

Toward Better Clinical Management of Obesity in Australia

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Toward Better Clinical Management of Obesity

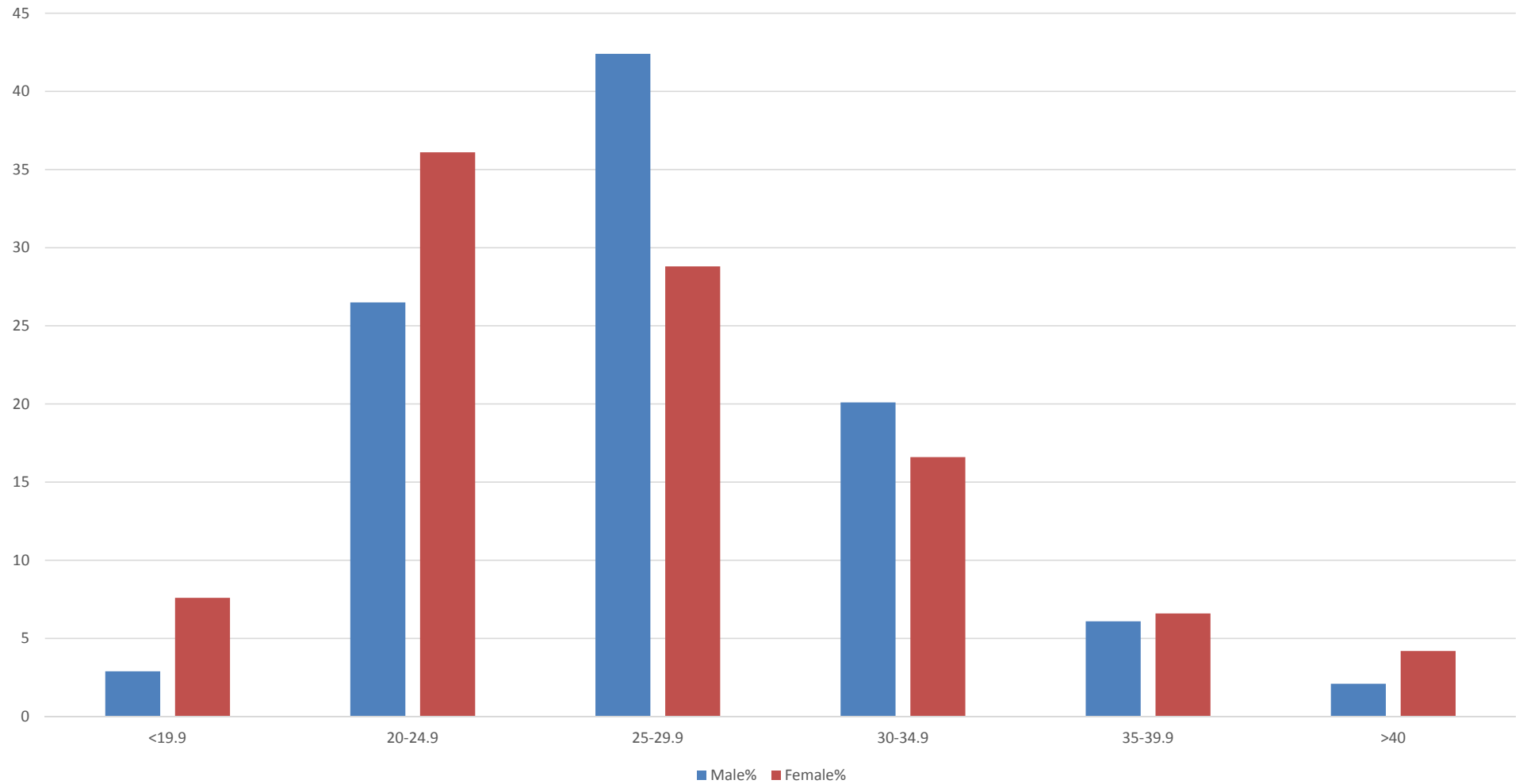
1. The prevalence of obesity in Australia
2. The case for Physician management of obesity
3. The growth in Surgical management of obesity
4. Take home messages and voting instructions



