current Provision	Meets	
		AWP 2010	Updated definition
Aneurin Bevan	Integrated weight management service Levels 2/3	YES	NO
Betsi Cadwaladr	2 separate services- Orthopaedic pathway, Kind Eating programme	NO	NO
Cardiff and Vale	Integrated weight management service Levels 2/3	YES	NO
Cwm Taf Morgannwg	2 separate pathways for specific groups– pregnancy and joint care	NO	NO
Hywel Dda	Programme combining Foodwise and NERS	NO	NO
Powys	Generic dietetics offer	NO	NO
Swansea Bay	6 separate services targeting different cohorts/localities.	NO	NO

In Powys THB, weight management support is limited to the generic dietetics service and meets the needs of individual patients referred by health professionals. Hywel Dda, Betsi Cadwaladr, Swansea Bay and Cwm Taf Morgannwg Health Boards offer a range of separate level 2 services for adults, following particular pathways such as orthopaedics or pregnancy, or for particular geographical populations within the Health Boards. Within Swansea, GP clusters have used their funding to address the gap in services, but they are unable to provide this services beyond their cluster area.

Some Health Boards utilise the National Exercise Referral Scheme (NERS) within their level 2 offer. NERS is a community-based service which operates across all health boards, providing physical activity support for a number of specific pathways, including weight management. NERS programmes for weight management are typically 16-32 weeks in duration and participants pay a small fee to attend. A referral to NERS may be offered as the physical activity component of a weight management service, but participant progress reports are not currently reported back to weight management staff. NERS is not a level 2 weight management programme.

'Foodwise for Life' is an eight week structured programme that focuses on supporting participants to change eating and physical activity patterns. The programme was developed by dieticians under the banner of Nutrition Skills for Life and can be delivered by a range of trainers within the community. This review found that there is variation in how Foodwise for Life is used within the pathway. Some health boards use Foodwise as part of their level 2 obesity pathway response and others use it to provide support at levels 1 and 2. Foodwise is not a level 3 weight management programme in line with the pathway definition.

3.1.1 Variability in geographical access

The review findings indicate that there is unacceptable variability in access for adult level 2 services across the country. Where services are offered, people from some communities need to travel long distances to reach them. This is particularly difficult for the 20% of the population of Wales who live in areas classified as rural (Welsh Government 2019). Poor infrastructure, such as roads, public transport and broadband width, can increase people's difficulties in accessing services.

Although three areas (Cardiff and Vale, Hywel Dda and Powys) stated that they offer some telephone or Skype service as an alternative to face to face appointments[6], none of the services has an integrated digital or online offer which would improve access for those with greater distances to travel.

3.2 Service capacity and estimated demand

Service capacity also limits access across Wales for adults seeking a level 2 service. Currently adults with a BMI of 30kg/m^2 or above and those with a BMI > 25 kg/m^2 with associated co-morbidities who want to lose weight meet the inclusion criteria for Level 2.

It is difficult to predict service demand but estimates of the number of people with overweight or obesity in Wales can be made through the National Survey for Wales (NSW), a self-reported survey that records height and weight.

Using this data and ONS population figures, Public Health Wales Observatory estimated that over 22% of the Welsh population of adults, 16 years and older, have an estimated BMI of 30 kg/m^2 or more[7].

However, because these figures are estimates they cannot be used to accurately predict the number of people who would be potentially eligible for level 2 services, for a number of reasons:

- NSW data is self-reported and therefore may not accurately reflect BMI, for example survey respondents typically overestimate their height and underestimate their weight.
- Many of the people who have a BMI of 30 kg/m^2 or more will not want to attend weight management services.

[6] Cardiff and Vale offer phone or skype alternatives as part of their Integrated Level 2 & 3 service for adults, and Hywel Dda Health Board offer skype in their Carmarthenshire Level 2 weight management service for adults. Powys offer skype and phone facilities for their generic Level 2 adults' services.

[7] Produced by Public Health Wales Observatory, using NSW (WG) and mid-year population estimates (Office for National Statistics) using combined data from 2016/17 – 2018/19. This produced an estimated figure of 586,000 people 16 years or older have a BMI of 30kg/m2 or more.. Estimated counts have been rounded to the nearest 100. Approximately 9.3% of survey records were missing obesity information therefore care should be taken when interpreting these results.

- These figures do not include the proportion of adults with a BMI > 25 kg/m2 with associated co-morbidities, which is more difficult to estimate, but would add to the overall total.

They can however be used to illustrate the relationship between potential demand and current capacity. Estimates from the NSW can also be analysed at health board level, with number of adults (greater than 16 years) with an estimated BMI of 30 kg/m^2 or more for each Health Board area, presented in Table 7.

Table 7: Adults with a BMI of 30+, age-standardised percentage, person aged 16 and over, Health Boards and Wales, 2016/17-2017/18

Health Board	Estimated count (95% confidence interval)		Age-standardised percentage (95% confidence interval)	
Betsi Cadwaladr UHB	113,300	(104,900 to 121,700)	19.4	(18.0 to 20.9)
Powys THB	21,500	(19,400 to 23,600)	19.2	(17.2 to 21.1)
Hywel Dda UHB	73,600	(67,500 to 79,700)	22.7	(20.7 to 24.7)
Swansea Bay UHB	75,400	(68,500 to 82,300)	23.4	(21.3 to 25.6)
Cwm Taf Morgannwg UHB	98,300	(90,900 to 105,600)	26.6	(24.6 to 28.6)
Cardiff & Vale UHB	74,400	(66,700 to 82,000)	18.8	(17.0 to 20.7)
Aneurin Bevan UHB	129,300	(119,000 to 139,600)	26.9	(24.8 to 29.1)
Wales	**586,000**	**(566,400 to 605,600)**	**22.7**	**(21.9 to 23.5)**

Produced by Public Health Wales Observatory, using NSW (WG) & MYE (ONS)
Estimated counts have been rounded to the nearest 100.
Approximately 9.3% of survey records were missing obesity information. Care should be taken when interpreting these results.

Bearing in mind the caveats mentioned above, for the purposes of this review, current level 2 service capacity is considered against an estimated demand of 10% of those with a BMI 30 kg/m^2 or more in table 8 below.

Table 8: Current Level 2 adult service capacity by health board.

Health Board	Estimated adult population[8]		Capacity of level 2 services
	BMI> 30	10% BMI> 30	
Aneurin Bevan	129300	12930	923
Betsi Cadwaladr	113,000	11,300	<300 (Estimate)
Cardiff and Vale	74,400	7440	500-1000
Cwm Taff Morgannwg	98,300	9830	600 (Estimate)
Hywel Dda	73,600	7360	<500 (Estimate)
Powys	21,500	2150	Not known
Swansea Bay	75,400	7540	<500 (Estimate)

Even using this conservative estimate, no health board is currently close to offering sufficient capacity to meet this population need and only two health boards, namely Aneurin Bevan and Cardiff and Vale are close to offering a

[8] Produced by Public Health Wales Observatory, (2016/17-2017/18 data) using NSW (WG), & MYE (ONS) Estimated counts have been rounded to the nearest 100.Approximately 9.5% of records contain missing data. Care should be taken when interpreting these results

service capacity that meets the needs of 1% of people with a BMI of 30 kg/m^2.

3.2.1 Limited service and patient outcome data

Across Wales, there is an extremely limited amount of readily available data describing either service activity or service outcomes for adults at level 2. Only one health board, namely Cardiff and Vale UHB, was in a position to provide data on all of the following: the number of completers, service costs, do not attend rates and patient outcomes, all of which when considered together give an indication of service efficiency, effectiveness and value for money. No health boards provided data on patient feedback, which would give an indication of the acceptability of the services to those who attend.

For the majority of the health boards it is understood that information is collected, but not readily available to submit for the purposes of a review, due to lack of capacity and lack of easily accessible electronic data records for these services. The lack of readily available data means that there is not only a deficit of understanding at a national level, providing no clear picture of how much resource is allocated and how effectively services are addressing the issue, but that crucially, the data is not being used on an ongoing basis locally to drive service improvement.

4 Key Findings: Level 2 Services (Children, Young People and Families)

The core components of Level 2 services in the All Wales Obesity Pathway (2010) for children and young people are described in section 2.1.3. This review found that there are currently no dedicated weight management services for children, young people and families at level 2 that meet the All Wales Pathway (2010) service description in any Health Board area in Wales.

One health board, Betsi Cadwaladr University Health Board, delivers a limited children and young people's level 2 service through their paediatric dieticians. This service does not offer the broader elements relating to physical activity as specified in the All Wales Pathway or family involvement as specified by NICE. This service also has inclusion criteria more in line with a level 3 service at 98th centile or 91st with co-morbidities and access is limited to those who are able to travel to the single site within a large geographical area.

In Powys Teaching Health Board, in addition to a generic offer of paediatric dietetics, a service based on MEND[9] but delivered by the local leisure provider, is available in limited parts of the health board area. FRESH, which is delivered by physical activity instructors trained in behaviour change and nutrition, incorporates the core components identified in the All Wales Pathway. However, the service has limited capacity and is not commissioned as part of the pathway. There is limited information about service activity available now that it is delivered separately from the Health Board

Whilst staff in some counties have received specific weight management training to support children, young people and their families who want to manage their weight, currently there appears to be no coherent strategy to implement this training through a multi-component programme. In the past, services such as MEND and HENRY[10] have been delivered in pockets of the country but these are no longer delivered. Families First funding has been used in the past to provide family weight management services through schools or family centres, but these were not sustained when the funding stream closed.

4.1.1 Estimating Population Need

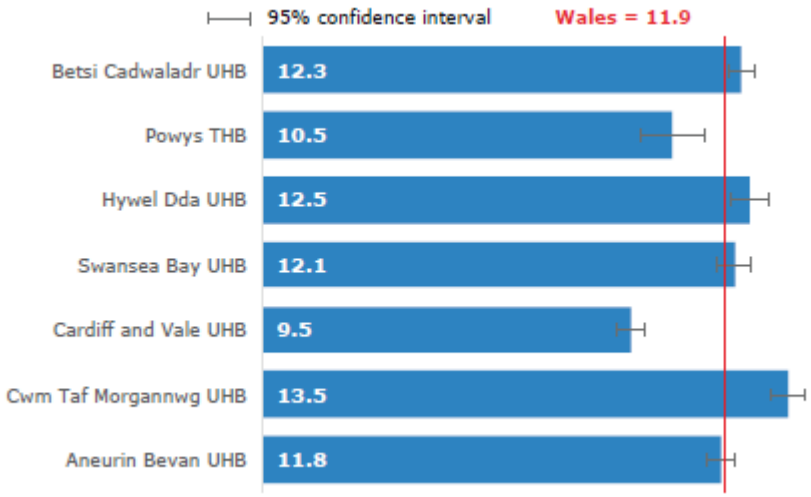
NICE (CG189) recommend that a tailored clinical intervention (level 2) should be offered to those children with a BMI at the 91st centile, which approximates to those measured as obese in the CMP.

The Child Measurement Programme (CMP) which measured 93% of Welsh school children aged 4-5 years in 2017-18, reports that by 2017/18 3873 (12%) were obese. Figure 4 below shows health board level prevalence data over 5 years. As can be seen obesity levels are significantly higher in three health boards.

[9] MEND-Mind, Exercise, Nutrition, Do It! The MEND programme is a community based programme for children with overweight and obesity aged 7-13. It was delivered in Wales from 2009-15 as part of the Food and Fitness 5 year implementation plan but was withdrawn following review due to low uptake.

[10] HENRY-Health, Exercise, Nutrition for the Really Young focuses on early years, addresses healthy eating, physical activity and helps parents in setting boundaries for their children.

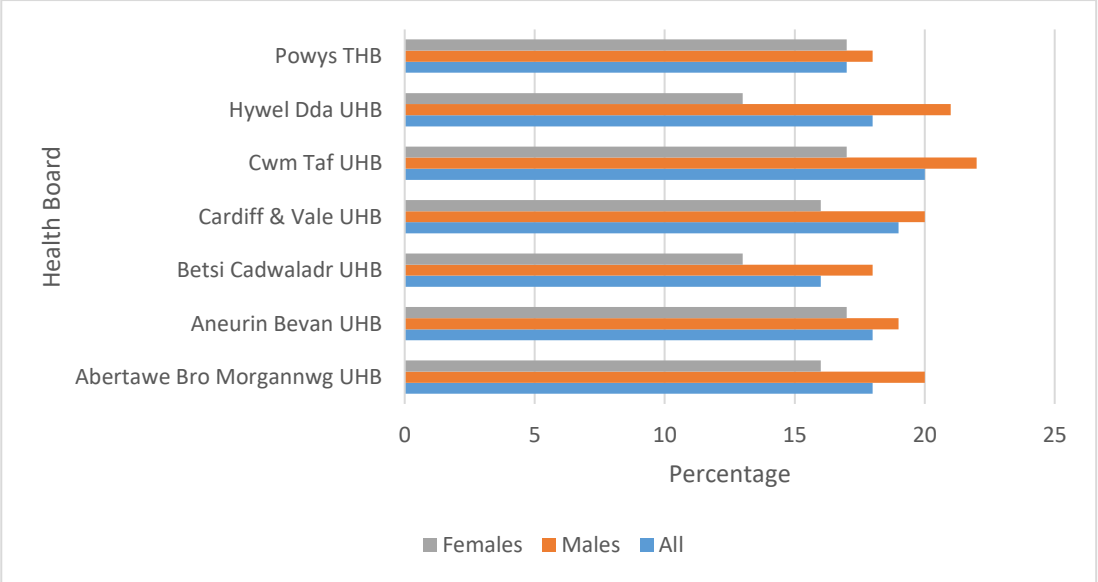
Figure 4: Percentage of children aged 4-5 years, who are obese, health boards, 2013/14-2017/18



Produced by Public Health Wales Observatory using CMP data (NWIS)

Self-reported information on levels of obesity/overweight is available from the Health Behaviour in school aged children survey (Hewitt et al, 2019). The weight and height of year 7 to 11 year olds reported in this survey suggest that there is substantial geographical variation in adolescent obesity rates. The highest proportion of adolescent boys and girls self-reporting to be overweight or obese is in Cwm Taf Health Board area (see figure 5 below).

Figure 5: Percentage of respondents in years 7-11 who report being overweight or obese by Health Board, 2017

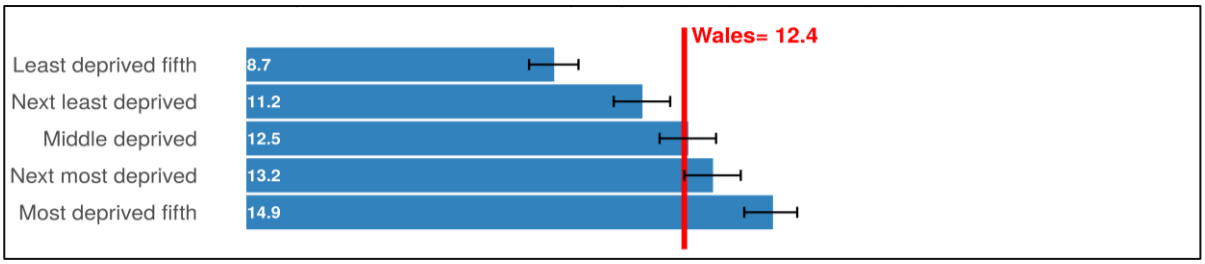


Source: HBSC, Hewitt et al, 2019

CMP data demonstrate that the prevalence of obesity rises with increasing deprivation. Data from 2016-17 show that obesity is 1.7 times higher in

the most deprived areas when compared with the least deprived areas as shown in figure 6 below.

Figure 6: Percentage of Children aged 4-5 years who are obese, WIMD quintiles.



Source: Produced for the Child Measurement Programme for Wales, 2016/17 by Public Health Wales Observatory using CMP (NWIS) & WIMD 2014 (WG)

If additional service capacity is developed in Wales and is mapped to need, there should be a prioritisation of newly developed accessible services for children, young people and their families in the most disadvantaged areas.

5 Key Findings Level 3 (Adults)

Please refer to Section 2 for Review aims, objectives and methodology. All seven Health Boards engaged fully with the review and provided information that was easily available as requested. Health Boards were not expected to dedicate excessive time retrieving and collating data that was not readily available. Summary descriptions of the services identified within each Health Board are located in Appendix 3. Analysis of the data highlights the following common issues.

