Submission

to the

Inquiry into the *Mitochondrial Donation Law Reform (Maeve's Law) Bill 2021*

by the

Senate Community Affairs Legislation Committee

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1. Introduction

FamilyVoice Australia is a national Christian advocacy group – promoting family values for the benefit of all Australians. Our vision is to see strong families at the heart of a healthy society: where marriage is honoured, human life is respected, families flourish, Australia's Christian heritage is valued, and fundamental freedoms are enjoyed.

2. Terms of reference

The inquiry is into the *Mitochondrial Donation Law Reform (Maeve's Law) Bill 2021*, which has been summarised as:

> *Amends the: Prohibition of Human Cloning for Reproduction Act 2002, Research Involving Human Embryos Act 2002 and Research Involving Human Embryos Regulations 2017 to allow for the use of permitted mitochondrial donation techniques under a specified mitochondrial donation licence for the purposes of certain research and training, and in clinical settings; and Freedom of Information Act 1982, Prohibition of Human Cloning for Reproduction Act 2002, Research Involving Human Embryos Act 2002, Research Involving Human Embryos Regulations 2017 and Therapeutic Goods (Excluded Goods) Determination 2018 to make consequential and technical amendments.*[1]

Submissions are due, Friday 16 July 2021.[2]

3. What is mitochondrial donation?

Mitochondrial donation is an assisted reproductive technology procedure designed to avoid parents passing on mitochondrial DNA disease to their children.

> *The term collectively refers to a number of specific techniques aimed at ensuring only healthy mitochondria is passed on to an embryo.*
>
> *Used in conjunction with in-vitro fertilisation (IVF), mitochondrial donation techniques allow for an embryo to be produced using material containing nuclear DNA from a man and woman and the mitochondria in an egg donated by another woman. This approach minimises the risk of transmission from the mother to her child.*[3]

There are two approaches to the procedure which have been explained as follows:

> *Mitochondrial donation involves two different ways of replacing the mitochondrial DNA from the intended mother with that of a donor, both using IVF techniques and both involving the creation of babies with three genetic parents.*
>
> *The first method is pro-nuclear transfer. In this method, each of the ova from the intended mother and the ova from the egg donor are fertilised with sperm from the father, using IVF techniques. The nucleus of the embryo created with the ovum from the donor is removed, destroying the newly-created life within it.*
>
> *The nucleus from the embryo created with the egg from the mitochondrial disease-affected mother is also removed, leaving the unhealthy mitochondria behind, and transferred into the "healthy" ovum.*

> *Pro-nuclear transfer always involves the destruction of at least one unborn human life, and probably many more than this, given that numerous eggs would be fertilised simultaneously. There is also a concern that this type of method is the same technique that is used in human cloning, which is obviously against the law as well.*
>
> *The second method, maternal spindle transfer, follows the same method but removes the maternal chromosomes from each ovum before they are fertilised. This process, then, does not necessitate that a human embryo is destroyed in the process, but it would likely happen in practice, given that more embryos will be created by this method than will ever be used.*[4]

4. Ethical issues with mitochondrial donation

There are a number of serious ethical issues with the mitochondrial donation procedure.

The Australian Catholic Bishops Conference notes that:

> *Mitochondrial donation encompasses a number of techniques designed to ensure that children whose mothers have abnormal mitochondria can be born free of that condition. Mitochondrial abnormalities can lead to a wide range of medical conditions of varying severity including Leigh syndrome, diabetes, deafness and epilepsy. Our hearts go out to families dealing with these diseases and who have the understandable desire that their children should not also be born with these burdens. It is a natural human longing to spare children of illness and suffering. The hope offered by mitochondrial donation however comes with its own dangers to the human germline, to the natural family by creating three parent human embryos and to human dignity. Adoption or fostering would offer a simpler path. Mitochondrial donation is not in the best interests of parents and children, let alone the broader community.*[5]

Senator Alex Antic has highlighted that there are four people at the very least who are affected by a mitochondrial donation procedure.[6]

- The original donor of the egg
- The mother with the potential condition
- The father donating the sperm; and
- The unborn child

4.1. Destruction of human life

The deliberate creation and destruction of human life in the process of mitochondrial donation is deeply disturbing.

