cenex fale Centro de Extensão da Faculdade de Letras da UFMG

# ING 1

8/15

**EXAME DE PROFICIÊNCIA EM LÍNGUA INGLESA PARA PROCESSOS SELETIVOS DE PROGRAMAS DE PÓS-GRADUAÇÃO DA UFMG**

**ÁREA Nº 1: CIÊNCIAS BIOLÓGICAS, CIÊNCIAS AGRÁRIAS, CIÊNCIAS DA SAÚDE**

**IDENTIFICAÇÃO**

**CPF:** **PASSAPORTE:**

| DATA: / / | **NOTA:** |
|---|---|

## INSTRUÇÕES:

**1.** Esta prova é constituída de 1 (um) texto em língua inglesa, seguido de 5 (cinco) questões abertas, totalizando, com esta folha de rosto, 7 (sete) páginas. Caso identifique algum problema, solicite a substituição da prova.

**2.** Leia atentamente o texto e responda às questões propostas. As questões deverão ser respondidas em **português**, **a tinta** (cor azul ou preta; provas respondidas a lápis **não serão corrigidas**) e com letra **legível.**

**3.** A duração da prova é de **3** (três) **horas.**

**4. É** permitido o uso de dicionário impresso. O candidato deverá utilizar seu próprio exemplar.

**5.** Os rascunhos deverão ser entregues ao examinador, junto com a prova: texto e questões.

**6.** Responda às questões **de acordo com o texto**.

**Texto:**

## Will All Americans Become Overweight or Obese? Estimating the Progression and Cost of the US Obesity Epidemic

Wang Y, Beydoun MA, Liang L, Caballero B, Kumanyika SK.

Introduction

Obesity has become a public health crisis in the United States. Nationally representative survey data show that the prevalence has steadily increased over the past three decades although there are large disparities between population groups and continuing changes in the associated patterns. Current evidence suggests that the prevalence is likely to remain on the rise, and that it will not be possible to meet the objectives set for Healthy People 2010 of reducing obesity prevalence in adults to 15% and in children to 5%. Obesity has many health, social, psychological, and economic consequences for the individuals being affected and for the society. The current US generation may have a shorter life expectancy than their parents if this obesity epidemic cannot be controlled. The economic impact is especially evident in health-care costs. A recent study estimated that medical expenditures attributed to overweight and obesity accounted for 9.1% of total US medical expenditures in 1998 and might have reached 78.5 billion US dollars. Expenditures will continue to rise particularly due to the increases in obesity prevalence and in the cost of related health care.

This study aims to provide a thorough analysis to illustrate potential future trends in obesity and the related health-care costs were current trends to continue, based on nationally representative survey data collected over the past three decades, to characterize the need for national polices and programs. Such information will help the United States and perhaps other policy makers, health professionals, and the general public to be better prepared to face the related challenges, and motivate the development of public health and clinical programs to address the obesity epidemic in order to avoid the many adverse health and social consequences that will otherwise ensue.

Methods and Procedures

### Overview

Our projection analyses were based on prevalence data from the National Health and Nutrition Examination Study (NHANES) collected between the 1970s and 2004. Compared with other available data sources, the NHANES provides high quality, directly measured height and weight data from nationally representative samples, and the data are comparable over time. Our projections of obesity-related health-care costs are mainly based on recently published studies using national health-care expenditure data.

*Overweight and obesity*. For practical purposes and among both children and adults, BMI (weight (kg)/height (m)2) is widely used nowadays to assess obesity. In adults, the BMI (kg/m2) cutoff points for overweight and obese are set at 25 and 30, respectively. In children and adolescents, "Overweight" is defined as BMI (kg/m2) ≥ the sex-age-specific 95th BMI percentile, and "at risk for overweight" as 85th ≤ BMI <95th percentile. In children and adolescents, we focused on overweight because national estimates of the prevalence of "at risk for overweight" have not been made available for all waves of NHANES.

*Health-care costs attributable to obesity and overweight*. Medical costs associated with overweight and obesity may involve direct and indirect costs. Direct medical costs may include preventive, diagnostic, and treatment services related to obesity. Indirect costs relate to morbidity and mortality. Morbidity costs are defined as the value of income lost from decreased productivity, restricted activity, absenteeism, and bed days. Mortality costs are the value of future income lost by premature death. Note that our projections only provide estimates of the overall direct medical costs. We chose not to estimate the indirect costs because of the larger uncertainty and the need for more data. In addition, we focused on adults in our cost projections because of the absence of published estimates on health-care costs attributable to obesity for children or adolescents.

*NHANES*. The NHANES comprises a series of cross-sectional, nationally representative examination surveys conducted since the 1970s including NHANES I (1971–1974), II (1976–1980), and III (1988–1994). Beginning in 1999, NHANES became a continuous survey. Data on weight and height are collected through direct physical examination in a mobile examination center (14). Most recently, the NHANES data collected in 2003–2004 were made available. Previous analyses show little increase in the prevalence of obesity and overweight between NHANES I and II, but prevalence has been steadily increasing since NHANES II.

