

# Integrative and Collaborative Approach in the Chronic Management of Obesity in Primary and Tertiary Care Setting: Vall Hebron-SAP Muntanya Healthcare Route

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## Keywords

Obesity · Primary care · Specialized obesity clinic · Integrative approach

## Abstract

**Introduction:** In the context of obesity pandemic, the health care providers involved in the primary care should have a significant role. Several guidelines for the management of obesity in primary care were proposed recently. In general lines, these guidelines include recommendation on the baseline assessment, therapy, and algorithm for referral to specialized obesity clinic and follow-up. Nevertheless, at present, there is no guideline or protocol that continuously and bidirectionally links the two settings: primary care and

specialized obesity clinic. **Methods:** We present a model of continuous, bilateral, and integrative interaction between primary care units and reference tertiary care setting in the chronic management of obesity that is already implemented in a public health system. **Results:** The novelty of our algorithm is that incorporates the support and continuous communication with the specialized obesity clinic of the tertiary care setting from the beginning in the management of a patient with obesity, in a bidirectional manner. **Conclusion:** This kind of bidirectional and continuous collaboration will help engage health care providers in the management of obesity, optimize efforts, shorten the time until proper intervention, personalize the approach and, finally, save costs for the health system.

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Published by S. Karger AG, Basel

## Introduction

Obesity is a multifactorial, chronic, relapsing, and complex disease that over the last 30 years has been increasing on a global scale until reaching epidemic values at all ages [1, 2]. According to a recent survey from the Spanish Society of Obesity (SEEDO), its prevalence in Spain is estimated to be around 25% of the adult population. Additionally, 53% of the adults have overweight and the prevalence is expected to increase. About 6% of these adults have severe obesity (BMI >40 kg/m<sup>2</sup> or BMI >35 kg/m<sup>2</sup> with at least one obesity-related complication). Obesity is associated with several chronic diseases, such as cardiovascular disease (e.g., ischemic heart disease and peripheral arteriopathy, congestive heart failure), type 2 diabetes, metabolic-dysfunction associated fatty liver disease obstructive sleep apnea syndrome, and cancer [3–5]. Obesity is also associated with high rates of disability and all-cause mortality [6]. Additionally, the per capita health care costs for adult individuals living with obesity are 42% higher than for those with normal weight. For morbid obesity, the costs are estimated to be 81% higher [7]. Hence, due to the massive impact of obesity in individual and collective health and health systems [8, 9], developing effective, pragmatic, and sustainable strategies for its management in individuals living with obesity is paramount. These facts represent a significant economic burden for the health care systems, which will be even higher in the coming years.

In the context of such a prevalent disease, the primary care (PC) health care providers (including general practitioners [GPs], nurses, nutritionists, psychologists) should play an important role in the management of obesity. Several clinical guidelines have been published so far to support the GPs in the management of obesity [8, 10–13].

PC is the most appropriate care level to undertake most of the recommendations included in the guidelines, such as lifestyle changes, behavioral therapy, nutritional intervention, both training and a planned and individualized or group approach. A recent initiative, the MINDSPACE framework [14] in UK highlighted the crucial role of the GPs in the management of obesity: patients were more likely to take advice and follow recommendations from health care professionals in whom they trusted, usually the GPs.

Nevertheless, it seems that there is low engagement of the GPs in the PC setting in the management of obesity. Many of the GPs do not register the weight and BMI of their patients and do not make the diagnosis of obesity based on BMI [15], thus precluding to have quality data

on this essential subject in the medical records [16]. Furthermore, the ACTION-IO study revealed that health care providers (HCPs) underestimate the impact of obesity on health. Many HCPs in PC believe that people with obesity (PwO) are not motivated for weight loss intervention and, consequently, this action is not prioritized. However, in contrast to HCP's beliefs, more than half of PwO reported their willingness to discuss weight management with their HCPs [17]. Similar results were seen in the Spanish cohort [18]. Obesity education should address the barriers around weight loss discussions which may include the HCP perceptions regarding PwO motivation, knowledge of treatments, and time barriers in daily practice.

Additionally, although improving lifestyle is the basis of obesity treatment, in some cases it is necessary to add pharmacological treatments or even more complex procedures, such as bariatric surgery (BS). In this context, the collaboration between the PC and the reference hospital is fundamental.

