

CANADIAN ASSISTED REPRODUCTIVE TECHNOLOGIES REGISTER

CARTR PLUS ANNUAL REPORT 2025

Canadian Fertility and Andrology Society (CFAS)
71st Annual Meeting – Québec City
18-20th September, 2025



Notes

Disclaimer

This report is based on data submitted by assisted reproductive technology clinics across Canada to the CARTR Plus database. While every effort has been made to ensure the information is accurate and complete, neither BORN Ontario nor any other parties make any representation or warranties as to the accuracy, reliability or completeness of the information contained herein.

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Notes

This report uses data from 2013-2024 for treatments, retrievals, embryo transfers, and pregnancies. Data from 2013-2023 are used for birth outcomes.

All age groups refer to the age of the oocyte provider, unless otherwise specified.

The estimates in this report are descriptive and should be interpreted with caution. No formal statistical testing has been conducted.

Suggested citation

CARTR-Plus & BORN Ontario. (2025). *Canadian Assisted Reproductive Technologies Register (CARTR) Plus Annual Report*. Canadian Fertility and Andrology Society.

Outline



CFAS Compliance Seal



Choosing Wisely Guidelines



Retrieval Metrics



Fertilization Metrics



Embryo Transfer Metrics



Fertility Preservation



Third Party Fertility



Ontario Fertility Program



Québec Fertility Program



Ontario Neonatal and
Perinatal Outcomes

Acronyms and Definitions



- **ET:** Embryo transfer
- **FET:** Frozen embryo transfer
- **Fresh ET:** Fresh embryo transfer
- **Primary transfer:** First embryo transfer following an oocyte retrieval
- **FOIVF:** Frozen oocyte IVF
- **MII:** Mature oocyte that is in the Metaphase II (MII) stage of meiosis.
- **2PN:** Two-pronuclear (2PN) stage of embryo development
- **ICSI:** Intracytoplasmic Sperm Injection



- **Ongoing pregnancy:** Pregnancy with ≥ 1 fetal heartbeat on ultrasound
- **Singleton pregnancy:** Ongoing pregnancy with only one fetal heartbeat on ultrasound
- **Multiple pregnancy:** Ongoing pregnancy with 2+ fetal heartbeat



- **PGT:** Preimplantation Genetic Testing
- **PGT-A:** Preimplantation Genetic Testing for Aneuploidy
- **PGT-M:** Preimplantation Genetic Testing for Monogenic disorders
- **PGT-SR:** Preimplantation Genetic Testing for Chromosomal Structural Rearrangement



- **Live birth:** One or more live births at any gestational age
- **Singleton birth:** One live birth at any gestational age
- **Multiple live birth:** At least one live birth from a multiple pregnancy
- **Stillbirth:** No fetus(es) was born alive and fetal loss occurred at ≥ 20 weeks' gestation
- **Miscarriage:** Fetal loss at < 20 weeks' gestation

Calculations



- **Implantation rate:** gestational sacs observed on ultrasound/number of embryos transferred
- **Fertilization rate:** 2PN/MII, or 2PN/oocytes retrieved
- **Maturity rate:** MII/oocytes retrieved
- **Oocyte cryopreservation survival rate:** MII inseminated/MII thawed



- **Cumulative ongoing pregnancy rate - 12months:** Percent of oocyte retrievals resulting in at least one ongoing pregnancy within 12 months - with or without an ET
- **Cumulative ongoing pregnancy rate with ET - 12 months:** Percent of oocyte retrievals resulting in at least one ongoing pregnancy within 12 months - with at least one ET