1. Prevalence of Obesity in Australia

- BMI is a very useful measure for population analysis.
- BMI is a somewhat useful measure, with others, for clinical analysis.
- More men are overweight than women (BMI>25).
- Men and women have the same rate of obesity (BMI>30).
- More men than women have Class I Obesity (BMI 30-35).
- But more women than men have Class II Obesity (BMI 35-40).
- *Twice* as many women than men have Class III Obesity (BMI>40).

Distribution of Australian Adult BMI by Gender ABS NHS 2014-15



Distribution of Adult BMI by Gender

Source: ABS National Health Survey 2014-15 Data Cube Table 8

BMI	Male%	Female%	Total%	Male '000	Female '000	Total '000
<20	2.9	7.6	5.2	246.9	687.9	931
20-24.9	26.5	36.1	31.4	2309.6	3255.3	5567.4
25-29.9	42.4	28.8	35.5	3694.9	2593.9	6297.1
30-34.9	20.1	16.6	18.3	1757.1	1492.6	3251
35-39.9	6.1	6.6	6.3	530.7	595.4	1119.9
>40	2.1	4.2	3.2	185.6	382.6	571.7
Total	100	100	100	8724.3	9006.6	17733.3
Mean BMI	27.8kg/m2	27.2kg/m2				27.5kg/m2
Median BMI	27.1kg/m2	26kg/m2				26.6kg/m2
Obese BMI>30	28.40%	27.40%	27.90%	2474.3	2466.1	4943.9

2. The context for Specialist medical management of Obesity

- Prevention of obesity should be a major priority for the Commonwealth and the states, through known effective methods and by researching additional control methods.
- Australian Algorithm for the management of obesity supports specialist medical management for Class III obesity with complications.
- Knowledge base, therapeutics and the approach to treatment are developing rapidly.
- Leadership is required, both of the therapeutic effort and in the wider health system.

Support for prevention measures is high

Community support for ACT Government actions in March 2015 Canberra Omnibus Survey

96%

Support ACT Government to ensure school canteens offer a wide range of healthy food and drinks

90%

Support limiting the sale of unhealthy food and drinks in school canteens

95%

Support the promotion of active transport for children, such as riding or walking to school