The Senate Standing Committee on Community Affairs report on the Science of Mitochondrial Donation and Related Matters has noted that mitochondrial donation "necessitates the destruction of embryos and interferes with dignity of natural conception" and that "the creation of viable, distinct embryos with no potential to develop into a viable pregnancy is a new moral question."[7]

The legalisation of the mitochondrial donation procedure in the UK was condemned for its undermining of the right to life:

> *Professor David Albert Jones, Director of the Centre, said the ramifications of the new method are currently unknown and involve "unnecessary risks". He also said the technique involves destroying "two human embryos for every one embryo produced".*[8]

4.2. Sourcing of eggs

The sourcing of eggs for the procedure raises issues around the financial coercion of women. The Anglican Church Diocese has pointed out that:

> *...there are also ethical issues pertaining to the egg donor herself. It is known that egg donation is potentially dangerous due to the risks of associated hormonal stimulation. As a result, egg donors can be difficult to find. This leads to pressure from lobby groups to introduce payment for gamete donation, which leads to vulnerable women being financially coerced into undergoing a potentially life-threatening harvesting procedure. This is unethical.*[9]

Likewise, Sydney Catholic Archbishop Anthony Fisher, has said:

> *The availability of human ova is often assumed when people talk about reproductive technology as if they were somehow there in a cupboard to be used. In fact, it means women have to be used to obtain these eggs. They are extracted by invasive procedures that do carry some risk.*[10]

There is a very real risk of exploitation of women involved in the mitochondrial donation procedure.

4.3. Three parent children

The three parent nature of the mitochondrial donation procedure raises serious ethical considerations in term of the rights of the child. The *Catholic Weekly* has reported on concerns raised by Rev Dr Joseph Parkinson, director of Perth's L J Goody Bioethics Centre:

> *Dr Parkinson was also concerned that there is a "strong push" to stop calling it three-person IVF.*
>
> *"That raises the question of what rights does a child have to know about his or her genetic inheritance," he said.*
>
> *…*
>
> *"This just takes IVF to another level of complexity and if we are meant to place the interests of the child at the centre of the process, well this just makes it so much harder for the child," he said.*[11]

The Catholic Weekly also reported issues raised by Dr Bernadette Tobin, the Director of the Sydney Plunkett Centre for Ethics:

> *[Dr Tobin] said that many people born of anonymous sperm donation are now convinced that they were "grievously wronged" in the circumstances around their conception.*
>
> *"We should learn from that experience and not assume that a child born from an embryo containing the DNA of three people would have consented to this arrangement," she said.*[12]

Dr Tobin has pointed out that there is also the issue of fragmenting motherhood:

> *Some years ago, when some argued that cloning should be an available reproductive choice for those who desire it, others rejected reproductive cloning, arguing that every child is entitled to a natural (untampered-with) biological heritage, that is, to be conceived from a natural sperm from one, identified, living, adult man and a natural ovum from one, identified, living adult woman. Mitochondrial donation would violate that entitlement. A child born after mitochondrial donation would have a biological relation not only to his or her father and mother, but also to the donor of the healthy mitochondria.*[13]

It is not in the best interests of children to be manufactured with three parents.

4.4. Long term effects of genetically modified progeny

Impact to child

Concerns have been raised about the long term effects of genetically modified progeny as a result of the mitochondrial donation procedure:

> *Rev Dr Joseph Parkinson, director of Perth's L J Goody Bioethics Centre, told The Catholic Weekly that "very little was known about the long term effects of the procedure" and it raised the question of whether the desire for a genetically-related baby should be allowed to override the unknowns about the technology.*
>
> *"In theory if all of the assumptions made by the scientists are true it would work, but some of the assumptions don't stand up, and the second thing is that in the long term we don't know what effects this will have on the future germline [genetic material which is passed on to descendants]," he said.*
>
> *"The popular wisdom is that the mitochrondria are only passed on by the mother, but there is some evidence that it can also be inherited by the father.*[14]

Impact to future generations

Margaret Somerville, Professor of Bioethics at University of Notre Dame Australia, has commented upon the long term genetic impact of mitochondrial donation, not just to the child in question but future generations of children.

