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Top statistician explains what all those numbers mean
By Katherine Wallman
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"People have a lot more numbers readily at their disposal....But they don't necessarily have the statistical literacy to go with it."Eric Sampson/American Statistical Association

In June, the United Nations passed a resolution designating October 20 as World Statistics Day. The United States planned to mark the occasion with a gathering on Capitol Hill of representatives from number-crunching agencies. Science News *writer Laura Sanders recently spoke with U.S. Chief Statistician Katherine Wallman about why numbers matter.*

What does the United Nations have to do with statistics?

The U.N. has a statistical commission and actually, one of the original functions of the United Nations was to produce comparable statistical information across the countries of the world. This has been an ongoing function since the beginning of the U.N. over 60 years ago. The commission's work has always been probably the most technical work that goes on — the freest, shall we say, from political interests.

What does the chief statistician do?

My office is not a data-producing office, but rather, an office that provides oversight, coordination, priority settings and standard settings for [national statistics].

The systems around the world vary between centralized and decentralized. None of them are totally centralized, but our country is more decentralized than some. That means that we have multiple agencies that actually produce the statistics on which the country relies. If you're talking about our population data, then you're talking about the Census Bureau. If you're talking about our national accounts, then you're talking

about the Bureau of Economic Analysis. If you're talking about health statistics, you're talking about the National Center for Health Statistics, and so on. And we can iterate that for criminal justice and education and transportation and so on, which is why I say we have about a dozen agencies in the federal government that produce these statistics, and large [volumes] of them.

In the same way my colleagues worry about priorities for improving health and education or so on, I'm the person who worries the most about improving our statistical programs and how the budget is affected by that.

What kinds of statistics are important at the national level?

The most obvious ones are probably on the demographic side, especially since we've just had a census. Everyone is very attuned to the population counts that come from the census and the fact that those are used for reapportionment and redistricting of the U.S. Congress. At more local levels, those numbers are also used in drawing local election districts.

I should also point out that those census counts and other data we produce are used to allocate hundreds of millions of dollars every year....

The second thing that probably should be obvious to people, but perhaps they've forgotten about it, is the use of our economic statistics — our numbers on employment, our numbers on changing prices, our numbers on gross domestic product. Those are used in all kinds of both public and private decisions, about monetary policy, about business policy. You see the attention that's given to the employment numbers roughly the first Friday of every month. There's always great anticipation about what the employment numbers are going to be. The stock market rises and falls on those numbers, literally....

The awareness of the nation's obesity epidemic comes from the statistics that we gather on a routine basis in the National Center for Health Statistics. We have a rather unique program called the National Health and Nutrition Examination Survey that actually goes out and measures people and takes blood samples. It's by following information like that that we can tell with data and not just with anecdotes the increasing tendency towards overweight and obesity in the population.

It's energy, it's environment. If we look at transportation statistics, we learn everything from usage of the roads and where we may need new roads to on time airplane arrivals. All those things, at the heart, are the result of statistics that are being produced by the federal government, and some of those may be less obvious to people.

How good are people at understanding what numbers mean?

I personally believe that with the advent of computer technology, people have a lot more numbers readily at their disposal. They have a lot of computer literacy, but they don't necessarily have statistical literacy to go with it. So they can manipulate lots of numbers but they may not be doing it in the best advised fashion. I do have a concern personally about the gap between the availability of information and the computer

literacy of our population and the statistical literacy they should have if they’re going to use these numbers most intelligently.