5.1 Variability in offer

The review findings indicate that there is more consistency in how the All Wales pathway guidance (2010) has been interpreted across the country for level 3 when compared with level 2, but there is variation in how close the offers are to the All Wales Pathway Obesity Pathway description (2010). A common feature of all the adult level 3 services reviewed is the focus on complex cases and it is apparent that the majority of these are related to psychological need.

Five out of seven health boards offer a multi-disciplinary service at level 3 for adults, but only two of these meet the requirements described in the All Wales Obesity Pathway (2010) (Table 9). One service would meet the description of a level 3 service reflecting NICE guidance published since 2010, namely Aneurin Bevan University Health Board.

The review findings indicate that there are currently no multi-disciplinary adult level 3 services in Powys Teaching Health Board or Cwm Taf

Morgannwg Health Board. In these areas, weight management patients are referred to their core dietetics service.

The two health boards offering the most comprehensive services are Aneurin Bevan University Health Board (ABUHB) and Cardiff and Vale University Health Board (C&VUHB). These health boards have developed integrated level 2 and 3 services, utilising a range of staff at different levels of specialism to offer multi-disciplinary, multi-component services, which enable patients to move between levels 2 and 3 as required.

Table 9: Health Board Weight Management Services provision compared with the All Wales 2010 Obesity pathway and the updated definition.

Health Board	Current Provision	Meets		Missing element
		AWP 2010	Updated definition	
Aneurin Bevan	Integrated weight management service Levels 2/ 3	YES	YES	-
Betsi Cadwaladr	Adult Specialist Weight Management service	NO	NO	Inclusion criteria high BMI>45
Cardiff and Vale	Integrated weight management service Levels 2/3	YES	NO	-
Cwm Taff Morgannwg	No Level 3 for adults	NO	NO	-
Hywel Dda	Multi-disciplinary, Level 3 service for adults	NO	NO	No physical activity component
Powys	No Level 3 for adults	NO	NO	-
Swansea Bay	Multi-disciplinary Specialist Weight Management service	NO	NO	Lack of dietetics

Betsi Cadwaladr and Hywel Dda Health Boards offer level 3 services to adults that are close to meeting the requirements outlined within the All Wales Pathway (2010). They would meet the description by either expanding their inclusion criteria which are too high (BCUHB) or by integrating physical activity support (HDUHB). Sufficient dietetic support is vital at level 3 and without this element, the Swansea Bay service is unable to offer the range of evidence based interventions expected in a Level 3 service. All three of these services lack resilience due to the limits in size and breadth of their teams.

5.1.1 Variability in geographical access

Where Level 3 services for adults are offered, there is variability in the extent of outreach offered to patients to enable access. In the best examples, Betsi Cadwaladr and Aneurin Bevan health boards deliver services either in more than one hospital or utilise other community venues such as GP practices, to extend access. The remaining three health boards

focus their services around one to two venues, limiting access for a proportion of the population.

In contrast to the level 2 services for adults, no health board utilises phone or Skype on a regular basis as an alternative to face to face appointments. In line with the findings on level 2, none of the services has an integrated digital or online offer which would improve access for those with greater distances to travel.

5.2 Service capacity and estimated demand

Service capacity varies between those areas offering a Level 3 service. The current All Wales Pathway definition enables access for people with a BMI > 40 kg/m^2 and those with a BMI > 35 kg/m^2 with associated co-morbidities.

It is difficult to predict service demand, but estimates of the number of people with overweight or obesity in Wales can be made through the National Survey for Wales (NSW), a self-reported survey that records height and weight.

Using combined 2016/17 – 2018/19 NSW data and applying this to mid-year Office for National Statistics (ONS) population figures, it can be estimated that 57,400 (95% CI 50,000 – 64,700) people over the age of 16 in Wales have an estimated BMI of 40 kg/m^2 or more[11].

These figures cannot be used to accurately predict the number of people who would be potentially eligible for level 3 services because:

- NSW data is self-reported and therefore may not accurately reflect BMI, for example survey respondents typically overestimate their height and underestimate their weight
- Many of the people who have a BMI of 40 kg/m^2 or more will not want to attend level 3 services.
- These figures do not include the proportion of adults with a BMI > 35 kg/m2 with associated co-morbidities, which is more difficult to estimate, but would add to the overall total.

Results from the NSW estimates of BMI can also be analysed at health board level, with numbers of adults (greater than 16 years) with an estimated BMI of 40 kg/m^2 or more, presented in Table 10[12].

Bearing in mind the caveats mentioned above, for the purposes of this review, current level 3 service capacity is considered against an estimated

[11] Produced by Public Health Wales Observatory, using NSW (WG) and mid-year population estimates (Office for National Statistics). Estimated counts have been rounded to the nearest 100. Approximately 9.3% of survey records were missing obesity information therefore care should be taken when interpreting these results.
[12] Ibid.

demand of 10% of those with a BMI 40 kg/m^2 or more as shown in table 11 below.

Table 10: estimated number of people (aged 16 years and above) with a BMI of 40 kg/m^2 or more, by health board, 2016/17-2018/19[13]

Health Board	Estimated count (95% confidence interval)	Age-standardised percentage (95% confidence interval)
Betsi Cadwaladr UHB	10,400 (7,800 to 13,000)	1.9 (1.4 to 2.4)
Powys THB	2,400 (1,600 to 3,200)	2.2 (1.4 to 2.9)
Hywel Dda UHB	6,400 (4,500 to 8,300)	2.0 (1.4 to 2.6)
Swansea Bay UHB	7,000 (4,900 to 9,100)	2.2 (1.5 to 2.9)
Cwm Taf Morgannwg UHB	10,600 (7,800 to 13,400)	2.8 (2.1 to 3.5)
Cardiff & Vale UHB	7,100 (4,900 to 9,300)	1.8 (1.3 to 2.4)
Aneurin Bevan UHB	13,500 (8,400 to 18,500)	2.8 (1.7 to 3.9)
Wales	**57,400 (50,000 to 64,700)**	**2.2 (1.9 to 2.6)**

Data produced by PHW Observatory, using NSW (WG), & MYE (ONS). Estimated counts have been rounded to the nearest 100. Approximately 9.5 of records contain missing data. Care should be taken when interpreting these results.

Table 11: Estimated adult population and current level 3 service capacity by Health Board

Health Board	% LSOAs in most deprived decile[14]	Estimated adult population[15]		Capacity of level 3 services (data provided by HBs)
		BMI> 40	10% BMI> 40	
Aneurin Bevan	2.3	13500	1350	95
Betsi Cadwaladr	1.2	10400	1040	207
Cardiff and Vale	2.2	7100	710	100
Cwm Taf Morgannwg	2.1	10600	1060	0
Hywel Dda	0.5	6400	640	630
Powys	0.1	2400	240	0
Swansea Bay	1.6	7000	700	20

Even using this conservative estimate, only two health boards, namely Aneurin Bevan and Hywel Dda, are close to offering sufficient capacity to meet this population need.

[13] Produced by Public Health Wales Observatory, using NSW (WG) and mid-year population estimates (Office for National Statistics). Estimated counts have been rounded to the nearest 100. Approximately 9.3% of survey records were missing obesity information therefore care should be taken when interpreting these results.

[14] WIMD19

[15] Produced by Public Health Wales Observatory, (2016/17-2017/18 data) using NSW (WG), & MYE (ONS) Estimated counts have been rounded to the nearest 100.Approximately 9.5% of records contain missing data. Care should be taken when interpreting these results

5.3 Limited service and patient outcome data

Across Wales, as discussed earlier for Level 2, readily available data describing either service activity or service outcomes for adults at level 3 is insufficient.

The service in Betsi Cadwaladr UHB has not been running long enough to be in a position to provide data. Of the remaining four, only one health board, namely Cardiff and Vale, was in a position to provide data on the number of completers, service costs and do not attend rates. Along with patient outcome data, these metrics give an indication of service efficiency, effectiveness and value for money. No services provided patient outcome data for this review and so it is difficult to draw conclusions from the data that was forthcoming.

All five health boards were able to provide an estimate of service costs which is helpful, particularly when there is a drive to expand services across the country.

Patient feedback to give an indication of service acceptability was not readily available for this review from any of the health boards, even though it is collected in different ways, such as case studies and questionnaires. It is understood that this information is collected, but not readily available to submit for the purposes of a review, due to lack of capacity and lack of easily accessible electronic data records for these services. Consequently it is not clear is whether any of the patient feedback is collated, analysed and used to inform service developments.

The lack of readily available data means that there is not only a deficit of understanding at a national level, providing no clear picture of how much resource is allocated and how effectively services are addressing obesity, but that crucially, the data is not being used on an ongoing basis internally to drive service improvement.

6 Key Findings Level 3 Services (Children, Young People and Families)

Multi-disciplinary specialist weight management services for children and young people at level 3 have not been developed across Wales. Aneurin Bevan is the only health board to do so and launched their service in May 2019.

Betsi Cadwaladr UHB refer their children and young people to the level 2 community paediatric dietetics service. Cardiff & Vale UHB has a community paediatric dietetics service just for cases where surgery or child protection is considered. Neither of these services offers the range of disciplines and elements required in an evidence based specialist service as described in

the All Wales Obesity Pathway. Both of these areas have prepared business cases to seek further funding to develop these services in the future.

The remaining health boards: Cwm Taf Morgannwg UHB; Hywel Dda UHB; Powys THB; and, Swansea Bay UHB have no level 3 services for children, young people and families.

6.1 Estimated Population Need

NICE recommend that children and young people with a BMI at the $\geq 98^{th}$ centile with significant co-morbidities and or complex additional needs should be offered support from specialist services (level 3).

It is difficult to estimate potential demand for level 3 services for children and young people. The Child Measurement Programme (CMP) Report 2017-18 gives an indication for 4-5 year olds. The most recent report states that the proportion of children measured as severely obese (99.6^{th} centile) in Wales was 3.3%, which equates to around 18,500, using mid-year estimates of 0-15 year olds. There was a reported 2% difference between severe obesity prevalence in the most deprived (3.9%) and least deprived areas of Wales (1.9%).

The 2018/19 National Survey for Wales found that for those aged 16-24, 15% reported that they have obesity and 38% reported that they are overweight or obese. It is important to note that there is evidence that some people tend to under-report weight, suggesting that this may be an under-estimation of the proportion of those who have overweight and obesity in this age group.

7 Key Findings Level 4 Services

There has previously been one planned referral pathway in place for patients to access bariatric surgery in Wales. Following this pathway, patients can be referred by their General Practitioner (GP) or from local weight management services. Patients are referred through a local level 3 gatekeeper, who is responsible for sending referrals to WIMOS. The bariatric multidisciplinary team (MDT) at WIMOS are the final (level 4) gatekeeper to accessing NHS funded surgery (figure 3). WIMOS assesses the referral against their access criteria for bariatric surgery, either approving the referral or declining and returning it to the referrer.

WIMOS delivers surgical services for patients in South Wales, through a 2-site model that includes Morriston and Singleton Hospitals in Swansea. Patients from North Wales access bariatric surgery at Salford Royal NHS Foundation Trust. Previously this had been after referral through the designated gatekeeper at WIMOS however, since 2018, patients from Betsi Cadwaladr University Health Board (BCUHB) have been referred directly from their level 3 weight management service to Salford for surgery. Whilst

WHSSC has previously considered the development of a local bariatric surgery service within North Wales, it was decided in 2013 that the existing service arrangements should remain because of the need to treat sufficient patients annually to meet the requirements of the British Obesity and Metabolic Surgery Society (BOMSS) standards for a bariatric unit (4) (5).

In 2012, based on epidemiological data, clinical practice and expert opinion, NICE suggested a population benchmark for bariatric surgery of 0.01% of the general population per year after 5 years (equivalent to 10 per 100,000 population)(WHSSC, 2013; Gulliford, 2016). In line with this, in 2013, WHSSC proposed a phased, 5-year plan to increase bariatric surgery for the population of Wales. This plan aimed to increase the approximately 80 bariatric procedures funded by the NHS in Wales in 2011/12 (about 2.6 per 100,000 population) to around 300 cases per annum for Wales (225 in South Wales and 75 in England)(WHSSC, 2013) as detailed in table 12 below. This was subsequently outlined in an Abertawe Bro Morgannwg University Health Board business case to increase operative numbers.

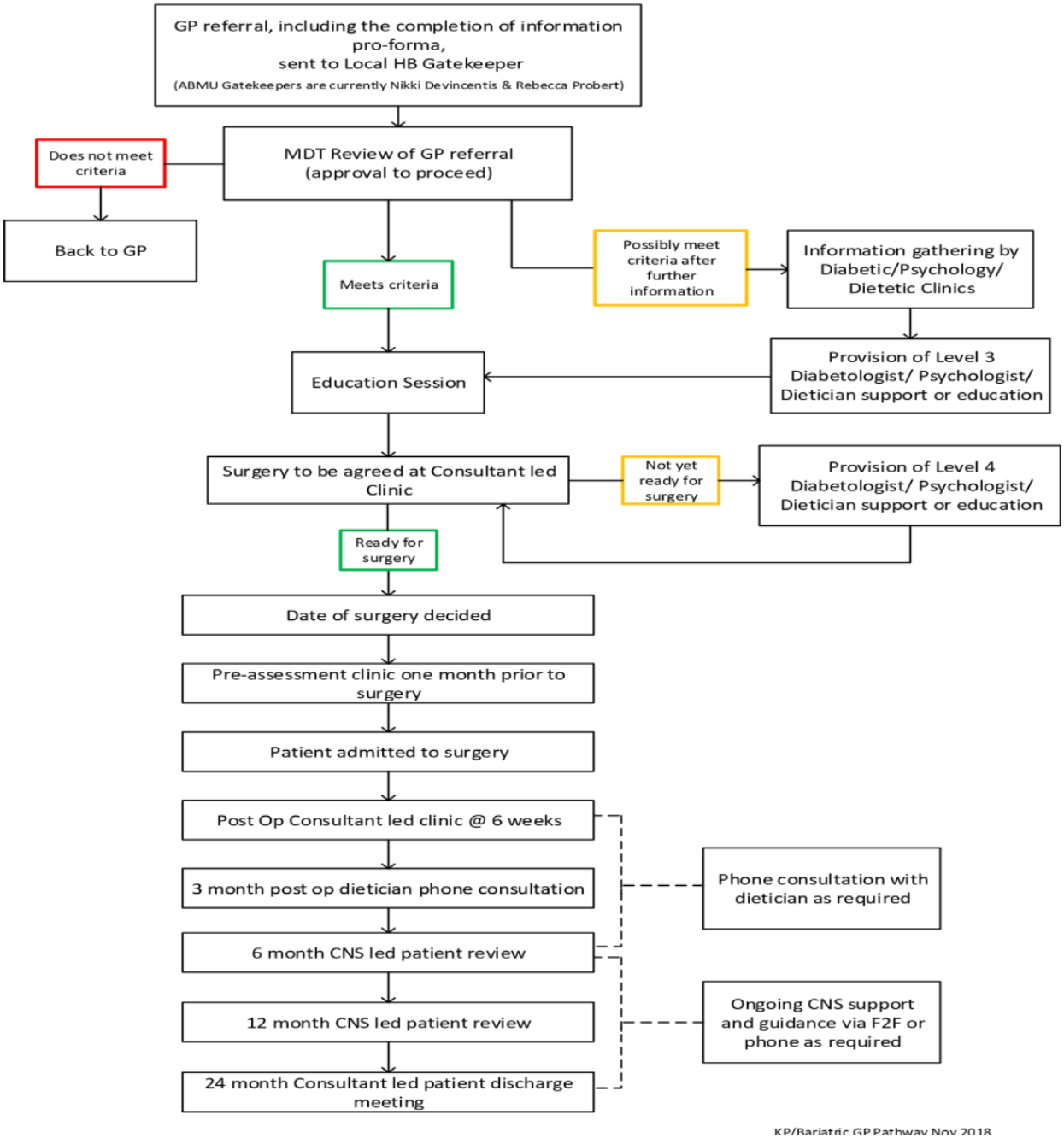
Table 12: phased 5-year plan to commission an increase in bariatric surgery activity in South Wales from 2013/14 (WHSSC, 2014)

Year of business case	Planned number of procedures
1	100
2	130
3	163
4	198
5	230

7.1 Published evidence on the uptake of bariatric surgery in Wales

Previously published 2014-16 data on bariatric surgery admissions in Wales (based on the Patient Episode Database for Wales (PEDW) and Office for National Statistics (ONS) mid-year population estimates) show that there have been, on average, 320 admissions each year (PHW, 2018). This means that there were an average of 10.3 admissions for bariatric surgery per 100,000 people in Wales each year, as can be seen in table 13 (PHW, 2018). These data also show that there was variation in this rate by health board, although there is no evidence of an overall difference between the rates of bariatric surgery, when each health board is compared with the all-Wales total.

