

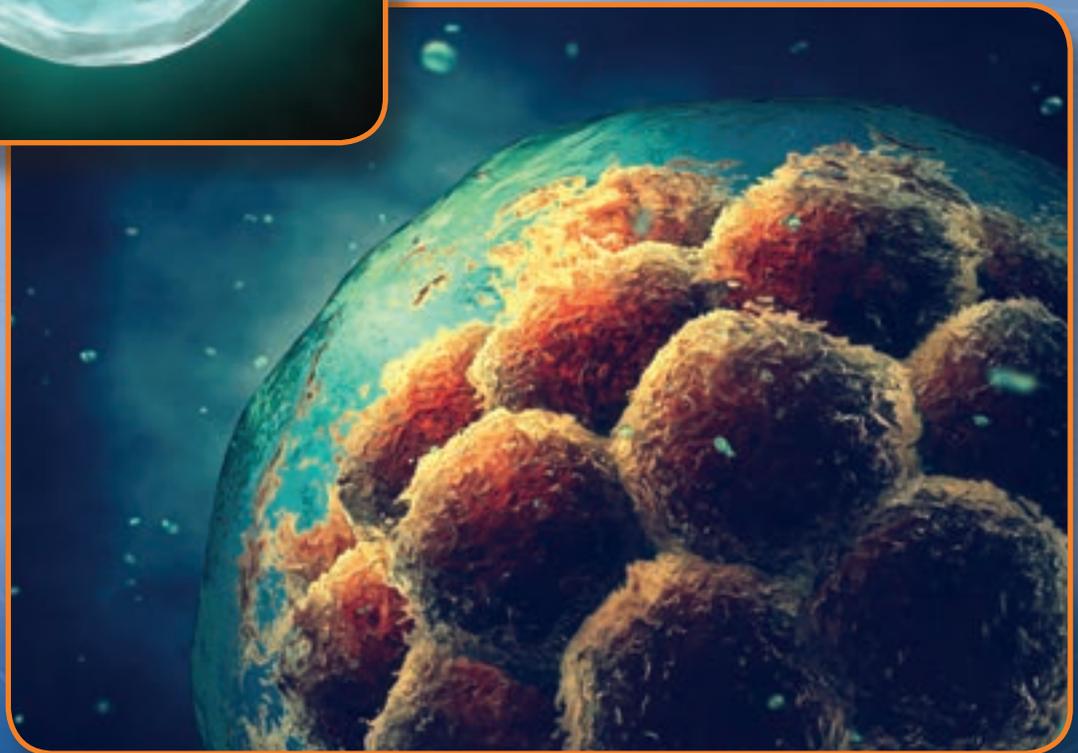


Reproductive Technology Council

Western Australian Reproductive Technology Council

Annual Report

1 July 2017 to 30 June 2018



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Dr D J Russell-Weisz
CHIEF EXECUTIVE OFFICER
Department of Health
189 Royal Street
East Perth WA 6004

Dear Dr Russell-Weisz

It is with pleasure that I submit the Reproductive Technology Council (Council) Annual Report for the financial year 2017 to 2018. This report sets out details of assisted reproductive technology (ART) practices in Western Australia (WA) and the activities of Council, as required by the *Human Reproductive Technology Act 1991* (HRT Act). It is in a form suitable for submission to the Minister for Health and also, as is required, to be laid by the Minister before each House of Parliament.

Council members reviewed a range of applications for approval including applications for embryo storage extension, gamete storage extension and genetic testing of embryos.

On the advice of Council, renewed practice and storage licences were issued to eight clinics that provide assisted reproductive services in WA.

A practice licence and a storage licence were issued to one new clinic on the advice of Council.

Council hosted several seminars on a wide range of topics including mitochondrial donation, donor conception and fertility preservation. Council also co-hosted three events where university students had the opportunity to showcase their work in assisted reproductive biology.

It is not possible for Council to operate effectively without the support of a number of people who provide their expertise and time to attend to Council matters. I especially wish to thank Council and committee members for their ongoing commitment. Finally, I recognise the ongoing financial contribution and administrative support provided by the Department of Health.

Yours sincerely

Dr Brenda McGivern
Chair
Reproductive Technology Council

September 2018

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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 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 (WA), and the operation of Council for the financial year from 1 July 2017 to 30 June 2018.

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.

Council members reviewed a range of applications for approval under the HRT Act. Council approved 41 applications to extend embryo storage, 38 applications for genetic testing of embryos and six surrogacy applications.

Council hosted several seminars on a wide range of topics including mitochondrial donation, donor conception and fertility preservation. Council also co-hosted three events where university students had the opportunity to showcase their work in assisted reproductive biology.

On the advice of Council, eight clinics that provide assisted reproductive services in WA were issued renewed practice and storage licences and a Practice Licence and a Storage Licence were issued to one new clinic in Craigie, Perth.

Council responded to a call for submissions to the Department of Health's independent review of the Western Australian HRT Act and the Surrogacy Act. Working parties were convened to inform their submission.

The budget allocation to Council for this year was \$62,935 and the expenditure was \$48,988. 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 2017–2018 showed that 3,913 women underwent in vitro fertilisation (IVF) treatment, which is a decrease of 4% from the previous year. Fertility clinics undertook 6,024 IVF treatment cycles this year, which is a slight decrease from 6,046 the previous year.

A total of 783 intrauterine inseminations were undertaken, which represents a decrease of 11% compared to the previous year.

A total of 2,332 couples or individuals received counselling, which represents a slight decrease from the previous year. Most counselling consisted of a single session and involved the provision of information.

The number of embryos reported in storage at 30 June 2018 was 25,694.