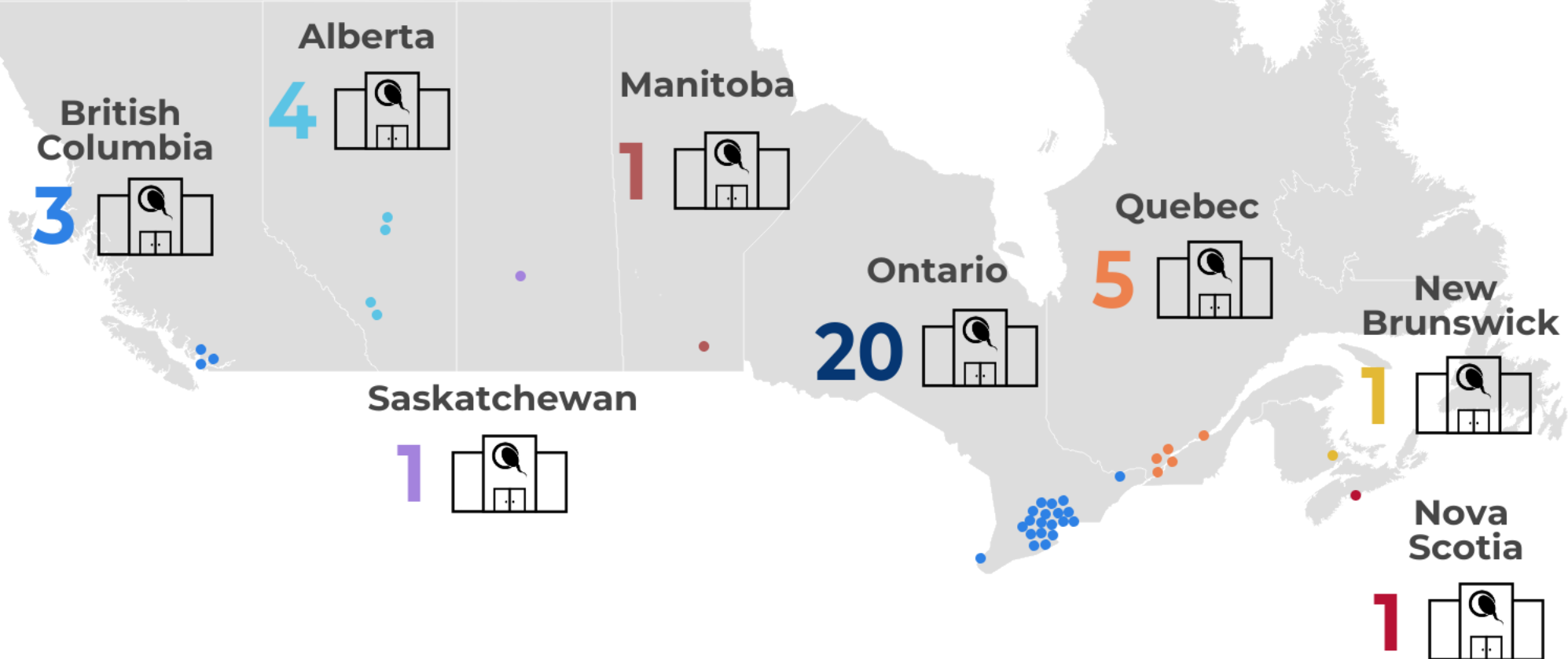
- **Cumulative live birth rate - 12 months:** Percent of oocyte retrievals resulting in at least one live birth within 12 months - with or without an ET
- **Cumulative live birth rate with ET - 12 months:** Percent of oocyte retrievals resulting in at least one live birth within 12 months - with at least one ET



- **Mean:** the average, calculated by dividing the sum of all values by the number of values
- **Median:** The center number in a sorted list of values. Half the numbers are smaller than the median and half are larger
- **Interquartile Range (IQR):** The difference between the first quartile (Q1) and the third quartile (Q3), representing the middle 50% of the data