Figure 3: Pathway for referrals received by WIMOS



However these data needed to be treated with caution for a number of reasons, including:

- they may include attendances for primary as well as other procedures;
- it is not possible to directly identify surgery for bariatric or weight loss indications from coded data within the Patient Episode Database for Wales (PEDW);

- Procedures used for bariatric surgery may also be used to treat other conditions.

It is also evident that these data for numbers of procedures performed a year are not consistent with WHSSC data, as outlined above (WHSSC, 2013).

Table 13: previously published data on the European Age-Standardised Rate (EASR) of bariatric surgery admissions per 100,000 people in Wales by health board, 2014-2016[16]

Health Board	Crude rate per 100,000	EASR per 100,000 (95% Confidence Interval)	
Betsi Cadwaladr	10.3	10.1	(8.8 to 11.5)
Powys	12.3	10.8	(7.9 to 14.3)
Hywel Dda	9.8	9.5	(7.8 to 11.5)
Abertawe Bro Morgannwg	10.7	11.1	(9.5 to 13.0)
Cardiff and Vale	9.1	10.4	(8.7 to 12.3)
Cwm Taf	11.3	11.9	(9.6 to 14.4)
Aneurin Bevan	9.3	9.4	(8.0 to 11.0)
All Wales	**10.1**	**10.3**	**(9.7 to 11.0)**

Comparative data on the number of bariatric procedures undertaken in other parts of the UK are limited and similarly based on routinely coded hospital admission data which are collected through different methodologies and which may not accurately reflect exact numbers of operative procedures. Nevertheless what information is available shows that, in 2017/18 in England, across all ages, there were 6,627 hospital admissions with a primary diagnosis of obesity and a main or secondary procedure of bariatric surgery; over three quarters (79%) of admissions were for females and over three quarters of patients (79%) were aged between 35 and 64 (NHS Digital, 2019). The English national rate for obesity-related bariatric surgery admissions was therefore approximately 12 per 100,000 of the age-standardised population, in 2017/18 (NHS Digital, 2019).

The literature also suggests that UK rates of admission for bariatric surgery are substantially lower than many international comparators, such as Sweden which has a similar health service but lower obesity rates and performs 70-80 procedures per 100 000 people, and North America, where the rate of surgery is around 40-50/100 000 (Welbourn et al, 2016).

[16] Data obtained from the Public Health Wales Observatory.

7.2 The potential demand for bariatric surgery in Wales

There is no accurate way of ascertaining the number of people who need bariatric surgery in Wales. However, one basic approach to understanding the size of potential demand is to determine the number of people who could be eligible for surgery based on their BMI. Estimates of the number of people with overweight or obesity in Wales can be made through the National Survey for Wales (NSW), a self-reported survey that records height and weight.

Using combined 2016/17 – 2018/19 NSW data and applying this to mid-year Office for National Statistics (ONS) population figures, it can be estimated that[17] 57,400 (95% CI 50,000 – 64,700) people over the age of 16 in Wales have an estimated BMI of 40 kg/m^2 or more, equivalent to 2.2% (CI 1.9 – 2.6(age-standardised)%)) of the population. A further 9,800 (CI 7,200 – 12,300) people over the age of 16 in Wales have an estimated BMI of 50 kg/m^2 or more, equivalent to 0.4% (CI 0.3 – 0.5(age-standardised)%) of the population.

These figures cannot be used to accurately predict the number of people who would be potentially eligible for bariatric surgery because:

- NSW data is self-estimated and therefore may not accurately reflect BMI, for example survey respondents typically overestimate their height and underestimate their weight.
- Many of the people who have a BMI of 40 kg/m^2 or more will not want or be eligible for surgery for other reasons.
- These figures include all adults greater than 16 years and only adults greater than 18 are eligible for bariatric surgery in Wales.

Nevertheless, the figure of 57,400 provides an estimated baseline of the maximum number of people who could potentially be eligible for bariatric surgery in Wales under current access criteria. This suggests that, even if many of these people might not need or want bariatric surgery, the prevalent need for bariatric surgery procedures is still likely to far exceed the number of operations that are currently planned (table 9).

Furthermore, if NICE eligibility criteria for bariatric services were to be applied in Wales, a proportion of the estimated 131,400 (CI 121,700 – 141,000) people with a BMI of between 35 and 40, would also be potentially

[17] Produced by Public Health Wales Observatory, using NSW (WG) and mid-year population estimates (Office for National Statistics). Estimated counts have been rounded to the nearest 100. Approximately 9.3% of survey records were missing obesity information therefore care should be taken when interpreting these results.

eligible for surgery if they have a co-morbidity[18]. Since an estimated 10% of people in Wales who are obese also report having diabetes (PHW, 2018), it is clear that this could lead to a further substantial increase in potentially eligible people.

Results from the NSW estimates of BMI can also be analysed at health board level, with numbers of adults (16 years and above) with an estimated BMI of 40 kg/m^2 or more, presented in table 14[19]. Whilst there is evidence of some variation between the age-standardised percentage of people who estimated their BMI to be 40 kg/m^2 or more, there is no evidence of an overall difference when comparing the all-Wales percentage to different health boards' percentages. Nevertheless, there is clearly considerable variation in the number of people who might potentially be eligible for bariatric surgery across different health boards, based on the different number of people who live in each health board. These estimates suggest that the numbers of referrals from different health boards across Wales may therefore also vary considerably.

Results from NSW BMI data were also analysed using deprivation data based on where a respondent lives (figure 6)[20]. This analysis shows that the number of people over 16 years who self-report as having a BMI classified as obese increases as deprivation increases. This suggests that the number of people who would be potentially eligible for bariatric surgery is most likely to be higher in more deprived fifths of the population.

Table 14: estimated number of people (aged 16 years and above) with a BMI of 40 kg/m^2 or more, by health board, 2016/17-2018/19[21]

Health Board	Estimated count (95% confidence interval)	Age-standardised percentage (95% confidence interval)
Betsi Cadwaladr UHB	10,400 (7,800 to 13,000)	1.9 (1.4 to 2.4)
Powys THB	2,400 (1,600 to 3,200)	2.2 (1.4 to 2.9)
Hywel Dda UHB	6,400 (4,500 to 8,300)	2.0 (1.4 to 2.6)
Swansea Bay UHB	7,000 (4,900 to 9,100)	2.2 (1.5 to 2.9)
Cwm Taf Morgannwg UHB	10,600 (7,800 to 13,400)	2.8 (2.1 to 3.5)
Cardiff & Vale UHB	7,100 (4,900 to 9,300)	1.8 (1.3 to 2.4)
Aneurin Bevan UHB	13,500 (8,400 to 18,500)	2.8 (1.7 to 3.9)
Wales	**57,400 (50,000 to 64,700)**	**2.2 (1.9 to 2.6)**

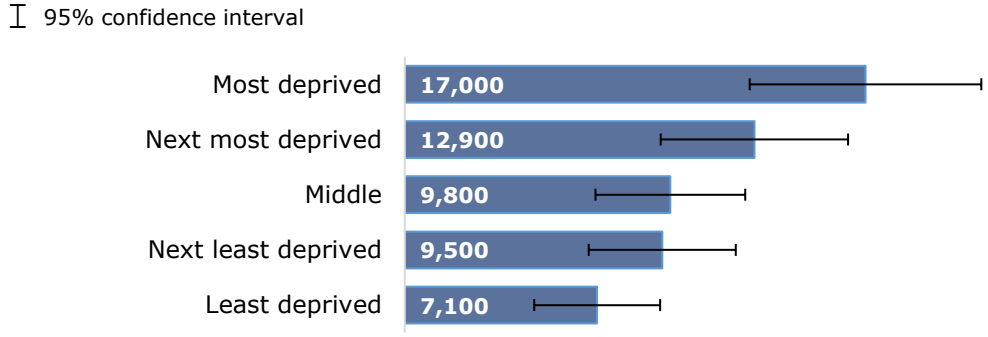
[18] Produced by Public Health Wales Observatory, using NSW (WG) and mid-year population estimates (Office for National Statistics). Estimated counts have been rounded to the nearest 100. Approximately 9.3% of survey records were missing obesity information therefore care should be taken when interpreting these results.

[19] Ibid

[20] Produced by Public Health Wales Observatory, using NSW (WG) & Welsh Index of Multiple Deprivation (WIMD) (WG) and mid-year population estimates (Office for National Statistics). Approximately 9.5% of respondents have an invalid measurement and therefore no BMI recorded.

[21] Ibid.

Figure 7: estimated number of people (16 years and above) in Wales with a BMI of 40 kg/m² or more, by deprivation fifth, 2016/17—2017/18



Source: Public Health Wales Observatory, using NSW (WG) & Welsh Index of Multiple Deprivation (WIMD) (WG)) and mid-year population estimates (Office for National Statistics). Approximately 9.5% of respondents have an invalid measurement and therefore no BMI recorded.

7.3 Pathways to referral for bariatric services

The findings of this review suggest that, in contrast to the planned referral pathway outlined above, people are currently accessing bariatric surgery in a variety of ways in Wales. An important cause of this variation appears to be which health board a patient lives in, with a number of factors adding to this. These include who the gatekeepers to surgery are in different health boards and what their role is. For example, across the health boards not all gatekeepers are clinicians and, even where they are clinicians, some may not be involved with level 3 weight management services, whilst others are. Moreover, some gatekeepers have evolved a flexible working relationship with WIMOS to discuss cases with WIMOS clinicians and even arrange joint consultations for more challenging cases.

The significant variation between health boards in the current provision of level 2 and 3 weight management services also affects how patients are referred for bariatric surgery. This is important because a lack of local level 3 service provision may mean that a patient is unable to fulfil the WHSSC requirements for eligibility for surgery or may mean that a patient may require more lengthy preparation for surgery if a referral is accepted by WIMOS.

This review has identified three principle routes by which patients are currently being referred for bariatric surgery in Wales:

a) Through an integrated weight management service

Aneurin Bevan University Health Board (ABUHB) currently has the largest integrated weight management service pathway in Wales. Aneurin Bevan health care professionals refer people for bariatric surgery via a single point of entry to the integrated level 2 and 3 Adult Weight Management Service (AWMS). Primary care professionals refer into this service via the Welsh

Clinical Communications Gateway e-referral system (WCCG) while all other health care professionals refer using the AWMS referral form or via a referral letter. People referred into the AWMS are assessed at an initial consultation clinic at which the most suitable intervention will be agreed with the patient, including referral on to WIMOS if appropriate.

Cardiff and Vale University Health Board (CVUHB) also has an integrated weight management pathway in place, with a consultant-led level 3 service which has developed a close working relationship with WIMOS. This has enabled joint working with WIMOS clinicians, for example in coming to CVUHB clinics to work together to assess complex patients.

In October 2018, Betsi Cadwaladr University Health Board (BCUHB) started a level 3 weight management service which incorporated the WIMOS gatekeeper role within the level 3 service. Patients accepted for surgery are then referred on to Salford where their surgery can be undertaken.

b) Through a GP referral approved by a health board gatekeeper and forwarded directly to WIMOS

In other health boards, where there is no integrated weight management service in place, referrals are made by GPs either directly or through a health board gatekeeper. Referral arrangements vary across health boards but all are expected to be made using the WIMOS referral form.

- In Swansea Bay University Health Board, limited level 3 weight management services means that referrals are largely made by GPs direct to WIMOS.

- In Cwm Taf Morgannwg University Health Board, whilst the gatekeeper is a clinician, they do not provide a universal level 2 weight management service and there is no level 3 specialist weight management service currently available.

- In Hywel Dda University Health Board, the gatekeeper role is performed by a non-clinician, with some separate level 2 and 3 services available.

- Powys Teaching Health Board referrals may either be made via the Aneurin Bevan University Health Board AWMS or may be referred directly to WIMOS.

c) Through Individual Patient Funding Requests

If the referring clinician believes that there are exceptional grounds for treatment, an Individual Patient Funding Request (IPFR) can be made to WIMOS under the All Wales Policy for Making Decisions on Individual Patient

Funding Requests. This is a route which is sometimes used when a patient has been seen as an emergency hospital admission.

7.4 Awareness of referral pathways for bariatric surgery

A short survey was sent to GP representatives in each health board area (Local Medical Committees). These representatives reported limited awareness of services available for obesity management in their areas. GPs reported varied local pathways for accessing weight management services and they also reported referring their patients directly, using individual patient funding requests.

Where referrals were made using the pathway, the GP representatives reported difficulties with the referral pathway, including the referral proforma. They also raised concerns about the barriers their patients seem to face to accessing surgery from primary care. Finally, they reported dissatisfaction with the quality of explanation and reason for declined applications, with some saying that they felt that none of their referred patients had been accepted.

7.5 Referrals made for bariatric surgery

The final part of the pathway to bariatric surgery is referral to the WIMOS level 4 gatekeeper, which has, until recently, reviewed all referrals for patients in both North and South Wales. If a referral is declined (for example, if insufficient information is provided or the patient does not meet the access criteria) it is sent back to the referrer. If it is approved, a patient is offered an education appointment and may require further appointments with other members of the MDT before they are assessed as suitable for review by a consultant (see referral pathway, figure 3). A patient may go on to have multiple outpatient attendances before they may be accepted for surgery.

Referral data for bariatric surgery patients are collected and recorded as part of the subspecialty of general surgery on the Swansea Bay University Health Board (previously known as Abertawe Bro Morgannwg) Patient Appointment Service (PAS) system. Until recently, only referrals approved by the level 4 gatekeeper were entered electronically onto this system. This means that any referral made that was declined was not recorded on the system and we have no way of knowing how many of these were rejected. This system has since changed and all referrals are now coded, however the data discussed below were collected under the old coding system and therefore refer only to those referrals that were approved for review.

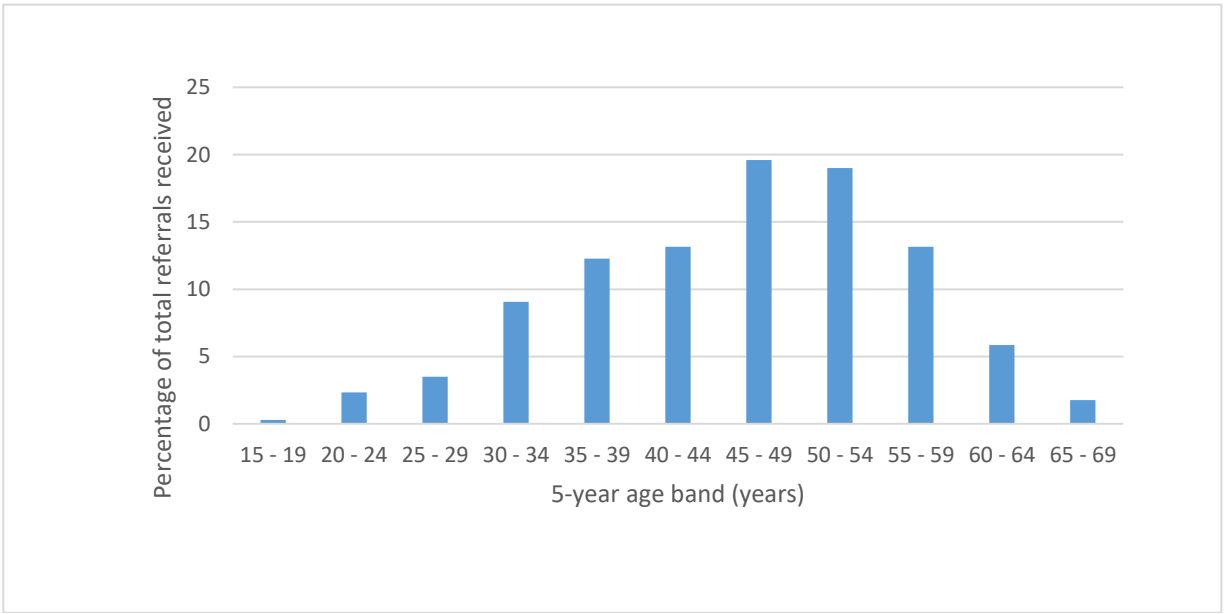
Between June 2016 and April 2019 (inclusive), there were 342 approved referrals made to WIMOS[22]. This number of referrals would not be sufficient to fulfil the WHSCC plan outlined in table 12 above and WIMOS have provided qualitative feedback confirming that they are not receiving enough appropriate referrals to fulfil their operative capacity[23]. However the number of approved referrals made has been increasing since 2016/17 (188 in 2018/19; 110 in 2017/18 and 37 in 2016/17 (data only collected from June 2016)).