94%

Support the promotion of physical activity in workplaces

93%

Support increasing healthy food and drink options in workplaces

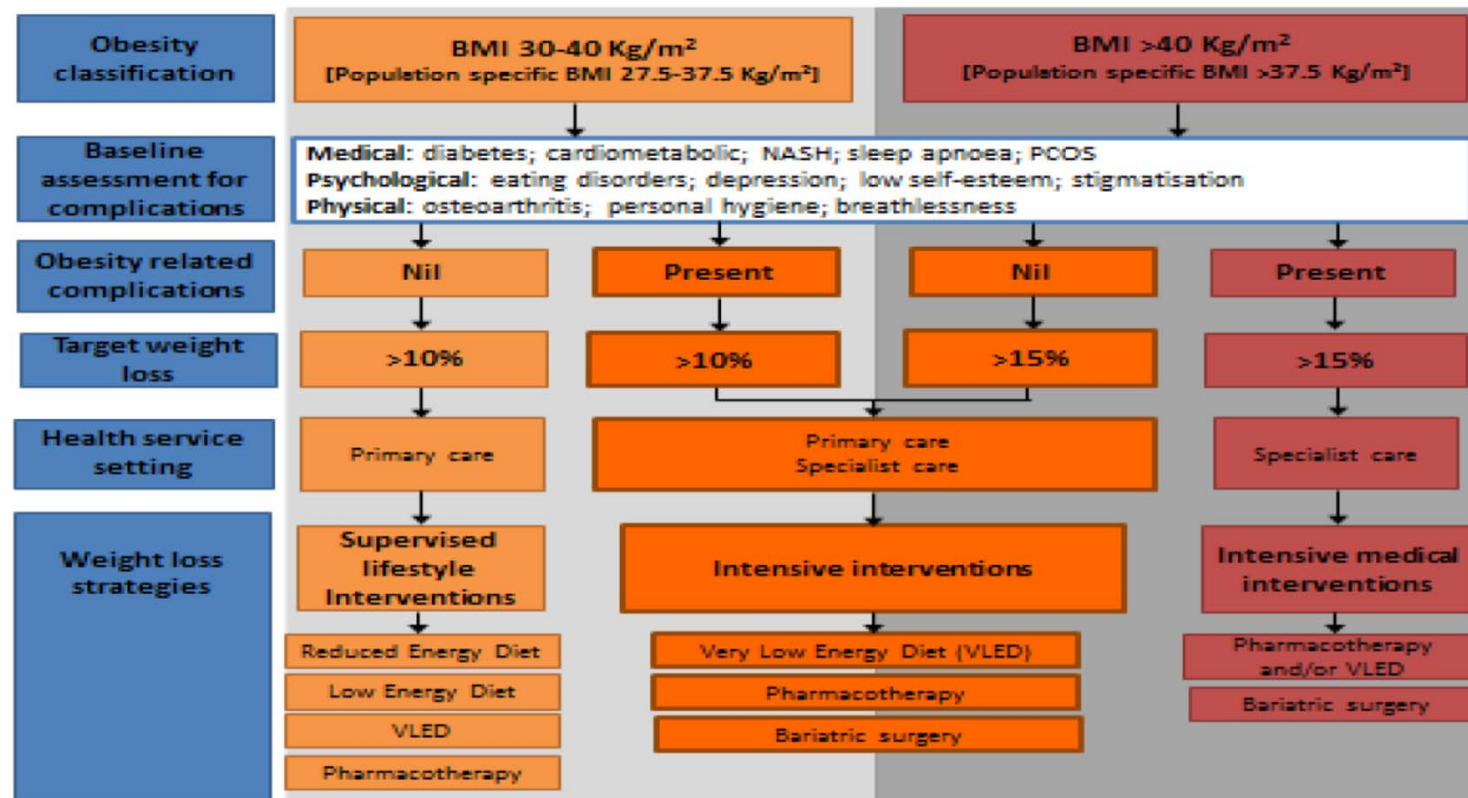
88%

Support restricting advertising of unhealthy food, especially around child-oriented places

87%

Support reducing the amount of unhealthy food advertised and displayed around supermarket checkouts

Australian Algorithm for the Management of Obesity (ADS, ANZOS, OSSANZ 2016)