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

Introduction

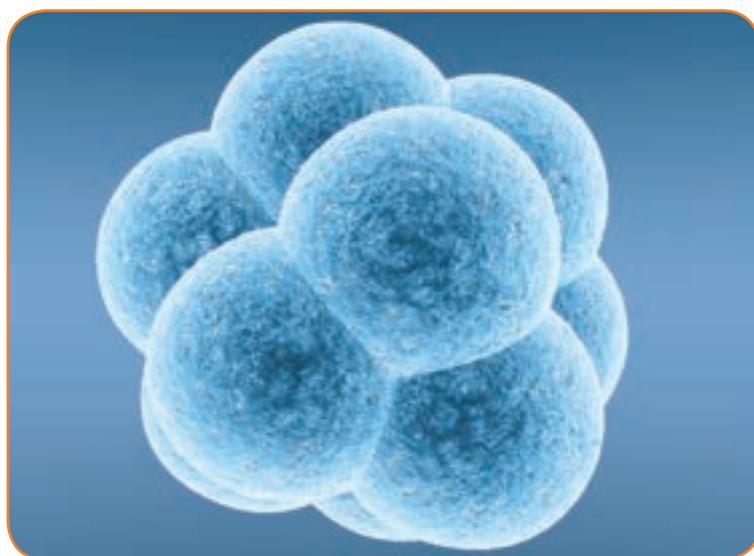
This annual report provides an account of the activities of Council for the past financial year. Council regulates ART practices in WA, as set out in the HRT Act and the Surrogacy Act. The report is structured around the legal requirements and major activities of Council and outlines the operation of 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;
- the provision of advice to the CEO of Health on matters relating to licensing, administration and enforcement of the HRT Act;
- the review of the Directions and guidelines to govern ART practices and storage procedures undertaken by licensees, and thereby to regulate the proper conduct, including counselling provision, 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 of 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

This section provides biographies of the Council Chair and Council committee Chairs, a list of Council membership for this year, and the terms of reference and membership of the various Council committees.

Council Chair and Council committee Chairs

Dr Brenda McGivern

Dr Brenda McGivern is Chair of the Council. With an academic and professional background in Law, she is the Deputy Executive Dean of the Faculty of Arts, Business, Law and Education at the University of Western Australia (UWA), and continues to practise as a Consultant with Moray & Agnew Lawyers. She specialises in health, torts and insurance law. In addition to her role with the Council, she also serves on the Clinical Ethics Service for the Child and Adolescent Health Service.

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, is a Member of the Human Genetics Society of Australasia and a Founding Fellow of the Faculty of Science, the Royal College of Pathologists of Australasia. Dr Beilby is Head of Department of Diagnostic Genomics Laboratory, PathWest, Queen Elizabeth II Medical Centre and Adjunct Professor in the UWA School of Biomedical Science. Dr Beilby's research areas include studying genetic variants associated with ageing, cardiovascular disease, diabetes, and respiratory diseases.

Reverend Brian Carey

The Reverend Brian Carey is Chair of the Embryo Storage Committee. Reverend Carey is a Minister of the Uniting Church in Australia and has extensive involvement in bioethics at both a State and national level, including presenting papers on the full range of ethical and medical subjects at conferences and universities. Reverend Carey was the applied ethicist for the State of Victoria's Biotechnology Committee and a member of the Stem Cell Working Group. He was a member of Monash Medical Centre and Epworth Hospital's Human Research Ethics Committee for over twenty years. He is a member of the Curtin University Human Research Ethics Committee and also a Member of the Coroner's Ethics Committee.

Professor Roger Hart

Professor Roger Hart is Chair of the Scientific Advisory Committee. Professor Hart is a fertility specialist who has a Certificate of Reproductive Endocrinology and Infertility (CREI) and is Professor of Reproductive Medicine and Deputy Head of the Division of Obstetrics and Gynaecology, UWA. He is the lead clinician for the public fertility service of WA, and the Medical Director of Fertility Specialists of WA. He is the holder of

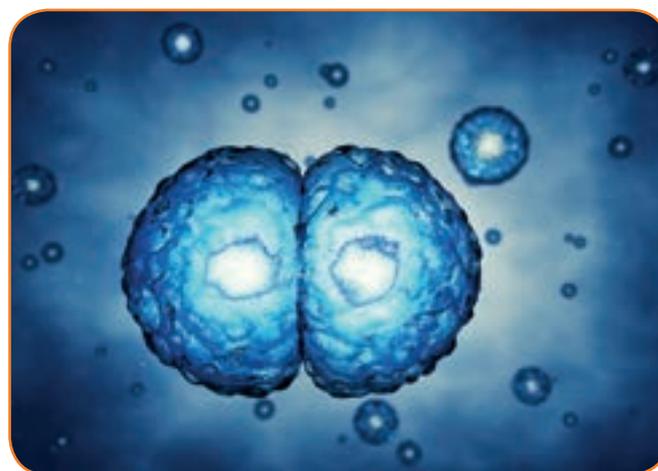
Australian National Health and Medical Research Council (NHMRC) grants to study the early life origins of impaired spermatogenesis and to study the long-term consequences of IVF treatment. He has over 150 publications in the field of reproductive medicine, is an associate editor of *Fertility and Sterility* and a member of the menstrual disorders and fertility sub-group of the Cochrane Collaboration. He is deputy Chair of the CREI sub-specialty committee and a member of the joint NHMRC and the European Society for Human Reproduction and Embryology Polycystic Ovary Syndrome Guideline development group.

