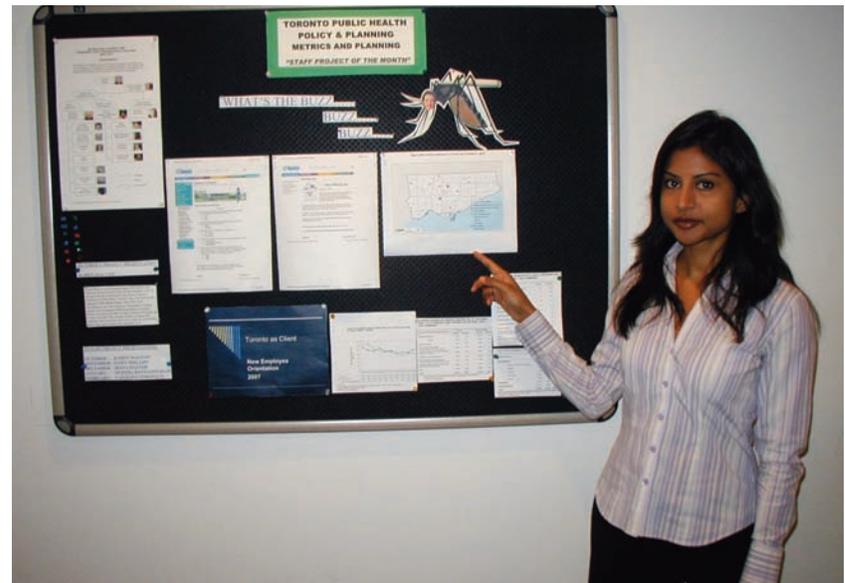# Inside *the life of a*

Public Health Epidemiologist

When Gabrielle received a call from the School Board asking about pregnancy rates in their area for girls between the ages of 15 and 19, she reviewed the statistics and presented them – all well and good. But when her findings were considered by the Board, they didn't seem to make much impression. Some trustees were actually saying teen pregnancy wasn't an issue when, in fact, it was quite significant.

The problem, of course, was that naked statistics didn't have much real meaning for some people. So this morning Gabrielle was tackling another issue: how to render that statistic in a way that it would become a reality. She sat down with her findings and began translating them into various contexts, until at last she found the one she needed. When applied to classroom size, it meant that on average, in every single classroom with girls between 15 and 19, there would be one pregnancy a year, more than half of which would end in therapeutic abortions. That seemed like a concept the trustees could get a handle on.

As an epidemiologist, Gabrielle's job was to monitor the health status of the residents in her area, and to discern the factors that contribute to it. People often had the impression that her job was just about crunching numbers – but in fact it also required a level of seasoned judgment. The evidence you had to work with was often far from perfect, and you had to get neck deep in the data to really digest it and make it usable. The fact that the health and well-being of individuals could ultimately be impacted by

Age-Specific Fertility Rates, Toronto and the Rest of Ontario, 2004
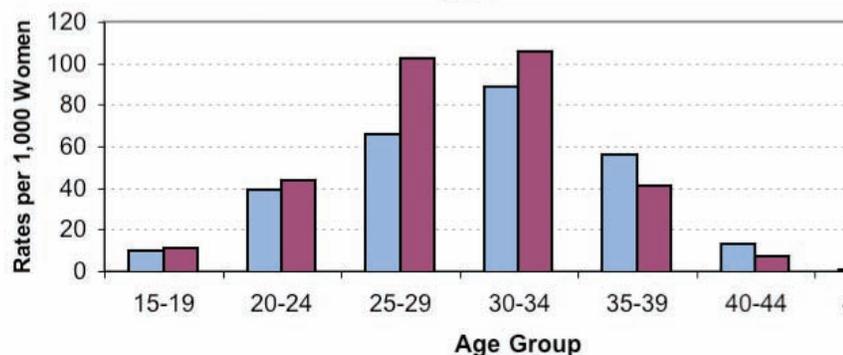
Gabrielle's findings and recommendations lent the issue of accuracy that much more weight. The art of epidemiology was to pay scrupulous attention to detail without losing the big picture.

Gabrielle's first meeting of the day, for instance, was with an analyst who had spent a week going over data in order to provide statistics on hospitalization rates resulting from motor vehicle crashes. The injuries had been classified and coded – but little documentation had been kept to indicate how those classifications had been made. So the analyst couldn't determine whether the codes for motor vehicle crashes were just for occupants of the vehicles, or whether they also included injured pedestrians. Nor was there any way of separating out how many of the injured were children.

> " *... in order to move forward, they would have to let go of the work that had been done and return to the raw data.* "

Gabrielle considered all that with the analyst, as well as whether there might be other sources that could validate the data. In this case, though, they seemed to be at a dead end: in order to move forward, they would have to basically let go of the work that had been done and return to the raw data.

Epidemiologists are used to challenges. When some people answer surveys, for instance, they are tempted to misreport in order to make the answers more socially acceptable. Because so many misreport how much they ate or exercised, for example, there was a disparity between the trend suggested by self-reported surveys, and the increase in obesity rates that were actually measured.

There were also sometimes more subtle factors at work. This afternoon Gabrielle had a meeting with a group of Public Health nurses concerned with compiling data on breastfeeding, which was strongly supported by Public Health. They were working with a multicultural community and in some cultures there are certain things that new moms traditionally don't freely discuss. Furthermore, there was a perception in some groups that breastfeeding was against the law. Moms had been warned in restaurants, "You can't do that here" – and had naturally assumed it was illegal. How were the nurses to ask moms about breastfeeding if it was perceived to be an illegal activity? A number of approaches were suggested, and they decided to test them in a focus group.

Gabrielle's last meeting of the day was one she had been working towards for some time. She was part of a team that was launching a project by which statistics on cervical cancer screening could be collected in a data base. The province lacked such a data base, but several Public Health sexual health clinics had agreed to participate in this local initiative as it got started. Gabrielle had helped to write the program by which the data could be collected and analyzed, and the surveys had been tested and modified. Today's meeting was the final one before the project was launched. Compiling statistics was just a first step, of course – but it was an important one in the fight against cervical cancer. And eventually, Gabrielle knew, women might be spared the disease – without ever knowing that a Public Health epidemiologist had played a role in their lives.