More than an Ounce of Prevention: A Medical-Public Health Framework for Addressing Unhealthy Weight in Rhode Island

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In 2013, the American Medical Association (AMA) declared obesity a disease, despite the opposing recommendation of its own Council on Scientific Affairs (1). The commentaries stemming from the AMA's decision have highlighted how difficult it is for providers to respond to what is now regularly called an epidemic of obesity. We provide a population health context for the medical approaches discussed in the other contributions to this special issue.

Despite a "health at all sizes" paradigm that argues anti-obesity campaigns have been driven by moral panic and the weight loss industries rather than actual health risks associated with obesity (2, 3), this "myth of healthy obesity" has been effectively debunked by much evidence showing that obesity does indeed increase the risk of cardiovascular events, diabetes, joint problems, apnea and some forms of cancer – in addition to its social and economic consequences. While pharmacological and surgical interventions may certainly benefit some individuals, they are not a solution for the underlying causes of the nearly three-fold increase in obesity in one generation. In Rhode Island (RI), this translates to an estimated 201,400 adults with a body mass index (BMI) indicating obesity and another 94,400 at the high end of the overweight bracket (BMI 28-30 kg/m^2), in a state where the total population is barely over 1 million.

THE WEIGHT OF RI

In the past 15 years alone, obesity trends in RI reveal the extent to which unhealthy weight has become a mainstream issue. The RI Behavioral Risk Factor Surveillance System (RI BRFSS) survey is the state's largest source of information on the health status and behaviors of RI adults. We pooled 2011-15 data to assess the most recent prevalence and distribution of obesity and severe obesity, compared to RI adults 15 years ago (pooled 1997-2000 data; full descriptions of the survey data and methodology are available from the authors, along with additional data).

In keeping with national trends, the prevalence of obesity continued its generation-long rise in RI during this period. However, a comparison across race/ethnicity and educational attainment shows that the protective effect of traditional social advantage (4) may be declining: obesity rates grew much more rapidly among non-Hispanic whites relative to non-Hispanic blacks (**Table 1a, Figure 1a**) and among adults with higher levels of education compared to adults without a high school degree (**Table 1b, Figure 1b**). At the same time, rates have risen almost as much among Hispanic/Latino adults; while this, too, might reflect the same trends of relative social advantage (health behaviors have been shown to worsen with acculturation and its accompanying improved access to healthcare) (5), different sociocultural trajectories may be driving different populations to statistical parity.

Many explanations for the overall rise in obesity have been suggested, but changes leading to increased energy consumption and decreased activity are clearly the main drivers. We draw attention to two findings in particular. First, Hill et al. calculated that very incremental energy accumulations – a median 15 kcal/day – were driving U.S. weight gain (6). Second, Kranjac and Wagmiller found both a cohort and an intracohort effect – i.e., not only the changing demographic composition of more recent population cohorts and changing behaviors across *all* cohorts are accounting for the collective weight gain (7).

At the same time, it is important that providers be alert to the possibility of mental distress underlying weight gain, as it has been found to underlie the rising white mortality rate (8). Compared to people with a BMI below the obesity

Table 1A. Prevalence of weight categories among RI adults in 1997–2000 and 2011–2015, by race/ethnicity