Ms Iolanda Rodino

Ms Iolanda Rodino is Chair of the Counselling Committee. She practises as an approved infertility counsellor and clinical psychologist in private practice. Ms Rodino has worked in several fertility clinics in Perth and has extensive experience working as a clinical psychologist in the fields of infertility, and antenatal and postnatal counselling services. Her clinical interests particularly focus on the psychological wellbeing of women with polycystic ovary syndrome. Ms Rodino is currently the Chair of the Australia and New Zealand Infertility Counsellors Association Research Sub-committee, Australia and New Zealand's professional infertility counselling association. Her fertility-related research interests are diverse. She has published in the areas of cross-border reproductive care, donor assisted conception, and eating disorders in the context of women undergoing infertility treatment.

Dr Joseph Parkinson

Dr Joseph Parkinson is Chair of the Licensing and Administration Advisory Committee. Dr Parkinson holds a licence in moral theology from the Lateran University in Rome and a Doctor of Philosophy in moral theology from the University of Notre Dame Australia. He is a Trustee of St John of God Healthcare, and an Adjunct Associate Professor in the School of Philosophy and Theology at the University of Notre Dame Australia (Fremantle Campus). He is a member of several ethics committees, including the research ethics and clinical ethics committees for St John of God Healthcare and the Clinical Ethics Consultancy Service at Perth Children's Hospital. Since 2003, his substantive role has been Director the LJ Goody Bioethics Centre in Mount Hawthorn.



Reproductive Technology Council Members

Dr Brenda McGivern, Chair (nominee of the Minister for Health, representing the Law Society of Western Australia).

Dr Simon Clarke (nominee of the Royal Australian and New Zealand College of Obstetricians and Gynaecologists).

Ms Antonia Clissa (nominee of the Department for Communities, Office of Women's Interests).

Dr Angela Cooney (nominee of the Australian Medical Association).

Ms Justine Garbellini (nominee of the Health Consumers' Council WA).

Professor Roger Hart (nominee of the UWA, School of Women's and Infants' Health).

Professor Stephan Millett (nominee of the Minister for Health).

Rev Dr Joe Parkinson (nominee of the Minister for Health).

Dr Veronica Edwards (nominee of the Minister for Child Protection).

Associate Professor Peter Roberts (nominee of the Minister for Health).

Dr Mo Harris (Executive Officer *ex officio*, Manager, Reproductive Technology Unit, Department of Health).

Reproductive Technology Council Deputy Members

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

Dr Peter Burton (nominee of the UWA, School of Women's and Infants' Health).

Reverend Brian Carey (nominee of the Minister for Health).

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

Dr Louise Farrell (nominee of the Australian Medical Association).

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

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

Ms Rachel Oakeley (nominee of the Department for Communities, Office of Women's Interests).

Ms Iolanda Rodino (nominee of the Health Consumers' Council WA).

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

Ms Bridget Blackwell (*ex officio*, Senior Policy Officer, Reproductive Technology Unit, Department of Health).

Mrs Maxine Strike (*ex officio*, Senior Policy Officer, Reproductive Technology Unit, Department of Health).

Counselling Committee

Terms of reference

The committee's terms of reference are to:

- establish standards for approval of counsellors as approved counsellors, as required by the Code of Practice or Directions of the HRT Act for counselling within licensed clinics, and for counselling services available in the community;
- recommend to Council those counsellors deemed suitable for Council approval or interim approval, and reconsider those referred back to the committee by Council for further information;
- monitor and review the work of any approved counsellor;
- convene training programs for counsellors if required;
- establish a process whereby counsellors may have approval withdrawn or may appeal a Council decision;
- report annually as required by Council for its annual report to the CEO of Health, including information on its own activities and information reported to it by Approved Counsellors;
- advise and assist Council on matters relating to consultation with relevant bodies in the community and the promotion of informed public debate in the community on issues relating to reproductive technology;
- advise Council on matters relating to access to information held on the IVF and Donor Registers;
- advise Council on psychosocial matters relating to reproductive technology as Council may request.

Membership

Ms Iolanda Rodino (Chair), Dr Veronica Edwards, Ms Justine Garbellini, Dr Elizabeth Webb, Dr Mo Harris (*ex officio*), Ms Bridget Blackwell (*ex officio*).

Embryo Storage Committee

Terms of reference

The committee's terms of reference are to:

- make decisions on applications for extension of the periods of storage of embryos on a case by case basis, based on the criteria agreed by Council, and to provide to the next meeting of Council details of all decisions made since the previous meeting;
- provide other advice or carry out other functions relating to the storage of embryos, as instructed by Council.

Membership

Reverend Brian Carey (Chair), Ms Antonia Clissa, Dr Angela Cooney, Dr Andrew Harman, Dr Mo Harris (*ex officio*), Ms Bridget Blackwell (*ex officio*).

Licensing and Administration Advisory Committee

Terms of reference

The committee's terms of reference are to:

- advise Council on matters relating to licensing under the HRT Act, including the suitability of applicants and conditions that should be imposed on any licence;
- advise Council generally as to the administration and enforcement of the HRT Act, particularly disciplinary matters;
- advise Council as to suitable standards to be set under the HRT Act, including clinical standards;
- advise Council on any other matters relating to licensing, administration and enforcement of the HRT Act.

Membership

Dr Joe Parkinson (Chair), Dr Angela Cooney, Professor Roger Hart, Associate Professor Peter Roberts, Ms Iolanda Rodino, Dr Mo Harris (*ex officio*) Mrs Maxine Strike (*ex officio*).

Preimplantation Genetic Diagnosis Committee

Terms of reference

The committee's terms of reference are to:

- advise the Council on a suitable framework for the approval of PGD under the HRT 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 translocations, cystic fibrosis and Huntington’s disease;
- 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.

