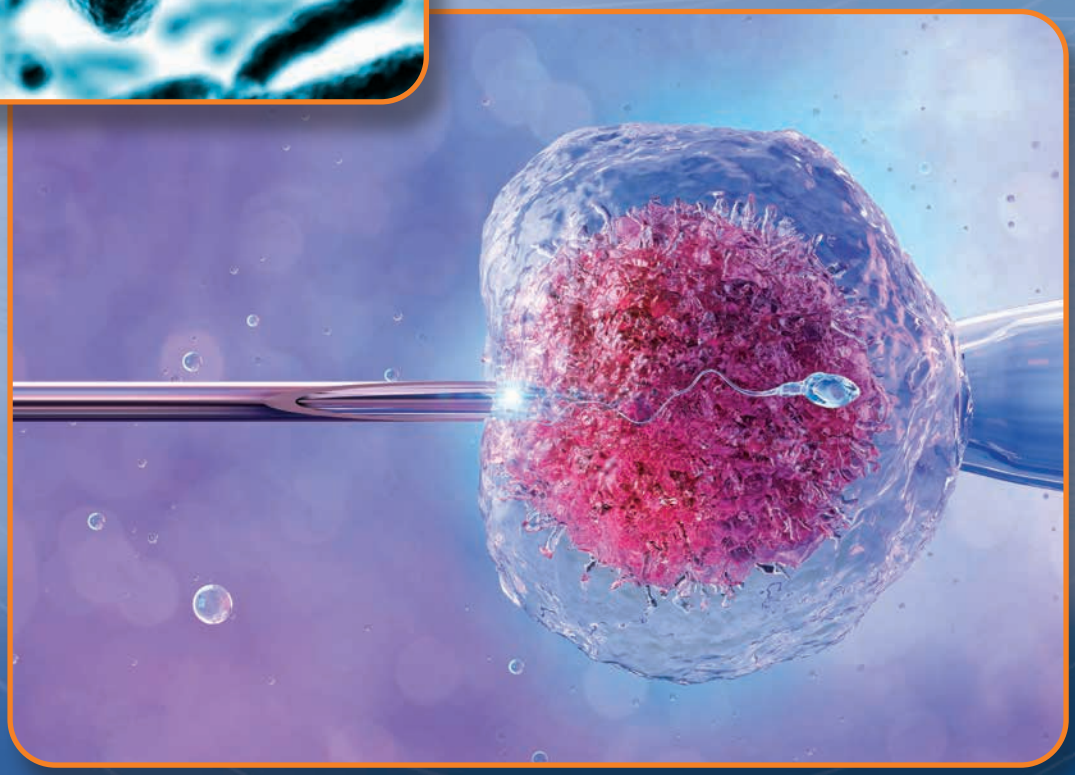
Reproductive Technology Council

Western Australian Reproductive Technology Council

Annual Report

1 July 2021 to 30 June 2022



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Executive summary

This annual report was prepared by the Reproductive Technology Council (Council) for the Chief Executive Officer (CEO), Department of Health, to comply with the requirements of Section 5(6) of the *Human Reproductive Technology Act 1991* (HRT Act). The CEO is required to submit the report to the Minister for Health, to be laid before Parliament. The annual report outlines the use of assisted reproductive technology (ART) in Western Australia, and the operation of Council for the financial year from 1 July 2021 to 30 June 2022.

Council has an important role as an advisory body to the Minister for Health and to the CEO on issues related to ART, the administration of the HRT Act, and the *Surrogacy Act 2008* (Surrogacy Act). Council is also responsible for providing advice on licensing matters for ART services and monitoring standards of practice. In the 2021–22 financial year, no licence renewal applications were received.

Council members reviewed a range of applications for approval under the HRT Act and the Surrogacy Act. Council approved 56 applications to extend embryo storage; and 83 applications for genetic testing of embryos.

The budget allocation to Council for this year was $176,454 and the expenditure was

$86,210. The financial statement, which outlines the distribution of expenses, is provided in this annual report.

Data collected from the annual reports submitted by WA licensees for 2021–2022 showed that 5,833 women underwent in vitro fertilisation (IVF) treatment, which is a decrease of 4% from the previous year. Fertility clinics undertook 8,462 IVF treatment cycles this year, which is 5% less than the previous year.

A total of 656 intrauterine inseminations were undertaken, which represents an increase of 5% compared to the previous year.

A total of 2,183 couples or individuals received counselling. Most counselling consisted of a single session and involved the provision of information.

The number of embryos reported in storage at 30 June 2022 was 30,990.

Council acknowledges the dedicated work of Council members, and the ongoing financial and administrative support provided by the Department of Health.

Introduction

This annual report provides an account of the activities of Council for the past financial year. Council regulates ART practices in WA as set out in the HRT Act and the Surrogacy Act. The report is structured around the legal requirements and major activities of Council and outlines the operation of Council, significant technical and social trends in relation to ART, and the activities of licence holders.

Council functions

The functions of Council are outlined in section 14 of the HRT Act and include:

- the provision of advice to the Minister for Health on issues relating to reproductive technology, and the administration and enforcement of the HRT Act and Surrogacy Act
- the provision of advice to the CEO of Health on matters relating to licensing, administration and enforcement of the HRT Act and Surrogacy Act
- the review of the Directions and guidelines governing ART practices and storage procedures undertaken by licensees, and thereby regulate the proper conduct of any reproductive technology practice
- the promotion of research, in accordance with the HRT Act, into the causes and prevention of all types of human infertility and the social and public health implications of reproductive technology
- the promotion of informed public debate on issues arising from reproductive technology, and communication and collaboration with similar bodies in Australia and overseas.

The Minister for Health determines Council membership and is required to ensure that Council comprises individuals with special knowledge, skills and experience in ART. Council has members who are consumer representatives and members with expertise in public health, ethics and law.

Membership of Council and Council Committees

Council and Committee Chairs

Dr Stephan Millett

Dr Stephan Millett was appointed Chair of the Council on 5 May 2020 and re-appointed in June 2022. He is a moral philosopher and ethics consultant, specialising in professional ethics, medical and health ethics and philosophy in schools. Prior to retirement he was Professor at Curtin University and is an Adjunct Professor with the John Curtin Institute of Public Policy. Dr Millett was founding Director of the Centre for Applied Ethics and Philosophy, Chair of the Curtin University Human Research Ethics Committee, and taught ethics across the faculty of Health Sciences. His first career was in journalism and was editor of a Perth Sunday paper before teaching Journalism at Curtin University. While teaching Journalism he was awarded a Bachelor of Arts with Honours (First Class); and a PhD in Philosophy from Murdoch University. Dr Millett was the inaugural Director of Philosophical and Ethical Inquiry at Wesley College (Perth) and writer of the Western Australian Certificate of Education curriculum in Philosophy and Ethics, co-authoring four textbooks for that curriculum. He was a founding member of the Acute Clinical Ethics Service for the Child and Adolescent Health Service and is still actively involved. He holds the Australian National Medal for service as a bushfire volunteer and is a life member of the Mount Helena Voluntary Bush Fire Brigade. He is married with two adult children.