> *Major international institutions, for instance, UNESCO, the World Health Organisation (WHO) and the European Parliament have spoken out against allowing any genetic modification that would be passed on to future generations as contravening human dignity and there are calls for such interventions to be universally prohibited. Mitochondrial replacement is such a technology as the genetic changes it effects would be passed on.*
>
> *In short, people who oppose such interventions are concerned, not just about the risks and harms for the individuals involved in using these technologies, especially the resulting child, and not only their impact in the present, but also are concerned about protection of the "common good" and the welfare of future generations, including the "ethical tone" of the societies which would result. Might they be societies in which no reasonable person would want to live?*[15]

Given the unknown risk to the children subject to the procedure and to future generations, the mitochondrial donation procedure should not be allowed.

5. Conclusion

Currently, the mitochondrial donation procedure is not permitted – and for good reason. The legalisation of the procedure raises serious ethical concerns in a number of areas, the deliberate creation and destruction of human life being the most prominent. Given concerns about the psychological impact on children of being manufactured with three parents and the unknown long term risks, the procedure should not be legalised.

6. Endnotes

[1] https://www.aph.gov.au/Parliamentary_Business/Bills_LEGislation/Bills_Search_Results/Result?bId=r6697

[2] https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Community_Affairs/MitochondrialLawReform

[3] Mitochondrial donation, Department of Health, https://www.health.gov.au/initiatives-and-programs/mitochondrial-donation

[4] Monica Doumit, "When science outruns ethics", *The Catholic Weekly*, 21 March 2021, https://www.catholicweekly.com.au/monica-doumit-when-science-outruns-ethics/

[5] Australian Catholic Bishops Conference submission, 11 May 2018, https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Community_Affairs/MitochondrialDonation/Submissions

[6] Senator Antic interview on Sky News, https://www.facebook.com/watch/?v=784321485814197

[7] "Ethics of mitochondrial donation", Senate Standing Committees on Community Affairs on Science of Mitochondrial Donation and Related Matters, https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Community_Affairs/MitochondrialDonation/Report/c04

[8] Megan Cornwell, "Three-parent babies criticised by Catholic bioethicists", *The Tablet*, 19 December 2016, https://www.thetablet.co.uk/news/6532/three-parent-babies-criticised-by-catholic-bioethicists

[9] Anglican Church Diocese of Sydney, 21 May 2018, https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Community_Affairs/MitochondrialDonation/Submissions

[10] "Ethics of mitochondrial donation", Senate Standing Committees on Community Affairs on Science of Mitochondrial Donation and Related Matters, https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Community_Affairs/MitochondrialDonation/Report/c04

[11] Marilyn Rodrigues, "Three-person IVF poses grave concerns", *Catholic Weekly*, 13 November 2019, https://www.catholicweekly.com.au/three-person-ivf-poses-grave-concerns/

[12] Marilyn Rodrigues, "Three-person IVF poses grave concerns", *Catholic Weekly*, 13 November 2019, https://www.catholicweekly.com.au/three-person-ivf-poses-grave-concerns/

[13] Dr Bernadette Tobin, "Fragmenting motherhood: 3-parent children, IVF and the future", The Catholic Weekly, 14 November 2019, https://www.catholicweekly.com.au/fragmenting-motherhood-3-parent-children-ivf-and-the-future/

[14] Marilyn Rodrigues, "Three-person IVF poses grave concerns", *Catholic Weekly*, 13 November 2019, https://www.catholicweekly.com.au/three-person-ivf-poses-grave-concerns/

[15] Professor Margaret Somerville, Not so quick: ethical issues raised by creating 3-genetic parent IVF children, The Catholic Weekly, 15 November 2019, https://www.catholicweekly.com.au/not-so-quick-ethical-issues-raised-by-creating-3-genetic-parent-ivf-children/