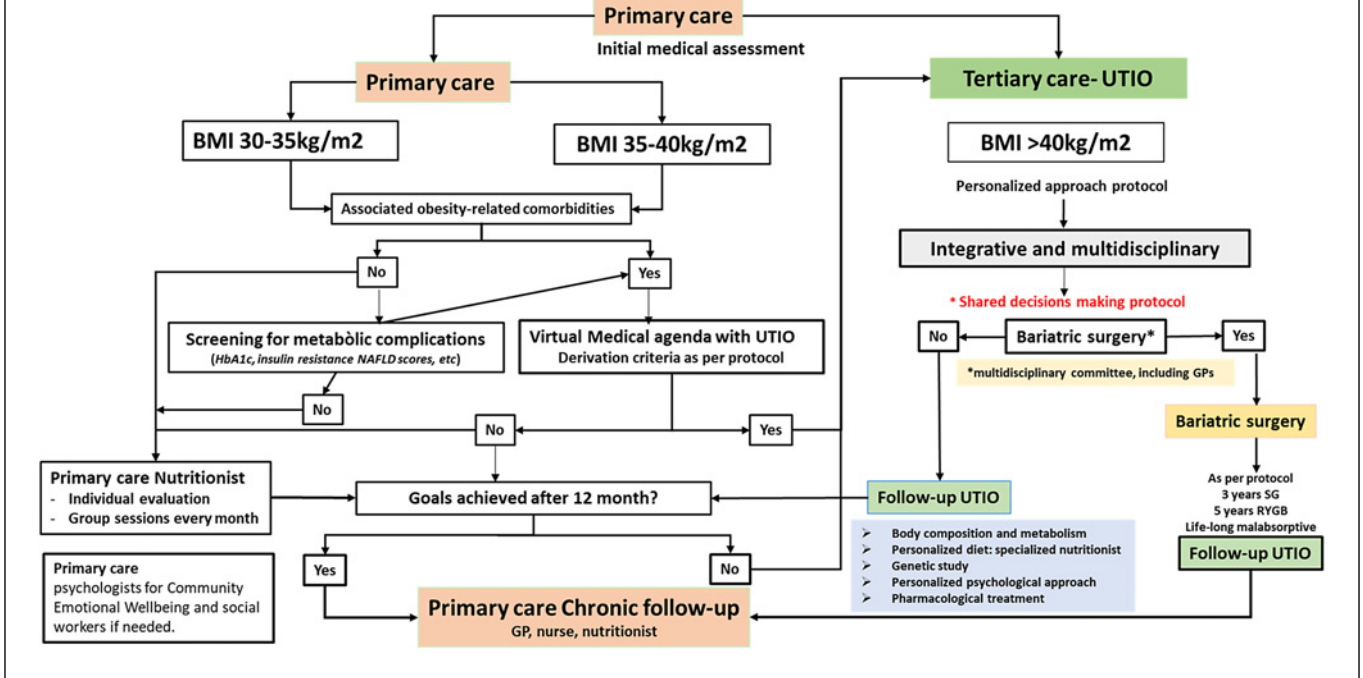
However, despite of the existence of several guidelines for the management of obesity, at present there is a clear fragmentation of the health care system regarding obesity care, or in other words, PC and specialized units are working separately. This fragmentation and lack of cross-talk between the different health care levels is a serious limiting factor for health care providers in the management of obesity.

To the best of our knowledge, there is no published model of bidirectional collaboration between the primary and the tertiary care specialists in the chronic management of obesity. Obesity as chronic relapsing disease makes it essential to ensure continuity of multidisciplinary care for the patient at different levels of the health care system at any moment with a continuous interaction between all the professionals involved.

On these bases, the main aim of this work is to expose a new model of collaborative and integrative approach in the obesity care which comprises a continuous interaction between the PC health providers and the tertiary care setting in the public health system in Spain.

## Methods

Vall Hebron University Hospital, Barcelona, is a tertiary public hospital, the largest in Catalonia, and the second in Spain. The area of influence is about 500,000 inhabitants. Additionally, the hospital extends its activity to different PC centers in the territory and specialists from our hospital visit patients once a week in these spaces. Vall Hebron University Hospital is the tertiary care setting for 16 PC teams, belonging to SAP Muntanya.