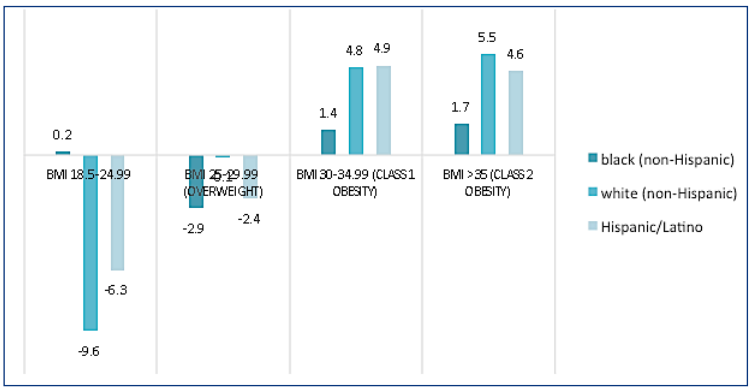
	white (non-Hispanic)		black (non-Hispanic)		Hispanic/Latino	
	1997–2000	2011–2015	1997–2000	2011–2015	1997–2000	2011–2015
Normal weight (BMI >18.5 & <30)	45.3 (44.2-46.5)	35.8 (34.9-36.6)	33.0 (27.1-38.8)	33.1 (28.8-37.5)	39.4 (35.1-43.7)	33.0 (30.2-35.9)
Overweight (BMI 25-29.99)	36.9 (35.8-38.0)	36.8 (36.0-37.7)	36.5 (30.7-42.3)	33.6 (29.6-37.6)	40.7 (36.2-45.1)	38.3 (35.4-41.2)
Class 1 obesity (BMI 30-34.99)	11.5 (10.8-12.3)	16.4 (15.7-17.0)	18.5 (13.9-23.0)	19.9 (16.7-23.0)	13.0 (10.2-15.7)	17.9 (15.8-20.1)
Class 2 obesity (BMI>=35)	4.1 (3.7-4.6)	9.6 (9.1-10.1)	10.6 (6.9-14.3)	12.3 (9.7-14.9)	5.1 (3.1-7.0)	9.7 (8.1-11.3)

Data source: RI Behavioral Risk Factor Surveillance System

Table 1B. Prevalence of weight categories among RI adults in 1997–2000 and 2011–2015, by educational attainment

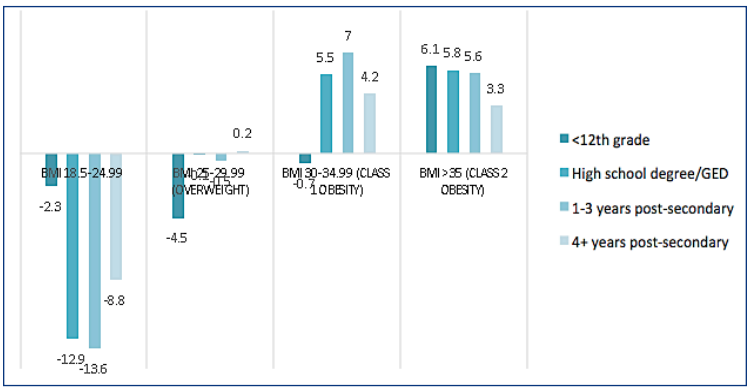
	No high school degree		High school degree/GED		1-3 years of post-secondary education		4+ years of post-secondary education	
	1997–2000	2011–2015	1997–2000	2011–2015	1997–2000	2011–2015	1997–2000	2011–2015
Normal weight (BMI >18.5 & <30)	35.3 (32.4-38.2)	33.0 (30.3-35.6)	44.9 (43.0-46.8)	32.0 (30.5-33.5)	48.9 (46.7-51.1)	35.3 (33.7-36.8)	49.4 (47.5-51.3)	40.6 (39.4-41.7)
Overweight (BMI 25-29.99)	39.9 (36.9-42.9)	35.4 (32.9-38.0)	37.2 (35.3-39.0)	37.1 (35.6-38.6)	36.4 (34.3-38.5)	35.9 (34.4-37.4)	38.0 (36.1-39.9)	38.2 (37.0-39.3)
Class 1 obesity (BMI 30-34.99)	18.4 (16.1-20.7)	17.7 (15.8-19.7)	12.8 (11.5-14.1)	18.3 (17.1-19.4)	10 (8.8-11.3)	17.0 (15.9-18.1)	9.7 (8.6-10.8)	13.9 (13.1-14.6)
Class 2 obesity (BMI>=35)	6.3 (4.9-7.8)	12.4 (10.7-14.1)	5.1 (4.3-5.9)	10.9 (9.9-11.8)	4.7 (3.9-5.5)	10.3 (9.4-11.2)	3.0 (2.3-3.6)	6.3 (5.7-6.9)

