Health & Aging Committee's hearing into Obesity, May 2008

EXECUTIVE SUMMARY

The obesity epidemic has exploded. For many people, obesity is the starting point for serious co-morbidities such as cardiovascular disease, diabetes, cancer, depression, hypertension or osteoarthritis. As a consequence, the strain on acute care services as well as additional GP visits escalates.

The causes of obesity are complex and multifactorial. Genetic predisposition, physical inactivity, poor dietary choices, and psychological factors that, in combination, contribute to the consumption of a detrimental nutrient mix and lack of motivation to maintaining metabolic fitness. **The challenge is to target effective treatments in a cost-effective manner through specialised and centralised resources and expertise.**

At RNSH, health professionals have engaged the hospital executive in discussions concerning the appropriate delivery of care for patients with obesity. For many Area Health Services including our own, care must be delivered within existing budgets. There is abundant evidence that multidisciplinary clinics with a surgical management arm represent the ideal approach for managing morbid obesity but reaching this gold-standard is not possible without additional funding. An increased budget allocation is acutely needed.

The needs of our morbidly obese patients are not met by the existing "off-the-rack" health approach. Interdisciplinary input within centres of excellence is essential for optimum outcomes. Both direct and indirect health-care costs could be significantly reduced via funded support of programs attending to obesity prevention and treatment. **A dedicated team of specialised health professionals and supported by infrastructure that can respond quickly to research outcomes is the first step.**

BACKGROUND

The direct cost of obesity within Australia has been estimated at $680-1,239 million in 1995-96 or 4% of the total health care cost [1]. The relationship between mortality, mortality ratios (death per 100,000) and body mass index (BMI) appears to be curvilinear, beginning at BMI 20 to 22[2].

Obesity is regarded as a disease in its own right but also is a risk factor for a large number of other diseases. The increased risk can be directly due to excess weight (obstructive sleep apnoea, asthma, depression, sleepiness and osteoarthritis) or as a result of associated metabolic consequence [2]. The associated metabolic consequence is largely mediated through insulin resistance and hence is the driving force behind type 2 diabetes (T2DM) (with the potential for renal failure and retinopathy) and cardiovascular disease [3]. Prevalence of diabetes is growing rapidly due to excess adiposity, estimated at 8.0% in men and 6.8% in women in Australia [4] and 150 million people worldwide [5].

Among our younger generation, the 'metabolic syndrome' is common among children and adolescents, and prevalence increases directly with the degree of obesity [6]. Childhood obesity was described by the World Health Organisation in 1998 as one of the most pressing public health issues for our time that requires an urgent and informed response [1].

The current situation in Northern Sydney Central Coast Area Health Service (NSCCAHS)

This submission describes the current situation and the fundamental gap in service planning for the treatment of obese patients within NSCCAHS compared to other metropolitan health services. Demands from patients to address the obesity epidemic led to this review.

There is convincing evidence of the association between overweight and obesity and impact on health care outcome and cost to the individual and community. With reference to NSCCAHS, the 2004 report on NSW adult health from the NSW population health survey [7] highlighted that significant proportions of the community are obese. Within Northern Sydney 37.21% are overweight and obese (28% and 9% respectively). For Central Coast 48.86% are overweight and obese (33% and 16% respectively). The most recent (2007) statistics for the prevalence of overweight and obesity in the NSCCAHS was 45.2% [8]. The levels of obesity and overweight have been increasing by ~1% per year for the last 20 years and the growth of this epidemic shows no sign of abating. It is recognised that care of patients undergoing treatment of obesity and obesity-related health conditions should take place in the context of a multidisciplinary clinic.

The current position of the Medical Specialists and Allied Health professionals is to address the specific obesity-related co-morbidities in the separate clinical areas. However, the underlying common condition - excess body fatness, is not addressed, leading to further morbidity and ultimately mortality. Two of many recent cases are presented in Appendix 1 highlighting our present challenges within the public hospital system.