**Fig. 1.** Vall Hebron-SAP Muntanya health care route: Model of integrative approach between primary and tertiary care in obesity management.

The obesity unit (UTIO: *Unidad de Tratamiento Integral de la Obesidad*) of Vall Hebron, accredited as COM by the EASO, is offering clinical assistance to adults with severe and complex obesity, referred by the GPs. Since 2017, UTIO has been training the GPs through annual courses. This action helped us identify GPs with special interest in the management of obesity, and since 2019, these formative courses are co-organized with them. A working group in obesity was created in 2022 (including 4 GPs, 2 nutritionists, 1 nurse from PC and 1 endocrinologist, 1 nutritionist from tertiary setting) and developed the algorithm for the chronic and continuous management of obesity in our area: the Vall Hebron-SAP Muntanya model (Figure 1).

## Results

### PC Assessment

The first phase takes place in PC setting and will assist adult patients with BMI >30 kg/m<sup>2</sup>. The PC setting includes: GPs, nurses (both from the so-called basic units or UB), nutritionists, psychologists, and social workers. The main tasks of this assessment are:

- Diagnosis of obesity and registration in the electronic medical records.

- Initial clinical assessment and anthropometric data, according to actual recommendations [2, 19].
- Identify complications related to obesity and indicate their severity. In this regard, the Edmonton Scale or EOSS [20] and the ABCD Classification of the SEEN will be used [19].
- Screening for undiagnosed metabolic syndrome and complications of obesity, including nonalcoholic fatty liver disease, type 2 diabetes, and/or insulin resistance.
- Screening for secondary causes of obesity (e.g., hypothyroidism, hypercortisolism, etc.).
- Identify those patients motivated for lifestyle change.
- Nutritional assessment.
- Screening for obesity-related psychopathology (mood disorders, cognitive impairment, eating disorders, etc.). Furthermore, the PC team will evaluate referring the patients to psychologists for community emotional wellbeing and social workers.
- Establish realistic weight loss goals usually 10%-(11) at 12 months with subsequent reassessment.
- Discuss specific pharmacological treatment of obesity. After the initial assessment performed by the GPs-nurse team, called UB (basic unit), the patient can be

referred either to the nutritionist in the PC setting or the specialized hospital care, the Obesity Unit-UTIO.

#### *Nutritional Assessment and Management in PC*

Adult patients with obesity grade I (BMI 30–35 kg/m<sup>2</sup>) or grade II (35–40 kg/m<sup>2</sup>) without complications related to obesity are referred to the nutritionists after an initial nutritional assessment performed by the nurses. The approach is carried out both through individual (especially in complex cases) and group sessions. Group therapy is a promising tool for tackling obesity [21]. The main task of this assessment is to empower the patient and shift the focus of attention from weight loss to changing eating habits and physical activity.

#### *Specialized Hospital Care-Tertiary Care Setting*

Adults with morbid obesity (BMI >40 or BMI >35 with at least one obesity-related complication) will be referred to the UTIO. Additionally, adults with obesity grade I and II that have not reached 12 months' goals in PC, despite of an acceptable compliance are also referred for an advanced metabolic and medical evaluation. The assessment of the referral criteria in these cases is performed weekly by a multidisciplinary committee, including the GPs and the endocrinologists of UTIO. The Obesity Unit integrates health care professionals dedicated and trained for the management of obesity (endocrinologists, nutritionists, psychologists, psychiatrists, bariatric surgeons, nurses).

The main tasks of the UTIO assessment in tertiary care setting are:

- Personalized study of metabolism (indirect calorimetry), body composition (bioimpedance, musculoskeletal tomography, muscle ultrasound, functional tests), and genetic study.
- Treatment of metabolic complications.
- Shared decision process for obesity treatment (conservative treatments vs. BS).
- Preoperative evaluation, BS performance, and post-surgical assessment and follow-up according to local protocol.
- Pharmacological treatment, advanced nutritional, and psychological intervention.
- Personalized approach plan based on advance study and continuous support to PC for long-term follow-up.