*Medical Expenditure Panel Survey and National Health Expenditure Accounts*. Recently published studies that estimate obesity-related health-care costs using the Medical Expenditure Panel Survey (MEPS) data provide a base for our projections of future health-care costs attributable to overweight and obesity. The MEPS is a set of large-scale nationwide surveys of families and individuals, their medical providers (primarily doctors, hospitals, and pharmacies), and employers across the United States, which is designed to support studies of health-care use and expenditures. The survey began in 1996 and collects data on the specific health services that Americans use, how frequently they use them, the cost of these services, and how they are paid for, as well as data on the cost, scope, and health insurance coverage. National Health Expenditure Account (NHEA) provides aggregate measures of health-care expenditures in the United States by type of service delivered (hospital care, physician services, nursing home care, etc.) and source of funding for those services (private health insurance, Medicare, Medicaid, out-of-pocket spending, etc.). The Office of the Actuary in the Centers for Medicare and Medicaid Services annually produces projections of health-care spending for categories within the NHEA for the next decade.

## Statistical analysis

*Projection of future overweight and obesity trends*. We estimated the average annual increase in the prevalence of overweight and obesity and predicted the future prevalence among US adults and children assuming the trends would be similar to those of the past three decades. Most of the past prevalence estimates based on NHANES data used in our analysis were based on previously published estimates, all of which were based on analyses done with consideration of survey design effects and sampling weights). Additional estimates were obtained only when necessary (e.g., prevalence and shift in BMI distributions) and were also calculated taking design effects and sample weights into account. For example, such analyses were conducted using the survey-related commends in STATA Release 9.0 (Stata, College Station, TX), and the relevant strata, primary sampling units, and sampling weight variables were used. We fit linear regression models with the prevalence as the dependent variable and the survey time as the predictors for different sociodemographic groups. The β coefficients indicate the average annual increases in the prevalence. The models fit the data well in each sociodemographic stratum, and explained 60–100% (i.e., $R2$) of the variance in the prevalence. The majority (□90%) of the models had an $R2 > 0.90$. Based on the findings, we then projected the future situation for the years of 2010, 2020, and 2030 as well as when the prevalence would reach the landmark levels (e.g., 80 and 100%). In addition, we calculated prediction intervals based on the s.e. of the predicted prevalence.

Further, based on previously observed BMI distribution shifts between 1976 and 2004 we predicted future BMI distributions among American adults aged ≥20 and then projected the mean BMI and prevalence based on these projected BMI distributions. We created weighted percentiles for each wave and estimated mean BMI within each percentile. Subsequently, the cumulative relative frequency (proportion) was compared between waves and the yearly shift in mean BMI for each percentile was estimated using ordinary least squares linear regression models with survey mid-period as the predictor for mean BMI in each percentile. This yearly shift was then applied to the NHANES 1999–2004 population to project future BMI distributions.

## Projected prevalence of overweight and obesity from 2010 to 2030

On average, the prevalence of overweight and obesity has increased steadily among all US population groups over the past two to three decades ($P < 0.05$), but some noticeable differences exist in the average annual increase (percentage point) across sex-, age-, and ethnic groups. In general, US adults saw a faster increase in obesity than the increase in overweight in children and adolescents (0.68 vs. 0.46 and 0.49, respectively); women had a faster increase than men (0.91 vs. 0.65 for combined prevalence of overweight and obesity). Girls had a slower increase in overweight than boys (0.41 vs. 0.49 in children and 0.45 vs. 0.53 in adolescents). White men and women had the highest increase rate in the combined prevalence, compared with African Americans and Mexican Americans (MAs), within gender. Regarding obesity, African-American women had the highest prevalence and rate

of increase overall; and in men, the prevalence was similar, but white men had the highest increase rate. The patterns in children and adolescents were complex.

Prevalence of obesity and overweight among US adults: Observed during 1976–2004 and projected. The projected prevalence presented here are those based on our linear regression models.

Our projection models show that by the year 2030, □90% (86.3%) of all American adults would become overweight or obese and 51.1% of them would be obese. Black women (combined prevalence 96.9%) and MA men (91.1%) would be the groups most affected. In children and adolescents, prevalence of overweight would increase 1.6-fold (to □30%) by 2030. MA young boys and black adolescent girls would have the highest prevalence (both 41.1%), a level that would be 10 percentage points higher than the national average. Further, the prevalence in MA adolescents will increase by twofold and among African-American teens, by 1.8-fold, the largest increases.

Furthermore, our findings from comparing BMI distributions between NHANES II (1976–1980) and 1999–2004 suggest a great BMI increase in the upper part of the distribution. Note that a previous study has examined the shift up to NHANES III (1988–1994). This is clearly shown in the increasing area under the upper tail, the widening of the BMI mean differences in the upper percentiles and an upward sloping *m-d* plot. Assuming these trends will persist, we projected the future BMI distributions. Based on these projections, mean BMI will increase linearly from 27.9 in 1999–2004 to 31.2 in 2030; and by 2030, 78.9% of American adults will be overweight or obese, while 49.9% will be obese. In general, these results are consistent with our linear regression model-based projections.

Fonte: http://onlinelibrary.wiley.com/doi/10.1038/oby.2008.351/full (Adaptado)
Acesso: Junho 2015

**Questões:**

1. O que sugerem as evidências atuais sobre a prevalência da obesidade e sobre a redução dela em adultos e crianças?

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2. Como o texto descreve os custos médicos diretos e indiretos com a obesidade e como são definidos os termos ‘morbidade’ e ‘mortalidade’, relativos a esses custos?

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3. Como o MEPS (Medical Expenditure Panel Survey) é definido no texto?

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4. Quais foram as estimativas da pesquisa em relação à média de aumento anual da obesidade e do sobrepeso?

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5. O que os resultados do estudo mostram em relação ao aumento da obesidade e do sobrepeso na população americana em relação ao fator gênero?

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