



With the United States on high alert over the possibility of bioterror attacks, epidemiologists are in huge demand, says Virginia Gewin.

Anthrax, West Nile virus, severe acute respiratory syndrome (SARS) and the increased threat of bioterrorism are just some of the factors that have increased the demand for epidemiologists recently — primarily in the United States. And the US government has not been slow to plough additional funds into the fight against bioterror, which in turn has created a number of epidemiology-related positions around the country.

But although the finances are in order, there is currently a significant deficit in skilled personnel to fill the new posts. “Now that states and localities have got bioterrorism funding, they are having a hard time hiring,” says Stephen Thacker, chief epidemiologist at the US Centers for Disease Control and Prevention (CDC) in Atlanta, Georgia. In fact, the push to fill bioterror-related positions is drawing talent away from the public-health sector, aggravating an already strained healthcare system.

The Council of State and Territorial Epidemiologists (CSTE), a collective of US public-health professionals, estimates that at least 1,600 formally trained epidemiologists — a doubling of the current level — will be needed in the near future in response to growing public-health programmes and the increased focus on bioterrorism. To meet the demand, both federal and state funds are being applied to help generate fresh training opportunities.

UNDER SURVEILLANCE

Leading the way is the CDC, which has several programmes designed to help those with medical or epidemiological training to become leaders in public health. Established in 1951, the CDC’s Epidemic Intelligence Service programme is one of the most notable schemes. Lasting for two years, it gives fellows on-the-job training in surveillance and response units that deal with all sorts of epidemics including chronic disease, injuries and, now, bioterrorism.

In previous years, the programme took 60–70 out of 300 or so applicants, but this year’s class of 80 was the largest ever, and was boosted by concerns about bioterrorism. In recent years, 15–20% of the class has been filled by fellows from other nations in the hope that these trainees would build up surveillance programmes in their home countries (see ‘European

approach’, below). At least 90% of the trainees end up in public-health jobs with either the CDC, the World Health Organization or state and local health departments. Increasingly, individual states are setting up similar training programmes to cultivate specialized epidemiological staff to meet state and local needs (see ‘Local knowledge’, opposite).

Indeed, now that more funds are available, there is a nationwide push to employ more support staff to allow health departments to deal with the increased volume of work and to improve responsiveness. “We want to develop the capacity of states, not only for epidemiologists, but also lab support,” says Thacker. For example, over 70,000 suspected anthrax samples across the United States were tested during autumn 2001, and such sudden bursts of activity put a strain on already stressed support staff.

The CSTE is playing an active role in creating on-the-job training opportunities. “We’re looking for ways to help orient people to applied epidemiology when seeking employment with state and local health departments,” says Pat McConnon, executive director of the CSTE. Together with Thacker, McConnon is developing a programme to give people who have a background in both statistics and epidemiology

Mike Osterholm would like to see more planning for the future.



European approach

The Epidemic Intelligence Service training programme, run by the US Centers for Disease Control and Prevention in Atlanta, Georgia, has had an impact in Europe. A group of Europeans who are former fellows of the scheme have designed the European Programme for Intervention Epidemiology Training (EPIET).

Funded by the European Commission,

EPIET takes on 8–10 people each year and is aimed at developing the continent’s capacity for responding to infectious disease. It provides up to seven years of training at the various national centres for surveillance and control of diseases in Europe.

Once the trainees complete the course, they are encouraged to set up similar training schemes in their home locations.

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▶ www.epiet.org

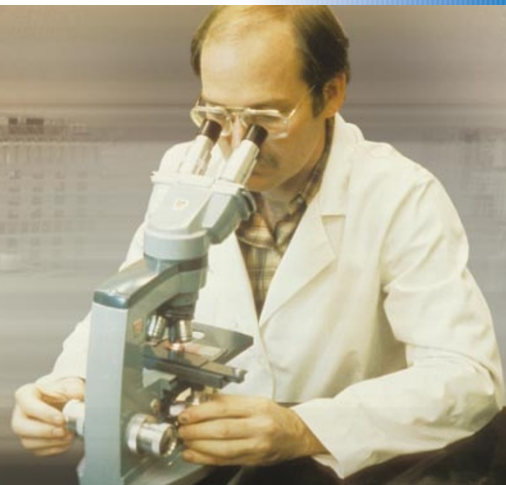
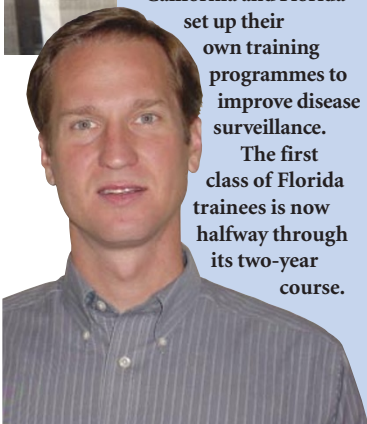


Local knowledge

After the US anthrax attacks in October 2001, California and Florida set up their own training programmes to improve disease surveillance. The first class of Florida trainees is now halfway through its two-year course.

