HIV Donor Testing

Subtitle: Revised and adapted appendix from the 2006 National HIV Testing Policy

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Summary: Revised and adapted appendix from the 2006 National HIV Testing Policy by Anthony Keller from the Australian Red Cross Blood Service, outlining the most recent background and guidance on blood and tissue HIV donor testing in Australia.

It is mandatory for donated blood samples to be tested for HIV and other blood-borne pathogens. The Australian Red Cross Blood Service conducts more HIV tests than any other laboratory group in Australia. Over one million donations are tested annually. In the last five years, the number of donations screened for HIV by the Blood Service has been 1,153,645 (2006), 1,191,106 (2007), 1,241,434 (2008), 1,328,587 (2009) and 1,325,436 (2010). The use of donor declarations and screening with anti-HIV immunoassays, as well as nucleic acid testing for viral RNA recipients of blood, ensures that blood products or tissue have a minimal risk of acquiring HIV.

Only one case of HIV transmission via blood donation is known to have occurred since testing began in 1985. This transmission, in the late 1990s, was an important contributor to the subsequent decision to implement nucleic acid testing (NAT) for all blood donations, commencing in 2000. Given the number of donations that have been screened for HIV antibodies since 1985, this single case of transfusion transmitted HIV was well within the risk range as predicted by modelling prior to the implementation of HIV NAT. This risk was the chance of HIV transmission from a donor in the very early stages of infection before detectable antibody has been produced (i.e. the ‘serological window period’). Although all blood donors in Australia are screened for HIV (antibodies and RNA), on average 5 donors each year are identified as HIV positive. Since HIV NAT was implemented (2000 through to 2010) four HIV NAT-positive but antibody-negative donations have been identified.

Blood products, which include both labile blood components and fractionated blood products, are required to conform to the Council of Europe Guide to the preparation, use and quality assurance of blood components. In addition, blood products must conform to the British/European Pharmacopeia. Facilities testing blood and tissue donations must be licensed by the Therapeutic Goods Administration (TGA).