Dr John Beilby

Dr John Beilby, Bachelor of Science, Doctor of Philosophy (UWA) is Chair of the Preimplantation Genetic Diagnosis Committee. He has a Fellowship of the Australasian Association of Clinical Biochemistry and is a Member of the Human Genetics Society of Australasia. Dr Beilby was a Founding Fellow of the Faculty of Science, the Royal College of Pathologists of Australasia. He was the Head of Department of the Diagnostic Genomics Laboratory, PathWest at Queen Elizabeth II Medical Centre for eight years and Adjunct Professor in the UWA School of Biomedical Science. He is a board member of the Busselton Research Foundation and the Charlie's Research Foundation. Dr Beilby's research areas include studying genetic variants associated with ageing, cardiovascular disease, diabetes, and respiratory diseases.

Reproductive Technology Council members

Dr Stephan Millett Chair (nominee of the Minister for Health).

Dr Lucy Williams (nominee of the Royal Australian and New Zealand College of Obstetricians and Gynaecologists).

Dr Andrew Harman (nominee of the Law Society of Western Australia).

Associate Professor Stella Tarrant (nominee of the Department for Communities, Office of Women's Interests).

Vacant (nominee of the Australian Medical Association).

Mr Hamish Milne (nominee of the Minister for Health).

Ms Anjali Krautmann (nominee of the Minister for Child Protection).

Vacant (nominee of the UWA, School of Women's and Infants' Health).

Dr Dale Pugh (nominee of the Minister for Health).

Ms Michelle Arnold (nominee of the Health Consumers' Council WA).

Ms Selina Metternick-Jones (Executive Officer *ex officio*, Manager, Reproductive Technology Unit, Department of Health). (Until August 2020).

Reproductive Technology Council deputy members

Dr Michèle Hansen (nominee of the Minister for Health).

Dr Megan Byrnes (nominee of the Royal Australian and New Zealand College of Obstetricians and Gynaecologists).

Dr Andrew Lu AM (nominee of the Law Society of Western Australia).

Vacant (nominee of the Department for Communities, Office of Women's Interests).

Vacant (nominee of the Australian Medical Association).

Dr John Beilby (nominee of the Minister for Health).

Ms Diane Scarle (nominee of the Minister for Child Protection).

Vacant (nominee of the UWA, School of Women's and Infants' Health).

Ms Renee Fox (nominee of the Health Consumers' Council WA).

Professor Alison Garton (nominee of the Minister for Health).

Preimplantation Genetic Diagnosis Committee

Terms of reference

The committee's terms of reference are to:

- advise Council on a suitable framework for the approval of PGD under the *Human Reproductive Technology Act 1991* (Act), both generally and for specific cases
- advise the Council on factors that it should consider when deciding whether to approve PGD
- advise Council on standards for facilities, staffing and technical procedures
- approve PGD applications for Beta-thalassemia; Cystic Fibrosis; D-Bifunctional Protein Deficiency; Duchenne Muscular Dystrophy; Fragile X; Huntington's Disease; Long QT Syndrome; Myotonic Dystrophy Type 1; Myotonic Dystrophy Type 2; Retinitis Pigmentosa; Spinal Muscular Atrophy and translocations
- advise as to how the ongoing process of approval of PGD should be managed effectively by the Council
- advise the Council on other relevant matters as requested by the Council.

The Committee may consult with relevant experts in the preparation of this advice for the Council.

Membership

Dr John Beilby (Chair), Dr Angela Cooney, Dr Kathy Sanders, Dr Sharron Townshend.

Operations of Council

Meetings

Council met on 12 occasions during the year, with attendances reaching a quorum at all meetings. The PGD Committee considered all requests for advice from Council out-of-session.

Memberships

Outgoing and in-coming members

Dr Dale Pugh (nominee of the Minister for Health) was appointed on 26 July 2021.

Ms Michelle Arnold (nominee of the Health Consumers' Council WA) was appointed on 15 November 2021.

Ms Antonia Clissa (nominee of the Department for Communities, Office of Women's Interests) completed her term on 23 December 2021.

Associate Professor Stella Tarrant (nominee of the Department for Communities, Office of Women's Interests) was appointed on 24 December 2021.

Associate Professor Peter Roberts (nominee of the Minister for Health) completed his term on 19 December 2021

Mr Hamish Milne (nominee of the Minister for Health) was appointed on 20 December 2021.

Dr Veronica Edwards (nominee of the Minister for Child Protection) completed her term on 19 December 2021.

Ms Anjali Krautmann (nominee of the Minister for Child Protection) was appointed on 20 December 2021.

Dr Angela Cooney (nominee of the Australian Medical Association) resigned on 31 May 2022.

Professor Roger Hart (nominee of the UWA, School of Women's and Infants' Health) resigned on 26 May 2022.

Ms Rachel Oakeley (nominee of the Department for Communities, Office of Women's Interests) resigned on 14 June 2022.

Dr Louise Farrell (nominee of the Australian Medical Association) resigned on 31 May 2022.

Ms Karen Pedersen (Executive Officer, ex officio, Manager, Reproductive Technology Unit, Department of Health) was appointed on 5 July 2021 and resigned on 7 January 2022.

Ms Selina Metternick-Jones (Executive Officer, ex officio, Manager, Reproductive Technology Unit, Department of Health) was appointed 28 March 2022.

Reproductive Technology Unit

The Department of Health's Reproductive Technology Unit provides the following administrative support to Council:

Executive Officer, Manager, Ms Selina Metternick-Jones
(Bachelor of Science, Bachelor of Arts (Hons), Bachelor of Law, Masters in Bioethics).

Senior Policy Officer, Ms Susan Gontaszewski
(Bachelor of Science, Graduate Diploma in Health Science – Epidemiology and Biostatistics).

Program Officer, Ms Laura Hodgson
(Bachelor of Arts).

Practice and storage licences

Practice or storage facilities must renew their licence every 3 years. Council provides advice to the CEO regarding the licensing of fertility clinics. In addition, facilities are required to demonstrate compliance with the current versions of the Fertility Society of Australia Reproductive Technology Accreditation Committee (RTAC) Code of Practice and Certification Scheme. Each year all critical criteria and a third of good practice criteria and Quality Management Systems are audited. All standards are audited every three years. Fertility service providers must use a Joint Accreditation System – Australia and New Zealand (JAS-ANZ) accredited certification body for RTAC certification. Laboratories are also required to demonstrate compliance with the National Association of Testing Authority standards.

Accredited fertility clinics may be granted a licence by the CEO, on the advice of Council. In the 2021–22 financial year, no license applications were reviewed.