## **Discussion**

Recently, several guidelines for the management of obesity in PC were proposed [10, 13, 22]. In general lines,

these guidelines include recommendation on the baseline assessment, advice, support and therapy, algorithm for referral to specialized clinic, revision, and reevaluation [23]. Nevertheless, as far as we know a guideline or protocol that continuously and bidirectionally links the PC and specialized clinic in the management of obesity is lacking. In this paper, we present a model of continuous, bilateral, and integrative interaction between PC units and reference tertiary care setting in the chronic management of obesity that has already been approved to be implemented in a public health system.

Obesity is a chronic health condition requiring long-term treatment and management. Specialized approach, such as obesity units of tertiary care setting, endocrinologists, bariatric clinics, can have a minor and punctual intervention during life span of a person living with obesity. GPs and all the health care providers involved in the PC setting should have a key role in the chronic management of obesity during life span of a person living with obesity. Nevertheless, data from several countries show that there is a low long-term engagement in the PC setting for the diagnosis and management of obesity [17, 18]. Less than 30% of the patients in PC have their BMI and/or waist circumference measured [15] or the proper diagnosis of obesity registered [16]. These results are in line with those obtained from our area that were presented at the national congress of the Spanish Society of Obesity in 2021, where less than 30% of the subjects registered in the PC setting had the BMI measured and data available in the electronic medical records. In our protocol, according to guidelines, all patients should have their BMI and anthropometry measured during the first visit with the GP and nurse as well as obesity-related complications assessment, based on recommended guidelines [10, 22], as well as a realistic goal established. The novelty of our algorithm is that incorporates the support and continuous communication between PC with the specialized obesity clinic of the tertiary care setting from the beginning in the management of a patient with obesity, in a bidirectional manner. A patient with obesity with BMI <35 kg/m<sup>2</sup> without metabolic complications will be referred to the PC nutritionist and reevaluated after 12 months based on the initial goal. If the goal was not achieved or in the case of patients with more severe obesity or with metabolic complications, the therapeutic decision is made within the setting of a virtual agenda where GPs and endocrinologists from the specialized obesity unit participate. After the evaluation, the patient can be directly referred to the obesity clinic for an exhaustive evaluation (body composition, genetic, basal metabolism, etc.) and then either be returned to PC for 12

months' follow-up with an intervention plan and reevaluation or can be included in a personalized pharmacological therapy or BS. In the shared decision-making process, the GPs are also participating. During the life span of a patient with obesity, several cycles of referral from PC to the tertiary care setting and vice versa can occur.

In our opinion, the active participation of the GPs in the shared decision-making process is an innovative characteristic of our model and settle the bases of reversing the fragmentation of the health care system, which was seen to be an important determinant of the lack of engagement of the GPs in the management of obesity [14].

In the context of obesity pandemic, the health care providers involved in the PC should have a significant role in identifying individuals with or at risk of obesity and its comorbidities, by implementing appropriate interventions to support weight loss or maintenance; and/or the prevention of weight regain. The PC health providers have the potential of improving services for these patients and families, through individual and group education, development of obesity-focused resources (including referral to specialized clinics), as well as a multidisciplinary approach.

In our opinion, in the model that we present the continuous interaction with the specialized obesity unit from the beginning can help PC health care providers to be more engaged, acquiring specific formation and gaining in confidence and experience in the management of complex obesity. Furthermore, this interaction allows all the health care providers involved in the management of obesity (both primary and tertiary care) to have a more integrative view of the problem during lifespan, as well as, last but not least, make team building and be on the same page. Additionally, this kind of bidirectional and continuous collaboration would optimize efforts, shorten the

time until proper intervention, personalize the approach and, finally, save costs for the health system. However, further studies to evaluate the real benefits and cost-effectiveness of the proposed model in the management of obesity are needed.

### Statement of Ethics

Ethical approval and consent are not required for this study in accordance with local or national guidelines.

### Conflict of Interest Statement

The authors have no conflicts of interest to declare.

### Funding Sources

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

### Author Contributions

Carla Morer, Maria Ubeda, Aida Ovejas, Raquel Nogues, Silvia Lopez, Anna Guillaumet, Maria Santos, Marta Comas, and Andreea Ciudin: contributed to the elaboration of protocol; Andreea Ciudin: conceptualization, supervision, draft writing, and review. Iris Alarcon, Rosa Romero, and Rafael Simó manuscript review.

### Data Availability Statement

All data generated or analyzed during this study are included in this article. Further inquiries can be directed to the corresponding author.

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