The Health professionals at Royal North Shore Hospital (RNSH) currently struggling to manage acute care patients within their isolated capacity initiated the establishment of

the Northern Obesity Advisory Group (NAsGO) in September 2006. NAsGO has developed a proposed model that seeks to address patient centred care though a coordinated multidisciplinary model. The primary goal of a comprehensive multidisciplinary healthy weight service would be to achieve clinically significant weight loss in adults with a BMI of 27 or greater and children with a BMI > 97th centile. This needs to be approached using a continuum of options, such as lifestyle change, behaviour modification, very low calorie diets, pharmacotherapy and surgery.

RNSH is well placed with expertise to support the establishment of a multidisciplinary clinic and centre of excellence. In place is support by Medical, Surgical and Allied Health clinicians seeking to address this clinical service gap in the management of patients with a disease process, which is becoming more prevalent in our community. The setting of such a service within a University teaching hospital will enable research to take place at an institution with a sound reputation and assist in refining the model for treatment of obesity.

Though reducing the progression to diabetes, dyslipidemia, hypertension, sleep apnoea, fatty liver, joint disorders, psychological conditions and associated crisis admissions into acute-care facilities, the estimated cost saving may flow on to decreasing the need to purchase or hire bariatric beds, chairs, lifting equipment and medication or devices. As reported by the Commonwealth Minister for Health, The Hon. Nicola Roxon, 'good health policy is good economic policy'.

Recommendations:

1. **A model of care to address the treatment of obesity must be adopted.**
   The model of care needs to include:
   a) Multidisciplinary clinics to assist with rapid weight loss though very-low-calorie diets and exercise or bariatric surgery.

      NAsGO members unanimously support the creation of a multi-disciplinary weight management program within tertiary teaching hospitals, which is in line with recommendations made by the NSW Centre for Public Health (10). The unequivocal opinion held by the key stakeholders within RNSH is that managing patients in isolation is ineffective and therefore sub-optimal. In addition, the use of a multidisciplinary approach is supported as a best practice strategy to address weight management by the NHMRC Clinical Practice Guidelines (1) for the management of overweight and obesity in adults (2003).

      It is foreseen that a multidisciplinary clinic would provide a comprehensive clinical service in weight management through provision of group and individual counselling with the goal of achieving weight loss and effectively mange obesity related co-morbidities. Following an initial screening, patient would be referred to the necessary clinical specialists for management of identified co-morbidities and group education sessions followed by individual counselling sessions as shown in figure 1. Figure 2 describes options for weight loss.

   b) Public bariatric surgery provision.
   c) Groups that target healthy lifestyle for patients unsuitable for rapid weight loss.

      The evidence currently suggests that modest loss of weight with diet and lifestyle changes reduce T2DM risk [9].
   d) Community groups to assist in lifestyle planning and establishment of an individuals readiness for change,
   e) An environment that is conducive to the promotion of fresh vegetable intake and physical activity.

2. **Centres of excellence are required in centralised tertiary acute care hospitals that focus on obesity, from children to adults.**

3. **Training of medical, surgical and allied health professionals in obesity management will be required initially considering its relatively new development as a specialty in its own right within acute care facilities. Subsequent training programs and curriculums will need to address obesity treatment.**