Membership

Dr John Beilby (Chair), Dr Peter Burton, Dr Kathy Sanders, Dr Sharron Townshend, Dr Mo Harris (*ex officio*), Mrs Maxine Strike (*ex officio*).

Scientific Advisory Committee

Terms of reference

The committee’s terms of reference are to:

- advise Council in relation to any project of research, embryo diagnostic procedure or innovative practice for which the specific approval of Council is (or may be) sought;
- advise Council in relation to review of the HRT Act, which is to be carried out as soon as practicable after the expiry of five years from its commencement, and any other matter as instructed by Council.

Membership

Professor Roger Hart (Chair), Dr Peter Burton, Dr Michèle Hansen, Dr Andrew Harman, Rev Dr Joe Parkinson, Associate Professor Peter Roberts, Dr Lucy Williams, Dr Mo Harris, (*ex officio*), Mrs Maxine Strike (*ex officio*).



Operations of Council

Meetings

Council met on 12 occasions during the year, with attendances reaching a quorum at all meetings. The Counselling Committee met on three occasions. The PGD Committee did not meet this year, instead considered all requests for advice from Council out of session. The Embryo Storage Committee met on three occasions with most applications for extension of storage considered out of session. The Scientific Advisory Committee met on one occasion, with additional business conducted out of session. The Licensing and Administration Advisory Committee met on two occasions, with additional business conducted out of session.

Council convened working parties to inform the development of guidelines for gamete storage, guidelines for the import of donor material into WA and their submission to the review of the HRT Act and Surrogacy Act.

Memberships

Outgoing and in-coming members

Mr Derek Paton (nominee of the Minister for Child Protection) resigned as Council member 12 December 2017.

Dr Veronica Edwards (nominee of the Minister for Child Protection) was appointed to deputy member as of 21 July 2017 and has since been appointed member as of 12 June 2018.

Ms Diane Scarle was appointed to deputy member (nominee of the Minister for Child Protection) as of 12 June 2018.

Reproductive Technology Unit

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

Executive Officer, Manager, Dr Mo Harris (Registered Nurse, Registered Midwife, Doctor of Philosophy).

Senior Policy Officer, Mrs Maxine Strike (Bachelor of Applied Science).

Senior Policy Officer, Ms Bridget Blackwell (Bachelor of Science, Master of Medical Science and Graduate Diploma of Education).

Practice and Storage Licences

Practice or storage facilities must renew their licence every three years. Council provides advice to the CEO regarding the licensing of fertility clinics. Eight clinics applied to renew their licence this year. Clinic documentation was reviewed for

compliance with the HRT Act, the Directions to the HRT Act and 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. All eight clinics had their licences renewed by the CEO on recommendation of Council.

Accredited fertility clinics may be granted a licence by the CEO, following the advice of Council. This year a new Practice Licence and a new Storage Licence were issued to Primary IVF located in Craigie, Perth.

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 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. No new applications were received this year and there were no requests to revoke an exemption.

Approved counsellors

Council received three applications for recognition as an approved counsellor under the HRT Act this year. Council granted conditional approval with ongoing requirements for training and supervision. A list of approved counsellors is available on the Council website www.rtc.org.au.

Applications to Council

Council is required to approve certain ART practices, including the storage of embryos beyond 10 years, the storage of gametes beyond 15 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 (2015) where values fewer than five 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 41 applications for extension of the authorised embryo storage period compared to 29 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**

Extension (years)	Length of storage extension (years)			Total
	≤1	2-4	≥5	
Applications (n)	6	21	14	41

Storage of gametes beyond the authorised 15 year time limit also requires Council approval. This year Council approved 12 applications.

Preimplantation genetic testing

Council approves applications for genetic testing of embryos. Preimplantation genetic diagnosis (PGD) can be used where there is a known risk for serious genetic conditions. Preimplantation genetic screening (PGS) tests the developing embryo for either extra or missing chromosomes (aneuploidy). This can be a common cause of pregnancy loss. PGS does not require specific Council approval when there are known risk factors for aneuploidy. However, PGS may also be indicated when there are other factors and these are considered by Council on a case by case basis.

Each application for PGD 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 38 applications for PGD were approved. The genetic conditions that were approved for PGD are listed in Table 2.

Table 2: Genetic conditions approved for PGD

Condition	
Adult Polycystic Disease	Huntington's disease
Atelosteogenesis type II	Hypohidrotic Ectodermal Dysplasia
BRCA 1	Lethal infantile cardiomyopathy
BRCA 2	Long QT syndrome
Cystic fibrosis	Motor Neurone Disease
Duchenne Muscular Dystrophy	Noonan Syndrome
Frontotemporal Dementia	Retinitis pigmentosa
Fragile X syndrome	Translocations
Facio-Scapulo-Humeral Muscular Dystrophy	

All diagnostic procedures for a fertilising egg or an embryo must have prior Council approval. Applications for cystic fibrosis, translocations and Huntington's disease may be approved by the PGD committee. 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 data

This year Council approved six surrogacy applications. To date a total of 34 surrogacy applications have been approved by Council. The number of births following approved surrogacy arrangements in WA, last reported in 2017 was 10. 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 (Fitzgerald et al., 2017).

Innovative procedures

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

Research applications

Research projects undertaken by licensees, other than research on excess embryos requiring a NHMRC licence, must receive Council approval. General Council approval 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. Progress reports of Council approved research projects must be submitted with the licensee's annual report. This year no applications for research projects were submitted to Council.

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 \$62,935 with expenditure totalling \$48,988. The financial statement in Appendix 2 outlines the distribution of expenses.



Council's role as an advisory body

Council has a prescribed role to promote informed public debate and discussion on ART, and to communicate and collaborate with similar bodies in Australia and overseas. Another function of Council is to advise the CEO and Minister for Health on matters relating to ART.