Details of practice and storage licence holders are listed in Appendix 1 and on the Council website www.rtc.org.au.

Exempt practitioners

A medical practitioner who is an exempt practitioner [under S.28 of the Act] must ensure that minimum standards for practice, equipment, staff and facilities comply with those required for good medical practice. In addition, they must comply with any requirements established under the HRT Act.

An application for exemption must be made in the prescribed format and include evidence of registration as a medical practitioner and a written undertaking by the medical practitioner to comply with the Directions. Medical practitioners, who meet the requirements of the HRT Act, may provide artificial insemination procedures if they have a licence exemption. Currently there are no exempt practitioners in WA.

Applications to Council

Council is required to approve certain ART practices, including the storage of embryos beyond 10 years, diagnostic testing of embryos, surrogacy applications, innovative procedures and research projects.

Council reports in line with the National Health Information Standards and Statistics Committee Guidelines (2017) where values fewer than 5 are not reported. The following sections describe the activities for this year.

Embryo storage applications

Council approval is required for the storage of embryos beyond the authorised 10-year time limit. An extension may be granted under section 24(1a) of the HRT Act if Council considers there are special circumstances. Applications must be made by eligible participants (those for whom the embryos were created or donor recipients).

This year Council approved 56 applications for extension of the authorised embryo storage period compared to 44 applications that were approved the previous year. Table 1 shows the number of applications and the duration of approved storage extension that were granted for this year.

Table 1: Approved applications for extension of embryo storage

	Length of storage extension (years)			
Extension (years)	**≤2**	**3-4**	**≥5**	**Total**
Applications (n)	1	11	44	**56**

Preimplantation genetic testing

Council approves applications for preimplantation genetic testing (PGT) of embryos. PGT for monogenic/single gene disorders and for structural rearrangements in chromosomes can be used where there is a known risk for serious genetic conditions. PGT for aneuploidy (PGT-A) tests the developing embryo for either extra or missing chromosomes. This can be a common cause of pregnancy loss.

PGT-A does not require specific Council approval when there are known risk factors for aneuploidy. However, PGT-A may also be indicated when there are other factors, and these are considered by Council on a case by case basis.

Each application for PGT is supported by a letter from a clinical geneticist or genetic counsellor. Council approval may be subject to the advice of the PGD Committee.

In addition, a laboratory test (a feasibility study) may be required to determine if it is possible to test embryos for the specific genetic condition.

This year, a total of 83 applications for PGT were approved. The genetic conditions that were approved for PGT are listed in Table 2.

Table 2: Genetic conditions/mutations approved for PGT

Condition	
Alpha thalassemia	Microcephalic osteodysplastic primordial dwarfism type I (MOPD I)
Antithrombin 3 deficiency	Mosaicism
Autosomal dominant temporal lobe epilepsy	Mucopolysaccharidosis type 1
Autosomal recessive primary microcephaly	Myotonic dystrophy type 1
BRCA2 gene mutation	Neurofibromatosis type 1
Choroideremia	Oculocutaneous albinism type 1
Chromosome inversions	Phenylketonuria
Combined malonic and methylmalonic aciduria	Pontocerebellar hypoplasia
Creutzfeldt-Jakob disease	Roifman syndrome
Cystic fibrosis	Schopf-Shulz-Passarge syndrome
Dihydropyridine dehydrogenase deficiency	Severe hearing loss
Duchenne muscular dystrophy	Sickle cell anaemia
Familial adenomatous polyposis syndrome	Spinal muscular atrophy
Fragile X Syndrome	Polycystic kidney disease
Gangliosidosis	Tumour necrosis factor receptor-associated periodic syndrome
Glutaric aciduria type II	Translocations
Haemophilia A	Tuberous sclerosis
Medullary cystic kidney disease	Tubulointerstitial kidney disease
Mitochondrial encephalopathy	Von Hippel-Lindau syndrome
	X-linked adrenoleukodystrophy
	X-linked Alport syndrome

All diagnostic procedures for a fertilising egg or an embryo must have prior Council approval. PGT applications for conditions that may be approved by the PGD Committee are listed in the PGD Committee Terms of Reference. General approval may be provided in the Directions or specific approval may be given in a particular case (Sections 7(1)(b), 14(2b), 53(W)(2)(d) and 53(W)(4) of the HRT Act).

Surrogacy

The total number of surrogacy applications approved under the *Surrogacy Act 2008* (WA) to 30 June 2022 is 59. The total number of births following an approved surrogacy arrangement is 24. Aggregated data of five or more will be included in future cumulative totals.

Aggregated national data for surrogacy cycles and births are reported in the Australian New Zealand Assisted Reproduction Database (ANZARD) report (Newman et al. 2020).

Innovative procedures

Innovative procedures must be approved by Council under Direction 9.4. New and innovative procedures are monitored through the approval process and annual reporting by clinics. Council received no applications for innovative procedures this year.

Research applications

Research projects undertaken by licensees, other than research on excess ART embryos requiring a National Health and Medical Research Council (NHMRC) licence, must receive Council approval. General approval by Council has been granted for research such as surveys of participants and research involving additional testing of samples collected at the time of a procedure. Specific approval is required for all other research projects. Licensee's must submit progress reports of approved research projects with their annual data. Council received no research applications this year.

National Health and Medical Research Council Licences

Differences between State and Commonwealth legislation have led to uncertainty regarding the authority of the NHMRC to license and monitor research on excess embryos from ART. Research that requires a NHMRC licence is not being undertaken in WA. The legal uncertainty will need to be resolved by amendment of the HRT Act.

Complaints to Council

Council received no formal complaints this year.

Finances

The budget allocation to Council was $176,454. Council expenditure totalled $86,210. The financial statement in Appendix 2 outlines the distribution of expenses.

Council's Role as an Advisory Body

Direction 7 of the Surrogacy Directions

In early 2022, Council recommended that Direction 7 be removed from the *Surrogacy Directions 2009*. Direction 7 led to significant ambiguity on whether it was permissible to create embryos for women who are unable to sustain a pregnancy or carry their own child, unless they had a surrogacy agreement in place. The deletion of the direction removed this ambiguity and made it clear that embryos can be created for fertility preservation before a surrogacy agreement is in place.

It is recognised that the creation of embryos is the optimal way to preserve fertility and is a routine procedure for assisted reproduction clinics. The removal of this direction means that clinics can now support women in these situations to preserve their fertility through the creation of embryos without fear of breaching their legislative obligations. This also means that clinics can act quickly to create and preserve these embryos in what are often time critical situations, without the delays of conferring with the Reproductive Technology Council.

On 12 April 2022 the *Surrogacy Directions 2022* were gazetted by the CEO of the Department of Health in accordance with s.31 of the HRT Act.

