Human Behavior:
An Impediment to Future Mortality Improvement

A Focus on Obesity and Related Matters

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1. Executive Summary

The effects and consequences of human behavior on mortality and life expectancy have always been significant. Some of the recent significant trends in behavior have resulted in a significant and in some ways shocking increases in the prevalence of obesity in all sectors of the U.S. population (e.g., for all adults, the current reported obesity prevalence rate is 34.4 percent, based on a 2005-2006 nationally representative survey), as well as in almost all areas of the rest of the world. Since this increase has been gradual although relentless over the last 30 years, its existence has generally been accepted as a fact of life. Nevertheless, although this increase in weight and its general effect on the morbidity and mortality of those severely obese are uncontested, its overall effect on future mortality is still subject to debate and sometimes conflicting evidence.

The primary behavioral factors that have contributed to this trend involve the amount and mix of food intake and physical activity. Although it would be ideal if the specific short- and long-term effects of these factors could be identified, this is less useful than understanding the effect of these behavioral effects on a combined basis. In most cases, the level of obesity can serve as a reasonable surrogate for the combination of these factors.

This paper presents recent trends in obesity prevalence in significant population segments, including overall effects by age, gender and certain racial and ethnic groups, and discusses the ways in which obesity can influence mortality in each of these segments. It provides a synthesis of reported mortality experience relating to these behaviors by risk factors and diseases that will affect any mortality projection. Although usually measured in terms of Body Mass Index (BMI), alternative measures of adiposity, such as waist circumference, have shown that obesity, in one shape or another, can affect future mortality and morbidity levels.

These developments have significant implications for the individual and society as a whole. It is asserted that further data and analysis are needed, particularly in view of the long-term lags between the underlying behaviors and their mortality consequences. It

also discusses the possible prevention and management of obesity. Although this paper focuses on the future obesity trends and their effect on mortality, it describes the possibly more significant effects on morbidity, disability, health care costs and the quality of life, and the recent studies on health care costs and disability.

A key issue discussed is the adverse long-term health effects of adolescent obesity. It also indicates that the effects of obesity have to date been more than offset by significant risk mitigation and other developments, particularly treatments for high blood pressure and cholesterol levels and reductions in smoking. The uncertainty associated with mortality projections includes the extent that these sets of factors and future technological developments will offset each other in the future.

Whatever the ultimate effect of human behavior, understanding the contributions of its dynamic nature and effects on mortality, particularly of the adverse weight syndrome (obesity/fatness, excess and unhealthy food intake and sedentary lifestyle) is necessary to prepare soundly based mortality projections.