Figure 1. Potential framework for communication and patient pathway

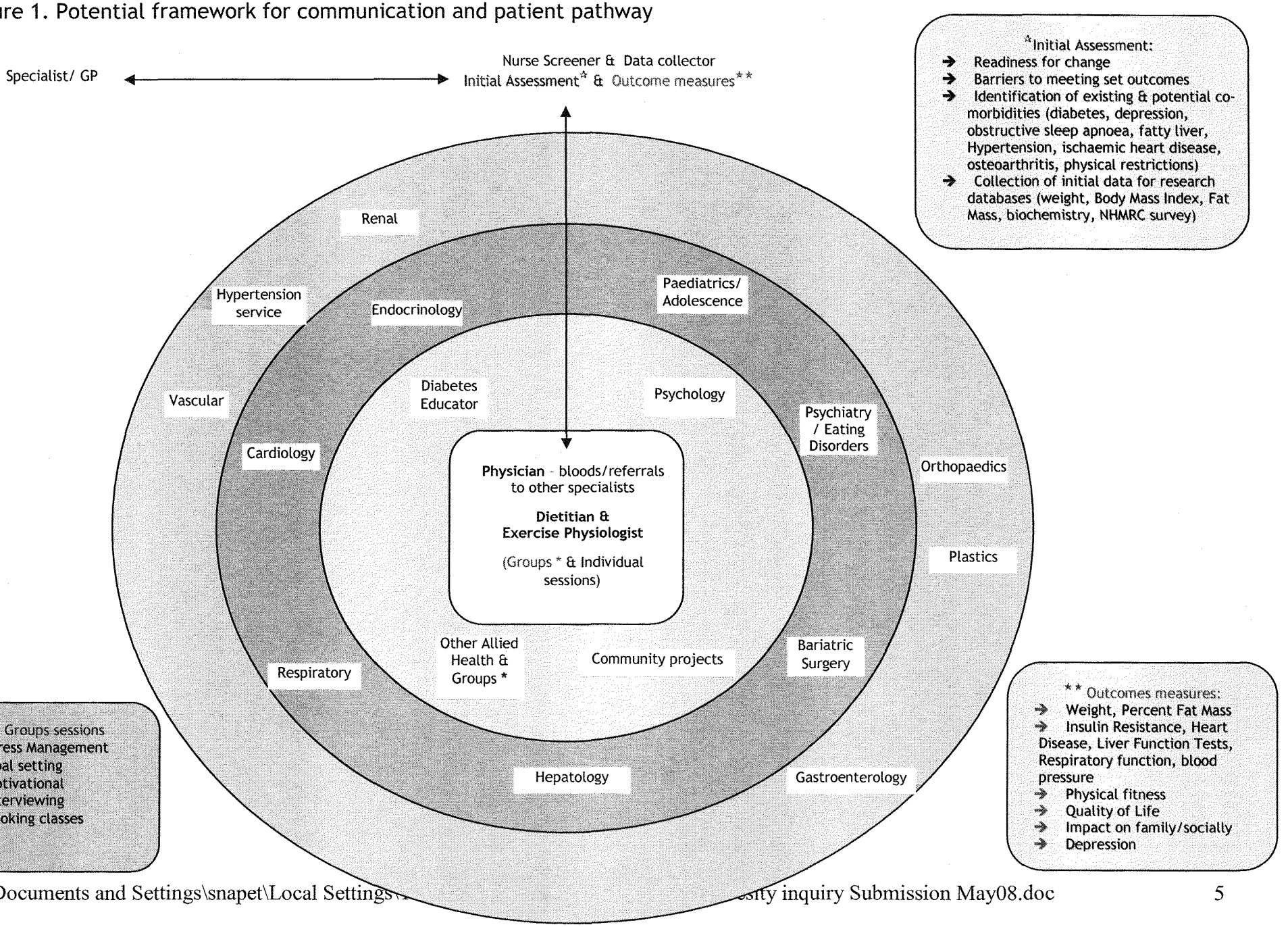
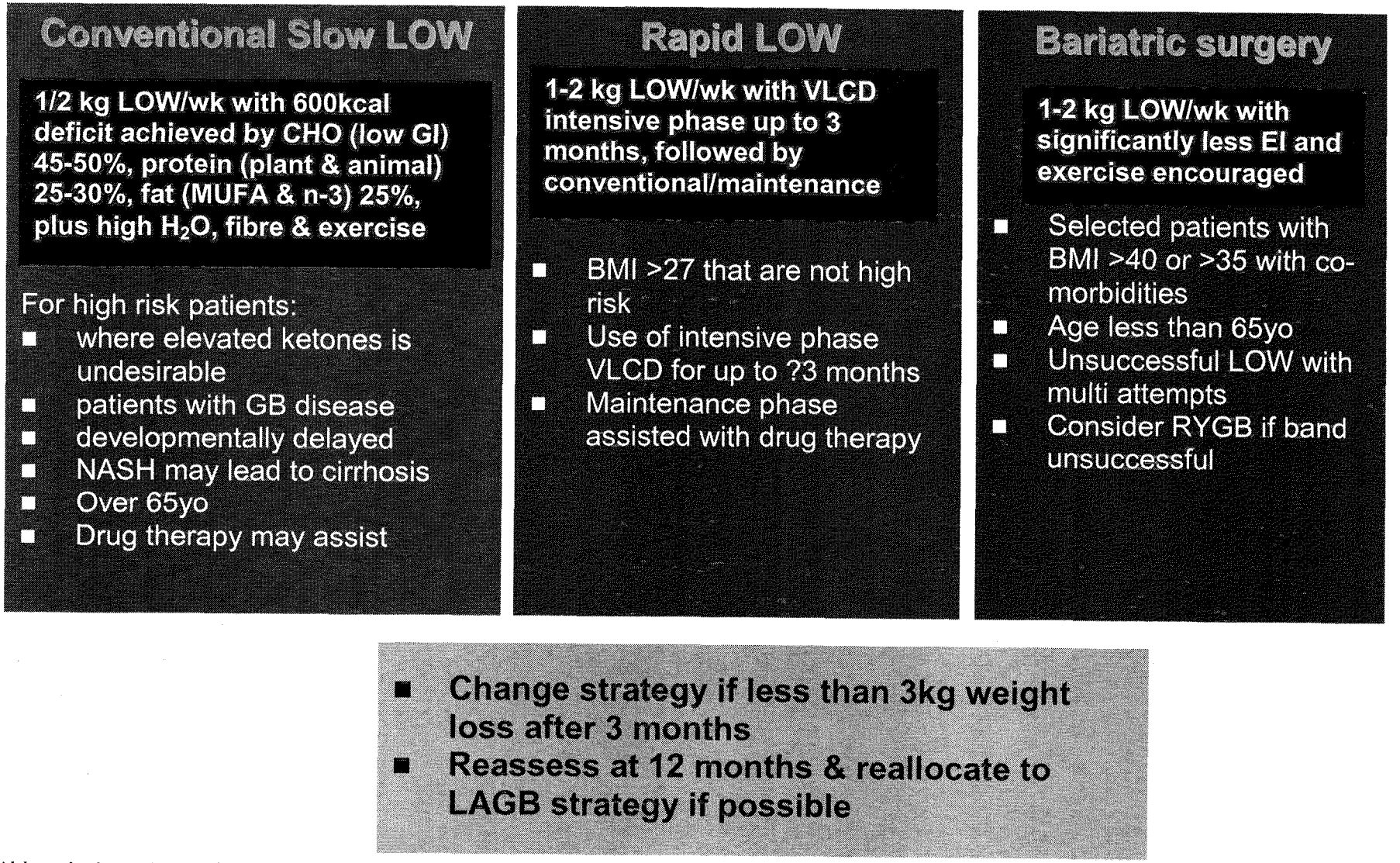