PGT approval process

Following discussions with clinics and in response to recommendations in the Allan Review, the Council established a working group to explore a more streamlined process for managing the use of PGT in the clinical setting. It is hoped that a process can be found which allows clinics to have greater autonomy in managing the use of these tests and improves the experience of those wishing to access them. The new process will be established in the second half of 2022.

Publications and presentations

Council members are active in the field of ART. This section lists the publications and presentations of Council members. It demonstrates their level of activity, expertise and commitment to scientific endeavour, and social and ethical debates related to reproductive technology.

Publications

Berman, Y., Doherty, D., Main, K., Frederiksen, H., Hickey, M., Keelan, J., Newnham, J. and **Hart, R.**, 2021. Associations between Prenatal Exposure to Phthalates and Timing of Menarche and Growth and Adiposity into Adulthood: A Twenty-Years Birth Cohort Study. International Journal of Environmental Research and Public Health, 18(9), p.4725.

Bräuner, E., Lim, Y., Koch, T., Mori, T., Beilin, L., Doherty, D., Juul, A., **Hart, R.** and Hickey, M., 2021. Sex-dependent associations between maternal prenatal stressful life events, BMI trajectories and obesity risk in offspring: The Raine Study. Comprehensive Psychoneuroendocrinology, 7, p.100066.

Cadby, G., Giles, C., Melton, P., Huynh, K., Mellett, N., Duong, T., Nguyen, A., Cinel, M., Smith, A., Olshansky, G., Wang, T., Brozynska, M., Inouye, M., McCarthy, N., Ariff, A., Hung, J., Hui, J., **Beilby, J.**, Dubé, M., Watts, G., Shah, S., Wray, N., Lim, W., Chatterjee, P., Martins, I., Laws, S., Porter, T., Vacher, M., Bush, A., Rowe, C., Villemagne, V., Ames, D., Masters, C., Taddei, K., Arnold, M., Kastenmüller, G., Nho, K., Saykin, A., Han, X., Kaddurah-Daouk, R., Martins, R., Blangero, J., Meikle, P. and Moses, E., 2022. Comprehensive genetic analysis of the human lipidome identifies loci associated with lipid homeostasis with links to coronary artery disease. Nature Communications, 13(1).

Hart, R., 2022. Stimulation for low responder patients: adjuvants during stimulation. Fertility and Sterility, 117(4), pp.669-674.

Hart, R., D'Hooghe, T., Dancet, E., Aurell, R., Lunenfeld, B., Orvieto, R., Pellicer, A., Polyzos, N. and Zheng, W., 2021. Self-Monitoring of Urinary Hormones in Combination with Telemedicine — a Timely Review and Opinion Piece in Medically Assisted Reproduction. Reproductive Sciences,.

Hunter, M., Knuiman, M., Musk, B., Hui, J., Murray, K., **Beilby, J.**, Hillman, D., Hung, J., Newton, R., Bucks, R., Straker, L., Walsh, J., Zhu, K., Bruce, D., Eikelboom, R., Davis, T., Mackey, D. and James, A., 2021. Prevalence and patterns of multimorbidity in Australian baby boomers: the Busselton healthy ageing study. BMC Public Health, 21(1).

Koch, T., Doherty, D., Dickinson, J., Juul, A., **Hart, R.**, Bräuner, E. and Hickey, M., 2021. In utero exposure to maternal stressful life events and risk of polycystic ovary syndrome in the offspring: The Raine Study. Psychoneuroendocrinology, 125, p.105104.

Leathersich, S. and **Hart, R.**, 2022. Immune infertility in men. Fertility and Sterility, 117(6), pp.1121-1131.

Nedkoff, L., Lopez, D., Hung, J., Knuiman, M., Briffa, T., Murray, K., Davis, E., Aria, S., Robinson, K., **Beilby, J.**, Hobbs, M. and Sanfilippo, F., 2022. Validation of ICD-10-AM Coding for Myocardial Infarction Subtype in Hospitalisation Data. Heart, Lung and Circulation, 31(6), pp.849-858.

Norman, R. and **Hart, R.**, 2021. Human growth hormone use in poor ovarian response – caution and opportunities. Therapeutic Advances in Reproductive Health, 15, p.263349412199942.

Penova-Veselinovic, B., Melton, P., Huang, R., Yovich, J., Burton, P., Wijs, L. and **Hart, R.**, 2021. DNA methylation patterns within whole blood of adolescents born from assisted reproductive technology are not different from adolescents born from natural conception. Human Reproduction, 36(7), pp.2035-2049.

Rajadurai, V., Nathan, E., Pontré, J., Mcelhinney, B., Karthigasu, K. and **Hart, R.**, 2022. The effect of obesity on cost of total laparoscopic hysterectomy. Australian and New Zealand Journal of Obstetrics and Gynaecology,.

Skakkebæk, N., Lindahl-Jacobsen, R., Levine, H., Andersson, A., Jørgensen, N., Main, K., Lidegaard, Ø., Priskorn, L., Holmboe, S., Bräuner, E., Almstrup, K., Franca, L., Znaor, A., Kortenkamp, A., **Hart, R.** and Juul, A., 2021. Environmental factors in declining human fertility. Nature Reviews Endocrinology, 18(3), pp.139-157.

Thompson, P., Hui, J., **Beilby, J.**, Palmer, L., Watts, G., West, M., Kirby, A., Marschner, S., Simes, R., Sullivan, D., White, H., Stewart, R. and Tonkin, A., 2022. Common genetic variants do not predict recurrent events in coronary heart disease patients. BMC Cardiovascular Disorders, 22(1).

Thong, E., **Hart, R.**, Teede, H., Vincent, A. and Enticott, J., 2022. Increased mortality and non-cancer morbidity risk may be associated with early menopause and varies with aetiology: An exploratory population-based study using data-linkage. Maturitas, 164, pp.60-66.

Wang, T., Huynh, K., Giles, C., Mellett, N., Duong, T., Nguyen, A., Lim, W., Smith, A., Olshansky, G., Cadby, G., Hung, J., Hui, J., **Beilby, J.**, Watts, G., Chatterjee, P., Martins, I., Laws, S., Bush, A., Rowe, C., Villemagne, V., Ames, D., Masters, C., Taddei, K., Doré, V., Fripp, J., Arnold, M., Kastenmüller, G., Nho, K., Saykin, A., Baillie, R., Han, X., Martins, R., Moses, E., Kaddurah-Daouk, R. and Meikle, P., 2022. APOE ε2 resilience for Alzheimer's disease is mediated by plasma lipid species: Analysis of three independent cohort studies. Alzheimer's & Dementia,.

Wijs, L., Doherty, D., Keelan, J., Burton, P., Yovich, J., Beilin, L., Mori, T., Huang, R., Adams, L., Olynyk, J., Ayonrinde, O., Penova-Veselinovic, B. and **Hart, R.**, 2022. Comparison of the cardiometabolic profiles of adolescents conceived through ART with those of a non-ART cohort. Human Reproduction,.