7.5.1 Patient demographics

Data on approved referrals made to WIMOS for bariatric surgery, between June 2016 and April 2019, have shown that 74% of referrals were for women and 26% for men[24].

Over the same time period, referral data show that approved referrals for bariatric surgery were made for patients across all age groups (figure 8). However the greatest proportion were received for patients in the 45-54 age bands[25].

Figure 8: proportion of total approved referrals received to WIMOS (June 2016 – April 2019) by age band of patient referred[26]



[22] Data provided by Swansea Bay UHB surgical services team

[23] Qualitative feedback from WIMOS

[24] Data provided by Swansea Bay UHB surgical services team

[25] Ibid

[26] Data provided by Swansea Bay UHB surgical services team. Figures shown include both primary surgeries as well as other procedures such as removals of gastric bands. Patients referred for revision or other procedures may not follow the same referral pathway as patients referred for primary procedures.

7.5.2 Source of referral

Analysis of approved referrals made to WIMOS between June 2016 and April 2019 have shown that GPs were the main source of referrals. In total, 74% of referrals were made by a GP, 15% from another source, 10% from a consultant or independent nurse other than in an A and E Department and 1% following an emergency admission[27]. Other secondary care disciplines making referrals include cardiovascular and diabetes medicine.

7.5.3 Referrals by health board

Data is available from WIMOS on approved referrals made for surgery, by health board. These show that, between June 2016 and April 2019, referrals from Aneurin Bevan and Abertawe Bro Morgannwg health boards made up the greatest proportion of the total referrals to WIMOS for surgery (30% and 32% respectively) (table 15)[28].

Table 15: percentages of the total approved bariatric referrals made to WIMOS by health board, June 2016 - April 2019[29] (pre-boundary changes)

Health Board	Percentage
Betsi Cadwaladr UHB	1
Hywel Dda UHB	7
Abertawe Bro Morgannwg UHB	32
Cardiff & Vale UHB	4
Cwm Taf UHB	18
Aneurin Bevan UHB	30
Powys THB	7
Out of area	1

However, it should be noted that these referral patterns relate to health boards before boundary changes led to the creation of Swansea Bay and Cwm Taf Morgannwg health boards. There are also difficulties with verifying these referral data when comparing them to health board records, this may be particularly the case for referrals of patients from Betsi Cadwaladr University Health Board who are ultimately sent for surgery in England, with the further complication that, since 2018, this health board have developed their own service that incorporates a gatekeeper role. For example, data from WIMOS has shown that only three approved referrals came from Betsi Cadwaladr University Health Board in this time period. However, data

[27] Data provided by Swansea Bay UHB surgical services team
[28] Ibid.
[29] Ibid.

provided by Betsi Cadwaladr University Health Board (BCUHB) have shown that, between 2017- 2018, there were 42 referrals from BCUHB to WIMOS. Of these: 23 were approved at MDT and sent to Salford; 4 were declined, and 15 were returned to referrer for more information[30].

Therefore, whilst it seems likely that there is considerable variation in the proportions of approved referrals made by health boards, direct comparisons between the numbers of referrals made by different health boards need to be treated with caution.

7.6 Outcomes of referrals to bariatric surgery services

Data are available from WIMOS on the number of people who attend outpatient appointments for bariatric surgery (table 16). Approximately 50% of approved referrals lead to a first outpatient appointment after review by the WIMOS MDT[31].

Between August 2016 and April 2019 (inclusive)[32]:

- 8% of bariatric first outpatient appointments resulted in a patient being put on the list for surgery and 25% of follow-up surgery appointments were subsequently listed for surgery.
- Approximately 30% of outpatient appointments were discharged or managed with the 'see on symptom' (SOS) approach, when patients are discharged when clinically safe to do so, with the option of self-referring again in the future, via a rapid access pathway.

Table 16: outcome of first and follow up bariatric outpatient appointment attendance in Swansea, August 2016 – April 2019[33]

Outcome of attendance	Percentage of 1st bariatric surgery outpatient appointments	Percentage of follow-up bariatric surgery appointments
Inpatient/Day case list	8	25
Further Investigation Required	5	2
Follow-up outpatient appointment	37	31
Referral to another consultant	5	2
Referred to Therapies	9	3
Discharged	7	6
See on Symptom	24	26
Attended - Future Decision Unknown	5	5

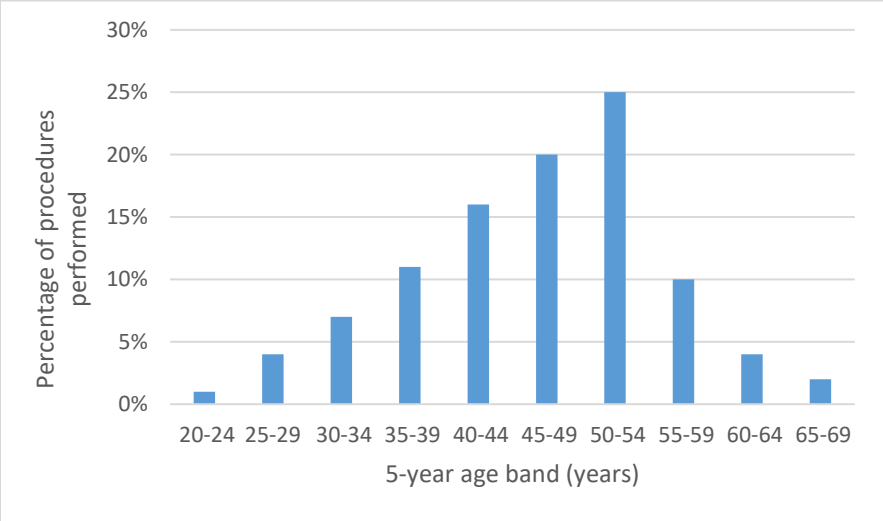
[30] Information provided by level 3 gatekeeper for Betsi Cadwaladr University Health Board
[31] Data provided by Swansea Bay University Health Board surgical services team
[32] Ibid.
[33] Ibid.

7.7 Bariatric surgical procedures performed

7.7.1 Patient demographics

Data are available from WIMOS on the demographics of patients that they have undertaken bariatric surgical procedures on in Swansea. It should be noted that these data include both primary surgical procedures as well as other operations such as removals of gastric bands. This is important because the small number of these patients referred for revision or other procedures may not follow the same referral pathway as patients referred for primary procedures. Nevertheless, these data show that, in keeping with the greatest numbers of referrals made, the greatest proportion of procedures are performed in the 45-54 age bands (figure 9).

Figure 9: percentage of bariatric surgery procedures (primary and other procedures) performed by WIMOS for each age band, June 2017-April 2019 (inclusive)[34]



Data available on the BMI (in kg/m^2) of patients on the waiting list for surgery (June 2017 – April 2019) show that[35]:

- 33% of patients had a BMI of between 46-50
- 25% of patients had a BMI of between 51-55
- 24% of patients had a BMI of between 41-45
- 10% of patients had a BMI of over 56
- 8% of patients had a BMI of under 40

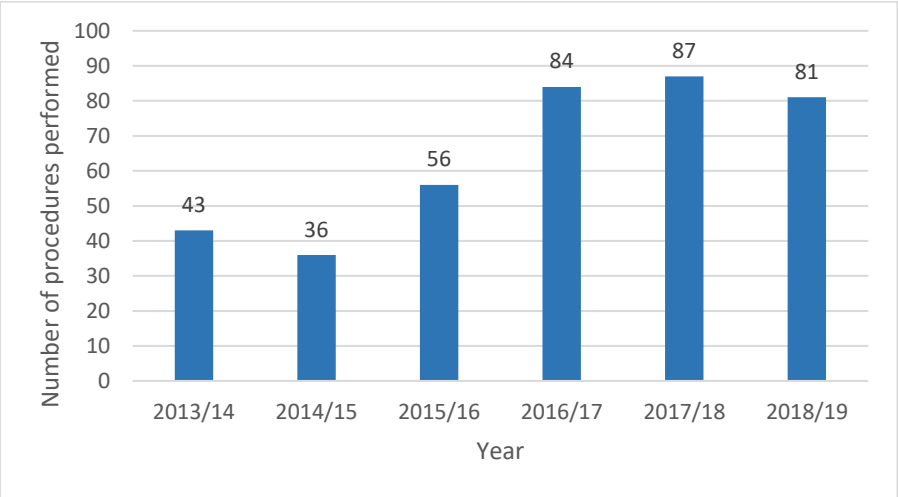
[34] Data provided by Swansea Bay UHB surgical services team. Figures shown include both primary surgeries as well as other procedures such as removals of gastric bands. Patients referred for revision or other procedures may not follow the same referral pathway as patients referred for primary procedures.
[35] Ibid.

This means that approximately 68% of patients waiting for surgery over this time had a BMI of 45 kg/m^2 or more.

7.7.2 Numbers of surgical procedures performed

Data are available from WIMOS on the number of bariatric procedures (primary and revision procedures) performed annually since 2013/14 (figure 10). Data are also available from WHSSC to show the number of primary surgical procedures undertaken by WIMOS (table 17). When both these sources of data are compared to the WHSSC plan for numbers of procedures to be completed, outlined in table 2 above, it can be seen that recorded activity has not increased in line with these plans. As previously stated, WIMOS have provided qualitative feedback that they have capacity to undertake a greater number of operations than are currently undertaken but that they have not been receiving enough appropriate referrals to fulfil this operative capacity[36].

Figure 10: number of bariatric surgery procedures performed by WIMOS, 2013/14 – 2018/19 (primary and other procedures)[37]



Data are also available from WIMOS on the number of primary and secondary surgical procedures performed by HB in Wales (figure 11)[38]. It should be noted that these data do not include patients from Betsi Cadwaladr University Health Board who would have had their operation in Salford and do include a very small number of patients who live in English Primary Care Trusts on the border with Wales. These data show that, in keeping with referral data, the greatest proportion of operations were

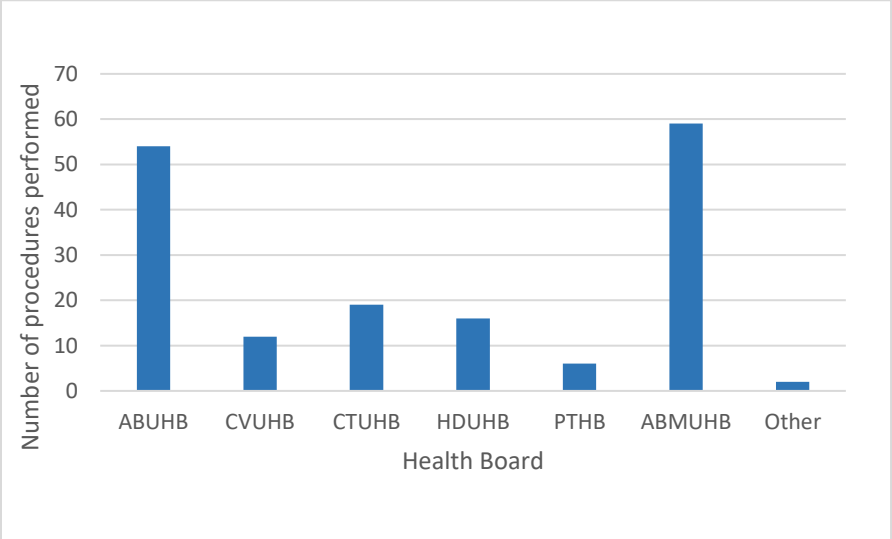
[36] Qualitative feedback from WIMOS.
[37] Data provided by Swansea Bay UHB surgical services team.
[38] Ibid.

performed on patients who live in Aneurin Bevan University Health Board and what was formerly known as Abertawe Bro Morgannwg University Health Board.

Table 17: numbers of primary bariatric surgical procedures performed by WIMOS annually, compared to planned activity outlined by WHSSC in 2013[39]

Year	Planned Activity	Primary surgical procedures performed
2014/15	100	Not available
2015/16	130	31
2016/17	163	61
2017/18	198	71
2018/19	230	62

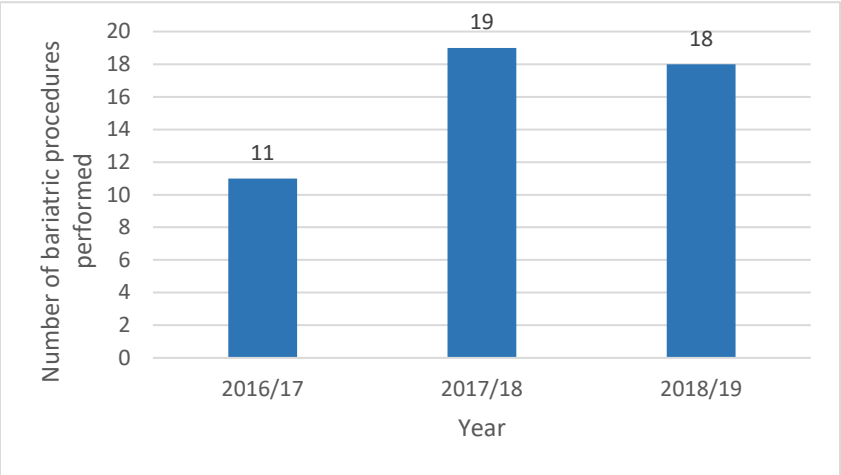
Figure 11: numbers of bariatric surgery procedures performed by WIMOS, 2017/18 - 2018/19, by health board (primary and revision procedures)[40]



Data on primary procedures performed on patients referred from Betsi Cadwaladr University Health Board to the Salford Royal NHS Foundation Trust is also available (figure 12). These also demonstrate that there has not been an increasing trend in the number of procedures performed over the last three years.

[39] Data provided by WHSSC.
[40] Data provided by Swansea Bay UHB surgical services team.

Figure 12: number of primary bariatric surgery procedures performed on patients referred from Wales by the Salford Royal NHS Foundation Trust, 2016/17 – 2018/19[41]



Using the data on primary procedures undertaken by WIMOS and Salford, it can be estimated that, over the years 2016/17 – 2018/19, there was an average of approximately 80 primary bariatric procedures performed on Welsh patients a year. This is in line with the number of procedures that were being undertaken in Wales in 2011/12 (WHSSC, 2013).

The review has highlighted some key themes at level 4.

7.7.3 Population need, capacity and demand

There is no way of accurately calculating the number of people who are eligible for bariatric surgery in Wales. However, population estimates of people who are obese show that a potentially large and increasing number of people may be eligible for surgery. If Wales adopted NICE eligibility criteria for bariatric surgery this number is likely to be even higher.

Evidence suggests that the proportion of people who are obese in Wales increases as deprivation increases. Therefore, the number of people who are eligible for bariatric surgery is also likely to increase as deprivation increases. There is also evidence suggesting that the number of people in Wales who could be eligible for surgery, based only on their self-estimated BMI, is likely to vary between health boards because of variation in the number of people in each health board.

[41] Data provided by WHSSC.