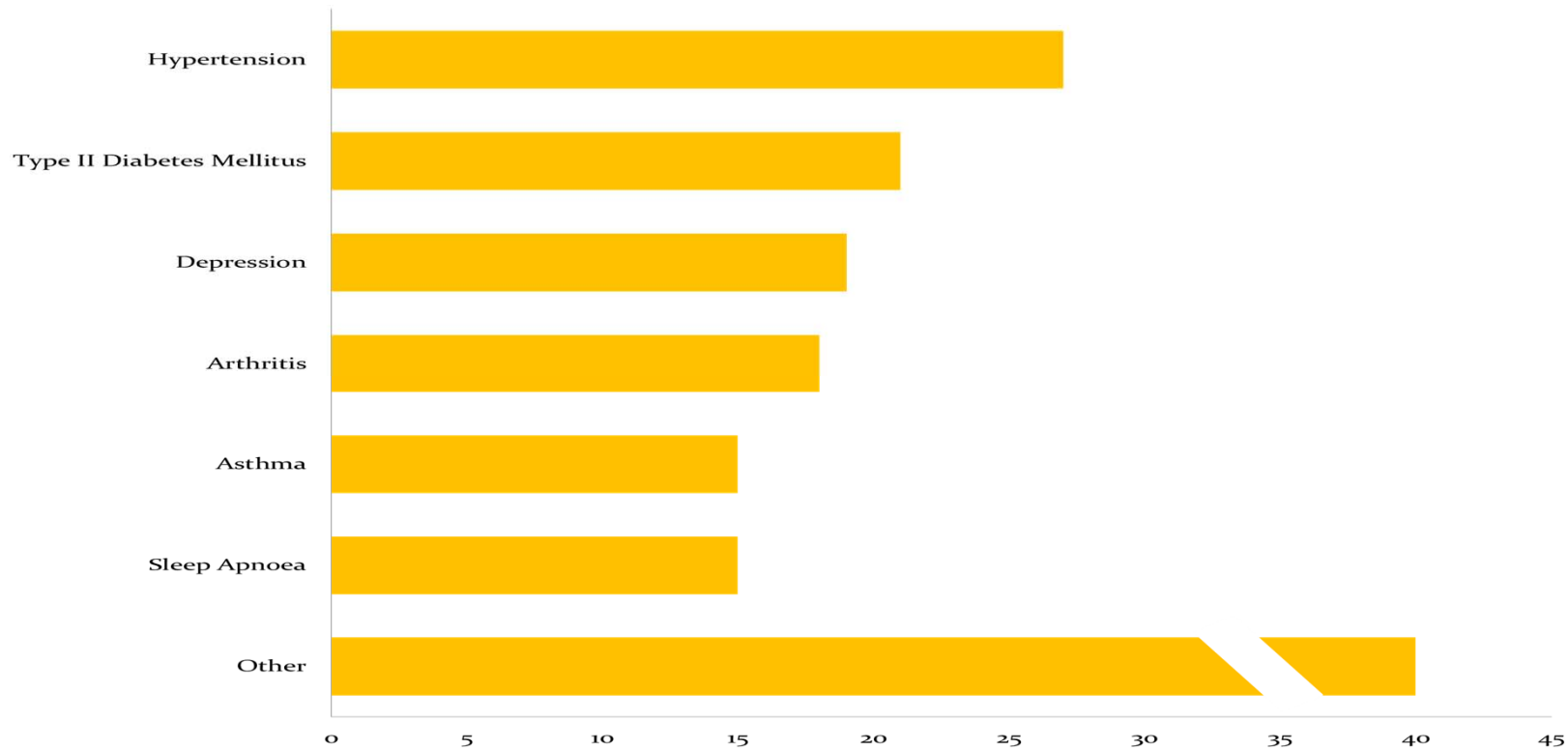


Management of Class III Obesity must be about more than weight loss

- Weight loss is a worthy gain, but we must be realistic about the effectiveness of our current strategies.
- The idea of a set point for weight, and of the factors that do or don't influence the set point, is a strong guiding idea. Can it be changed?
- The vicious cycles between co-morbidities and obesity drive weight gain.
- Virtuous cycles between self-managed dietary and physical activity changes drive weight stabilisation and improvement in risk profiles.
- Understanding and coordinating care for co-morbidities also drives the virtuous cycles and reduce the risks associated with obesity.

ACT OMS (BMI>40) Co-Morbidities

- The first 50 patients had 303 comorbidities between them
- Mean 6.1 per patient, Range 1 to 21



Specialist Medical Management of Obesity: More than 'Lifestyle'

- Ensure medical coordination and optimised management of obesity related medical problems (hypertension, dyslipidaemia, BSL, CKD, OSA, musculoskeletal and respiratory problems, depression...).
- Collaboration with dietitians for healthy diets and low energy diets where appropriate.
- Collaboration with exercise physiologists/physical trainers.
- Prescription of appropriate pharmacologic therapy for weight loss or weight-loss maintenance.
- Medical leadership and coordination of multidisciplinary team (eg through MDT meetings, care planning) and therapeutic groups.