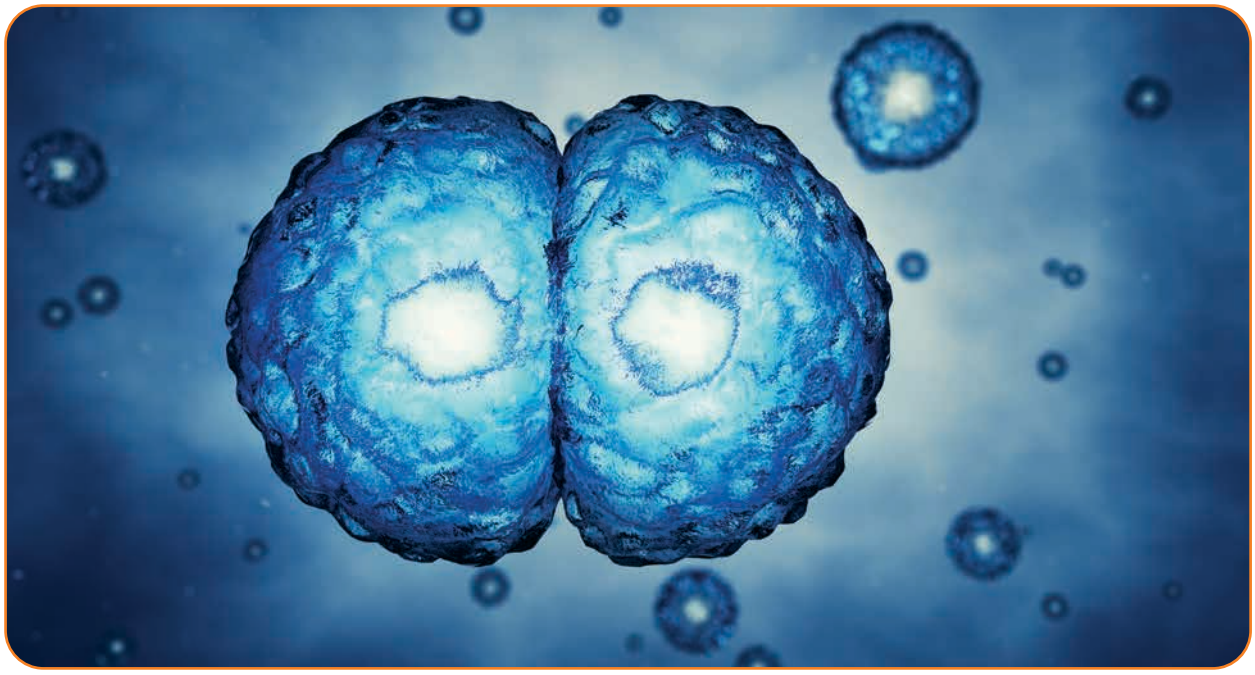
Wijs, L., Doherty, D., Keelan, J., Panicker, V., Burton, P., Yovich, J. and **Hart, R.**, 2022. Offspring conceived through ART have normal thyroid function in adolescence and as young adults. Human Reproduction, 37(7), pp.1572-1580.

Wijs, L., Doherty, D., Keelan, J., Penova-Veselinovic, B., Burton, P., Yovich, J., Hall, G., Sly, P., Holt, P. and **Hart, R.**, 2022. Asthma and allergies in a cohort of adolescents conceived with assisted reproductive technologies. Reproductive BioMedicine Online,.

Wijs, L., Fusco, M., Doherty, D., Keelan, J. and **Hart, R.**, 2021. Asthma and allergies in offspring conceived by ART: a systematic review and meta-analysis. Human Reproduction Update, 28(1), pp.132-148.

Wijs L, Doherty D, Burton P, Yovich J, **Hart R.** The Growing Up Healthy Study (GUHS) – A prospective and observational cohort study investigating the long-term health outcomes of offspring conceived after assisted reproductive technologies PLOS 1 (in press).

Yeap, B., Hui, J., Knuiman, M., Flicker, L., Divitini, M., Arscott, G., Twigg, S., Almeida, O., Hankey, G., Golledge, J., Norman, P. and **Beilby, J.**, 2020. U-Shaped Relationship of Leukocyte Telomere Length With All-Cause and Cancer-Related Mortality in Older Men. The Journals of Gerontology: Series A, 76(1), pp.164-171.



Presentations

Hart, R. RANZCOG Annual Scientific Meeting, Hobart virtual meeting 2021 "Endocrine disrupting agents in pregnancy and their implications for fertility"

Hart, R. RANZCOG Annual Scientific Meeting, Hobart 2021 "Sub-specialty training in Reproductive Medicine and Infertility"

Hart, R. Endocrine Society of Australia and New Zealand Virtual Meeting 2021 "Endocrine Disrupters"

Hart, R. ANZREI Meeting Virtual "CREI Training and Accreditation Committee RANZCOG Update for Fellows" 6 November 2021

Hart, R. RANZCOG Annual Symposium, Melbourne 2022 "The ethics of IVF"

Hart, R. ESHRE, Paris 2021 "The early life influences on adult male reproduction" Plenary presentation (virtual)

Hart, R. 3rd Indonesian LIFE fertility meeting 2022 "Individualised approach to ovarian stimulation" Invited speaker (virtual)

Hart, R. Society of Reproductive Investigation "New insights into the health of the offspring of mothers with PCOS" Denver 2022

Hart, R. Indian Fertility Society "Poor Ovarian Response" (Virtual) 2022

Beilby, J. Invited lecturer to the final year Medical Laboratory Science Students from Curtin University,

Beilby, J. Lecturer, Master of Clinical Pathology in Genetics, UWA.

