Children’s Medical Research Institute (CMRI) is a leading Australian research institute conducting fundamental medical and biological research. Our research focuses on creating a healthier future for all children. Our experience of using human tissue under the NSW Human Tissue Act 1983 (HTA) includes the use of bio banked human tissue and human tissue collected for another primary purpose, most often during medical treatment. The tissue is then used for research purposes (secondary purpose) in line with the NSW HTA.

It is important that donated, consented human tissue is permitted to be used for ethically approved research in a transparent way and CMRI welcomes this consultative process for human tissue law reform. The elements relating to respect that are summarised in the Issues Paper are essential for the Australian public to continue to trust scientific/research use of human tissue and consistency across HTAs from various states will remove some existing barriers for interstate research projects.

Issues to be considered:

- The laws governing tissue donation for research and how tissue may be used for research requires further clarification.
    - Wording in the NSW HTA Section 34 1b1 regarding “microscopic examination” needs to be updated. as Although the most obvious meaning is “examination of tissue under a microscope”, it is widely interpreted as “tissue that is of microscopic size and requires examination”. It is the latter interpretation that allows most biomedical research involving human tissue in NSW to proceed.
    - The New South Wales *Anatomy Act* defines ‘anatomical examination’ to include ‘scientific purposes’, which means research could be included in this type of donation. This definition should be clarified as scientific purposes/research should not be defined under anatomical examination. It is our understanding that Anatomy licences are required for any facility where research using consented tissue from a deceased person is being carried out, unless an express exemption is obtained from the Ministry of Health. However, very few research institutions or Human Research Ethics Committees appear to be aware of this law, meaning it is widely flouted. The distinction between anatomical examination (of whole body parts) and research involving tissue specimens should be reflected appropriately in the relevant legislation. A licence for research institutions using consented tissue (from a deceased person) from a *bona fide* source (i.e., Donatelife) does not promote public trust and does not add to the respect to the donor.
    - Survey evidence suggests that donors incorrectly believe that an indication on their Driver’s Licence of their willingness to donate is sufficient for their postmortem tissue to be used for research purposes. We recommend that this should be clarified and that there should be a simple mechanism for consenting to use of postmortem tissue for research.

      CMRI supports removal of unnecessary legislative barriers, clearer definitions and education.

- For the HTA to remain current, the use of the tissue in future emerging technologies, such as personalised medicine and genomics, must also be considered. We have identified the following issues:

    - Cell line research is indispensable for preclinical research and often used for hypothesis generation, e.g., drug testing and gene technology research. The use of cell lines, including stem cell lines and cell organoids, is not clearly defined in the HTA. Cell lines, in particular legacy cell lines (i.e., those generated prior to December 2013, as per the National Statement 3.2.10), should not be classified under the broader definition of tissue as contemporary expectations of consent are difficult to establish for legacy cell lines. Applying current consent expectations to legacy cell lines will be seriously restrictive to research.
    - The distinction between “regenerative” and “nonregenerative” tissue in the HTA serves no useful purpose. Use of regenerative tissues, originally collected for clinical purposes but excessive to clinical needs, should be allowed to be used for HREC-approved research under a waiver to the requirement of consent. Currently, unconsented “regenerative tissues” (e.g., blood) remaining after completion of a clinical test and destined to be discarded, is not able to be used for low risk ethically approved research. This means that blood for research must be collected in other ways, which is wasteful of resources.
- Currently, unconsented tissue left over from a clinical procedure can only be accessed for ethically approved research if it has been stored in a tissue block or on a glass slide. This means that other valuable material such as liquid biopsies or tissues that have been stored frozen cannot be used in this context. The HTA should be amended to permit ethically-approved use of tissue regardless of the method of storage.
- The HTA does not allow for children to donate tissue (including blood) for research (when not collected as part of a medical procedure/purpose). While this is to protect children, this should not be definitive and should be determined based on the maturity of the child and their ability to make decisions.
- For tissue from children collected as part of a medical procedure and donated for research with parental consent, consideration should be given to re-consent at maturity.

All types of human tissue have the potential to advance human medical research, and we therefore recommend clearer definitions of human tissue in the HTA.

<u>Other issues identified during this review</u>:

- Equity and social justice:
    - Public requests for tissue donation (public solicitation) have financial, fairness and equity implications. For example, people from CALD or lower socioeconomic backgrounds are less likely to be able to publicly solicit for tissue donation.
    - Financially incentivising plasma donation can often exploit vulnerable populations and is ethically fraught as it puts disproportionate impact on lower socioeconomic persons by inducing them. Consent then cannot be truly voluntary or altruistic. There are also quality concerns as donors may not reveal relevant medical history or risk factors which may disqualify their donation, potentially leading to public mistrust of donated plasma.
- Biobanks and databanks – silos of information and tissue banking. A more **transparent and centralised record of available tissues** in all biobanks (with the relevant annotated data fields) is required.
- Biobanked specimens are often accessed by multiple projects – there is a risk of potential identifiability of donated tissues from biobanks from collective and/or future technologies. The

data generated is also encouraged/required to be uploaded to public repositories. Even when the specimen has been appropriately coded, accumulated analyses from various scientific techniques may potentially render a donor identifiable. We do not have a specific recommendation about this issue, only that it should be kept in mind.

- A large proportion of the research involving human tissue will never benefit patients unless the intellectual property arising from the research is protected, and commercialisation occurs. It is therefore essential that human tissue-based research is able to be commercialised, while ensuring the rights of the donor are respected appropriately. **A standardised information sheet and consent form with essential elements would assist in this purpose.**
- Consent from donors allowing ‘broad research’ may not have contemplated current or future technologies using their specimens. For research to continue and progress, it is important that contemporary expectations of consent are not retrospectively applied to legacy collections.