ENDOCRINE PRACTICE **Rapid Electronic Article in Press**

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Appendix 3

AMERICAN ASSOCIATION OF CLINICAL ENDOCRINOLOGISTS AND AMERICAN COLLEGE OF ENDOCRINOLOGY

OBESITY CHRONIC CARE MODEL

Obesity is a chronic disease, increasingly responsible for patient suffering and social costs worldwide. The conceptualization of obesity as a lifestyle choice and primarily a cosmetic concern is not only debunked by scientific evidence, but has failed our patients and our societies. With improved efficacy and a range of treatment options, it is incumbent that the full force of our medical chronic care model (CCM) be brought to bear on obesity prevention and treatment. This can only be achieved through activated health care systems, as well as regulatory and legislative measures that ensure patient access to therapies of proven benefit. The American Association of Clinical Endocrinologists and American College of Endocrinology Comprehensive Clinical Practice Guidelines for Medical Care of Patients with Obesity represent an evidence-based CCM that emphasizes weight-loss therapy directed at the prevention and treatment of obesity-related complications. This clinical practice guideline (CPG) approaches obesity as a chronic medical illness that is a source of morbidity, mortality, and compromised quality of life. The guidelines target more aggressive treatment for patients with weight-related complications who will benefit

most greatly from weight loss and so optimizes benefit/risk ratios and cost-effectiveness (ie, the "complications-centric" approach). The medical CCM promulgated by these guidelines is not isolated but exists within the context of our larger health care system, communities, governments, and societies. Therefore, a CCM for obesity must become an operational, integral component of the health care system and be embraced by the larger society if it is to optimally benefit patients in particular and public health in general.

The general concept of the CCM for disease management was introduced in the 1990s, designed for primary care practice settings and credited with improving clinical outcomes (1,2). The core aspiration is that patients become activated and empowered, while health care systems become prepared and proactive. In general, there are 3 interrelated settings for the CCM: community, health care system, and provider organization (private practice, health center, integrated system, etc) (3). The 6 integrated components of the AACE/ACE Obesity CCM are:

Component 1: **Built Environment** (contextualization; community resources, laws, and policies; safe public spaces for physical activity, lifestyle education, self-help, and socialization; minimization of adverse obesogenic drivers; includes home and workplace)

Component 2: **Healthcare System** (recognition and prioritization of health promotion and obesity prevention, with a favorable economic model [payment reform] that engages health care professionals [primary care and specialists] and patients, while making comprehensive, evidence-based obesity care affordable and accessible)

Component 3: **Decision Support** (creation and electronic implementation of evidence-based CPGs for comprehensive, complications-centric obesity care)

Component 4: **Delivery System Design** (creation and coordination of an obesity care team, available for routine patient encounters and oriented toward management of both acute and chronic issues; includes lifestyle, pharmacotherapy, and bariatric procedures)

Component 5: **Clinical Information Systems** (routine patient care, CPGs,

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interactive/feedback, and registries)

Component 6: **Self-Management Support** (education, behavioral medicine, follow-up and feedback regarding obesity care; recognition by patient of need for obesity prevention and care)

Effective integration of the components of this CCM is central to successful implementation and realization of superior clinical outcomes in comprehensive, complications-centric obesity care. The specific processes for a CCM have been described as building blocks (4) and are described here in the context of the American Association of Clinical Endocrinologists (AACE) and American College of Endocrinology (ACE) Obesity CCM:

Block 1: **Engaged Leadership** (commitment to transformative care and focus on health promotion, obesity prevention, and comprehensive, complications-centric obesity management to improve patient health)

Block 2: **Data-Driven Improvement** (evidence-based interventions and metrics; use of registries; properly designed clinical trials)

Block 3: **Empanelment** (linking patients with an obesity care team and primary care clinician; basis for performance metrics)

Block 4: **Team-Based Care** (team leaders [primary care physician, endocrinologist, or other obesity specialist AND advanced practice professional] and support [nursing, registered dietitian, behaviorist, psychologist, pharmacist, physical activity trainer, social worker, etc])

Block 5: **Patient-Team Partnership** (empowered, activated patient with a prepared, proactive practice that is empathetic and supportive; physician personal health behaviors; motivational interviewing, shared decision-making, and trusting relationships)

Block 6: **Population-Based Care** (routine health promotion and coaching with preventive services; use of specialized teams for patients with specific weight-related complications; family-oriented care that addresses childhood obesity;

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identification of relevant metrics [eg, weight, body mass index, waist circumference, target blood pressure, target lipids, target renal and liver function, symptom relief, performance, reduction of major adverse cardiac events])

Block 7: **Continuity of Care** (linked to all blocks and necessary for effective CCM; requires payment reform)

Block 8: **Enhanced Access to Care** (includes nights and weekends and adds capacity to meet demand; uses e-visits, phone visits, group visits, telemedicine visits, efficient use of obesity team members, and payment reform)