Developments in Reproductive Technology

New assisted reproductive technology legislation for WA

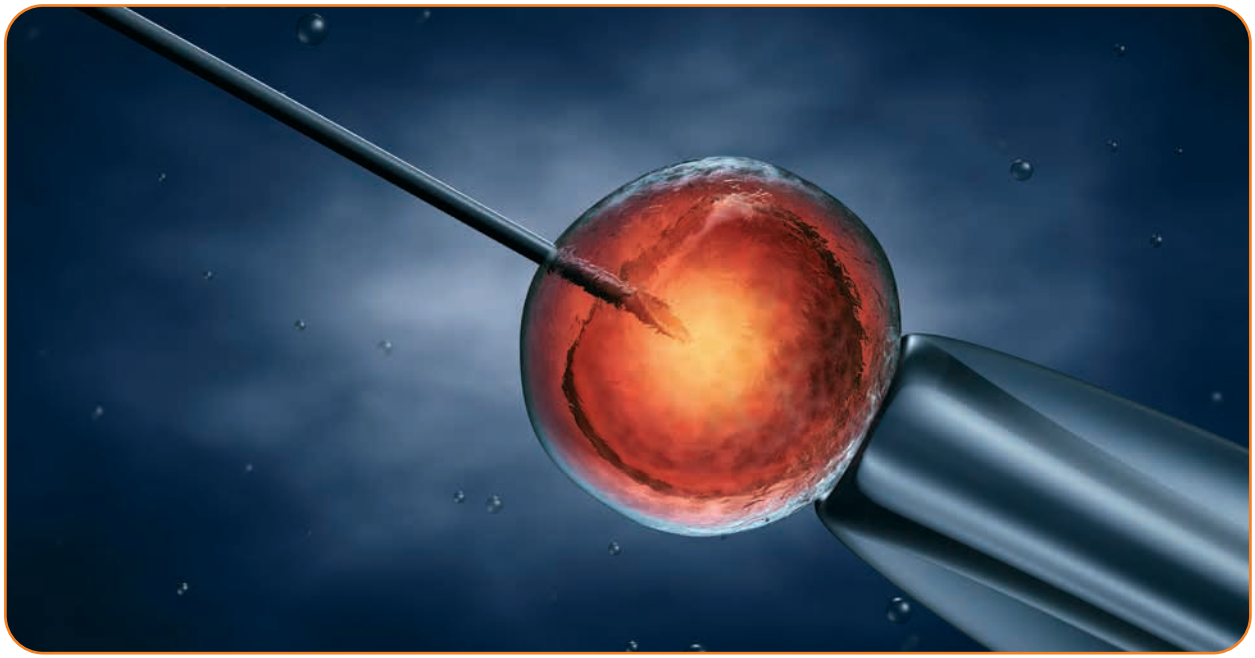
In August 2021, the Government tabled its response in Parliament to Associate Professor Sonia Allan's Review of the *Western Australian Human Reproductive Technology Act 1991* and the *Surrogacy Act 2008* (Allan Review). This was accompanied by a stated commitment from the Government to develop new contemporary legislation for assisted reproductive technology (ART) and surrogacy in our state, enabling more Western Australians to begin a family.

In May 2022, the Minister for Health, Hon Amber Jade Sanderson, announced the appointment of the Assisted Reproductive Technology (ART) and Surrogacy Legislation Ministerial Expert Panel (MEP).

The MEP will provide advice to the WA Government to assist in the development, consultation and implementation of new legislation for ART and surrogacy in Western Australia.

Changes to Medicare Benefits Schedule for reproductive technology

The Federal Government announced plans for expanded funding for reproductive genetic carrier testing under the Medicare Benefits Schedule (MBS). From 1 November 2021, five new items were added to the MBS related to testing and biopsy of the embryos. This highlights a growing awareness of these tests as well as a commitment to ensure equitable access for testing.



Reproductive Technology Activity

Access to donor information and establishment of the Donor Conception Information Service

The Reproductive Technology Unit is developing a new donor linking service to support donor conceived people who were conceived on or after 1 December 2004.

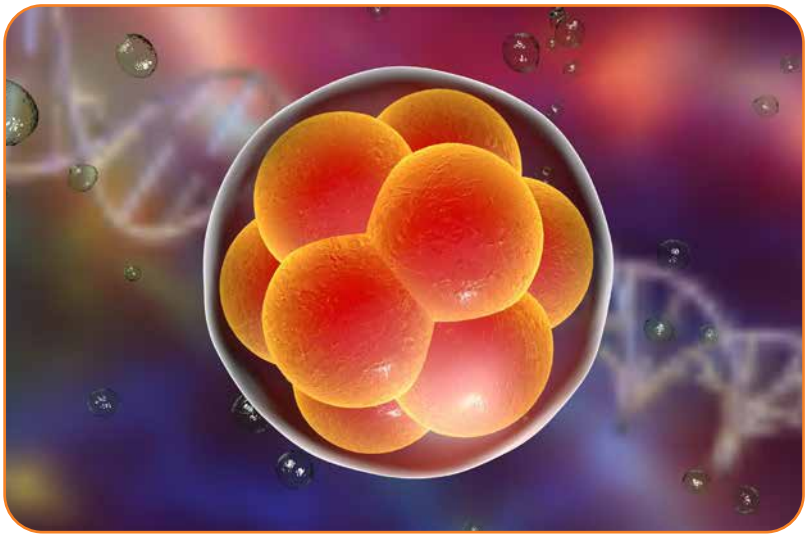
As part of this, a new Donor Conception Information Service will be established on 1 January 2023 within the Women and Newborn Health Service Social Work Department. Not only will the new service support those conceived after December 2004, it will also take on the management of the (Voluntary) Donor Offspring Register, which is currently administered by Jigsaw DNA Connect.

The merging of these services will help to ensure that all donor conceived people receive comparable services. It will offer a one stop shop in which all donor conceived people, donors and their families will be supported to receive the information they are eligible for and connected with donors and siblings where possible.

References

Mbsonline.gov.au. 2022. MBS Online – Pre-implantation Genetic Testing (PGT). [online] Available at: http://www.mbsonline.gov.au/internet/mbsonline/publishing.nsf/Content/Factsheet-Pre-imp-Gentest [Accessed 25 August 2022].

Newman J., Paul RC., Chambers GM. 2020. Assisted Reproductive Technology in Australia and New Zealand, 2018. Sydney, NSW, National Perinatal Epidemiology and Statistics Unit.



Appendix 1: Practice and storage licence holders

Adora Fertility
Craigie Day Surgery
9 Perilya Road
Craigie WA 6025

Concept Fertility Centre
Concept Day Hospital
218 Nicholson Road
Subiaco WA 6008

Fertility North
Suite 30 Level 2
Joondalup Private Hospital
60 Shenton Avenue
Joondalup WA 6027

Fertility Specialists of Western Australia
Bethesda Hospital
25 Queenslea Drive
Claremont WA 6010

Fertility Specialists of Western Australia-Applecross
764 Canning Highway
Applecross WA 6153

Genea Hollywood Fertility
190 Cambridge Street
Wembley WA 6014

PIVET Medical Centre / ZEST IVF
Perth Day Surgery Centre
166-168 Cambridge Street
Leederville WA 6007