Figure 1a. Risk differences (between 2011–2015 and 1997–2000) by weight category among RI adults, by race/ethnicity



Data source: RI Behavioral Risk Factor Surveillance System

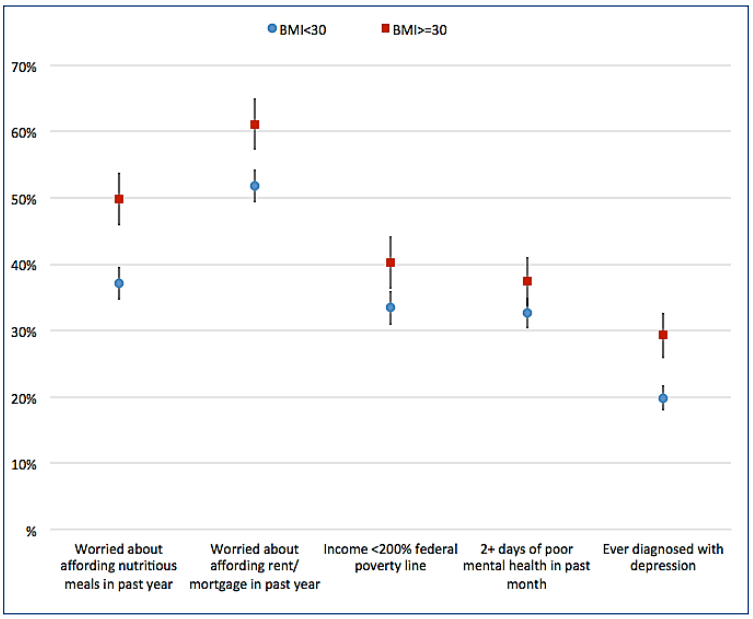
Figure 1b. Risk differences (between 2011–2015 and 1997–2000) by weight category among RI adults, by educational attainment



Data source: RI Behavioral Risk Factor Surveillance System

threshold, obese adults in 2015 were more likely to report multiple days of poor mental health in the past month or past/current depression (**Figure 2**). (BRFSS does not provide other measures of mental distress, nor the use of atypicals and antidepressants, both of which carry the risk of serious weight gain.) A medical-public health framework also needs to find a way to address the associations between high BMI and anxiety over affording nutritious meals and rent/mortgage, as this may be the kind of stress for which people turn to constant energy-dense but low-nutrition snacks as a coping mechanism (**Figure 2**; additional data available on request).

Figure 2. Profile of RI adults in 2015, by obesity status



*Whiskers indicate 95% confidence intervals

Data source: RI Behavioral Risk Factor Surveillance System

WHAT CAN RI PROVIDERS DO?

Given the scale and drivers of the obesity epidemic, RI providers might feel there is little they can do – or even that the responsibility does not rest with them. Despite the increased prevalence of obesity, several studies have found that providers are even less likely to counsel their patients about weight than they used to (9). Providers can't bear sole responsibility for helping their unhealthy-weight patients lose weight, but they do have a critical role to play. While acknowledging the very real barriers such as competing demands on limited consultation time, discomfort with starting a sensitive conversation, and frustration with patient failure to progress, we suggest several public health approaches for providers to consider.