7.7.4 Access Criteria and referral pathways

There are significant differences between WHSSC access criteria for bariatric surgery and NICE clinical guidance on when surgery should be considered for a patient. Differences include: the WHSSC requirement for a patient to have spent 24 months in a level 2 or 3 service; that WHSSC does not consider surgery for people with a BMI of between 35 and 40 if other significant diseases, such as type 2 diabetes or high blood pressure, are present; and, does not consider recent-onset diabetes or the family origin of a patient when deciding whether a patient would benefit from surgery at a lower BMI.

In Wales, there has previously been only one level 4 gatekeeper role in Wales (WIMOS), with surgery performed in Swansea or Salford depending on the location of the individual patient. Since 2018, there has also been a gatekeeper role in Betsi Cadwaladr University Health Board which means that a patient can be referred directly to Salford for surgery. There is considerable variation in how people are referred for bariatric surgery in Wales, with different pathways to referral into bariatric surgery depending on which health board the individual patient comes from.

There has previously been no way of knowing the total number of referrals made for bariatric surgery in Wales through WIMOS, as referrals that were declined for review (e.g. due to insufficient information) were not recorded. Therefore, we also do not currently know how many referrals are made for bariatric surgery from each health board in Wales. This has now changed and in the future, these data will be available for patients referred to WIMOS.

Evidence suggests that WIMOS are not receiving enough approved referrals to reach their operative capacity or to fulfil WHSSC planned increases in procedure numbers, however, the number of approved referrals has been increasing. Although data on referral numbers by health board need to be treated with some caution, there is also evidence of variation in the number of patients referred by different health boards in Wales.

GPs in Wales make the greatest proportion of referrals to the bariatric service but some express dissatisfaction with referral pathways and experience difficulties in referring patients. They also note a lack of feedback as to why the patients they refer are not accepted for surgery.

Data show that a large proportion of approved referrals that are made to WIMOS are not subsequently accepted for an appointment with a consultant. When a person is accepted for an appointment there is also a relatively high rate of discharge from first bariatric clinic appointments and a low proportion of people seen in clinic who then go on to have surgery. The reasons for this are likely to be multifaceted and complex, in keeping with any patient who is referred for surgery, however it is possible that one

factor in this may be, as qualitative evidence has suggested, that there an insufficient number of appropriate referrals being made.

- Demographic data suggest that 74% of people whose referrals to WIMOS are approved are women, with the greatest proportion received for patients in the 45-54 age bands. The largest proportions of patients in Wales waiting for surgery in Swansea are also aged between 45-54 years and have a BMI greater than 45 kg/m^2.

- Evidence gathered for this review suggests that the number of people having bariatric surgery in Wales has not changed since 2011/12. It is similarly evident that the number of people having surgery has not been increasing in line with the planned numbers of operations to be performed, as outlined by WHSSC in 2013. The data also suggest that there is variation in the number of patients who have an operation depending on the health board they live in. Whilst this is to be expected based on variation in population sizes between health boards, as with numbers of referrals received, it is noteworthy that the greatest proportion of patients to have an operative procedure through WIMOS live in Aneurin Bevan University Health Board and the health board formerly known as Abertawe Bro Morgannwg University Health Board. These are, respectively, the 2 health boards with the largest integrated weight management services in operation, and one is the health board that hosts level 4 bariatric services.

8 Strengths and limitations of these reviews

These reviews are limited by the quantity and quality of data available to inform them. The data to inform these reviews have been provided by various sources that have been collecting it for different purposes, over varied time periods and using different methods. Some of these methods also rely on routinely collected data for other purposes such as hospital coded data which is known to have inherent limitations. Some data that is collected by health boards, particularly at levels 2 and 3, was not possible to collate for the purposes of these reviews due to underdeveloped data management infrastructure. There have already been some improvements made to data collection, for example by WIMOS who now collect data on all referrals made to them, and this is likely to improve future review of services.

Nevertheless, these reviews have been strengthened by input from multiple, highly-informed stakeholders, such as GPs, clinicians involved in the delivery of level 2, 3 and 4 services, public health staff and others. It has been developed by working collaboratively with these various stakeholders and therefore encompasses their collective knowledge and varied perspectives.

This review has not attempted to assess the evidence base behind when bariatric surgery is indicated but has, instead, taken NICE guidance as its starting point for when it is recommended. Similarly it has not made an assessment of the outcomes of bariatric surgery procedures in Wales as this has not been the focus of this rapid review. Fully understanding outcome data and reasons underlying them would require a more complex and in depth assessment than this rapid review could afford. However, as this review supports service redesign in order to increase bariatric surgery in Wales, there is a need for ongoing review of surgical outcomes in the future.

9 Conclusions

While there were a number of challenges in conducting the reviews, largely because of the limited availability of routine data and the stage of development of services, it is possible to draw some conclusions. These have been organised by level but many of the issues highlighted apply equally at all levels of the current pathway.

The conclusions drawn from the review for level 2 and level 3 services relate significantly to variability in the offer between and within Health Board areas; lack of capacity within the system to meet need; gaps in services particularly relating to children and young people and the availability of reliable information. At level 4 the complexity of the referral pathways and the lack of availability of services at level 3 are critical factors in access to care.

9.1.1 Variability in Offer.

This review identified that the content and or intensity of intervention differed within service offers at levels 2 and 3, for people with similar needs, across the country. For example, what was interpreted as appropriate for a Level 2 intervention in one part of the country was considered sufficient as a Level 3 intervention elsewhere. This has led to variation in the quality of support people have received depending on where they live and means that some people may not have received the appropriate level of service to match their clinical needs. It is recognised that although service models and structure may differ across the country, reflecting differences in demographics, assets, needs and opportunities; there should be parity in the substance of an intervention wherever a person accesses that support.

It is considered likely that these variations have arisen, in part, due to different interpretations of the 2010 guidance, which was not detailed. It may also reflect differing prioritisation of the pathway and restrictions in available resources in some parts of the nation.

9.1.2 Variability in Access

Notwithstanding variations in interpretation of what constitutes an appropriate service at the different levels of the pathway, this review has also demonstrated stark variations in availability of services.

Findings indicate that there are no level 2 services for children, young people and families that meet the All Wales 2010 pathway description. Considering the scale of obesity in Wales and the numbers of children and young people who may potentially benefit from such services, this is an issue of great concern.

For adults, there are only two health boards in the country that meet the 2010 description for their Level 2 services. The remaining five health boards provide adult level 2 services that are limited in some aspect. This review found that no level 2 services for adults within Wales met an updated description of a level 2 service, which was developed to integrate NICE guidance published since 2010. Therefore, all health boards will be required to develop and improve their current service offer at level 2 for adults, when newly defined national pathway guidance and standards are published.

On a positive note, for adult level 2 services, all health boards have a foundation upon which to build. For children, young people and families services at level 2 however, significant development will be required given the current lack of services.

At level 3, only one health board currently provides services for children, young people and families that meet the All Wales Obesity Pathway description (2010). This leaves the majority of children and young people with severe obesity, estimated to be in the region of 16,800-18,500[42], without access to an appropriate level of support.

For adults, two health board areas provide level 3 services that meet the 2010 requirements, with two more providing adult services which are close to meeting the definition.

Level 3 services play a critical role in both the medical management of complex obesity but also in the comprehensive preparation and follow up of those who go forward for bariatric surgical procedures at level 4. A lack of services at level 3 has a direct impact on the admission of people requiring surgical interventions and also may impact on the post-surgical outcomes for those who do access level 4 without appropriate preparation, according to the Level 4 clinicians.

This review found that where there was no level 3 service provision to act as a "gate keeper" for level 4 services, different pathways were required to enable people to access level 4 services. There are currently multiple different pathways to accessing bariatric surgery in Wales and patients are being referred in a variety of ways. There is dissatisfaction amongst clinicians with how patients are referred for bariatric surgery in Wales and a feeling that the current service pathway is not enabling suitable patients to access surgery. This is expressed both by primary care clinicians referring their patients for surgery as well clinicians performing surgery. These different pathways to accessing surgery, which exist alongside varying

[42] This crude estimate takes the Mid year population estimates for 2018 for 0-15 year olds to find the population of 0-15 year olds in Wales, which = 562,709 and multiplies them by the prevalence of severe obesity at 99.6th centile as measured in the CMP = 3.3%. This assumes that the proportion of children who remain severely obese remains at 3.3%. so (562,709 x 3.3)/100 = 18,569. The proportion of adults who are severely obese is estimated to be 3.0 %, so an alternative estimate of (562,709 x 3.0) /100 = 16,881

availability of level 2 and 3 weight management services across Wales, are likely to be producing inequities of access for patients.

Furthermore, an increasing proportion of clinicians' time at level 3 is now spent on providing support akin to palliative care, for those whose lives are limited by the complexity of their condition, due to multiple co-morbidities and factors such as age and longevity of their obesity. This, therefore, is also care which certain populations cannot access due to where in Wales they happen to live.

At level 4, current WHSSC access criteria are likely to be limiting the number of people who can access bariatric surgery in Wales. In particular, the variation in availability of level 2 and 3 services across Wales is affecting whether people are able to access bariatric surgery by preventing them from fulfilling current access criteria. They may also be preventing a number of people from receiving surgery at the most optimal point, for example at a lower BMI, when better health outcomes could be achieved through earlier intervention. Furthermore, these criteria may also be contributing to inequities in access to bariatric surgery between patients in England and Wales, particularly for specific groups of patients in Wales who might be eligible for surgery at a lower BMI if NICE guidance is followed in England.

9.1.3 Service capacity and local population need

This review has demonstrated, by comparing conservative but crude estimates of the numbers of people who may be eligible to access services at levels 2 and 3, that the capacity of those services already in place is insufficient. Level 2 services in particular need to be developed at scale, to provide support before people's needs become too complex and thus difficult to reverse. Geographic access is an important consideration as well as the provision of proportionally more services in areas identified as areas of higher deprivation. This review confirmed that digital and telecare based solutions were not routinely used in Wales, either integrated within or to compliment level 2 and 3 services.

Services at level 3 are needed at a much smaller scale than level 2, but still need to offer sufficient capacity and reach, to meet the needs of a growing cohort of people.

9.1.4 Insufficient service and patient outcome data

This review found that across Wales, readily available data describing either service activity or service outcomes at levels 2, 3 and 4 is insufficient.

Service level data at level 2 and 3 was only forthcoming from one health board and almost no patient outcome data was made available, making it difficult to draw conclusions from the data that was forthcoming.

At level 4, data limitations, including small overall patient numbers, mean that it is not possible to know whether the variation seen in the proportion of approved referrals and bariatric procedures performed on patients from different health boards reflects true variation in demand. There is likely to be variation between the health boards because of differences in population sizes between them. However it is also possible that it may in part reflect the factors discussed above, including different referral pathways in existence across Wales, the availability of level 2 and 3 services in different health boards and, therefore, whether patients are able to be referred and subsequently eligible for bariatric surgery.

However, all five health boards which provide level 3 services for adults were able to provide an estimate of service costs which is helpful, particularly when there will be a drive to expand services across the country.

Patient feedback was not readily available from any of the health boards, nor is this regularly used to inform service provision due to limited administrative capacity and accessible recording systems.

The lack of readily available outcome and feedback data means that there is not only a deficit of understanding at a national level, providing no clear picture of how much resource is allocated and how effectively services are addressing obesity, but that crucially, the data is not being used on an ongoing basis internally to drive service improvement.

Since these reviews began some improvements in data collection have already begun. Further improvements in how data is routinely collated from across Wales would allow this data to be more easily accessible for future ongoing review of weight management and bariatric surgery services in Wales.

9.1.5 Numbers accessing bariatric surgery in Wales

This review confirms that the number of people in Wales who access bariatric surgery is substantially less than those people who are likely to benefit from it. Furthermore, the number of people currently having surgery has not been increasing in line with planned numbers, as outlined by WHSSC in 2013. However this review has shown that there are currently insufficient approved surgical referrals to WIMOS to fulfil the planned level of bariatric surgery or their operative capacity. This is despite the fact that the number of people who should be having surgery is now likely to be higher than the numbers planned in 2013. Evidence also suggests that the number of people who could and should be eligible for bariatric surgery is likely to continue to increase in the future.

Once level 3 services are in place across the country, there is likely to be a rise in demand for level 4 services. Additionally, current WHSSC access

criteria are likely to be limiting the number of people who can access bariatric surgery in Wales. Refreshed evidence-based eligibility criteria for level 4 services will help to ensure that even if numbers rise in the short-term, those accessing surgery will be doing so at the most optimal point, gaining the most appropriate and high-value intervention for their needs.

The reasons behind why there are an insufficient number of approved referrals being made for bariatric surgery in Wales are likely to be multifactorial. However this review has identified some specific factors that are likely to be important in this.

10 Recommendations

10.1.1 Revised All Wales Obesity Pathway

A refreshed All Wales Obesity Pathway and Service Standards should be developed with the involvement of stakeholders.

A refreshed All Wales pathway, informed by NICE and other high-level, robust evidence/UK guidance should be produced in conjunction with key stakeholders in Wales. The updated pathway should clarify what service elements should be offered to whom at what point, but leave scope for health boards to devise the appropriate service model(s) to meet the needs of their target audiences. In addition to new national service standards, the updated pathway will enable a consistent, equitable and evidence-based approach. A core data set should also be developed to drive continuous improvement in service quality, outcomes and user/provider satisfaction.

10.1.2 Level 2 services

Addressing the lack of level 2 services across Wales, particularly resolving the gaps for children, young people and families is a priority. These services should be the basis of most provision meeting the needs of the largest group of patients within the population.

Addressing gaps at level 2 particularly for children, young people and families should be considered an urgent priority. There should be a diversity of service offer at level 2 to appeal to and meet the needs of the differing sub-sections or segments of the population. The group of people eligible for level 2 services vary substantially in their clinical needs as well as their interest and previous experiences. Service offers should be informed by both the available evidence base and an understanding of what is acceptable to the population they are designed to target. Newly developed services must be carefully evaluated.

Evidence from the Child Measurement Programme in Wales and similar surveillance programmes worldwide, demonstrates the strong association between levels of socioeconomic deprivation and obesity. When additional service capacity is developed in Wales, it should be prioritised and most accessible in the most deprived areas.

Some service offers at level 2 such as the use of commercial slimming providers on referral have a well-developed evidence base and could be introduced at pace and scale across Wales for adults. However it is also important to ensure other approaches are made available to meet the needs of different sections of the population with different needs and preferences, including offers that utilise digital technology.

In line with reducing barriers to access and encouraging more people to gain support at an earlier stage, service offers at level 2 should be easy for people to reach geographically, for example within the nearest town or neighbourhood, delivered in familiar venues, at times that fit in with busy and varied lives.

Addressing the lack of level 3 specialist services across Wales, particularly in areas where there is limited or no access currently should be prioritised.

Level 3 services provide tailored specialist interventions for people who want or need to manage their severe and complex condition without a bariatric procedure. This includes children, young people and adults. As such, level 3 services provide much more than purely an assessment and preparation function for those who need to access bariatric surgery at Level 4. However, the current lack of level 3 service provision for adults is negatively impacting the number of people who can access level 4 and the current iniquitous provision is likely to be resulting in differing levels of preparation, follow up and potentially outcome for those patients who do go forward for surgery.

For children, young people and families, level 3 services are currently the only specialist service offer available for a growing number of children and young people with severe and complex obesity in Wales. It is therefore recommended that the establishment of level 3 services for children young people and families, with shared provision arrangements where necessary, is prioritised in the short term. Along with this, sufficient provision for adults at level 3 is necessary to enable people to access level 4 services at the appropriate and timely point in their lives, when they will receive maximum benefit from the procedure.

In the medium term, level 3 services should be made available at an appropriate capacity to meet the needs of local populations. Consideration should be given to the location and number of sites from which services are provided to enable access across large Health Board areas. Digital technology should be utilised to compliment face to face service offers.

10.1.3 Standardised referral pathway for all patients requiring bariatric surgery across Wales.

This should be developed collaboratively so that it is recognised and approved for use by all stakeholders involved in the obesity pathway. Specifically, the new referral pathway must include the development of one single referral form with an electronic method of submission of this form. This will reduce the different ways that patients are referred for bariatric surgery in Wales and thereby reduce potential inequity of access. The referral pathway also needs to include a system of clear feedback to referrers to understand the reasons behind any declined referrals.

