CONSIDERATIONS FOR THE USE OF FORENSIC GENETIC GENEALOGY TO ASSIST IN IDENTIFYING AUSTRALIA'S UNKNOWN HUMAN REMAINS

<u>Nathan Scudder</u>^{1,2}, Jodie Ward^{1,3}, Dennis McNevin⁴, Sally F Kelty⁵, Simon J Walsh² James Robertson¹

¹National Centre for Forensic Studies, Faculty of Science and Technology, University of Canberra

²Australian Federal Police

³New South Wales Health Pathology, Forensic and Analytical Science Service, Specialist DNA Laboratory

⁴Centre for Forensic Science, School of Mathematical and Physical Sciences, Faculty of Science, University of Technology Sydney

⁵Centre for Applied Psychology, Faculty of Health, University of Canberra

Each Australian state and territory has legislation creating the office of the Coroner and requiring an inquest where there is doubt as to a person's identity. New DNA technology has opened up additional avenues of inquiry for coroners seeking to establish the identity of recovered human remains.

With it being estimated that there are 500 unidentified human remains in Australia², there is significant potential in techniques such as forensic genetic genealogy. While many genealogy providers are based in the United States or Europe, Australians are keen users of these tools, so with public awareness of the possible uses of their DNA submitted to public genealogy databases, there is potential to find family members of deceased, unknown or missing Australians by searching these tools.

If remains are successfully identified using an overseas provider, legal and ethical concerns may arise. Legislation in some Australian states provides privacy protection to deceased persons for up to 30 years. Uploading genetic information to an offshore provider could also constitute the release of official information. Requests by next of kin for access to whole genome sequencing data of the deceased also raises policy considerations.

Developing a framework for the more effective management and identification of human remains in Australia needs to leverage new DNA technology, best practice and potentially a Center of Excellence model. The addition of a forensic genetic genealogy service may offer new investigative leads, with scope for international collaboration and development of standards for the coronial use of forensic genetic genealogy.

¹ For example, Coroners Act (NSW), s27(c)

² Keenan, M (Australian Minister for Justice), Media Release: New National Missing Person and Victim System, 7/29/2015