- **Screen and intervene *before* BMI hits 30, as well as after**
  Weight loss is difficult to both achieve and sustain once people have become obese, and in this as in every public health problem, prevention is the best solution. Although the overweight adult population as a whole has remained relatively stable (above 1 in 3 adults), providers should be especially concerned about the rising percentage in the "red zone" (BMI 28-30, or just below the obesity line).
- **Refer patients to lifestyle change programs**
  Much of the medical literature on obesity is driven by genetics research and pharmacological interventions. But sustained reliance on pharmacological approaches, with all their attendant side effects and price tags, is not a solution to so widespread a health problem. The RI Department of Health (RIDOH) provides a centralized location (the Community Health Network) where providers can refer patients with or at risk of chronic disease to free lifestyle modification classes that teach patients how to develop healthier habits; providers simply submit a referral form and a RIDOH patient navigator contacts the patient to help them enroll in a class. Providers are then sent updates on their patients' enrollment status. Providers can make arrangements by emailing DOH.Community@health.ri.gov or calling (401) 222-3600. Patients can also view and register for programs at http://www.health.ri.gov/find/communityhealthnetworkprograms/. However, multiple studies have found that patient engagement is higher with provider involvement in the process.
- **Work with a Community Health Worker (CHW) to help patients with life's challenges**
  Most providers know that simply telling their patients to lose weight and sending them on their way is unlikely to be effective. As **Figure 2** reminds, obese patients may face complex challenges involving not only long-ingrained habits but socioeconomic barriers: they may struggle to find time and money, to shop for and prepare fresh produce, or they may be using unhealthy behaviors as coping mechanisms to deal with stress or anxiety. While the RI Medical-Legal Partnership can help with some legal problems (e.g., delinquent landlords), medical practices are increasingly finding that CHWs can help with both psychosocial and logistical challenges outside the clinical setting through such things as helping patients apply for the Supplemental Nutrition Assistance Program (SNAP), providing informal counseling and social support, or ensuring patients with low health literacy understand the information or materials they were given.
- **Invest in communication**
  Weight can be a difficult topic to broach with patients. With RI's increasingly diverse population, it is especially important to understand the social and cultural conflicts that can arise despite the best of intentions (10). CLAS (culturally and linguistically appropriate services) resources like https://www.thinkculturalhealth.hhs.gov/education/physicians and https://www.niddk.nih.gov/health-information/health-topics/weight-control/talking-with-patients-about-weight-loss-tips-for-primary-care/Pages/talking.aspx can provide helpful tips.
- **See your patients in a population-health perspective**
  The individual patients in front of you are above all your individual patients: but we hope that remembering the extent of health-imperiling weight in RI – not least the doubling of class 2 obesity as reflected in **Table 1b** – will encourage providers to work together with the public health sector toward primary as well as secondary prevention.

Like quitting smoking, losing weight is hard and may require multiple attempts. But providers can make it easier for their patients to succeed if they provide not only medical treatment for the individual, but professional and civic partnership on public policies that facilitate choosing healthier options throughout the day.

References

1. American Medical Association. Is Obesity a Disease? Council on Science and Public Health report 3-A-13 2013.
2. Kramer CK, Zinman B, Retnakaran R. Are metabolically healthy overweight and obesity benign conditions?: A systematic review and meta-analysis. Ann Intern Med. 2013;159(11):758-69.
3. Penney TL, Kirk SF. The Health at Every Size paradigm and obesity: missing empirical evidence may help push the reframing obesity debate forward. Am J Public Health. 2015;105(5):e38-42.
4. Mitchell NS, Catenacci VA, Wyatt HR, Hill JO. Obesity: overview of an epidemic. Psychiatr Clin North Am. 2011;34(4):717-32.
5. Lara M, Gamboa C, Kahramanian MI, Morales LS, Bautista DE. Acculturation and Latino health in the United States: a review of the literature and its sociopolitical context. Annu Rev Public Health. 2005;26:367-97.
6. Hill JO, Wyatt HR, Reed GW, Peters JC. Obesity and the environment: where do we go from here? Science. 2003;299(5608):853-5.
7. Kranjac AW, Wagmiller RL. Decomposing trends in adult body mass index, obesity, and morbid obesity, 1971-2012. Soc Sci Med. 2016;167:37-44.
8. Squires D, Blumenthal D. Mortality Trends Among Working-Age Whites: The Untold Story. Issue Brief (Commonw Fund). 2016;3:1-11.
9. Kraschnewski JL, Sciamanna CN, Stuckey HL, Chuang CH, Lehman EB, Hwang KO, et al. A silent response to the obesity epidemic: decline in US physician weight counseling. Med Care. 2013;51(2):186-92.
10. Thomas AM, Moseley G, Stallings R, Nichols-English G, Wagner PJ. Perceptions of obesity: Black and White differences. J Cult Divers. 2008;15(4):174-80.

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