10.1.4 Access criteria for eligibility to level 4 services should be updated to reflect the latest NICE guidance.

The process of developing these access criteria should include reviewing the WHSSC access policy based on the latest NICE recommendations (see appendix 6). In particular, this should include reviewing whether specific patient groups that would potentially benefit from surgery at lower BMIs should also be eligible for surgery in Wales.

10.1.5 Integration between levels 2, 3 and 4

The new referral pathway for level 4 needs to be cohesively integrated with level 2 and 3 services in each health board across Wales.

This will reduce potential geographical inequities across health boards and ensure that, when referrals are made for surgery, appropriate patients move easily from a referral made by level 3 services to review by the level 4 MDT and, if not appropriate for surgery, can be fed back into level 3 services for further support. The new pathway standards should emphasise the need for close working relationships between level 4 and level 3 MDTs to enable effective communication. This will ensure that when a patient is referred for surgery they will have received the best non-surgical care prior to their operative procedure.

10.1.6 Professional education and learning

There needs to be a period of engagement and education with all health practitioners working with weight management services so they are aware of the new referral pathway for bariatric surgery in Wales. Moreover, specific input will be needed to inform and work with general practitioners and other referring health professionals, so that they fully understand the new system.

10.1.7 Improved data collection and monitoring

There needs to be annual collection and monitoring of a core minimum dataset for all levels of the All Wales Obesity Pathway, with national reporting of findings. This should be based on an agreed minimum dataset with common data definitions.

There should be an annual review of all (approved and declined) referrals made for bariatric surgery in Wales and the number of procedures completed, to include information on the health board of the referred patient. Future review of data should also include assessment of outcome data for all levels of service. At level 4, it is important to ensure that this also includes the same level of data collection on patients resident in Betsi Cadwaladr University Health Board who may be referred for surgery in Salford.

Annual monitoring should provide a picture of improving reach and quality of service delivery. Service outcome data as well as collated patient outcome data and should be used by services internally to drive continuous service improvement.

Qualitative outcome measures, such as referring clinician feedback on the referral process, provider staff and participant satisfaction should also be collated and reported. This is needed to evaluate whether the new All Wales Weight Management Pathway has improved the referral process for people who use the services, their families and clinicians. Specifically, it is also needed to ensure that all clinicians fully understand the referral process, the pathway and the services available in their area and can therefore help in communicating this to their patients.

For Level 4, annual monitoring is needed to ensure that numbers of referrals and approved referrals are increasing, that this is subsequently leading to an increase in the number of procedures completed and in particular, that these are increasing equitably across Wales.

Digital solutions to support and enable data collection may need to be developed and shared across Wales.

10.1.8 Opportunities for Shared Learning

It would be prudent for health boards to collaborate in the design, development, delivery and evaluation of new service models to accelerate learning and to make best use of available resources and expertise. There is already considerable relevant experience within the health community to draw on. A clinical pathway network, akin those in place for diabetes, arthritis or mental health may be helpful to support a long-term national programme of development.

11 References

British Obesity and Metabolic Surgery Society. *BOMSS Service Standards and Commissioning Guidance Working Party (*2014) [Accessed: 8 August 2019.] Available at: https://www.bomss.org.uk/bomss-standards-for-clinical-services/

Gulliford, M; Charlton, J; Booth, H; Fildes A; Khan, O; Reddy, M; Ashworth, M; Littlejohns, P; Provost, A; Rudisill, C. *Costs and outcomes of increasing access to bariatric surgery for obesity: cohort study and cost-effectiveness analysis using electronic health records.* Health Services and Delivery Research (2016); 4 (17). [Accessed: 8 September 2019.] Available at: https://www.ncbi.nlm.nih.gov/books/NBK362445/pdf/Bookshelf_NBK362445.pdf

Hewitt G; Anthony, R; Moore, G; Melendez-Torres, G.J; & Murphy, S; (2019) Student Health and Wellbeing in Wales: Report of the 2017/18 Health Behaviour in School-aged Children Survey and School Health Research Network Student Health and Wellbeing Survey. Cardiff University, Cardiff, UK

Maxwell RJ. (1984) Quality assessment in health. Br Med J (Clin Res Ed). May 12;288(6428):1470-2. doi:10.1136/bmj.288.6428.1470

NHS Digital. *Statistics on Obesity, Physical Activity and Diet, England: 2019.* (2019) [Accessed: 14 November 2019.] Available at: https://digital.nhs.uk/data-and-information/publications/statistical/statistics-on-obesity-physical-activity-and-diet/statistics-on-obesity-physical-activity-and-diet-england-2019/part-1-obesity-related-hospital-admissions

National Institute for Health and Care Excellence. *Obesity: identification, assessment and management* (2014) [Accessed: 08 August 2019.] Available at: https://www.nice.org.uk/guidance/cg189/chapter/1-Recommendations#surgical-interventions

Public Health Wales (2018) The case for action on obesity in Wales. Public Health Wale NHS Trust, Cardiff http://www.wales.nhs.uk/sitesplus/documents/888/150119%20The%20case%20for%20action%20on%20obesity%20in%20Wales%200ae%20FINAL1.pdf

Public Health Wales (2019) Child Measurement Programme for Wales 2017/18 http://www.wales.nhs.uk/sitesplus/documents/888/CMP%20report%20%28Eng%29.pdf

Royal College of Surgeons (2014) Commissioning Guide: Weight assessment and management clinics (tier 3) https://www.rcseng.ac.uk/library-and-publications/rcs-publications/

Welbourn R, le Roux, C, Owen-Smith, A, Wordsworth S, Blazeby J. *Why the NHS should do more bariatric surgery; how much should we do?* British

Medical Journal (2016) 353:i1472 [Accessed: 14 November 2019.] Available at: https://www.bmj.com/content/353/bmj.i1472

Welsh Government. (2016). *The All Wales Obesity Pathway*. [Online]. http://gov.wales/topics/health/improvement/obesity/?lang=en [Accessed April 2019].

Welsh Government (2019) Healthy Weight: Healthy Wales. Our national ambitions to prevent and reduce obesity in Wales. Consultation https://gov.wales/healthy-weight-healthy-wales [Accessed March 2019]

Welsh Government (2019) Healthy Weight: Healthy Wales Our long term strategy to prevent and reduce obesity https://gov.wales/healthy-weight-strategy

Welsh Government (2018) National Survey for Wales 2017-18 Population Health – Lifestyle. National Survey for Wales 2017-18: Population Health - Lifestyle (gov.wales) [accessed October 2019]

Welsh Government (2020) National Survey for Wales 2019-20 Adult Lifestyle, Statistical bulletin. https://gov.wales/sites/default/files/statistics-and-research/2020-07/adult-lifestyle-national-survey-wales-april-2019-march-2020-390.pdf [Accessed October 2020]

Welsh Government (2015) Health Behaviour in School-aged Children (HBSC) https://gov.wales/docs/caecd/research/2015/151022-health-behaviour-school-children-2013-14-key-findings-en.pdf [accessed October 2019]

Welsh Government (2019) Welsh Index of Multiple Deprivation 2014: A guide to analysing deprivation in rural areas. Statistics for Wales https://gov.wales/sites/default/files/statistics-and-research/2019-05/welsh-index-of-multiple-deprivation-2014-a-guide-to-analysing-deprivation-in-rural-areas.pdf [Accessed October 2019]

Welsh Health Specialised Services Committee. *Review of bariatric surgery provision and access criteria in the context of the all wales obesity pathway (*2013)

Welsh Health Specialised Services Committee. *Bariatric Surgery Assessment of Business Case For Increasing Activity in South Wales to Deliver Commisioning Plan* (2014)

Welsh Health Specialised Services Committee. *Specialised Services Service Specification: CP29b Bariatric Surgery* (2018)

12 Appendix 1: Level 2 Adult weight management services

Indication of Need- Aneurin Bevan UHB				
Estimated adult population[43]				Deprivation: % LSOAs in most deprived decile WIMD19[44]
BMI> 30	1% BMI> 30	BMI> 40	1% BMI> 40	2.3
130,000	1300	11,600	116	

Service Description (Level 2): Aneurin Bevan UHB Integrated weight management service Levels 2 & 3											
Service	**Service Components/ features**	**Staffing**			**Inclusion criteria**	**Exclusion criteria**	**Frequency of support**	**Duration of support**	**Weekly weigh in**	**Pre and post assessment**	**Exit routes/plans**
		Staff (L2 &3)	Band	WTE							
Integrated weight management service Level 2/ 3	L2 & 3 combined: Assessment, Dietetic support including Behaviour change and MI Physical activity support delivered via NERS	Physician GP w Sp I Dietitians Dietetic Asst. Dietetics support workers Nurse Counsellor Psychologists Service Coordinator Booking Officer	n/k n/k 7 6 4 3 6 n/k 8a 7 5 3	n/k n/k 1.6 2.5 1.0 3.0 1.0 n/k 0.5 0.8 1.0 1.0	BMI >30 Tried level 1	Diagnosed eating disorder; With another specialist clinical service	According to patient need group programme weekly	Up to 12 months. group programme 8 weeks	NO	Discharge at 8weeks – 1 year. No follow up once discharged	Last 3-4 appointments are discharge planning skills; referral to other services, including NERS

[43] NB. Produced by Public Health Wales Observatory, (2016/17-2017/18 data) using NSW (WG), & MYE (ONS) Estimated counts have been rounded to the nearest 100.Approximately 9.5% of records contain missing data. Care should be taken when interpreting these results

[44] WIMD19 released Nov 2019 https://wimd.gov.wales/explore?lang=en#domain=overall&&z=8&lat=52.4137&lng=-4.2000

Service Summary (Level 2): Aneurin Bevan UHB Integrated weight management service Levels 2 and 3												
Service	**Activity**	**Service cost**	**Effectiveness**		**Efficiency**		**Acceptability**	**Accessibility**			**Meets need of**	
	Capacity p/a No. s enrolled	Estimate (p/a)	Completers	Outcome data	DNA rates	Waiting lists	Patient feedback	Referral Routes	Coverage No. LAs	Venues	All Wales Pathway 2010	Updated definition
Integrated weight management service Level 2/ 3	1000 1200 *Combined data* 2018/19	£500k combined service costs	Not available	Available but not collated or analysed	20%	Not known	PROM used. Not available	GPs primary care secondary care	All	All HB hospitals and some GP practices No online access	YES	NO

Indication of Need – Betsi Cadwaladr UHB				
Estimated adult population[45]				Deprivation % LSOAs in most deprived decile WIMD19
BMI> 30	1%BMI> 30	BMI> 40	1% BMI> 40	1.2
123,000	1,230	11,400	114	

Service Description (Level 2): Betsi Cadwaladr Level 2 Dietetics										
Service(s)	**Service Components/ features**	**Staffing**			**Inclusion criteria**	**Exclusion criteria**	**Frequency of support**	**Duration of support**	**Weekly weigh in**	**Pre and post assessment**	**Exit routes/ plans**
		Staff (L2)	Band	WTE							
a) Lifestyles – group programme for Orthopaedic pathway	Assessment, Dietetic support including behaviour change and MI Physical activity support through dietician-led small groups	Physio (Lifestyles only) Dietitians (deliver Kind Eating Programme too)	n/k 6	n/k 3.0	BMI 35+ Orthopaedic/ joint pain/ dietetics referral	Too young, reduced motivation to change	Weekly for dietetic group; 2x week for physio element	8 weeks for dietetic group; 32 weeks for physio programme	no	Yes, 6m and 12 month follow up	NERS
b) Kind Eating – group programme for dietetic weight management referrals (started Oct 2018)	Assessment, Dietetic support, including behaviour change and MI	Dietitians (deliver Lifestyles Programme too)	Part of above	Part of above	BMI 35-45	BMI age	weekly	8 weeks	n/k	Yes. 4, 6, and 12 month follow up.	
c) Foodwise for Life group programme	Foodwise Nutrition Skills for Life course	Dietetic Asst.	3 or 4	*	16+ years	Reduced motivation to change Pregnancy	weekly	8 weeks	No	Yes, 6 and 12m	NERS; L1 physical activity

[45] Produced by Public Health Wales Observatory, (2016/17-2017/18 data) using NSW (WG), & MYE (ONS) Estimated counts have been rounded to the nearest 100.Approximately 9.5% of records contain missing data. Care should be taken when interpreting these results

Service Summary (Level 2): Betsi Cadwaladr UHB Adult level 2 services												
Service(s)	**Activity**	**Service cost**	**Effectiveness**		**Efficiency**		**Acceptability**	**Accessibility**			**Meets need of**	
Name	Capacity p/a No's enrolled	Estimate (p/a)	Completers	Outcome data	DNA rates	Waiting lists	Patient feedback	Referral Routes	Coverage Which LA's reached?	Venues	All Wales Pathway 2010	Updated definition
a) Lifestyles (started Oct 2018)	144 referred to Dietetics for weight management 29 completed programme	n/k delivered within core funding	n/k	Available but not yet collated or analysed	n/k	n/k	n/k	Self-refer GP or practice nurse Other health professional Level 3 NERS	Anglesey, Gwynedd, Wrexham and Flintshire	Leisure centres and community hospitals. No online access	NO	NO
b) Kind Eating (started Oct 2018)	30 (East and West BCU regions only)	n/k delivered within core funding	29 (6m data)	Available but not yet collated or analysed	n/k	n/k	n/k	Self-refer GP or practice nurse Other health professional Level 3 NERS	Anglesey, Gwynedd, Wrexham and Flintshire	Leisure centres and community hospitals. No online access	NO	NO
c) Foodwise	2018/19: 72 including L1 Foodwise participants	n/k delivered within core funding	n/k	Available but not collated or analysed	n/k	n/k	n/k	Self-refer; Health professional	Anglesey, Gwynedd, Conwy, Denbighshire, Wrexham and Flintshire	Leisure centres and community hospitals. No online access	NO	NO

Indication of Need - Cardiff and Vale UHB				
Estimated adult population[46]				Deprivation % LSOAs in most deprived decile WIMD19
BMI> 30	1%BMI> 30	BMI> 40	1% BMI> 40	2.2
75,800	758	7,400	74	

Service Description (Level 2): Cardiff and Vale UHB Integrated weight management service Levels 2 and 3											
Service(s)	**Service Components/ features**	**Staffing**			**Inclusion criteria**	**Exclusion criteria**	**Frequency of support**	**Duration of support**	**Weekly weigh in**	**Pre and post assessment**	**Exit routes/plans**
		Staff (L2)	Band	WTE							
Integrated weight management service Levels 2/3	Single point of access Nutrition and behaviour change Eating for Life (EFL) group programmes 1:1 and group formats	Dietitians: Team lead, Dietician Chronic conditions Dietitians Diabetes Dietitians Dietitian Asst. Admin support (combined with L3 service)	7 6 6 3	0.8 2.3 2.0 0.4	BMI >30 with co-morbidities BMI >25 with MSK Age 16+	Very complex cases referred to L3	6 x 1:1 appointments EFL Group: weekly	Over 6 months EFL = 8 weeks	n/k	Data gathered at every clinic appointment (6m;12m;18m)	Monthly drop in clinic for post group support, includes weigh-in. L3; primary care; self-management; other services

[46] Produced by Public Health Wales Observatory, (2016/17-2017/18 data) using NSW (WG), & MYE (ONS) Estimated counts have been rounded to the nearest 100.Approximately 9.5% of records contain missing data. Care should be taken when interpreting these results

Service Summary (Level 2): Cardiff and Vale UHB Integrated Level 2 and 3 service for Adults												
Service(s)	**Activity**	**Service cost**	**Effectiveness**		**Efficiency**		**Acceptability**	**Accessibility**			**Meets need of**	
Name	Capacity p/a No. s enrolled	Estimate (p/a)	Completers	Outcome data	DNA rates	Waiting lists	Patient feedback	Referral Routes	Coverage Which LA's reached?	Venues	All Wales Pathway 2010	Updated definition
Integrated weight management service Levels 2 and 3	Capacity: 500 –patient clinics 500 –EFL group slots Enrolments: EFL 596 accepted 410 attended	1:1 clinics = £32k additional service costs not known	239 completed EFL course 58%	EFL average weight loss =3.3kg, at end of programme 10% lost>5% body weight	23% for clinics 28% groups.	14 weeks	Collected but not provided: Patient experience; PROM data. PREM tool to be used	Self-referral GP Primary care	Cardiff & The Vale of Glamorgan	Community settings; house visits for those who are house-bound. Phone/ skype support offered	YES	NO