Council responded to a call for submissions to the Department of Health's independent review of the HRT and Surrogacy Acts.

Council hosted a special event on 26 July 2017. Professor Justin St John, Head of the Mitochondrial Genetic Group at the Hudson Institute of Medical Research, provided insight on mitochondrial supplementation and mitochondrial replacement. Ethicist Professor Robert Sparrow from the Philosophy Department at Monash University discussed how ART reshapes ideas that surround what it means to be a parent. The event was attended by 40 people.

Council co-hosted two symposiums in collaboration with the Endocrine and Reproductive Biology Society of WA where postgraduate students were invited to present their work. The symposiums were attended by 47 and 56 people respectively.

Council hosted a special event on 8 November 2017. Ms Deborah Foster-Gaitskell, an approved counsellor presented an historical perspective of approved counselling in WA. Ms Isabel Andrews, Counsellor-Manager of Jigsaw then presented a comparative analysis of the similarities and differences between adoption contact tracing and donor linking. The event was attended by 24 people.

Council hosted a special event, Fertility Preservation on 28 March 2018. Associate Professor Damien Riggs from the College of Education, Psychology and Social Work at Flinders University gave a presentation via video-link "Fertility preservation experiences and decision making amongst transgender and non-binary people". Gynaecologist Dr Tamara Hunter's presentation on fertility preservation explored oncofertility, social egg freezing and the transgender experience. The event was attended by 70 people.

Council co-hosted a postgraduate student seminar in collaboration with the Scientists in Reproductive Technology, a special interest group representing the scientific membership of The Fertility Society of Australia, on 30 May 2018. Postgraduate students from WA universities were given the opportunity to present their work in assisted reproductive biology and discuss their work with scientists and researchers from fertility clinics. The seminar was attended by 40 people.

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 endeavor, and social and ethical debates related to reproductive technology.

Publications

- Adua E, **Roberts P**, Sakyi S, Yeboah F et al., 2017. Profiling of cardio-metabolic risk factors and medication utilisation among Type II diabetes patients in Ghana: a prospective cohort study. *Clinical and Translational Medicine*, 6(1), pp.32.
- Adua E, **Roberts P** and Wang W, 2017. Incorporation of suboptimal health status as a potential risk assessment for type II diabetes mellitus: a case-control study in a Ghanaian population. *The EPMA Journal*, 8(4), pp.345-355. doi: 10.1007/s13167-017-0119-1.
- Ali S, Jeelall Y, McLean-Tooke A, **Hart R.J** et al., 2018. The role of immunological testing and intervention in reproductive medicine: A fertile collaboration? *American Journal of Reproductive Immunology*, 79(3), p.e12784.
- Baynam G, Bowman F, Lister K, Walker C.E, **Beilby J** et al., 2017. 'Improved diagnosis and care for rare diseases through implementation of precision public health framework' in de la Paz M.P, Taruscio D. and Groft S.C eds. *Rare Diseases Epidemiology: Update and Overview 2nd edition* (pp.55-94). Springer, Cham.
- Cadby G, Melton P.E, McCarthy N.S, Almeida M, **Beilby J** et al., 2018. Pleiotropy of cardiometabolic syndrome with obesity-related anthropometric traits determined using empirically derived kinships from the Busselton Health Study. *Human Genetics*, 137(1), pp.45-53.
- Cheung A.S, Yeap B.B, Hoermann R, **Beilby J.P** et al., 2017. Effects of androgen deprivation therapy on telomere length. *Clinical Endocrinology*, 87(4), pp.381-385.
- Deménais F, Margaritte-Jeannin P, Barnes K.C, Cookson W.O.C, **Beilby J** et al., 2018. Multiancestry association study identifies new asthma risk loci that colocalize with immune-cell enhancer marks. *Nature Genetics*, 50(1), pp.42-53.
- Goldsmith S, McIntyre S, Badawi N and **Hansen M**, 2018. Cerebral palsy after assisted reproductive technology: a cohort study. *Developmental Medicine & Child Neurology*; 60(1), pp.73-80.
- Hart R.J**, Doherty D.A, Keelan J.A, Minaee N.S et al., 2017. The impact of antenatal Bisphenol A exposure upon male reproductive function at 20-22 years of age. *Reproductive Biomedicine Online*. doi.org/10.1016/j.rbmo.2017.11.009.
- Hart R.J**, Frederiksen H, Doherty D, Keelan J.A et al., 2018. The Possible Impact of Antenatal Exposure to Ubiquitous Phthalates Upon Male Reproductive Function at 20 Years of Age. *Frontiers in Endocrinology*, doi: 10.3389/fendo.2018.00288.

- Liu Y, Feenan K, Chapple V, **Roberts P** and Matson P, 2017. Intracytoplasmic sperm injection using hyaluronic acid or polyvinylpyrrolidone: a time-lapse sibling oocyte study. *Human Fertility*, doi: 10.1080/14647273.2017.1366077.
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Dr J Beilby, 2017. Parlez-vous Genetic. Department of Endocrinology, SCGH, Perth, Australia.

Dr J Beilby, 2018. Diagnostic Genomics. Department of Neurology, Fiona Stanley Hospital, Perth, Australia.

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Developments in reproductive technology

Mitochondrial donation in the United Kingdom

The United Kingdom (UK) amended legislation to permit mitochondrial donation in 2015. Clinics must be granted approval to perform this procedure from the Human Fertilisation and Embryology Authority (HFEA), the UK fertility regulator. Approval from the HFEA is then required for each patient application before the procedure can be performed. The first clinic was approved to provide the treatments in 2016 and this year the HFEA granted approval for the first two women to have embryos created with donated mitochondria (*Mitochondrial Disease, 2018*).