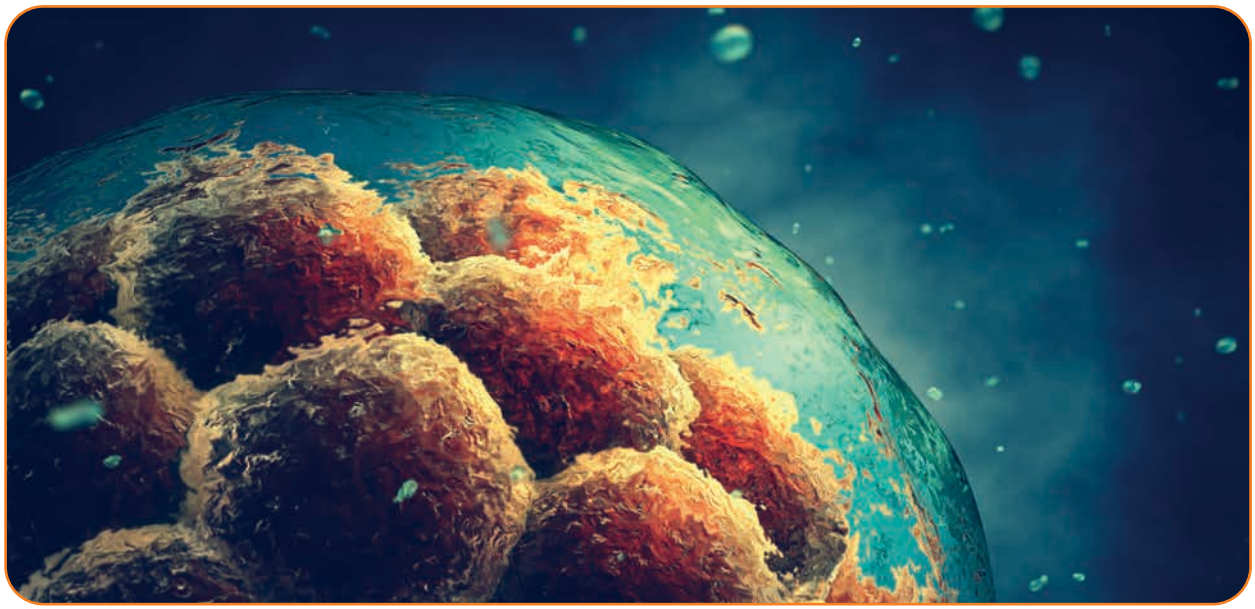
13/11 Wentworth Parade
Success WA 6164

Appendix 2: Financial statement

The Department of Health funds the administration of the HRT Act, including the operations of Council. The 2021–2022 Council budget allocation was $176,454 with expenditure totalling $86,210 for the financial year. Table 3 shows the financial statement for the 2021–2022 annual report.

Table 3: Financial statement for the 2021–2022 annual report

Expenditure by category 2021–2022	Expenditure ($)	Income ($)
Food supplies and catering	1,307	
Conference fees	0	
Reproductive Technology Council sitting fees inc. superannuation, sitting fee back pay and rate change	81,283	
Other expenses:		
Stationery and printing, including annual report	260	
Information management	3,360	
Travel	0	
Total	**$86,210**	**$0**



Appendix 3: Operations of licence holders

The aggregated data, tables, graphs, analysis and interpretation of data presented in this Appendix have been provided by the Reproductive Technology Unit of the Department of Health. Data are presented on the activities of licence holders for this year and assisted reproductive technology trends for the past 10 years in WA. In some instances, percentages may not add up to 100% due to rounding to whole numbers.

Assisted reproductive technologies in Western Australia

The procedure of IVF involves the fertilisation of oocytes (eggs) in a laboratory and placing the embryo (fertilised egg) in the uterus. This procedure can be either a fresh cycle, where the embryo is not cryopreserved, or a thaw cycle where a frozen embryo is thawed and transferred to the women's uterus.

A total of 5,833 women underwent assisted reproduction treatment in WA this year. There were 238 less women when compared to the previous year representing a decrease of 4%. The number of treatment cycles in this financial year was 8,462 representing a decrease of 5% compared to the previous year (n=8,904). Table 4 provides an overview of the initiated cycles.

Table 4: IVF treatments

	IVF fresh	IVF thaw	Total
Women treated	3,499	2,334	**5,833**
Treatment cycle	5,029	3,433	**8,462**
Cycle with oocyte retrieval	4,549	-	**4,549**
Cycle with embryo transfer	2,355	3,177	**5,532**
Cycle with embryo storage	2,434	-	**2,434**

Fresh IVF transfer techniques included 2,360 intracytoplasmic sperm injection (ICSI) procedures, where a single sperm is directly injected into an egg, and the fertilised egg is transferred to the woman's uterus.

A total of 656 intrauterine insemination (IUI) treatment cycles were reported which represents a 5% increase compared to the previous year (n=624). The reported ongoing pregnancy rate for IUI was 16% (n=105). The partner's sperm was used in 71% of procedures and donor sperm was used in 29% of procedures.

The number of IVF recipient cycles, where a woman received donor sperm, donor oocytes, or donor embryos is shown in Table 5.

Table 5: Number of recipient cycles using donations

	Fresh IVF cycle	Thawed embryo cycle
Sperm	378	295
Oocyte	33	68
Embryo	0	71

Public fertility clinic referrals

This year 39 patients from King Edward Memorial Hospital Fertility Clinic were referred to five fertility clinics for treatment. A total of 53 treatment cycles were provided, with 13 women having IVF with fresh embryo transfers, and 26 having IVF with thawed embryo transfers.

Serious morbidity and mortality

Clinics are required to provide information regarding complications of ART treatment. There were 26 reported cases of severe ovarian hyperstimulation syndrome (OHSS). There were no reports of mortality in association with fertility treatment.

Counselling

Clinics reported a total of 2,183 individuals/couples received counselling. Most participants (62%) received a single counselling session and the majority of these sessions (55%) involved information counselling. Others having a single counselling session received support counselling (21%) and therapeutic counselling or counselling for other reasons (24%). Of the 38% of participants who had more than one session, 28% had support counselling and 51% had information counselling. Counselling for donors and donor recipients accounted for 57% of all sessions. There were 1,374 donor and recipient counselling sessions representing an increase of 26% from the previous year.

Embryo storage

The number of embryos in storage was reported as 30,990, as of 30 June 2022. The dispersal of embryos for this year is shown in Table 6.

Table 6: Dispersal of stored embryos

Embryo dispersal	n
Embryos in storage 30/06/2021	29,707*
Embryos created from IVF	7,623
Used in frozen embryo transfer treatments	3,950
Transferred within clinics in WA	380
Transferred to clinics outside WA	109
Transferred from interstate	117
Embryo disposition	2,398
Embryos in storage 30/06/2022	**30,990**

*Figure revised from 2020-2021 Annual Report following correction to number of embryos in storage at 30 June 2021.

Assisted reproductive technology trends in WA

Overall, the number of IVF treatment cycles in WA decreased by 5%, compared to the previous year (n=8,462 vs n=8,904). Data for Australia and New Zealand show a 2.2% increase in ART treatment cycles between 2017 and 2018 (Newman et al. 2020).

In WA this year 59% of all IVF cycles were fresh cycles, and 41% were thawed cycles. This proportion has remained relatively stable over the years (range 54%–61%). Australian and New Zealand data for 2018 show that 57% of ART cycles were fresh IVF cycles where patients used their own eggs or embryos (Newman et al. 2020). Figure 1 shows the progression of fresh IVF cycles by year in WA.

