The Use of Human Taphonomic Facilities for the Provision of Disaster Victim Identification Education, Training and Capacity Building Programs

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Ten unique Human Taphonomic Facilities have been established world-wide to conduct interdisciplinary human decomposition research in relevant contexts. The physical, chemical and biological processes of human decomposition can be investigated under a variety of conditions to enhance forensic techniques to find, recover and identify missing persons and disaster victims. In addition to experimental research, these facilities can be used for education and training purposes to provide invaluable disaster victim identification (DVI) capacity building opportunities.

The Australian Facility for Taphonomic Experimental Research (AFTER) is the only human decomposition facility in the Southern Hemisphere. In April 2019, the Australia New Zealand Policing Advisory Agency DVI Committee (ADVIC) conducted a two-day national DVI exercise at AFTER involving 50 participants representing every police jurisdiction in Australia and New Zealand, the Australian Defence Force, specialist forensic disciplines and mortuary operations. The aim of the exercise was to test the ability of DVI practitioners from multiple jurisdictions to deploy to, and process, a DVI scene and undertake remote post-mortem activities in accordance with INTERPOL DVI Guidelines.

The primary scene consisted of a building collapse, with six deceased persons (human donors) buried under building debris. A temporary mortuary was established on site for the field-based processing of human remains and property. Participants were required to find and recover all victims, and conduct a rapid post-mortem examination including: examinations by a Pathologist, Anthropologist and Odontologist; DNA sample selection and collection by a DNA Specialist; and fingerprinting by a Scene of Crime Officer. An evaluation of the preparation, delivery and outcomes of the exercise will be presented, including optimal DNA sampling strategies for the rapid identification of decomposed human remains.

This authentic learning experience was the first national DVI exercise conducted at AFTER. This exercise has contributed to advancing Australia's forensic capacity and capability to find, recover and identify missing persons and disaster victims. Globally, the increasing use of taphonomic facilities for conducting disaster preparedness activities will be critical for the education and training of police, forensic and defence agencies involved in DVI, counter terrorism and humanitarian forensic operations, and producing more significant outcomes for stakeholders and the broader community.