Indication of Need- Cwm Taff Morgannwg UHB				
Estimated adult population[47]				Deprivation[48] % LSOAs in most deprived decile WIMD19
BMI> 30	1%	BMI> 40	1% BMI> 40	2.1
104,500	1045	10,600	106	

Service Description (Level 2): Cwm Taff Morgannwg UHB services for Adults											
Service(s)	**Service Components**	**Staffing**			**Inclusion criteria**	**Exclusion criteria**	**Frequency of support**	**Duration of support**	**Weekly weigh in**	**Pre and post assessment**	**Exit routes/ plans**
		Staff	Band	WTE							
a) Bump Start	Tailored lifestyle advice for pregnant overweight women	Midwife Dietician Maternity support workers	* * *	1.0 0.4 3.0	BMI>35+ Pregnant,	Not pregnant	1-1 At each midwifery appt.	From book in to delivery	At each midwifery appt.	Data gathered at each appt.	Post-natal support
b) Joint care pathway	Food Wise and NERS	Physical activity specialists - Merthyr - RCT Dietetic Support workers	 * * 3	 0.5 1.5 0.2	BMI>28 chronic knee and/ or hip pain	Uncontrolled diabetes	2 hrs weekly	12 wk. programme	Unknown	Yes QoL, OKS, 6 min walk test, sit to stand test	Generic NERS; leisure; Orthopaedics; MSK

[47] NB. Data estimates reflect recent boundary change. Produced by Public Health Wales Observatory, (2016/17-2017/18 data) using NSW (WG), & MYE (ONS) Estimated counts have been rounded to the nearest 100.Approximately 9.5% of records contain missing data. Care should be taken when interpreting these results

[48] Data reflects recent boundary change

Service Summary (Level 2): Cwm Taff Morgannwg UHB Services for Adults												
Service	**Activity**	**Service cost**	**Effectiveness**		**Efficiency**		**Acceptability**	**Accessibility**			**Meets need of**	
	Capacity p/a No. s enrolled	Estimate (p/a)	Completers	Outcome data	DNA rates	Waiting lists	Patient feedback	Referral Routes	Coverage Which LA's reached?	Venues/ LA reach	All Wales Pathway 2010	Updated definition
a) Bump Start	139 referred 130 started *2015 data (from the pilot)*	£163k	81 62%	Pilot data available but not collated or analysed	Not available	None	Collected Not provided	Midwife GP Primary care	Rhondda Cynon Taf (RCT)	Ysbyty Cwm Rhondda and the Royal Glamorgan Hospital Midwifery clinics. No online access	NO	NO
b) Joint Care Pathway	420 capacity 342 referrals Low referrals Merthyr *2017/18 data*	£100k	143 42%	Not available	Not available	Waiting list in RCT (45 at end of 2018/19)	Collected Not provided	Orthopaedics	Merthyr, RCT	LA leisure centres No online access	NO	NO

Indication of Need – Hywel Dda UHB				
Estimated adult population[49]				Deprivation % LSOAs in most deprived decile WIMD19
BMI> 30	1%BMI> 30	BMI> 40	1% BMI> 40	0.5
75,100	751	6,400	64	

Service Description (Level 2): Hywel Dda UHB services for adults											
Service(s)	**Service Components/ features**	**Staffing**			**Inclusion criteria**	**Exclusion criteria**	**Frequency of support**	**Duration of support**	**Weekly weigh in**	**Pre and post assessment**	**Exit routes/plans**
		Staff (L2)	Band	WTE							
a) NERS generic service:	Group programme: Assessment: Physical activity support FoodWise (external for Ceredigion) Education	NERS coordinator Leisure staff	PG9	n/k n/k	18+ Ceredigion BMI >30. Pembrokeshire: BMI 25-39.9 pre-diabetes; MSK. Carmarthenshire: 30+ or 28+ with 2+ chronic conditions.	As per national service	2 x weekly sessions	16 weeks	N/k	Yes, as per NERS national programme	NERS maintenance package; other Leisure provision; local walking groups
b) Foodwise	Nutrition Skills for Life Group programme	Dietetic Asst. practitioners	4	*	BMI 25+		weekly	8wk course	no	yes	n/k

[49] Produced by Public Health Wales Observatory, (2016/17-2017/18 data) using NSW (WG), & MYE (ONS) Estimated counts have been rounded to the nearest 100.Approximately 9.5% of records contain missing data. Care should be taken when interpreting these results

Service Summary (Level 2): Hywel Dda UHB weight management services for adults												
Service(s)	**Activity**	**Service cost**	**Effectiveness**		**Efficiency**		**Acceptability**	**Accessibility**			**Meets need of**	
Name	Capacity p/a No. s enrolled	Estimate (p/a)	Completers	Outcome data	DNA rates	Waiting lists	Patient feedback	Referral Routes	Coverage Which LA's reached?	Venues	All Wales Pathway 2010	Updated definition
a) NERS	N/k - data not separated from other NERS referrals	n/k but overspent past 5 years due to no. of referrals.	n/k	Part of NERS national data set	n/k	Yes	n/k	GP or other health prof	Pembrokeshire; Ceredigion, and Carmarthenshire, plus some Powys patients	Leisure centres and community halls Skype service (Carmarthenshire only)	NO	NO
b) Foodwise Group course	410 referred 168 completed 2018/19	n/k funded through core dietetics budget	n/k	Standard Foodwise metrics	n/k	n/k	n/k	Self-refer GP or other health prof; L3 service	Pembrokeshire; Ceredigion, and Carmarthenshire,	Community and hospital venues across HB No online access	NO	NO

Indication of Need – Powys Teaching HB				
Estimated adult population[50]				Deprivation % LSOAs in most deprived decile WIMD19
BMI> 30	1%BMI> 30	BMI> 40	1% BMI> 40	0.1
22,800	228	3,700	37	

Powys THB currently has no specific Level 2 weight management services for adults.

Service Description (Level 2): Powys THB Adult weight management services,											
Service(s)	**Service Components/ features**	**Staffing**			**Inclusion criteria**	**Exclusion criteria**	**Frequency of support**	**Duration of support**	**Weekly weigh in**	**Pre and post assessment**	**Exit routes/ plans**
		Staff (L2)	Band	WTE							
a) Generic Dietetics Outpatient service		Dietetics lead, N Powys. Dieticians Mid & S Powys, M & S Powys, S Powys Admin N Powys S Powys	8a 7 6 5 4 3 2	1.0 1.2 1.2 0.2 1.2 1.0 0.5	None (this service cannot separate out referrals for overweight/ obesity)	none	Every 3 months as needed	As needed	No	n/k	n/k
b) NERS	Group programme	Physical activity instructor	3 or 4	n/k	As per national service	As per national service	2x weekly	16 weeks	no	As per national programme	L1 physical activity classes

[50] Produced by Public Health Wales Observatory, (2016/17-2017/18 data) using NSW (WG), & MYE (ONS) Estimated counts have been rounded to the nearest 100.Approximately 9.5% of records contain missing data. Care should be taken when interpreting these results

Service Summary (Level 2): Powys THB Adult Weight Management services												
Service(s)	**Activity**	**Service cost**	**Effectiveness**		**Efficiency**		**Acceptability**	**Accessibility**			**Meets need of**	
Name	Capacity p/a No. s enrolled	Estimate (p/a)	Completers	Outcome data	DNA rates	Waiting lists	Patient feedback	Referral Routes	Coverage Which LA's reached?	Venues	All Wales Pathway 2010	Updated definitio n
a) Powys Dietetics service	n/k	Core dietetics service	Min 1 session attendance required, dependent on need	Available but not collated or analysed	n/k	14 weeks	n/k	GP, Primary Care HP.	Across Powys,	delivered at clinics in all key towns and via telephone/ skype	NO	NO
a) NERS	n/k	n/k	As per national programme	Available within national programme	n/k	n/k	n/k	GP, Primary Care HP.	Across Powys	Delivered through all Powys Leisure centres No online access	NO	NO

Indication of Need – Swansea Bay UHB				
Estimated adult population[51]				Deprivation % LSOAs in most deprived decile WIMD19
BMI> 30	1%BMI> 30	BMI> 40	1% BMI> 40	1.6
77,600	776	8,200	82	

Service Description (Level 2): Swansea Bay UHB, Adult weight management services, cont.

Service(s)	Service Components/ features	Staffing			Inclusion criteria	Exclusion criteria	Frequency of support	Duration of support	Weekly weigh in	Pre and post assessment	Exit routes/ plans
		Staff (L2)	Band	WTE							
a) Antenatal weight management service	Assessment, education; advice	Midwife	6	1.0 (Swansea) 0.6 (NPT)	BMI >35 at booking	Not pregnant	3 x during pregnancy	3 appointments during pregnancy	No	yes	none
b) Dietetics weight management service	Assessment, dietetic support; behaviour change and MI. Group programme and 1-1	Dietitian Dietetic support worker	5 3	0.2 0.3	BMI ≥28 with comorbidities; ≥25 for Asian adults with comorbidities and motivated	age	weekly	4 wk. programme, then monthly follow up, up to 6 m	no	yes	NERS

[51] Produced by Public Health Wales Observatory, (2016/17-2017/18 data) using NSW (WG), & MYE (ONS) Estimated counts have been rounded to the nearest 100.Approximately 9.5% of records contain missing data. Care should be taken when interpreting these results

Service Summary (Level 2): Swansea Bay UHB Adult weight management services, cont.												
Service(s)	**Activity**	**Service cost**	**Effectiveness**		**Efficiency**		**Acceptability**	**Accessibility**			**Meets need of**	
Name	Capacity p/a No. s enrolled	Estimate (p/a)	Completers	Outcome data	DNA rates	Waiting lists	Patient feedback	Referral Routes	Coverage No. Local Authorities	Venues	All Wales Pathway 2010	Updated definition
a) Antenatal weight management service	n/k	n/k Delivered within core funding	n/k	Available but not collated or analysed	n/k	n/k	n/k	health professional	Swansea, Neath, Port Talbot	NPT hospital No online access	NO	NO
b) Dietetics weight management service	2018: 198	All within core funding.	128 completed 4 session	Available but not analysed or collated	n/k	n/k	n/k	GP, Practice nurse, other Health Professional.	Swansea, Neath, Port Talbot	NPT hospital and Morriston Hospital. No online access	NO	NO

Service Description (Level 2): Swansea Bay UHB Adult weight management services, cont.											
Service(s)	Service Components/ features	Staffing			Inclusion criteria	Exclusion criteria	Frequency of support	Duration of support	Weekly weigh in	Pre and post assessment	Exit routes/plans
		Staff (L2)	**Band**	**WTE**							
c) 'Fit for Life' - Primary care based service (started Feb 2019)	Assessment, physical activity support, education. Personalised action plan. 1-1 and group.	Exercise professional	L3 or 4	n/k	BMI ≥ 30	Age, BMI	weekly	8 weeks	n/k	yes	Physical activity support
d) Pre-diabetes screening service – Primary care based service	Assessment Foodwise, education through group programme	Health care support workers	2 or 3	0.5 per cluster (within core role	HBA1C 42+,	HB1AC ≤ 41	n/k	n/k	No	yes, post 12m	NERS, dietetics service

Service Summary (Level 2): Swansea Bay UHB Adult weight management services, cont.												
Service(s)	**Activity**	**Service cost**	**Effectiveness**		**Efficiency**		**Accept ability**	**Accessibility**			**Meets need of**	
Name	Capacity p/a No. s enrolled	Estimate (p/a)	Completers	Outcome data	DNA rates	Waiting lists	Patient feedback	Referral Routes	Coverage No. Local Authorities	Venues	All Wales Pathway 2010	Updated definition
c) Fit for Life' - Primary care' based service	n/k	£1000 for 2 programmes	n/k	Available but not analysed or collated	n/k	n/k	n/k	n/k	Swansea City	Kingsway GP practice No online / skype access	NO	NO
d) Pre-diabetes screening service – Primary care based service	n/k	n/k funded by GP cluster	n/k	Available but not analysed or collated	n/k	n/k	n/k	n/k	Neath Port Talbot	GP practices in Afan, Neath, and Upper Valleys clusters No online/ skype access	NO	NO

Service Description (Level 2): Swansea Bay UHB Adult weight management services, cont.											
Service(s)	**Service Components/ features**	**Staffing**			**Inclusion criteria**	**Exclusion criteria**	**Frequency of support**	**Duration of support**	**Weekly weigh in**	**Pre and post assessment**	**Exit routes/ plans**
		Staff (L2)	**Band**	**WTE**							
e) Foodwise	Group programme	Physical Activity instructor	L3 (NPT) L4 (Swansea)	fixed term 0.1 fixed term	BMI 30+; BMI 28+ with 2+ chronic conditions; referral from Rehab schemes; mild anxiety or stress 16+ (Swansea)	Age	Weekly	8 weeks	no	yes	NERS
f) NERS	Group programme	Physical Activity instructor	L3 (NPT) L4 (Swansea)	fixed term 0.1 fixed term	BMI 30+; BMI 28+ with 2+ chronic conditions; referral from Rehab schemes; mild anxiety or stress 16+ (Swansea)	Uncontrolled diabetes/ angina/ epilepsy	2x weekly	16 weeks	no	As per national programme	L1 physical activity options; NERS (generic) or COPD NERS (Swansea)

Service Summary (Level 2): Swansea Bay UHB Adult weight management services, cont.												
Service(s)	**Activity**	**Service cost**	**Effectiveness**		**Efficiency**		**Acceptability**	**Accessibility**			**Meets need of**	
Name	Capacity p/a No's enrolled	Estimate (p/a)	Completers	Outcome data	DNA rates	Waiting lists	Patient feedback	Referral Routes	Coverage No. Local Authorities	Venues	All Wales Pathway 2010	Updated definition
e) Foodwise	n/k	n/k Delivered within core funding	n/k	Available but not collated or analysed	n/k	n/k	n/k	health professional	Swansea, Neath, Port Talbot	Leisure Centres & Sketty Community Park. No online/ skype access	NO	NO
f) NERS	2018: 198	All within core funding.	128 completed 4 sessions	Available but not analysed or collated	n/k	n/k	n/k	GP, Practice nurse, other Health Professional	Swansea, Neath, Port Talbot	Leisure Centres & Sketty Community Park. No online/ skype access	NO	NO

13 Appendix 2: Level 2 Children and young people's weight management services

There are no weight management services for children and young people at level 2 in:

Aneurin Bevan UHB
Cardiff and Vale UHB
Cwm Taff Morgannwg UHB
Hywel Dda UHB, &
Swansea Bay UHB.

