The World Health Organization estimates that there are currently 1.1 billion people who are overweight and that this number will exceed 1.5 billion by 2015. In addition to serious health consequences of obesity—such as increased cardiovascular disease, cancer, diabetes, and arthritis—the direct economic costs have been estimated to account for between 2 percent and 7 percent of total health care costs. And the global trend toward weight gain and its associated illnesses is not restricted to the well-off. The developing world’s obesity problem could become both public health and economic disasters in some countries.

A grim picture, indeed. But is it inevitable? Not necessarily. Because obesity is both a medical condition and a lifestyle disorder, behavior has a big influence on outcomes.

In response to growing concern about the obesity epidemic and rising tide of concomitant illnesses, the 2006 Pacific Health Summit “Fighting Fat” breakout session addressed key questions such as:

- **How do we stem the tide of obesity and other diseases linked to diet or physical activity, such as diabetes, heart disease, osteoporosis, and malnutrition?**

- **What can science and policy do to prepare for the heavy disease burden in both developing and developed societies?**

- **How can we change behavior to counteract these trends?**

- **What role can the medical industry and government play?**

**Robert Rizza**, President of the American Diabetes Association, opened the session with an outline of the financial cost of the obesity epidemic. In the near future, he estimated, the world will spend over $6 trillion on treating diabetes—one of the most common consequences of obesity. A manageable chronic disease in the developed world, diabetes is lethal in poor nations where most people lack access to insulin injections and regular monitoring capabilities.

**Mingzhe Chen**, Vice Dean of Tsinghua University Medical School, added that China has experienced an especially worrisome jump in the number of diabetics, giving policy makers, health care providers, and taxpayers all cause for concern.

“Once largely the province of the upper classes, non-insulin-dependent diabetes today crosses all economic strata,” observed **John Potter**, Senior Vice President and Director of Public Health Sciences at the Fred Hutchinson Cancer Research Center. “The ubiquity of soft drinks, for example, is an indication of historically unprecedented sugar consumption worldwide. Still, diabetes does not result strictly from individual behavior so much as from a combination of societal and economic conditions.”

Reasons for the rise of diabetes and other obesity-related illnesses around the globe include decreases in physical activity as technology enables people to live more sedentary lifestyles. Additionally, the widespread consumption of food rich in saturated fats and refined sugar in societies where rice, vegetables, and fish have been the mainstay has exacerbated the trend.

In developing countries, the combination of underweight children and overweight adults is becoming more widespread—especially in countries experiencing a socioeconomic and demographic transition. Rapid changes in diet, food availability, and lifestyle that occur at a fast pace are drastically affecting regulatory system development. When people who have subsisted on a modest, relatively healthy diet for generations are exposed to an unrestricted dietary energy supply, they become more susceptible to obesity and its associated illnesses.

Addressing the link between obesity and lifestyle, **Diane Finegood**, Science Director at the Canadian Institutes of Health Research’s Institute of Nutrition, said it is important to design social environments to encourage more mobility and better access to healthy foods. Currently, the physical work and play environments of modern society tend contribute to unhealthy lifestyle choices. By re-engineering workplaces to replace vending machines options with more healthy beverage options, designing office buildings where stairs are easier to find than elevators, and encouraging the creation and

* http://www.who.int/topics/obesity/en/
planning of communities where walking or biking is more convenient than driving a car would help individuals make behavioral changes that could benefit their health.

Paul Robertson, CEO and President of the Pacific Northwest Research Institute, agreed that efforts to encourage healthy behavior are our best defense against rising diabetes rates. Positive reinforcement for healthy lifestyle choices could help reverse recent trends in obesity.

“Fat is the new tobacco,” Finegood said. When the non-smoking public began to assert its smoke-free rights, smoking gradually dropped to pariah status helping to reduce the social pressure to smoke. Once non-smokers began insisting on clean air in the workplace, restaurants, and bars, making healthy choices regarding smoking became easier.

J. Edward Hill, Immediate Past President of the American Medical Association, stressed the importance of early intervention, especially for children. There is an 80% chance that habits children develop before age eight will be permanent. In order to instill positive behavior early on, parents and schools should actively address and promote nutrition, healthy lifestyle choices, and physical activity at the early childhood stages. While comprehensive health education initiatives for parents and children do exist, most do not reach deeply or broadly enough. Education must reach beyond homes and schools into general culture and society in order to the impact that is possible and necessary.

Encouraging healthy behavior would not only improve the health of the population, Robert Rizza added, but it would also save money. The United States alone could save $325 billion annually if it tackled the obesity epidemic in the early stages, before it brought on diabetes and other diseases.

But how do we influence behavior and lifestyle choices? Peter Singer, Sun Life Financial Chair and Director at the University of Toronto, suggested that financial incentives might help. Since foods rich in sugar and saturated fat are often much cheaper than healthy food, subsidies to decrease the cost of organic and fresh food might make a difference.

Tax deductions for fitness center, sports club, and Weight Watchers membership could also motivate people to change their behavior. Finally, improved nutrition labeling in developing and developed countries alike would enable people to make healthier choices.

The bottom line is that obesity is a structural, social problem, as well as a genetic problem. The challenge, for the most part, is lack of attention—from policy makers, doctors, educators, parents, and individuals in general.

In addition to encouraging healthy individual behavior, participants noted that advances in pharmacology could also help decrease diabetes cases. Drugs that treat the disease will become more effective and less expensive in the near future. Making these drugs affordable and accessible in the developing world will be a formidable challenge to tackle.

According to Paul Robertson, “Diabetes and obesity are ‘Rodney Dangerfield diseases’—they get no respect.” The general population is insufficiently aware of the risks or consequences of either, and there is inadequate interest in focusing resources on this problem at the state and federal levels. This lack of interest translates into a lack of funding for new and ongoing research.

Ultimately, increasing awareness will inspire change at other levels—individual, social and governmental. As we build awareness about the problem, motivation to modify our behavior and relationship with the environment, as well as more willingness and energy from policy makers and other leaders to invest in order resources to fuel such change, will increase.