“The hardest part is keeping people in the programme,” says Alan Rowan (left), who runs the scheme.

The job offers are already pouring in for the trainees — state and local public-health departments are eager to fill their vacancies with staff who have both academic and field training. **V.G.**
Florida training scheme
▶ www9.myflorida.com/disease_ctrl/epi/FLEIS/fleis.htm



capacity to train more people than we are training,” he says. “As a consequence, it is more difficult to gain admission here, it is more competitive.”

But the career path leading from university to public health is not always clear. Undergraduate and graduate schools prepare people for the academic field, or for working in areas such as the pharmaceutical industry, says Leslie Wolf, assistant director of the North Carolina State Laboratory of Public Health in Raleigh. But she feels that many people tend to end up in public-health posts more by luck than judgement, although she notes that it is a good fit for people who gravitate towards applied research.

Although much of the current impetus for epidemiology is aimed at bioterrorism surveillance, the legacy of the new training programmes should be a workforce better prepared to deal with emerging infectious diseases, and that has gained fresh insights into chronic ailments. But Mike Osterholm, director of the University of Minnesota’s Center for Infectious Disease Research and Policy in Minneapolis, suggests that ‘reactionary’ workforce planning may not be enough. Given the increased risk of bioterrorism and emerging infectious and chronic diseases, he feels that it is important to anticipate future needs. “We should do more forecasting and plan the workforce on what is likely to happen in the future,” he says. ■

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CDC Epidemic Intelligence Service ▶ www.cdc.gov/eis
Council of State and Territorial Epidemiologists ▶ www.cste.org
Association of Public Health Laboratories ▶ www.aphl.org

Meir Stampfer says that epidemiology courses are becoming increasingly competitive.

on-the-job training in the public-health sector. Using established state epidemiologists as mentors, this programme is designed to prepare those with a master’s degree in public health or PhD-level students for future upper-level public-health positions, such as state epidemiologist.

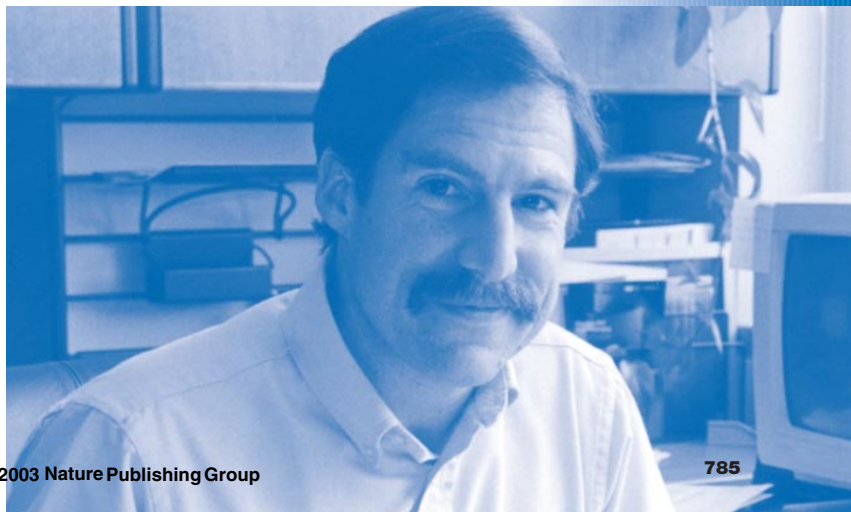
At the moment, the scheme is focused on infectious disease, but McConnon wants to expand its scope to include areas such as chronic disease, birth defects, and occupational and environmental health. He hopes to train the first cohort of fellows this autumn, once the targeted \$1.5 million is secure. If all goes well, he anticipates training 50–100 people a year.

Such programmes will complement existing schemes that enhance specialized laboratory skills and training. The Association of Public Health Laboratories (APHL) in Washington DC currently offers one-year fellowships in laboratory training — related specifically to emerging infectious diseases — to roughly 30 postgraduates. It also offers six research fellowships in the field to qualified PhD candidates.

IN DEMAND

Although the greatest needs are at the frontlines of disease surveillance and response, fears about bioterrorism have fuelled an explosion of interest in epidemiology, says David Savitz, an epidemiologist at the Carolina Population Center in Chapel Hill. Enrolment in the 32 US schools of public health is up and becoming more competitive.

Meir Stampfer, chair of Harvard University’s department of epidemiology, acknowledges that this boost is causing problems. “We just don’t have the



R. CHASE