Block 9: **Comprehensive Coordinated Care** (primary care, weight loss, weight-related complications, other specialized care; accountability by primary care; includes outpatient, inpatient, and long-term care; infrastructure for appointment logistics, transportation, interpretation, comfort and safety, electronic connectivity, and information-sharing)

Block 10: **Alternative Encounters** (payment reforms to drive and facilitate novel modalities for each of the above blocks to optimize obesity care)

In conclusion, a contemporary AACE/ACE Obesity CCM focuses on an upstream approach (3) that promotes general health and prevents obesity as a disease state, while simultaneously providing downstream comprehensive, complications-centric, disease management. The CCM defines a concerted approach, based on evidence-based treatment guidelines for obesity, which is required to stem the increasing suffering and social costs of this disease. The above text, recommendations in the Executive Summary, explanations and evidence base in Appendix 1, and the pictorial algorithm in Appendix 2, each contribute detail to the AACE/ACE Obesity CCM provided in Figure 1.

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References

1. Bodenheimer T, Wagner EH, Grumbach K. Improving primary care for patients with chronic illness, parts 1 and 2. *JAMA.* 2002;288:1775-1779, 1909-1914.
2. Barr VJ, Robinson S, Marin-Link B, et al. The expanded chronic care model: an integration of concepts and strategies from population health promotion and the chronic care model. *Hosp Q*. 2003;7:73-82.
3. Bodenheimer T, Willard-Grace R. The chronic care model and the transformation of primary care. In Mechanick JI, Kushner RF, eds. *Lifestyle Medicine: A Manual for Clinical Practice*. New York, NY: Springer International; 2016:89-96.
4. Bodenheimer T, Ghorob A, Willard-Grace R, Grumbach K. The10 building blocks of high-performing primary care. *Ann Fam Med*. 2014;12:166-171.

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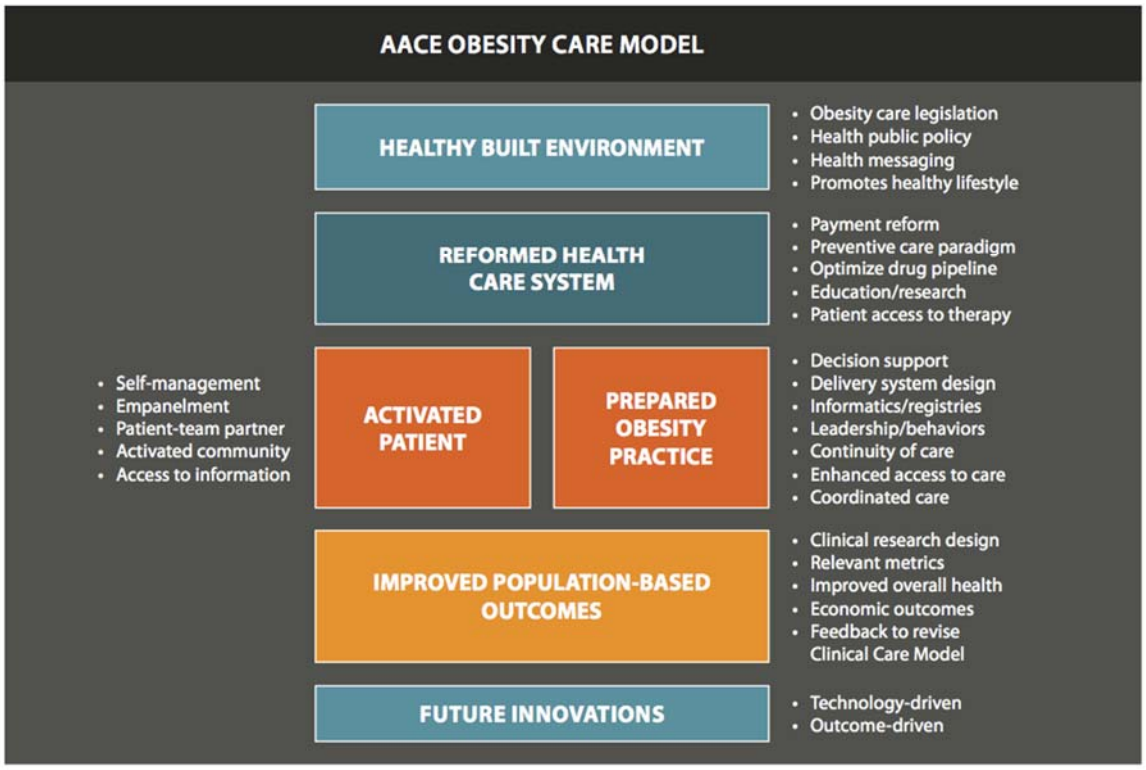
Figure 1. The AACE/ACE Obesity Chronic Care Model*



* see text for details.

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