Service Description (Level 2): Betsi Cadwaladr UHB Paediatric Dietetic service for Childhood Obesity											
Service(s)	**Service Components/ features**	**Staffing**			**Inclusion criteria**	**Exclusion criteria**	**Frequency of support**	**Duration of support**	**Weekly weigh in**	**Pre and post assessment**	**Exit routes/plans**
		Staff (L2)	Band	WTE							
Paediatric Dietetics service for Childhood Obesity	Assessment Dietetic 1-1 support. Focus on the child not the family	Paediatric Dietician	*	*	≤ 16 years old BMI ≥ 99.6th centile or 91st centile with comorbidities	Age	As required	As required	n/k	n/k	n/k

Service Summary (Level 2): Betsi Cadwaladr UHB Paediatric Dietetic service for Childhood Obesity												
Service(s)	**Activity**	**Service cost**	**Effectiveness**		**Efficiency**		**Accept-ability**	**Accessibility**			**Meets need of**	
Name	Capacity p/a No. s enrolled	Estimate (p/a)	Completers	Outcome data	DNA rates	Waiting lists	Patient feedback	Referral Routes	Coverage Which LA's reached?	Venues	All Wales Pathway 2010	Updated definition
Paediatric Dietetic service for Childhood Obesity	194 referred 113 accepted (2016/17)	Within core funding	n/k	Available but not collated or analysed	N/k but large numbers across the service	n/k	n/k	n/k	BCU Health Board area	Ysbyty Gwynedd; Wrexham Maelor; Glan Clwyd No online access	NO	NO

Service Description (Level 2): Powys THB Weight Management services for Children, Young People and their families											
Service(s)	**Service Components/ features**	**Staffing**			**Inclusion criteria**	**Exclusion criteria**	**Frequency of support**	**Duration of support**	**Weekly weigh in**	**Pre and post assessment**	**Exit routes/ plans**
		Staff (L2)	Band	WTE							
a) Generic Dietetics Outpatient service	Assessment, education, advice	Paediatric Dieticians: N Powys, S Powys	 7 7	 0.8 0.5 (commissioned in)	None (this service cannot separate out referrals for overweight / obesity)	none	Every 3 months as needed	As needed	No	n/k	n/k
b) FRESH - Leisure-based family programme	Group after school programme for children and their families delivering education and physical activity	Physical Activity Coordinator	n/k	n/k	7 -13 year olds BMI above 91st centile	age	Twice weekly	8-10 weeks	n/k	yes	n/k

Service Summary (Level 2): Powys THB Weight Management services for Children, Young People and their families, cont.												
Service(s)	**Activity**	**Service cost**	**Effectiveness**		**Efficiency**		**Acceptability**	**Accessibility**			**Meets need of**	
Name	Capacity p/a No. s enrolled	Estimate (p/a)	Completers	Outcome data	DNA rates	Waiting lists	Patient feedback	Referral Routes	Coverage Which LA's reached?	Venues	All Wales Pathway 2010	Updated definition
a) Powys Paediatric Dietetics service	n/k	Core dietetics service	Min 1 session attendance required, dependent on need	Available but not collated or analysed	n/k	n/k	n/k	GP, Primary Care HP.	Across Powys,	Delivered at clinics in Community hospitals. No online access	NO	NO
b) FRESH	16 courses; 175 children	£25k	2018-19 data: 97.78% completed the course	available, collated, and analysed to identify change over time BMI Waist circumference No. days active No. hours active Sed. Activity SDQ	n/k	n/k	yes	GP, School nurse, Primary care, self	Across Powys	Delivered in Leisure centres across County. No online access	Yes for the target group	NO

14 Appendix 3: Level 3 Adult weight management services

There are no Adult Level 3 services available in Cwm Taff Morgannwg UHB (NB complex picture due to recent boundary change) or Powys THB currently.

Service Description: Adult Level 3 services, Aneurin Bevan UHB Integrated Weight Management Service							
Current provision	**Staffing**				**Inclusion criteria**	**Exclusion criteria**	**Duration of support**
Multi-disciplinary, Integrated Level 2 and 3 service for adults, 16+ (started 2014) Physician led, specialist MDT clinic Triage and assessment Tailored multi-component programme 1-1 and group format Practical sessions offered Combined L2 and L3 Limited physical activity input	Staff	Band	WTE	Sessions	BMI > 30 Attended L1 Age 16+	Diagnosed eating disorder Under another specialist clinical service	Varies by patient up to 2 yrs. Group sessions are 8 weeks. 1:1 support provided for up to 6m by individual specialists Dialectical Behaviour Therapy group is 10-12 sessions
	Physician	*	*				
	GPwsi	*	*				
	Dieticians (service lead)	7	1.6				
		6	2.5				
		3	3				
	Psychologists	8a	0.5				
		7	0.8				
	Counsellor	*	1				
	Nurse	*	1				
	Occupational Therapist	*	*				
	Physical Activity Specialist	*	*	Ad hoc			
	Co-ordinator	5	1				
	Admin	3	1				

Service Summary (Level 3): Aneurin Bevan UHB Adult Integrated (Levels 2 and 3) Weight Management services											
Activity	**Service cost**	**Effectiveness**		**Efficiency**		**Accept-ability**	**Accessibility**			**Meets need of**	
Capacity p/a No. treated	estimate (p/a)	Completers in the last financial / calendar year	Outcome data (analysed)	DNA rates	Waiting lists	Patient feedback	Referral Routes	Available to all HB population	Venues	All Wales Pathway 2010	Updated definition
1000 capacity 1200 treated (NB *L2 and 3 combined, 2018/19 data)*	£500k	Not available	Available but not analysed or collated	Approx. 20% high no. cancelled appointments	n/k	Patient reported Outcome measure used. Not provided	GPs primary care secondary care	Yes	All HB hospitals some GP practices. No online access	YES	YES

Service Description: Adult Level 3 service, Betsi Cadwaladr UHB (service started Oct 2018) Adult Specialist Weight Management service							
Current provision	**Staffing**				**Inclusion criteria**	**Exclusion criteria**	**Duration of support**
	Staff	Band	WTE	Sessions			
Multi-disciplinary service (started Oct 2018) Specialist MDT clinic Triage and assessment Tailored multi-component programme: dietetics, psychology and physiotherapy/ physical activity support; education and advice 1-1 and group format Practical sessions offered	Physician		0.2		BMI >45 or referred from Lifestyles, L2 service, due to need to increase support.	BMI Age (i.e., U18)	52-104 weeks depending on needs and progress
	Dieticians (service lead)	8a	1.0				
	Psychologists	8a	0.6				
	Occupational Therapist	6	0.5				
	Therapy Asst. (vacant)		0.5				
	Physical Activity Specialist (SLA with NERS)		1.5				
	Co-ordinator						
	Admin	3	1.0				
	secretary	4	0.1				

Service Summary (Level 3): Betsi Cadwaladr UHB Adult Specialist Weight Management services											
Activity	**Service cost**	**Effectiveness**		**Efficiency**		**Acceptability**	**Accessibility**			**Meets need of**	
Capacity p/a No. treated	estimate (p/a)	Completers in the last financial / calendar year	Outcome data Available (analysed)	DNA rates	Waiting lists	Patient feedback	Referral Routes	Available to all HB population	Venues	All Wales Pathway 2010	Updated definition
Service started Oct 2018 353 referrals in 1st 6 months: 346/353 accepted. 207 patients accepted appt. 186 attended	£260,000 (2018-19)	NA – service started Oct 2018	Planned for 6/12/18m/24m follow up	11% (21 patients)	no	no	GP or practice nurse; other Health professional; secondary care HP; Level 2 service; Level 4 service	Yes	Colwyn Bay, plus outreach in Connah's Quay; Deeside; Denbigh & Feliheil. Local venues used in Deeside, Abergele and Gwynedd. No online access	No (BMI 45+)	No

Service Description (Level 3): Cardiff and Vale UHB Adult Integrated (Levels 2 & 3) Weight Management Services

Current provision	Staffing				Inclusion criteria	Exclusion criteria	Duration of support
	Staff	Band	WTE	Sessions			
Multi-disciplinary, Integrated Level 2 and 3 dietetic led service for adults, 18+ (started 2015) Specialist MDT clinic Triage and assessment Tailored multi-component programme: dietetics, psychology and Occupational Therapy support; education and advice 1-1 and group format Practical sessions offered	Physician		0.15		BMI 30+ with comorbidities 18+ yrs. MDT service is for those with most severe and complex obesity, determined by weight and comorbidities	Age (U18) housebound	Up to 24 months
	Dieticians (service lead)	7	0.5				
	Psychologists		0.4				
	Physiotherapist	6	0.4				
	Nurse (trauma spec)	6	0.5				
	Occupational Therapist	6	0.2				
	Admin	4	1.0				

Service Summary (Level 3): Cardiff and Vale UHB Adult Integrated (Levels 2 & 3) Weight Management Services

Activity	Service cost	Effectiveness		Efficiency		Acceptability	Accessibility			Meets need of	
Capacity p/a No. treated	estimate (p/a)	Completers in the last financial / calendar year	Outcome data Available (analysed)	DNA rates	Waiting lists	Patient feedback	Referral Routes	Available to all HB population	Venues	All Wales Pathway 2010 (reason)	Updated definition (reason)
100 new patients p/a 179 referrals received 2018/19 100 accepted	£180,000	100? Not a fixed programme so not really applicable.	Available Follow up data taken of those in the service at 6/9/12/18m	11% DNA first appointment or refuse service (2017/18)	34 weeks (June 2019)	no	GP or practice nurse; other health prof; Primary care health prof Secondary care health prof L2; :4	Yes	Llandough Hospital Outpatients No online access	Yes	No (Group programme only 8 weeks)

Service Description (Level 3) Hywel Dda UHB Specialist Weight Management service

Current provision	Staffing				Inclusion criteria	Exclusion criteria	Duration of support
	Staff	Band	WTE	Sessions			
Multi-disciplinary, Level 3 service for adults, 18+ Specialist MDT clinic Triage and assessment Tailored multi-component programme: dietetics, psychology 1-1 and group format Practical sessions offered *1.0wte being absorbed as cost pressure to nutrition and dietetics service	Physician			2 p/m	BMI 40+ BMI 35+ with existing comorbidities BMI 37+ Asian or 32+ with existing comorbidities Accessed L2 for at least 6m Patient is ready to change	Not motivated to change	Dietetics: 1-1 monthly for min 20 weeks Groups – weekly for 6 weeks then monthly for 3 months Psychology: 1-1 fortnightly, group for 8 weeks, plus wk. 12 follow up.
	Dieticians (Service lead)	7	0.8				
	Psychologists	6	2.8				
		8b	1.0				

Service Summary (Level 3): Hywel Dda UHB Specialist Weight Management service

Activity	Service cost	Effectiveness		Efficiency		Acceptability	Accessibility			Meets need of	
Capacity p/a No. treated	estimate (p/a)	Completers in the last financial / calendar year	Outcome data Available (Analysed)	DNA rates	Waiting lists	Patient feedback	Referral Routes	Available to all HB population	Venues	All Wales Pathway 2010 (reason)	Updated definition (reason)
(2017-18) 1103 referrals: 630 accepted (2016-17) 816 2019-20 Capacity is 630	£243,208 Dietetic capacity temp increased through Waiting Times initiative monies, but not a sustainable model	n/k	Available through individual dept. databases	n/k	473 at end 2017/18 217 waiting (end Jan 2019) to access the WM service Psychology waiting list is approx. 9m	Yes, and during set up of L3 service	GP or practice nurse; other health prof; Primary care health prof Secondary care health prof L2; :4	Yes	Carmarthen only for Physician input. No online access	No (No physical activity component)	No

Service Description (Level 3): Swansea Bay UHB Multi-disciplinary Specialist Weight Management service							
Current provision	**Staffing**				**Inclusion criteria**	**Exclusion criteria**	**Duration of support**
	Staff	Band	WTE	Sessions			
Multi-disciplinary, Level 3 service for adults, 18+ (Started 2016) Specialist MDT clinic Triage and assessment Tailored multi-component programme: dietetics, psychology; physiotherapy 1-1 and group format Practical sessions offered Plus Midwifery provide specialist midwife-led clinic *no funding identified. So this is from core funding ** this post finished July 2019 due to boundary change.					BMI>40+ (>37.5+ Asian) with associated comorbidities. Higher weight and more complex needs patients. Patient must have attended L2 Midwifery clinic is for those with BMI>35. Those with BMI>40 = shared care with Cons Obstetrician	Housebound U18 Reduced motivation to change; Those with conflicting complex psychological, social or physical conditions, e.g., identified eating disorder	Min of 26 weeks, up to 104 weeks.
	Physician*		0.025				
	Dieticians**	7	0.1				
	Psychologists	7	0.1				
	Physiotherapist	7	0.1				
	Admin	2	0.1				

Service Summary (Level 3): Swansea Bay UHB Multi-disciplinary Specialist Weight Management service											
Activity	**Service cost**	**Effectiveness**		**Efficiency**		**Acceptability**	**Accessibility**			**Meets need of**	
Capacity p/a No. treated	estimate (p/a)	Completers in the last financial / calendar year	Outcome data Available (analysed)	DNA rates	Waiting lists	Patient feedback	Referral Routes	Available to all HB population	Venues	All Wales Pathway 2010 (reason)	Updated definition (reason)
20 patients p/a 36 received 23-24 accepted	£20, 500	20	Available: anthropometric & engagement with service Midwifery clinic: women who attended average weight gain of 5kg less than those who didn't attend and 20% increase in normal birth.	n/k	yes	Patient stories; anecdotal feedback	GP or Practice Nurse; other Health prof; Primary care health prof; Secondary care health prof; L2 service; L4 service	Neath and Port Talbot only. Bridgend Service finished Mar 2019	Diabetes Centre, Morriston Hospital No online access	No (lack of Dietetics; limited reach)	No

15 Appendix 4: Level 3 Children and young people's weight management services

There are weight management services for children and young people at level 3 in only 1 Health Board currently:

Service Description: Children and Young People Level 3 services, Aneurin Bevan UHB Integrated Weight Management Service

Current provision	Staffing				Inclusion criteria	Exclusion criteria	Duration of support
Connect = Multi-disciplinary Level 3 service for children, young people and their families. (started May 2019) Tailored multi-component programme providing triage and assessment; dietetic advice; psychological support; & help to increase activity levels. Plus links to ActivGwent scheme.	Staff	Band	WTE	Sessions	0-2yrs = weight ≥98th centile 2-16 yrs. = BMI ≥ 3.33SD centile OR BM I≥ 98th centile with 1 or more risk factors: • Possible underlying pathology • Risk for comorbidity • Psychological concerns associated with obesity • Safeguarding concerns • Family history of T2DM or premature CVD	Other medical condition	Varies by patient up to 2 yrs.
	Cons Paediatrician	*	*				
	Specialist Dietician	*	*				
	Psychologists	*	*				
	Counsellor	*	*				
	Nurse	*	*				
	Therapy Assistant Practitioner	*	* 3.8FTE				

Service Summary (Level 3): Aneurin Bevan UHB Children and Young People Level 3 service

Activity	Service cost	Effectiveness		Efficiency		Acceptability	Accessibility			Meets need of	
Capacity p/a No. treated	estimate (p/a)	Completers in the last financial / calendar year	Outcome data (analysed)	DNA rates	Waiting lists	Patient feedback	Referral Routes	Available to all HB population	Venues	All Wales Pathway 2010	Updated definition
Service started in May 2019 so n/k	£192k recurring	Not available	Not available yet	n/k	n/k	n/k	GPs primary care secondary care; Teachers; Social Care professionals	Yes	All HB hospitals some GP practices. No online access		

16 Appendix 5: NICE recommendations relevant to bariatric surgery access criteria

Bariatric surgery is a treatment option for people with obesity if all of the following criteria are fulfilled:

- They have a BMI of 40 kg/m^2 or more, or between 35 kg/m^2 and 40 kg/m^2 and other significant disease (for example, type 2 diabetes or high blood pressure) that could be improved if they lost weight
- All appropriate non-surgical measures have been tried but the person has not achieved or maintained adequate, clinically beneficial weight loss
- The person has been receiving or will receive intensive management in a tier 3 service
- The person is generally fit for anaesthesia and surgery
- The person commits to the need for long-term follow-up

Bariatric surgery is the option of choice (instead of lifestyle interventions or drug treatment) for adults with a BMI of more than 50 kg/m^2 when other interventions have not been effective

Offer an expedited assessment for bariatric surgery to people with a BMI of 35 or over who have recent-onset type 2 diabetes as long as they are also receiving or will receive assessment in a tier 3 service (or equivalent).

Consider an assessment for bariatric surgery for people with a BMI of 30–34.9 who have recent-onset type 2 diabetes as long as they are also receiving or will receive assessment in a tier 3 service (or equivalent).

Consider an assessment for bariatric surgery for people of Asian family origin who have recent-onset type 2 diabetes at a lower BMI than other populations, as long as they are also receiving or will receive assessment in a tier 3 service (or equivalent).

17 Appendix 6: WHSSC Policy on access criteria for bariatric surgery in Wales (WHSSC, 2018)

Individuals must satisfy all elements of the access criteria set out below:

- the individual is aged 18 years or over
- the individual has a BMI of 40 or greater
- morbid/severe obesity has been present for at least five years
- the individual has received, and complied with, an intensive weight management programme at a multi-disciplinary weight management clinic (level 2/3 of the All Wales Obesity Pathway) for at least 24 months duration, but has been unable to achieve and maintain a healthy weight, and
- the individual is approved for surgery by the bariatric MDT at the Welsh Institute of Metabolic and Obesity Surgery, Abertawe Bro Morgannwg University Health Board.