Mitochondrial donation in Australia

The Senate Committee Community Affairs (the Committee) conducted an inquiry into the science of mitochondrial donation and related matters. The Committee considered scientific, moral, ethical and legislative issues related to mitochondrial donation. Recommendations of the report included further public consultation be undertaken regarding the introduction of mitochondrial donation to Australian clinical practice and the government to consider options for the legislative changes that would be required to allow mitochondrial donation. The report on the inquiry was released on 27 June 2018 (*Senate Community Affairs References Committee, 2018*).

Legislation

Review of the HRT Act and Surrogacy Act

An independent review of the Western Australian HRT Act and the Surrogacy Act is in progress. The Terms of Reference for the review cover a wide range of issues related to the operation and effectiveness of the Acts and the impact of other State and Commonwealth legislation on these Acts.

Review of the Family Law System

The Australian Law Reform Committee (ALRC) review of the family law system is in progress. The ALRC will consider existing reports relevant to the family law system including surrogacy, child protection and child support. In addition, the review will consider interactions between the Commonwealth family law system and other fields including family law services. The ALRC should provide its report to the Attorney-General by 31 March 2019 (*Australian Law Reform Review, 2017*).

Victorian Review of Assisted Reproduction Legislation

A review of the Assisted Reproduction Act 2008 (Vic) is in progress. The review will consider a wide range of issues including patient safety and equitable access for people seeking treatment (*Gorton M, 2018*).

South Australia Surrogacy Law Review

The South Australia Law Reform Institute has commenced a review of the South Australian surrogacy laws. The review will consider how the laws work in practice and potential future reforms (*South Australian Law Reform Institute, 2018*).

Reproductive Technology and Voluntary Registers

Information on ART in WA is provided to the Department of Health by licensees and exempt practitioners, as set out in Schedule 2 Part 2 of the Directions under the HRT Act. Data relating to ART is collected annually from each fertility service provider in WA. In addition, clinics submit their electronic data to the Department of Health.

The Reproductive Technology Registers enable ongoing monitoring of practice and provide an important resource for epidemiological research. Appendix 3 provides summary data from the annual reports of the fertility clinics in WA.

The Voluntary Register (VR) provides a service for people to share information or meet people they are connected to as a result of donor conception treatment. Donor-conceived people 18 years or older, donors and parents of donor-conceived children under 18 years old are eligible to join the VR. Details of the VR can be found on the Department of Health website.

A match is when two people registered on the VR have the same donor code. Some matched people choose not to contact each other.

As of 30 June 2018 there were 260 people registered on the VR. There have been 71 identified matches of which 30 have proceeded to contact.

The VR is advertised by the Department of Health in the West Australian newspaper and periodically in other media to promote awareness of the service.



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Appendix 1: Practice and Storage Licence holders

Concept Fertility Centre

Concept Day Hospital
218 Nicholson Road
Subiaco WA 6008

Fertility Great Southern

Unit 5, 3 Mount Shadforth Road
Denmark WA 6333

Fertility North

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

Fertility Specialists South

1st Floor, 764 Canning Highway
Applecross WA 6153

Fertility Specialists of Western Australia

Bethesda Hospital
25 Queenslea Drive
Claremont WA 6010

Genea Hollywood Fertility

Level 2, 170 Cambridge Street
Wembley WA 6014

Keogh Institute for Medical Research

1st Floor C Block
QEII Medical Centre
Nedlands WA 6009
(Artificial insemination only)

PIVET Medical Centre

Perth Day Surgery Centre
166-168 Cambridge Street
Leederville WA 6007

Primary IVF

Craigie Day Surgery
9 Perilya Road
Craigie WA 6025

Appendix 2: Financial statement

The Department of Health funds the administration of the HRT Act, including the operations of Council. The 2017–2018 Council budget allocation was \$62,935 with expenditure totalling \$48,988 for the financial year. Table 3 shows the financial statement for the 2017–2018 annual report.

Table 3: **Financial statement for the 2017–2018 annual report**

Expenditure by category 2017–2018	Expenditure (\$)	Income (\$)
Training, registration, course fees, interstate travel	9,066	
Food supplies and catering	2,097	
Administration and clerical	1,296	
Reproductive Technology Council sitting fees	22,008	
Other expenses:		
Stationery and printing, including annual report	2,168	
RTC special event seminars	8,828	
Information management	3,525	
Total	\$48,988	\$62,935

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 Purchasing and Systems Performance Division 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 the embryo is thawed and transferred to the women's uterus.

A total of 3,913 women underwent assisted reproduction treatment in WA this year. There were 153 fewer women when compared to the previous year which showed a reduction of 4%. The number of treatment cycles this year (n=6,024) was similar to the previous year (n=6,046). Table 4 provides an overview of the initiated cycles.

Table 4: **IVF treatments**

	IVF fresh	IVF thaw	Total
Women treated	2,292	1,621	3,913
Treatment cycle	3,269	2,755	6,024
Cycle with oocyte retrieval	2,874	-	2,874
Cycle with embryo transfer	1,594	2,520	4,114
Cycle with embryo storage	1,748	-	1,748

Fresh IVF transfer techniques included 141 surgical sperm aspirations and 1,932 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 783 intrauterine insemination (IUI) treatment cycles were reported by eight licensees. This represents an 11% reduction in the number of IUI treatment cycles compared to the previous year (n=878). The reported ongoing pregnancy rate for IUI was 7% (n=52). The partners' sperm were used for 67% of procedures. Donor sperm were used for 33% of procedures. Gonadotrophin was used for 53% of cycles, Clomid was used in 24% of cycles, and 23% were natural cycles.