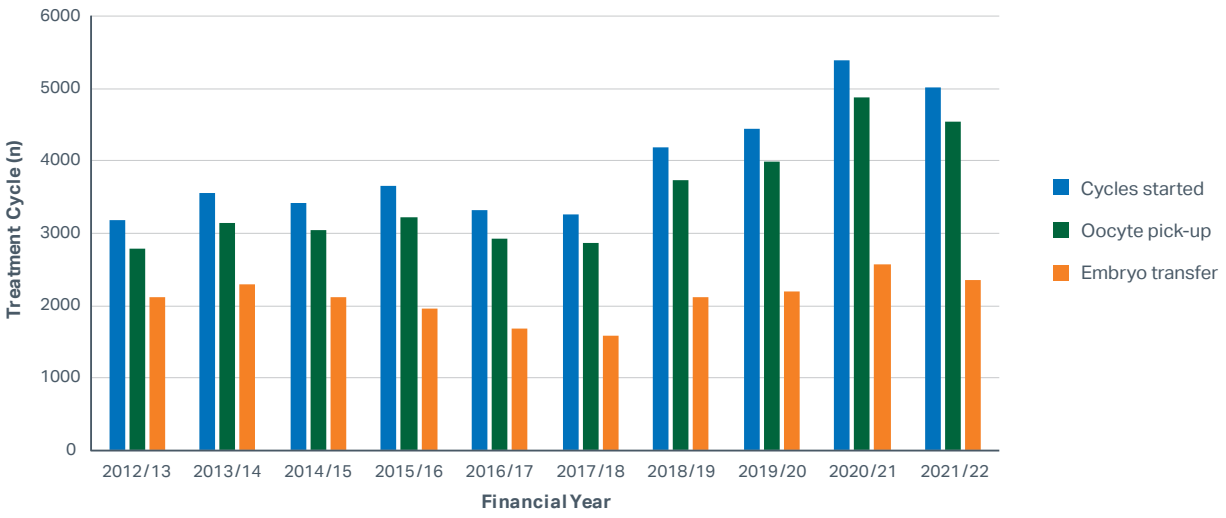


Figure 1: Progression of fresh IVF cycles by year, 2012–2022

There was a 7% decrease in cycles started, a 7% decrease in oocyte pick-up and a 9% decrease in embryo transfer in comparison to the previous year.

Figure 2 shows the progression of thawed embryo cycles. The number of cycles started decreased by 2% and embryo transfers remained the same from the previous year.

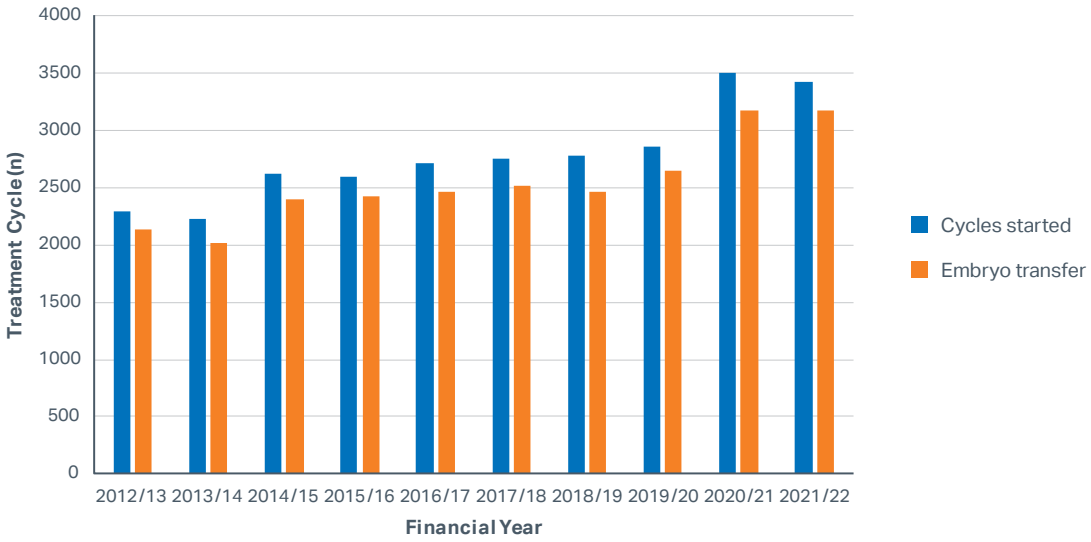


Figure 2: Progression of thawed embryo cycles by year, 2012–2022

Intracytoplasmic sperm injection procedures

The number of IVF procedures where ICSI was used is shown in Figure 3. This procedure was used in 52% of fresh cycles where fertilisation was attempted in WA this year. Australia and New Zealand data for procedures in 2018, reported ICSI was used in 64% of autologous fresh cycles where fertilisation was attempted (Newman et al. 2020).

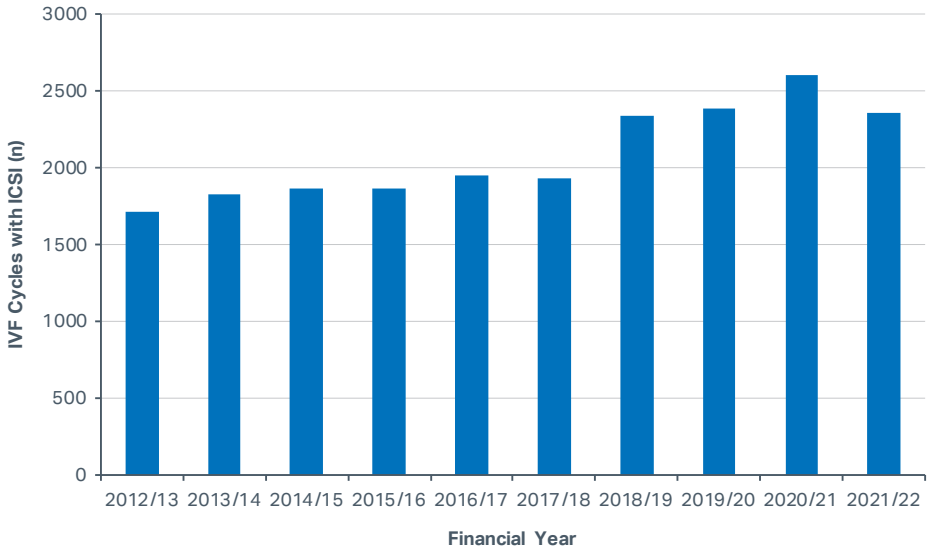


Figure 3: Number of IVF cycles with ICSI by year, 2012–2022

Number of sperm donors

The number of new donors, defined as donors whose samples became available for treatment in this financial year, was reported as 47 compared with 40 last year.

Reproductive Technology Council

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