

Hollywood horrors bring bioterror to life

It glistens. It swells. It oozes pus. It is crafted with Hollywood special FX. But this horror—a fake buboe mimicking those caused by plague—is arriving at an ER near you.

The plastic carbuncle is one of many blemishes created by a team of medical trainers at the University of Louisville, Kentucky. Using actors, make-up artists and mannequins, the team is recreating the dramatic symptoms of biological and chemical attacks to train naive health workers.

Doctors' inexperience in recognizing and responding to biological weapons was first exposed during the US anthrax attacks in 2001, when local medics missed some cases. "Most physicians have never seen these [symptoms]," says Rick Clover, who heads the University of Louisville's School of Public Health.

Rather than learn about the conditions from dull books, the school's team is using local actors to bring them to life. Part of the so-called 'standardized patient program,' the project was fuelled by a \$1.5 million grant from the US Centers for Disease Control and Prevention in summer 2002.

Make-up artist Michelle Thompson mastered a repertoire of rashes and blisters by studying fake war wounds at a military



Cheek show: Make-up artists craft early-stage smallpox pustules on volunteers to test naive medics.



Courtesy of University of Louisville

camp. Using plastic theater gel painted with red dye, she now expertly sculpts the quarter-sized sores that sprout during cutaneous anthrax. For true authenticity, she crowns them with a black, scabby centre of fake blood; the plague buboe's pus, on the other hand, is injected vanilla pudding.

A full smallpox infection presents an even greater challenge—building individual pustules on head, neck and arms can take several hours. As a final flourish, spots are spritzed with shimmering glycerin to make them look pus-filled and fresh. "I can't look at the simulation and not get a chill up my spine," says program director Gina Wesley.

Nearly 2,000 students, doctors and healthcare workers have encountered the

faux bioterror sores thus far. After some training courses, the team even planted an actor in the audience—or hospital emergency rooms—to test personnel on the correct response. Other patients were warned beforehand to avert an all-out panic.

"These kinds of programs are effective," says Jim James, who heads the American Medical Association's Center for Disaster Preparedness and Emergency Response in Chicago. Many other bioterror training initiatives, including websites and prompt cards, have recently sprung up, says James, who hopes these efforts can ultimately be standardized.

In Louisville, students also benefit from four state-of-the-art training mannequins. Like scenes from an adrenaline-pumped hospital drama, the 'sims' blink, breathe and respond to drugs like real patients laid out by an attack.

In the latest scenario, the team imitated the spreading paralysis induced by botulinum toxin. An actor with frozen face and slurred words alerted students to the early symptoms; students then faced a mannequin whose oxygen level plummeted as her diaphragm seized up. Thankfully, 18 of 19 students rescued her by inserting a tube into the trachea, says Wesley.

The Louisville team is already rolling out the program to public-health training facilities across the country. Now that the trainers are adept with many 'category A' select agents—anthrax, smallpox, plague and botulinum toxin—they are starting simulations of the select-agent B-list: brucellosis, tularemia and nerve agent sarin.

The trainers are particularly excited about their latest acquisition: a contact lens that mimics the burst blood vessels characteristic of killer virus Ebola. The lens—made by a Hollywood horror specialist—shades the iris red; fake blood is dribbled in the tear ducts. "[The lens is] really beautiful in a gory sort of way," says Wesley.

Helen Pearson, New York

New wave of AIDS rocks Pacific Islands

The Pacific Islands have been relatively unscathed by HIV/AIDS, but infection rates have risen steeply in recent years, tripling in some countries. Efforts to control the spread could be stymied by problems in supplying and distributing condoms to the region. "Many Pacific Islands are undergoing an exponential increase," says Jimmie Rodgers, senior deputy director-general of the Secretariat of the Pacific Community, a regional development organization.

There are increasing concerns that demand for condoms in the islands may outstrip supply. Last year, the US withheld \$34 million from the United Nations Population Fund (UNFPA), the largest supplier of contraceptives to the Pacific region, based on allegations that the agency supported abortions in China—claims the UNFPA insists are false.

"The United States is the only country ever to deny funding to UNFPA for non-budgetary reasons," says Urmila Singh, UNFPA's representative in the Pacific. "UNFPA has never, and will never, be involved in coercion in China or any part of the world."

Despite the deficit, Singh says, the UNFPA has not compromised on contraceptive supply to the countries, but has had to reduce funding to other reproductive health initiatives. Additional pledges from other donor countries have not made up for the loss of US funds.

The new \$10 billion US AIDS fund, which is primarily earmarked for Africa and the Caribbean, is unlikely to offer much relief. Some funds may trickle through from the Global Fund to Fight AIDS, Tuberculosis and Malaria, which allocates \$100,000 per year for condoms, Singh says.

Geography and climate exacerbate the situation. The islands are scattered over a large portion of the globe, but only a small percent of that area is land. Weak communication links and transportation difficulties hamper distribution, and inadequate storage facilities threaten the shelf life of supplies. This has prompted proposals for a central warehousing facility and bulk purchasing of contraceptive and medical supplies for many of the island nations.

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