Toward ethical leadership in Obesity Management

- Many professionals think that obesity is due to laziness and and greed.
- While medical moralising was common in the 19th century, it is now quite rare, with some notable exceptions including STDs and addictions.
- It is counterintuitive to take a moralistic approach to disease.
- This is an important observation. How are we to understand it?
 - It may be an expression of stigma, of frustration with the lack of effective therapy, and of the doctor's need for authority
 - But it is counter-therapeutic: reinforces stigma, undermines the therapeutic relationship, reduces medical authority
- Telling doctors not to be moralistic appears to be no more effective than the moral instruction to lose weight.
- Perhaps moralising can be *displaced* with different ways of thinking, and knowledge of rational effective practice

Shame is not a therapeutic modality

Will-power cannot be prescribed

- The power of the will is quite limited
- As Spinoza said in his critique of free will, the exercise of our will is rarely solely determined by our free thought.
- Dietary and physical activity patterns could have been excellent illustrations for his demonstration of that 'free will' is largely illusory.
- His point was that only where there was reasoned understanding could we exercise our imagination and freely decide what to do.
- In this view, freedom is something acquired by investigation of the constraints, by dispassionate reasoning, and thereby build our understanding of the degrees of freedom



3. Bariatric Surgery Services in Australia

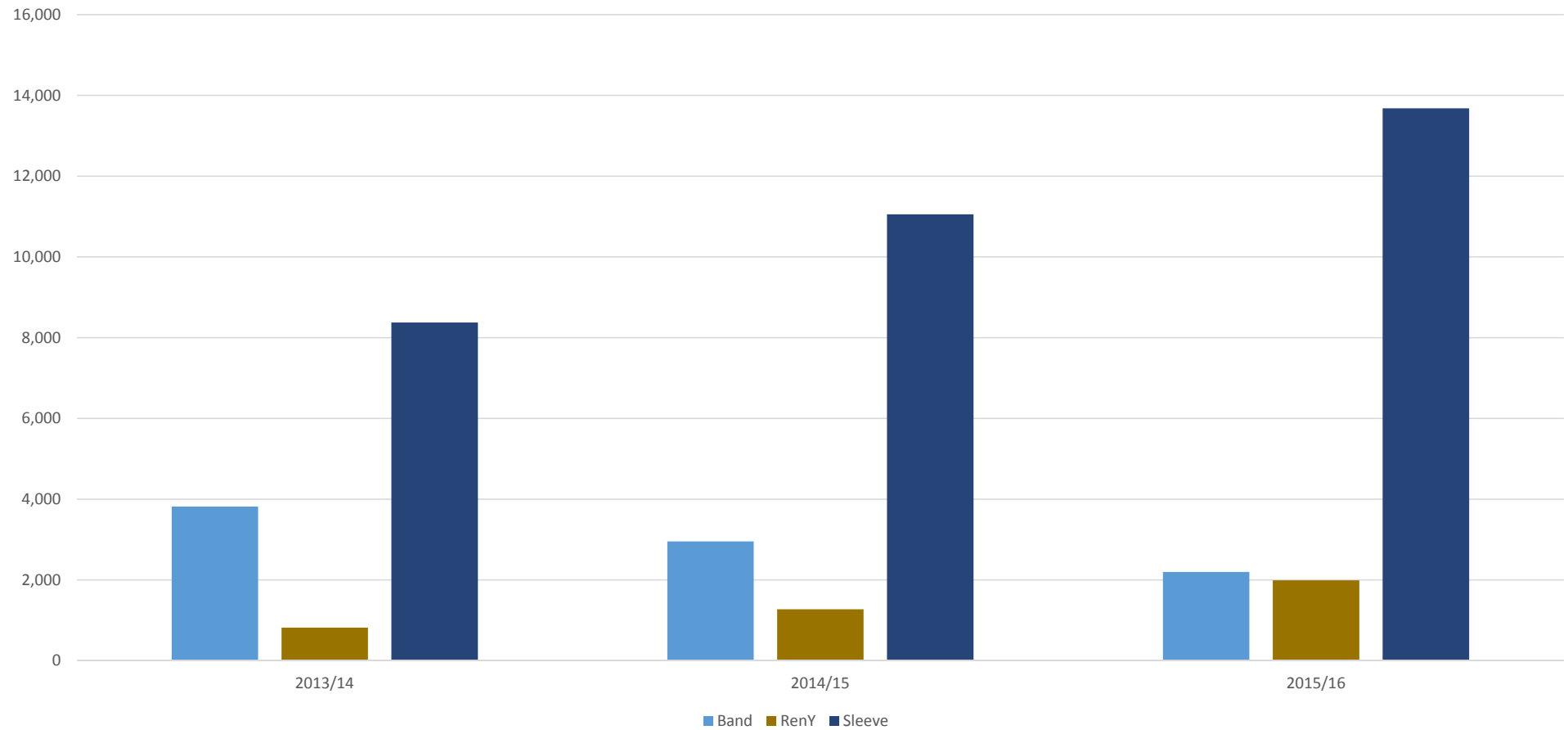
- Growth in procedure numbers
- Public – Private distribution
- Differential growth in procedure types