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	230	247
Oocyte	34	77
Embryo	-	82

In addition there were 30 cycles where oocytes were donated.

Public fertility clinic referrals

This year 60 patients from King Edward Memorial Hospital Fertility Clinic were referred to four fertility clinics for treatment. A total of 93 treatment cycles were provided, with 29 women having IVF with fresh embryo transfer and 37 having IVF with thawed embryo transfer.

Serious morbidity and mortality

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

Counselling

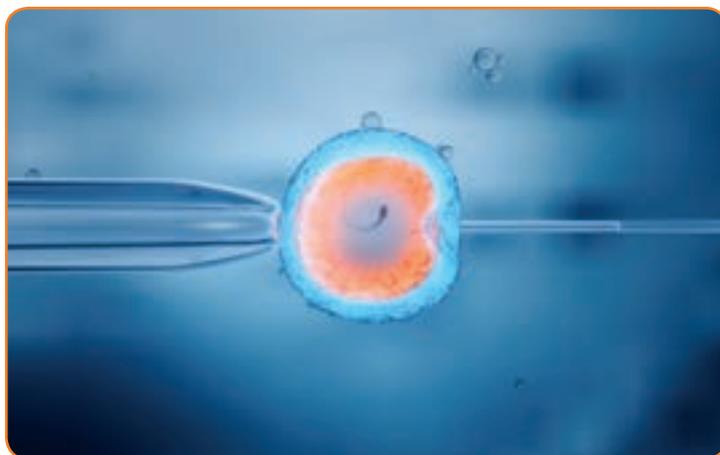
A total of 2,332 couples or individuals received counselling, which represents a slight decrease from the previous year. Most participants (73%) received a single counselling session and the majority of these sessions (64%) involved information counselling. Others having a single counselling session received support counselling (23%), therapeutic counselling (5%) and counselling for other reasons (8%). Of the 29% of participants who had more than one session, 31% had support counselling and 55% had information counselling. Counselling for donors and donor recipients accounted for 44% of all sessions. There were 1,016 donor and recipient counselling sessions representing an increase of 11% from the previous year.

Embryo storage

The number of embryos in storage was reported as 25,694 as of 30 June 2018. The dispersal of embryos for this year is shown in Table 6.

Table 6: **Dispersal of stored embryos**

Embryo dispersal	n
Embryos in storage 30/6/2017	24,664
Embryos created from IVF	6,487
Used in frozen embryo transfer treatments	3,465
Transferred between clinics in WA	254
Transferred to clinics outside WA	120
Transferred from interstate	71
Embryo disposition	1,943
Embryos in storage 30/06/18	25,694



Assisted reproductive technology trends in WA

Overall, the number of IVF treatment cycles in WA was similar to the previous year (n=6,024 vs n=6,046). National statistics show a 5.6% increase in ART treatment cycles in 2015 (Fitzgerald et al., 2017).

Overall, in WA the proportion of fresh to thawed cycles this year was 54% of all cycles. This proportion has remained relatively stable over the years (range 49% – 60%). National statistics for 2015 show that 60% of ART cycles, were fresh IVF cycles where the patients used their own eggs or embryos (Fitzgerald et al., 2017). Figure 1 shows the progression of fresh IVF cycle by year in WA.

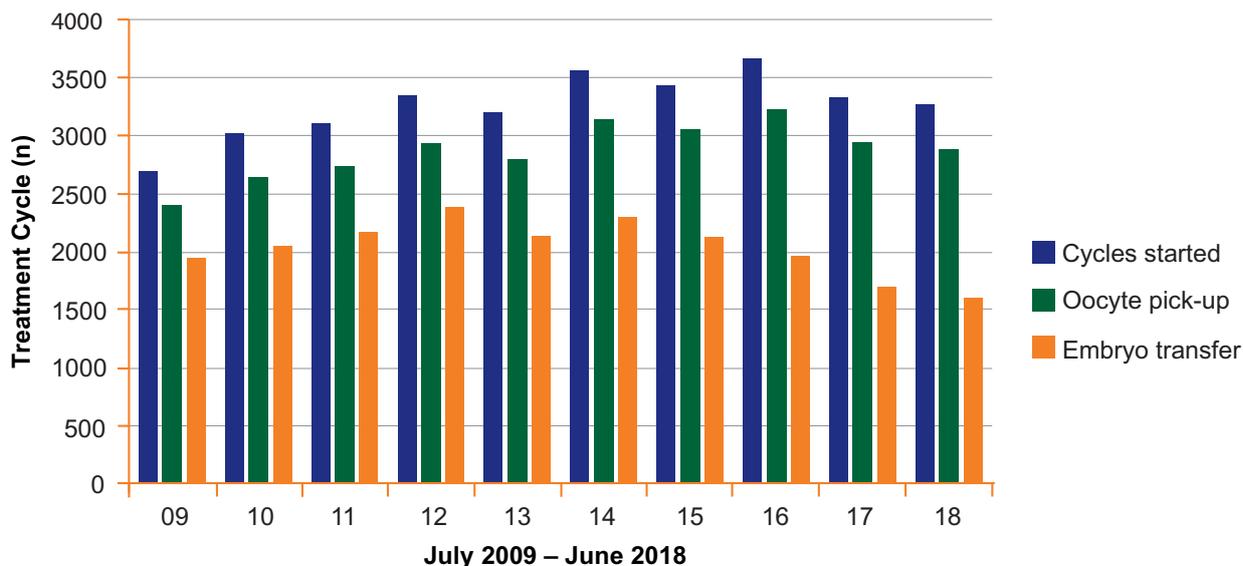


Figure 1: Progression of fresh IVF cycles by year, 2009–2018

Figure 2 shows the progression of thawed embryo cycles. The trend for thawed embryo transfer cycles is essentially unchanged.

