



In this number

Third combined
newsletter **INSIGHT**
& **BIOSAFE**

From The
Coordinator

In The Spotlight

From The Coordinator



We had a productive BIOSAFE meeting on March 20 and 21 in Portugal. The BIOSAFE project is running according planning. The list of agents to work on has been defined. Also virulence factors have been defined, ranging from the cell to the population level. The BIOSAFE experts agreed that the information that will be collected within the project might be

'dual use'. This means that the scientific information collected in the project can also be used by bioterrorists. Handling this kind of information requires a balance between the advancement of science and the misuse for the development of new pathogens or improved biologic weapons. How to find this balance was the subject of the second day of the BIOSAFE meeting. The experts agreed on a 'code of practice' for the BIOSAFE project. This 'code of practice' describes how we will handle the possible 'dual use' information. Questions which were answered are: How do we handle email contact? How do we secure the dual use documents? What does the European Commission do with the provided possible dual-use documents? The participants to the project will be updated separately.

Just to remind you: **The next INSIGHT workshop will be in Copenhagen on May 24 and 25.** For more information you can go to the 'News' page of the INSIGHT website at: www.eu-insight.eu.

Hope to see you soon.

Kind regards,

Ben van der Zeijst

Timing of non-pharmaceutical public health interventions had profound influence on 1918 pandemic

Martin C. J. Bootsma and Neil M. Ferguson published the article: *The effect of public health measures on the 1918 influenza pandemic in U.S. cities* in the PNAS on April 6th. During the 1918 influenza pandemic, the U.S., unlike Europe, put considerable effort into public health interventions. In the article it is examined whether the variation in epidemic patterns and overall mortality observed can be explained by the differences in the public health measures adopted by different cities. According to Bootsma and Ferguson is the **most important** conclusion from the article that the **timing of public health interventions** had a profound influence on the pattern of the autumn wave of the 1918 pandemic in different cities. Cities that introduced measures early in their epidemics achieved moderate but significant reductions in overall mortality. Larger reductions in peak mortality were achieved by extending the epidemic for longer. For the whole article you can go to: www.pnas.org.

News flash

In the News - USA

The House of Representatives and the Senate adopted in December 2006 legislation to save the two year old BioShield Project. The new legislation creates a central *Biomedical Advanced Research and Development Authority* within the American department of Health. The department of Health reserves an additional \$1 milliard for additional research. It gives the federal government the flexibility to invest in small pharmaceutical companies. Project **BioShield** is "a comprehensive effort to develop and make available modern, effective drugs and vaccines to protect against attack by biological and chemical weapons or other dangerous pathogens samplers."

For more information on project BioShield you can go to: www.whitehouse.gov/infocus/bioshield/.

Debora MacKenzie writes in the 'NewScientist' of October 2006 "To combat the threat, the Bush administration launched an **unprecedented biodefence** effort. To date it has spent \$44 billion - three-quarters of it aimed at protecting civilians - on new organisations, training, and buying existing remedies such as the classic smallpox vaccine. Has this massive spending made Americans any safer? According to experts at the Center for Biosecurity at the University of Pittsburgh, the answer is no. Last month, they announced that the US remains unable to defend itself against any anthrax attack involving more than a few envelopes." The centrepiece of the administration's biodefence effort is Project BioShield. "Project BioShield has \$5.6 billion to spend by 2014 on drugs to be stored in what is known as the Strategic National Stockpile". "Yet many biosecurity specialists see problems in two crucial areas: the limited range of pathogens that BioShield is targeting, and inadequate plans for deploying the countermeasures it does have.

For the whole article you can go to the New Scientist website at www.newscientist.com/channel/opinion/mg19225725.000-biodefence-special-fortress-america-.html

Biodefence Vaccines & Therapeutics: Policy, Funding and Development Conference Planned For June 4-6 in Washington, DC

The fifth annual Biodefence Vaccines & Therapeutics conference is scheduled for June 4-6 at the Almas Temple Club in Washington, DC. Conference attendees will include U.S. biodefence leaders; the program provides the most recent information on various government agencies' requirements for biodefence vaccines and therapeutics. For more information on the conference, you can go to: www.infocastinc.com/biovac07.html