Bariatric Surgery numbers in Australia 2014/15

- In 2014/15 the AIHW reports there were 17,945 bariatric procedures (excluding band adjustment and revisions) across all hospitals in Australia.
- This was an increase of 7% over the previous year.
- Laparoscopic sleeve gastrectomy, the most common procedure, accounted for 69% of the total, with growth of 19% from 2013/14.
- Laparoscopic Adjustable Gastric Banding was the next most common, accounted for 20% of the total, with a reduction of 26% from 2013/14.
- In 2014/15, Medicare Australia reports there were 15,359 bariatric procedures claimed on the MBS (ie private patients), 86% of the AIHW total, up from 78% in 2013/14.
- Cf 2/3 of all elective surgery in Australia is done in the private hospitals.

MBS Bariatric Surgery in Australia

MBS items 31569(Band), 31572(RenY), 31575(Sleeve)



4. Take Home Messages

- 2/3 of the 600,000 Australians with Class III Obesity are women
- The Australian algorithm for Obesity Management calls for specialist medical management of Class III Obesity with complications
- Ethical leadership of people centred obesity management involves care coordination, multidisciplinary teamwork and an understanding of stigma
- Weight is not a behavioural risk factor; invoking shame is not a therapeutic strategy.
- Bariatric surgery is becoming more popular, but access for public patients is poor

ACT Obesity Management Service Outcomes

Vote 1 for Dr Kojima's poster

ACT
Health

CLASS III OBESITY PATIENTS OUTCOME AUDIT IN THE ACT HEALTH OBESITY MANAGEMENT SERVICE

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Background

- Obesity is the fastest growing health issue in Australia. The prevalence of overweight (BMI 25 to<30) and obesity (BMI ≥30) have increased from 56% in 1995 to 63.4% in 2014-15.
- As part of ACT Government's Towards Zero Growth Healthy Weight Action Plan*, ACT Health Obesity Management Service (OMS) was commenced in February 2014 resulting in the management of Class III (BMI ≥40) Obesity as a chronic disease.
- The treatment was focused on lifestyle interventions. The aim of this study is to review the outcome data of the patients in OMS.

Methods

- Chart review of the patients who attended OMS between 1 January 2015 and 30 June 2016 and who had at least one medical review by 31st December 2016 was conducted.
- Patients' weight, Body Mass Index (BMI), and psychological status focusing on depression score using "Patient Health Questionnaire" (PHQ) are compared between the beginning and the most recent records from physician review.

Results

- There were 517 patients who had appointments with the OMS during the 18 months period since 1st January 2015. 416 Patients (80.5%) attended their scheduled appointments.
- The files of 196 (47.1%) of these patients who attended second or subsequent physician assessment before 31st December 2016 were reviewed.
- The average duration of engagement with the program was 332±144 days.
- The patients who used VLED (OPTIFAST Very Low Energy Diet) or LED (Low Energy Diet) were 39/196 (19.9%).
- Nine laparoscopic non bariatric surgery was used in this patient group.
- The other anti-obesity medications (Orlistat, Phentermine, and Topiramate) are infrequently used.