Figure 2. RNSH and NSCCAHS strategy for adults & children/adolescents



Abbreviations: Loss of Weight (LOW); week (wk); Kilocalorie (kcal); Carbohydrate (CHO); Glycemic Index (GI); Monounsaturated fatty acids (MUFA); Omega-3 fatty acids (n-3); Water (H2O); Gall bladder disease (GB); Non-Alcoholic Steato-Hepatitis (NASH); Year old (yo); Very Low calorie Diet (VLCD); Body Mass Index (BMI); Energy Intake (EI); Roux-Y-Gastric Bypass (RYGB); Kilogram (kg).

Summary

The establishment of a multidisciplinary Obesity Service for NSCCAHS is proposed. The core of the service is operational with the appropriate expertise on site, currently available at RNSH, to support the implementation of this model. What is missing is financial capacity to address activity.

The Northern Obesity Advisory Group (NAsGO) was established late 2006 and developed a model to address this targeted need. Cross-specialty clinicians involved in the care of obese patients at RNSH are committed to the provision of a comprehensive multidisciplinary service and seek support to fulfil a growing need for patients within NSCCAHS.

RNSH is keen to provide a targeted service to address obesity, not limited to co-morbidities, and extend support to the entire area health service. We would like to be considered for any opportunity with specific funding- either as a pilot site or more fully as an operational model. The advantages of undertaking a pilot at RNSH include the multidisciplinary focus with onsite availability, facilitated case discussion, research infrastructure to enable comprehensive evaluation of clinical and non-clinical outcomes.

Medical, surgical, dietetic and nursing support the model and wish to ensure their trainees are provided with exposure to the management of patients with this disease process. The setting of such a service within a University teaching hospital will enable research to take place at an institution with an enviable reputation. A comprehensive database can be further enhanced. This service will provide an ideal opportunity for research including prospective comparative studies involving weight loss treatment. The NSCCAHS has completed phase one of the Area Clinical Services Plan and Obesity has been identified as a key target area for management under the Endocrine service directive. This acknowledges the detail above and in particular the need to ensure a patient centred multidisciplinary model.

Attached is a clinical practice article from the New England Journal of Medicine published this year further supporting the non-surgical management of obesity in adults. Similar principles are extending to our paediatric population.

The clinical leads for this work have been Dr Greg Fulcher, Head of Endocrinology RNSH, Vanessa Brenninger, Senior Clinical Dietitian and Joanne Prendergast, Manager Department of Nutrition RNSH. We look forward to discussing in more detail with you any aspect of this proposition.

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Appendix 1. Case reports

Case 1:
A 16yo male was referred for our assessment weighing 183kg (a staggering BMI of 54, compared to the "normal" range of 18.5-25). He lived with his mother, who found difficulty preparing home-cooked meals while working full time, relying instead on take-away food as their main source of calories. He was unable to walk to the bus-stop without stopping to breathe. He would often fall asleep during the day (due to overnight airway obstruction, termed obstructive sleep apnoea). He lost weight with intensive input from the hospital endocrine dietician. To maintain his weight loss would require a multidisciplinary team that would include Metabolic Physicians, Bariatric surgeons, dieticians, exercise physiologists and psychologists. Such a coordinated approach to obesity management is currently unavailable and unfunded. Thus, his long-term health, education and employment prospects are poor.

Case 2:
The second case I will present is that of a 54yo man who was admitted under our care in February this year weighing 254kg. He was admitted for worsening heart failure, having been fully dependent on his mother's care at home. Unfortunately she was unable to continue looking after him when she fractured her hip. He was unable to sit, stand or walk and required oxygen to breathe. Despite his long-term resignation to severe obesity, he did agree to start an intensive weight-loss program that necessarily began during in-patient care. He required one-on-one 24-hour nursing, occupied 2 acute-care bed spaces, and required 8 hospital staff to move him. Special equipment (including a bariatric bed and hoist) was hired on an urgent basis to protect the health and safety of our nursing staff, as well as to prevent the patient falling or developing bed-sores. Daily input from a skilled dietitian was required to monitor a very-low calorie diet. Multidisciplinary meetings were held on a regular basis to direct the complex issues surrounding his care, which included the involvement of an endocrinologist, respiratory and rehabilitation physicians, bariatric surgeon, dietitian, physiotherapist, social worker, psychologist and dedicated nursing staff. He had lost 30kg before transfer to a rehabilitation facility. He still requires oxygen and assistance to mobilise. A crude estimate of the cost of this patient's care was an additional $1500/day during his admission. A facility to pre-emptively manage these seriously obese individuals, rather than recurrent crisis interventions, would clearly be a more cost-effective approach.