FDA Test Detects Fake Bioterror Agents

The FDA uses the results of the article of Jon G. Wilkes et al. "Pyrolysis mass spectrometry for distinguishing potential hoax materials from bioterror agents" Jon G. Wilkes states "The use of innocuous agents for terrorist threats accompanied by claims that they are biological hazards has resulted in considerable economic loss and social anxiety. In a 2001 incident, a bioinsecticide gave a false positive assay for anthrax (*Bacillus anthracis*) with a rapid screening kit. Unambiguous rapid methods for the detection of pathogenic agents in suspicious samples are needed. Pyrolysis mass spectrometry (PyMS) was investigated as a rapid tool to distinguish potential bioterror hoax materials from samples containing pathogenic bacteria". For the whole FDA article you can go to: http://www.fda.gov/fdac/features/2006/606_bioterror.html. For the original article of Jon G. Wilkes you can go to <http://www3.interscience.wiley.com>

Post-attack Antibiotic Therapy and Vaccination of Exposed Personnel Optimal Response to Small-Scale Bioterrorist Anthrax Attack

Schmitt B et al. published the article "Responding to a small-scale bioterrorist anthrax attack: cost-effectiveness analysis comparing preattack vaccination with postattack antibiotic treatment and vaccination" in the *Archives Internal Medicine* of April 9. In 2001, a small-scale bioterrorism-related anthrax attack was perpetrated via the US mail. They conducted a cost-effectiveness analysis during a 10-year time frame from a societal perspective to determine the optimal response strategy. Three strategies were compared: pre attack vaccination of all US distribution center postal workers, post attack antibiotic therapy followed by vaccination of exposed personnel, and post attack antibiotic therapy without vaccination of exposed personnel. Outcome measures were costs, quality-adjusted life-years, and incremental cost-effectiveness. The probabilities for anthrax exposure and infection; vaccine and antibiotic benefits, risks, and costs; and associated clinical outcomes were derived from the medical literature and from bioterrorism experts. Post attack antibiotic therapy and vaccination of exposed postal workers is the most cost-effective response compared with other strategies. The incremental cost-effectiveness is \$59 558 per quality-adjusted life-year compared with post attack antibiotic therapy alone. Pre attack vaccination of all distribution center workers is less effective and more costly than the other 2 strategies. Assuming complete adherence to pre attack vaccination, the incremental cost-effectiveness compared with post attack antibiotic therapy alone is almost \$2.6 million per quality-adjusted life-year. For the whole article you can go to: www.archinte.ama-assn.org

New Chemical Effective Against Anthrax

The Science Daily of April 23 published an article "New Chemical Effective Against Anthrax". They based their article on the article of M. Akoachere et al. "Identification of an in Vivo Inhibitor of *Bacillus anthracis* Spore Germination". "Anthrax is a deadly disease caused by spores that germinate into bacteria, which then release a deadly toxin. Spores that are inhaled by animals or people germinate in the lungs to form bacteria, which then spread throughout the body, releasing the toxin and triggering the disease. Since spore germination is needed to cause infection, preventing germination is a potentially efficient way to stop the infection. The scientists identified seven chemicals that block the germination of cultured anthrax spores. They also showed that one of these compounds, 6-thioguanosine, blocked the spores' germination inside mammalian cells, thus blocking anthrax infection. The scientists are now planning to test 6-thioguanosine in mice infected with the anthrax bacterium.

For the whole article you can go to: <http://www.sciencedaily.com/releases/2007/04/070421211206.htm>

In The Spotlight Paul-Ehrlich-Institut (PEI)

The Paul-Ehrlich-Institut is an institution of the Federal Republic of Germany. It reports to the [Bundesministerium für Gesundheit](http://www.bmg.bund.de) (Federal Ministry of Health).

Most of its activities relate to the various duties laid down in German and European medicinal product legislation, such as for example the approval of clinical trials, batch testing and the marketing authorisation of particular groups of medicinal products. Since its foundation more than a hundred years ago the Paul-Ehrlich-Institut has concentrated on biological medicinal products: vaccines for humans and animals, medicinal products containing antibodies, allergens for therapy and diagnostics, blood and blood products and, more recently, tissue and medicinal products for gene therapy, somatic cell therapy and xenogenic cell therapy, i.e. for processes in the latest forms of biomedical treatment.

The Paul-Ehrlich-Institut also performs experimental [research](#) in the field of life sciences as an indispensable basis for the fulfillment of these duties. According to the assessment of the Wissenschaftsrat (the scientific advisory body of the German Federal Government) in 2000, this research makes a decisive contribution to the competence of the Paul-Ehrlich-Institut. It is also an essential requirement for being able to provide advisory functions at the national (Federal Government, German states) and international level (World Health Organization, European Medicines Agency, European Commission, Council of Europe and others) in a responsible and expert fashion.