Demography

Characteristic	
Average Age (years)	48.5±12.1
Gender	
Female	144 (73.5%)
Male	52 (26.5%)
Body Mass Index (kg/m ²)	47.4 (IQR 43.7, 7.54.0)
Weight (kg)	133.0 (IQR 118.9, 153.3)
Waist circumference (cm)	132.2 (IQR 126.9, 144.3)
Systolic blood pressure(mmHg)	127 ± 16.4
Diastolic blood pressure (mmHg)	79 ± 9.9

References

- Hanrahan J, et al. *Obesity in New Zealand*. Christchurch: Canterbury University Press; 2012.
- Stanton PW, et al. *Statistics of New Zealand 2014*. National Health Survey. First Results. 2014-15. (<http://www.stats.govt.nz/assets/downloads/default-assets/publications/2014-nhs-survey-first-results.pdf>).
- Australian Bureau of Statistics. *Obesity in Australia 2014*. Canberra: Australian Bureau of Statistics; 2015.
- Sumner P, et al. Long term persistence of behavioral adaptations to weight loss. *JAMA Intern Med*. 2015;165(10):1067-1074.
- World Health Organization. *Obesity: preventing and managing the global epidemic*. Geneva: World Health Organization; 2000.

Weight Changes

- The median weight change was -0.5kg (IQR -0.6, 3.4) with the average of -1.7kg and the median % weight change was -0.4% (IQR -4.3, 2.3) with the average of -1.0%.
- Clinically significant weight loss (≥5%) was seen in 40/196 (20.4%) patients. The number of patients who lost ≥ 10% of body weight was 13/196 (6.6%).
- There was no correlation between the amount of weight reduction and the duration of engagement with the service ($r = -0.04$).
- There were no statistically significant change of the blood pressure between the beginning and the end of the assessment.

% Weight Changes


% Weight Change	No. of patients (>=)
<-5%	40
-4% to <-5%	13
-3% to <-4%	13
-2% to <-3%	13
-1% to <-2%	13
0% to <-1%	13
1% to <2%	13
2% to <3%	13
3% to <4%	13
4% to <5%	13
>=5%	13

Depression and Depressive Symptoms

- 107/189 (56.6%) had PHQ-9 score of ≤10 (moderate, moderately severe and severe depression) in initial assessment.
- 28.8% of the patients demonstrated a clinically significant reduction of their PHQ score by 5 or more.

Conclusions

- Weight reduction of Class III obesity cohort by exercise, dieting and psychological counseling only is challenging due to hormonal adaptations that defend weight set point.
- One-fifth of our patient cohort achieved clinically significant weight reduction.
- Depressive symptoms were common in our patient cohort. 28.8% of patients had compelling improvement in their depressive symptoms.
- Lifestyle interventions are the cornerstones of obesity management and have important other health benefits beyond weight loss.
- More intensive interventions for obesity in addition to lifestyle intervention are required to achieve a greater degree of weight reduction.



DIAGNOSTIC POLYSOMNOGRAPHY IN ACT OBESITY MANAGEMENT SERVICE PATIENT COHORT

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Background

- The prevalence of obstructive sleep apnoea (OSA) of individuals with Class III Obesity (BMI≥40) is usually over 70%.
- ACT Health Obesity Management Service (OMS) commenced in 2014, but there were no referrals for polysomnography (PSG) made within the first 12 months. The routine screening for sleep disordered breathing symptoms by OMS physicians was initiated after a sleep physician joined the service in June 2015.

Aims

- The aims of this study are to describe the characteristics of a class III obesity cohort who had sleep studies requested by ACT Health OMS physicians, to improve the positive predictive value and to assess referral rates of sleep studies after 12 months.

