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Editorial

Diabetes mellitus: the weight of the problem

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Diabetes mellitus is the pandemic of the 21st century. The dreary statistics are up on the wall but difficult to grasp in real terms. I therefore did some rough figuring and came up with a few comparisons that luridly illustrate the scale of the problem.

The global prevalence for diabetes is nearly 7%. This means that one in fourteen humans is diabetic. At a conservative count of 300 million, there are about as many diabetics in the world as users of Gmail, or people who play football.

Where are all these diabetics? At near-average prevalence rates, 51 million are in India and 44 million in China. Indeed, this diabetic population would rank as the world's 12th most populous country. There are more diabetics in India than people in South Africa. And in the world's smallest republic, the Pacific island of Nauru, over 30% of adults are diabetic.

How does this compare with smoking? The world has over 900 million smokers, as many people as are on Facebook. There are 5 million deaths from smoking annually: one every 6.5 seconds. There are 4.6 million deaths annually from diabetes: one every 7 seconds. Similar. Yet there are over three times as many smokers as diabetics. And, to invoke a moral dimension, smokers have a degree of choice that most diabetics do not. Compare the extent of legislated education and statutory warnings for both.

Warnings for food! There are four times as many undernourished people as diabetics in India. Every year one million Indians die from diabetes while 2.5 million die of hunger. It is ironic to warn of the health hazards of food in a world where millions of plates are empty, but education and targeted information are becoming imperative.

Individual preferences and metabolism are both so idiosyncratic that one cannot prescribe meaningful warnings as for cigarettes. Food packets should mention calorie counts in easily understood terms. A possibility is a simple icon suggesting a commonplace activity such as walking or housework, with the duration that would offset that calorie intake. There is legislation in some countries where the glycemic index of food is

indicated on the pack to the benefit of informed diabetics or athletes, but this needs to be simplified. Food, like any fuel, must be seen as hazardous in excess. It goes against our primal instincts to regard food as harmful but, like electricity, fossil fuel or nuclear power, it benefits only in safeguarded moderation.

Nut allergy is the statutory warning most often seen on food packaging. Considered among the leading cause of "food-related" deaths, about 3.3 million Americans suffer from it. In reality it causes less death than bee-stings and lightning strikes combined, about 150 a year. The US has eight times as many diabetics and 450 times as many die each year.

Death is merely the tip of the iceberg of suffering engendered by diabetes.

Morbidity is less quantifiable because of the multi-systemic and insidious ramifications of diabetic pathology and its compounding potential.

Cardiovascular and neurological morbidity is not realistically measurable, with diabetes being mostly under-reported as a direct or contributory cause of death.

Every minute worldwide 20 diabetics go on dialysis. The perversely grim reality is that this figure is pathetically *low* because of lack of dialysis facilities. Every 10 minutes, one diabetic goes blind. Permanently. Mostly avoidably.

Every hour, worldwide, ten diabetics undergo a lower limb amputation. By cruel analogy, every hour there are three landmine casualties with limb loss, one of which proves fatal. This occurs in countries where there are more landmines in the ground than humans above it. Either way, this is a damning statement on humanity.

If death is the tip of the diabetic morbidity iceberg, what of the ocean of pre-diabetes and impaired glucose tolerance in which it floats? One in three of the world's adult population is overweight and one in ten is obese. At the core of this double-barreled menace of diabetes and obesity, termed 'diabesity', is the fact that our genes and our environment are at cross-purposes. In the milieu where we evolved, calories were hard to come by and had to be sought at great physical expense and stored whenever

available. Today, food is so accessible yet our hungerstats are still set to Neanderthal times. All we need do is drive to the supermarket where our calorie accumulation is driven by advertising, hype and packaging, least of all by need. A lot of the work we do today would, centuries ago, not even be recognized as such. Yet its lack of physicality is worsened by the mental stresses involved that sentence us to a sedentary lifestyle punctuated with bad habits. Like commuting, entertainment too is largely passive. One needs to set time aside for physical exercise. Remember a time when football and cricket were played rather than watched while consuming beer and fries?

Our children are off to an early start. Adult onset diabetes was renamed Type 2 because children were increasingly manifesting it. Today 42 million children below 5 are overweight; 35 million are in developing countries. While sub-Saharan Africa is the only region where obesity is not common, it is here that the next diabetes explosion is waiting. In the next two decades the number of diabetics is expected to increase by 50 % worldwide. In developed countries this figure is 20%. In sub-

Saharan Africa the number of diabetics is expected to *double*. Obviously, this is the result of economic progress providing food availability, medical care, increasing lifespans and sedentary lifestyle shifts. That the number of undernourished people will not drop *pari passu*, is a cruel indictment of the iniquity of our civilization.

Two observations struck me while researching this editorial:

First: most predictions for the magnitude of the diabetic problem made decades ago have been dwarfed by present reality. *Second:* medical articles are targeted either at scientists or at patients. When writing of lifestyle diseases such as diabetes, a significant number of readers are both.

In the few minutes you have spent reading this, think of how much death and suffering has occurred from the diabetic scourge. What pains even more is that so much of it was preventable.

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