

The Australian Chemical, Biological, Radiological and Nuclear Data Centre

Bronwyn Morrish

Australian Chemical,
Biological, Radiological and Nuclear
Data Centre
GPO Box 401 Canberra ACT 2601
Tel: (02) 6223 3188
Fax: (02) 6223 3241
Email: Bronwyn.Morrish@afp.gov.au

Eric Wenger

Australian Chemical,
Biological, Radiological and
Nuclear Data Centre
GPO Box 401 Canberra ACT 2601
Tel: (02) 6223 3590
Fax: (02) 6223 3241
Email: Eric.Wenger@afp.gov.au

How well can Australia prevent and respond to an act of bioterrorism and how much do researchers in the life sciences know about the potential application of their work for hostile purposes? To further address these and other issues relating to the malicious use of hazardous substances, the Australian government has established the Australian Chemical, Biological, Radiological and Nuclear (CBRN) Data Centre.

The Australian CBRN Data Centre is dedicated to the collation, analysis and distribution of technical information and intelligence related to criminal and terrorist use of chemical, biological, radiological and nuclear material within and against Australia. The Federal government committed \$19 million over 5 years to establishing an Australian CBRN Data Centre within the Australian Federal Police (AFP) following the Council of Australian Governments (COAG) meeting in September 2005.

The centre is a world-first in bringing together technical, intelligence and law enforcement capabilities related to CBRN threats. It is an additional resource to the Australian Bomb Data Centre, which has operated since 1979. The centre's staff includes scientific and technical experts, many of whom hold qualifications at PhD level. They have come from government agencies, academia and the private sector.

The Australian CBRN Data Centre has strong links with the Australian first responder and law enforcement community. The centre works closely with international law enforcement partners in the United Kingdom, Canada and United States to collect and analyse information on CBRN incidents and threats throughout the world.

The primary role of the centre is to be the national repository for CBRN incident information and intelligence and to provide

technical advice and intelligence on prevention, preparedness and response issues related to CBRN material. It also supports operational, investigative and intelligence activities for the AFP, government and relevant parts of the private sector. Specifically, the centre collects and assesses data from all sources about CBRN agents, their precursors and the methodologies required to prepare and disseminate them. It assesses the availability of the agents in Australia and the feasibility and impact of their misuse.

For biological threats, the centre has established links with the Public Health Laboratory Network, which includes representatives from major public health diagnostic laboratories in all Australian jurisdictions, as well as health departments and agencies at the commonwealth and state level.

The centre conducts analysis and provides advice on biological threats as they pertain to the malicious use of biological materials or the deliberate spread of disease. Importantly, it does not advise on naturally-occurring disease outbreaks or epidemics such as SARS or influenza pandemics, as these are public health issues and there are appropriate structures and procedures in place for managing such events.

An interesting scenario to consider is: how would the Australian CBRN Data Centre become aware of a deliberate, covert event?

Without prior intelligence to indicate a planned or imminent attack, the first response would be a public health one, when affected individuals seek medical attention. The data centre would likely become involved once there was evidence to suggest that the disease or its spread could not be explained by natural factors. Delays in recognising that a bioterrorism attack has occurred may reduce the capacity of law enforcement agencies to identify a crime scene and to collect adequate forensic

evidence needed to apprehend and successfully prosecute those responsible.

The centre's biological team is working closely with health departments and professional groups to minimise this time delay by ensuring triggers for information sharing are identified and mechanisms to report suspicious events or incidents are in place. The centre may then be in a position to identify trends and patterns that might indicate something other than natural transmission.

Police and emergency services already regularly attend incidents involving suspicious substances ('white powders') accompanied by a threatening letter, which can cause major disruption to office workers and the community. As a data repository for information relating to these criminal incidents in Australia, the data centre can identify trends and establish links between events in different jurisdictions.

The COAG Review of Hazardous Material provides a framework to assist in the reporting and monitoring of CBRN incidents. It comprises four parts – security-sensitive ammonium nitrate, biological material, chemical material and radiological material. A review of the existing regulations surrounding hazardous biological material was presented to COAG in April 2007¹. It endorsed establishing a national regulatory scheme for security-sensitive biological agents administered by the Department of Health and Ageing and enabled by the National Health Security Act of September 2007².

Legitimate users of hazardous biological material in laboratories, industry and government need to know which materials are of concern and the incidents that need be reported. The Australian CBRN Data Centre will be involved in maintaining lists of security-sensitive agents and making recommendations to the relevant regulators on amendments. Working with academia, industry and government partners, the centre will receive, collate, analyse and report on incidents involving listed agents.

Advances in the biological sciences, including immunology, molecular biology and genetic manipulation, as well as the rapidly expanding biotechnology sector have the potential to create avenues for hostile application of benign research. Australia is a signatory to the Biological and Toxins Weapons Convention, which prohibits the development, production, stockpiling, retention, acquisition and transfer of biological weapons³. Given the technical nature of advances in biological sciences, the Australian CBRN Data Centre can provide advice to the Australian government on the potential dual use of new methodologies and material.

Although the centre was primarily created to support national security through counter-terrorism and provide assessments on the feasibility and impacts of potential terrorist use of CBRN agents in Australia, its high-level technical capacity also has direct applications for Australia's efforts to counter the proliferation of CBRN materials and weapons.

References

1. COAG. (2007) Communiqué from Council of Australian Governments' Meeting 13 April 2007. Available at: <http://www.coag.gov.au/meetings/130407/index.htm>
2. *National Health Security Act 2007*. Available at: [http://legislation.gov.au/ComLaw/Legislation/Act1.nsf/0/FA5EDC875613965ACA25736A00133F60/\\$file/1742007.pdf](http://legislation.gov.au/ComLaw/Legislation/Act1.nsf/0/FA5EDC875613965ACA25736A00133F60/$file/1742007.pdf)
3. Biological and Toxin Weapons Convention. Available at: <http://www.opbw.org/>

Dr Eric Wenger became the Director of the Australian Federal Police (AFP) Australian CBRN Data Centre in August 2006. Dr Wenger was awarded a Doctorat in Organic Chemistry from the University of Geneva, Switzerland, in 1990 and moved to the Australian National University in Canberra in 1991 to carry out post-doctoral research. He remained at the ANU where he was appointed as a Research Fellow in 1993 and was awarded a QEII Research Fellowship by the Australian Research Council in 1997. At the end of this fixed-term contract, he moved to the ANU administrative area in 2002 where he was involved in research reviews and in the management of research grants and contracts. In 2005, he moved to the Department of Defence where he led a team assessing the threat posed by chemical agents.

Dr Bronwyn Morrish is the team leader for biological intelligence within the Australian Chemical, Biological, Radiological and Nuclear (CBRN) Data Centre hosted by the Australian Federal Police. Dr Morrish joined the CBRN Data Centre in May 2007 after working at the Commonwealth Department of Health and Ageing, where she was team leader for laboratory biosecurity with responsibilities including policy development and project management around diagnostic laboratory preparedness and security for CBR incidents. Dr Morrish has a PhD in the biological sciences from the Australian National University and post-doctoral research experience in the United States, United Kingdom and Australia.

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Grant proposals are being accepted online at
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until May 30, 2008, on the following topics:

- Creating new ways to protect against infectious diseases
- Creating drugs or delivery systems that limit the emergence of resistance
- Creating new ways to prevent or cure HIV infection
- Exploring the basis for latency in TB

Initial grants will be \$100,000 each, and projects showing success will have the opportunity to receive additional funding of \$1 million or more. Full descriptions of the topics and application instructions are available at www.gcgh.org/explorations.