Methods

- Retrospective chart review and descriptive analysis of the patients who attended ACT Health OMS and had diagnostic PSG in the 12 months between September 2015 and August 2016.

Results

- 401 patients were seen by physicians in OMS during this period.
- 44 patients (11.0%) had diagnostic polysomnography (PSG) performed as they were considered to be at high risk of OSA by OMS physicians.
- 38/44 (86.4%) of patients referred for PSG by OMS physicians had OSA. 24/44 (54.5%) were considered to have moderate to severe sleep apnoea (AHI ≥15/hr).
- Five (11.4%) patients were previously diagnosed with OSA but had not received treatment.

Demography and Body Habitus

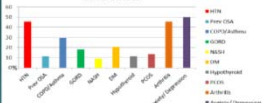
Demography and Body Habitus	Mean (±SD) or Number (%)
Age (years)	47 ± 11
Gender	
• Male	33 (75.0%)
• Female	11 (25.0%)
Height (cm)	166.9 ± 11.3
Weight (kg)	136.7 ± 29.6
BMI (kg/m ²)	48.9 ± 8.2
Waist circumference (cm)	131.0 ± 29.9
Neck circumference (cm)	42.9 ± 4.3

- There was also a high prevalence of multiple comorbidities particularly anxiety/depression, hypertension and arthritis similar to a previous ACT OMS study.
- 59.1% of these patients had Patient Health Questionnaire (PHQ-9) score consistent with moderate or severe depression.

References

1. Coughlin T, Patterson EJ. Evidence supporting routine polysomnography before bariatric surgery. *Obes Surg*. 2004;14(1):123-8.
2. Luedtke P et al. Prevalence of sleep apnea in morbidly obese patients who presented for weight loss surgery evaluation: more evidence for routine screening for obstructive sleep apnea before weight loss surgery. *Ann Sur*. 2005;241(3):358-62.
3. Australian Institute of Statistics. National Health Survey. Final Results, 2014-15.

Comorbidities



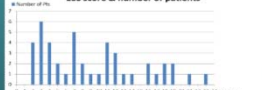
Comorbidity	ACT OMS (n)	Other (n)
Depression	~85	~15
Anxiety	~45	~55
Hypertension	~35	~65
Diabetes	~25	~75
OSA	~15	~85
Asthma	~10	~90
COPD	~5	~95
Other	~5	~95

- The rate of OMS PSG patients' smoking (6.8%) and alcohol consumption (36.4%) were significantly lower than average Australian population of similar age group (45-54 years old) in the date 2014-2015.
- The presence of sleep-related symptoms such as snoring, unrefreshed sleep, frequency of wake and witnessed apnoea correlated with OSA diagnosis; however, OMS physicians did not record sleep-related symptoms well in a large proportion of patients.
- Sleep latency of more than one hour and daytime napping were not well correlated to OSA.

	Sensitivity(%)	PPV(%)
Snoring	91.3	58.0
Unrefreshed sleep	86.7	65.0
Number of awakenings	62.5	65.6
Witnessed apnoea	46.2	75.0
Daytime napping	41.7	55.0
Sleep latency	20.0	20.0

- 40.9% of patients had subjective daytime sleepiness as measured by the Epworth Sleepiness Scale and this was not related to severity of OSA.

ESS score & number of patients



ESS Score	Number of Patients
0	1
1	1
2	1
3	1
4	1
5	1
6	1
7	1
8	1
9	1
10	1
11	1
12	1
13	1
14	1
15	1
16	1
17	1
18	1
19	1
20	1
21	1
22	1
23	1
24	1
25	1

Conclusions

- This study showed that OMS physicians often did not record sleep-related symptoms and refer only a small proportion of the patient cohort for PSG.
- The prevalence of OSA is high in patients with Class III Obesity and routine screening for sleep-related symptoms and referral for PSG where appropriate is recommended.
- Routine application of OSA symptom questionnaire such as OSA-50 or STOP-Bang may also be of value in this clinic setting.