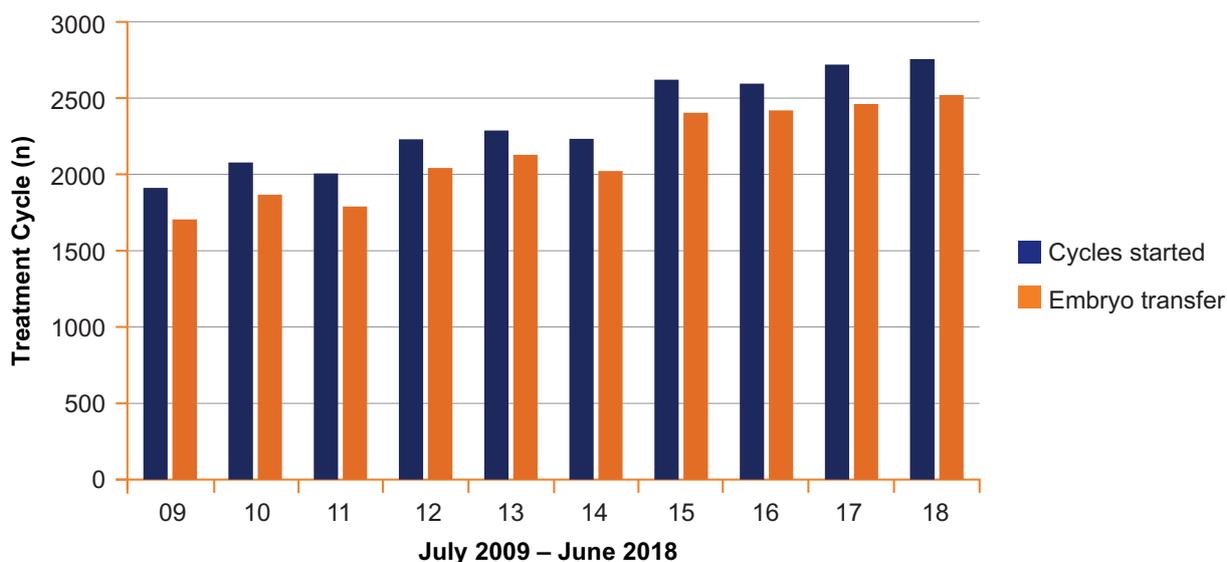


Figure 2: Progression of thawed embryo cycles by year, 2009–18

Intracytoplasmic sperm injection procedures

The number of IVF procedures where ICSI was used is shown in Figure 3. This procedure was used in 67% of fresh cycles where fertilisation was attempted in WA this year. National statistics show that the use of ICSI has increased over the past decade. Australia and New Zealand data for procedures in 2015, reported ICSI was used in 67% of autologous fresh cycles where fertilisation was attempted (Fitzgerald et al., 2017).

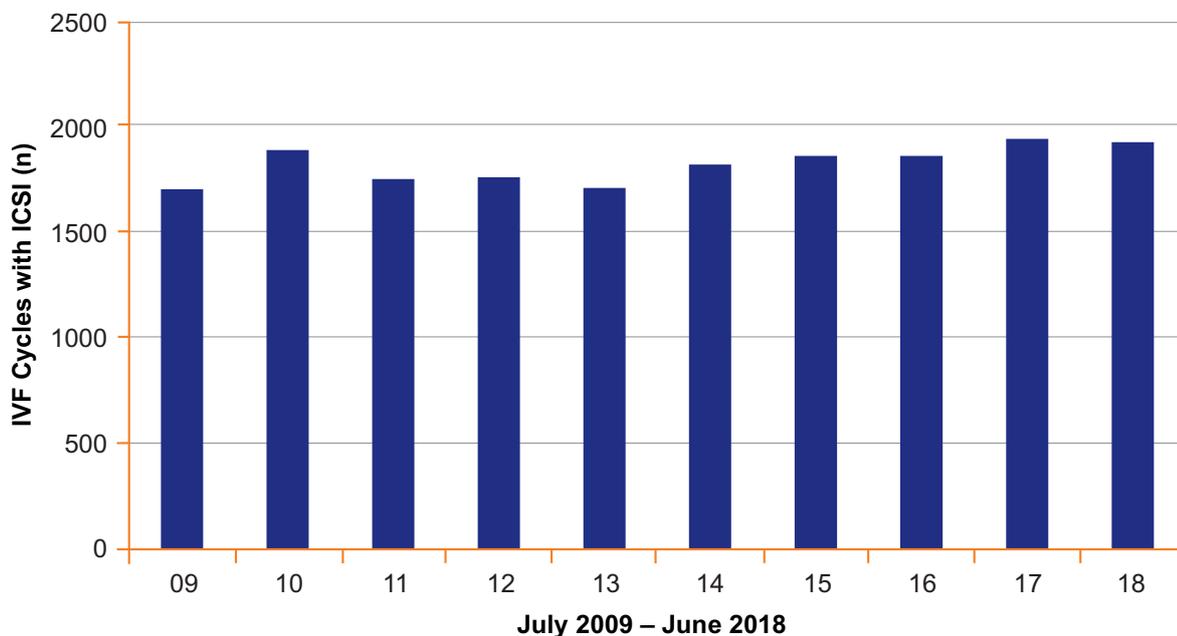


Figure 3: Number of IVF cycles with ICSI by year, 2008–2017

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 24 compared with 16 last year.



Reproductive Technology Council

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