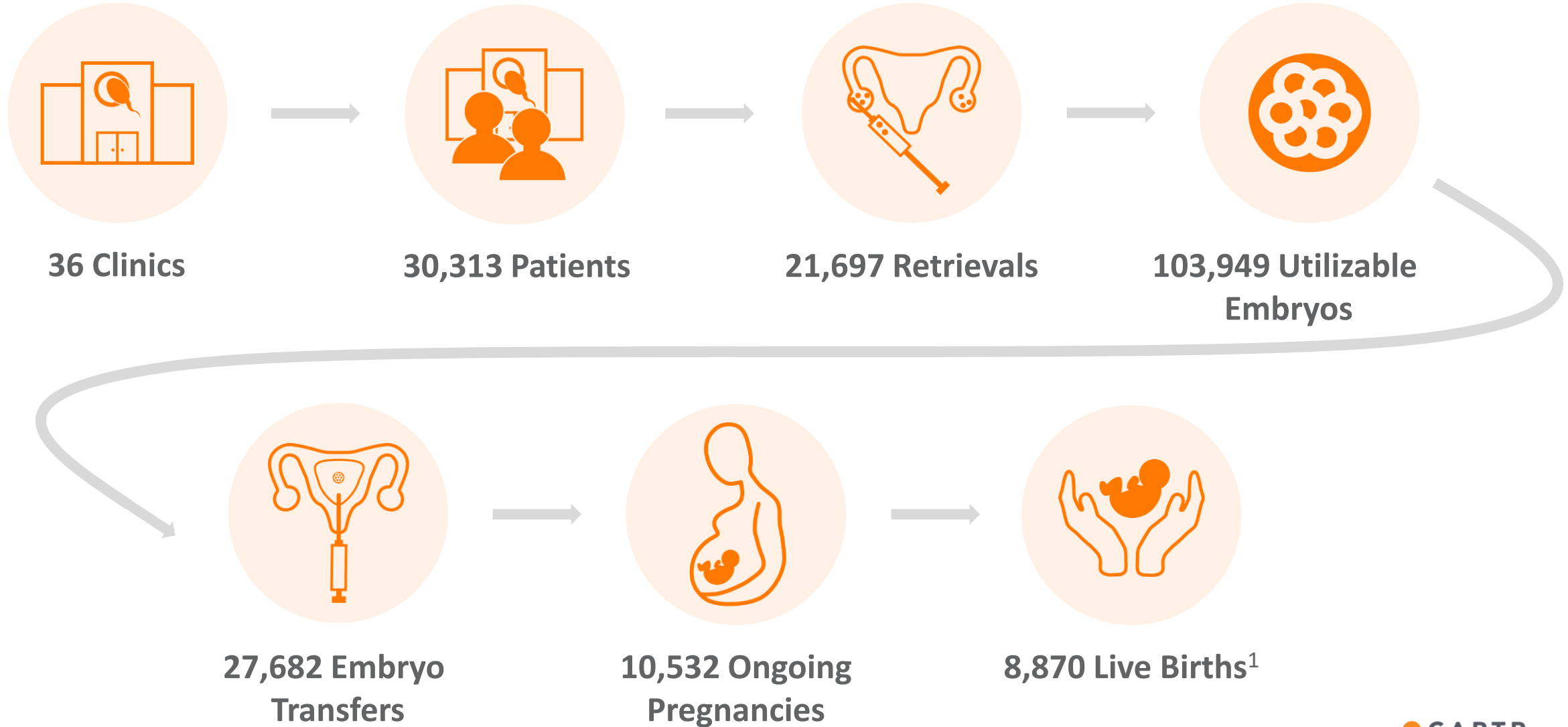
36 Clinics

CANADA 2024



Fertility Treatment Pathway, 2024

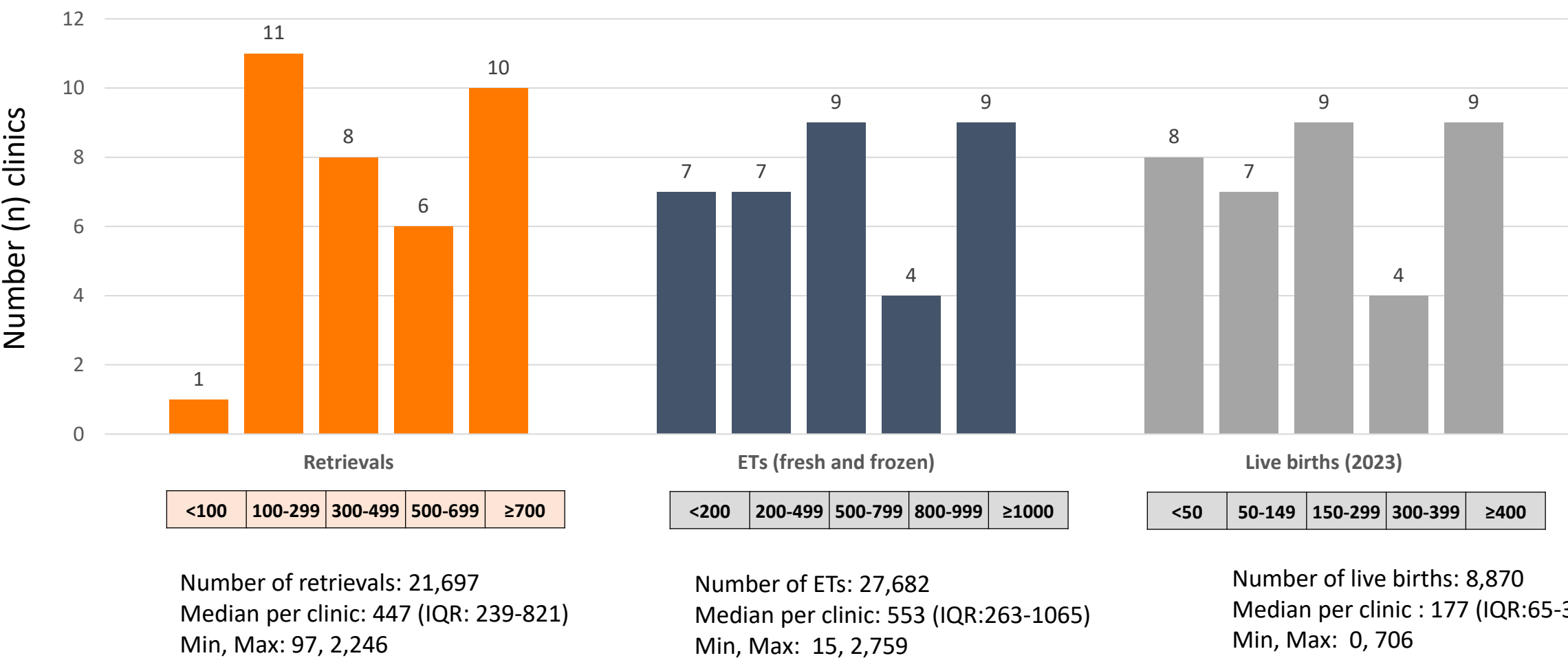
Own and donor oocytes



1. Birth outcome data are available for cycles started in 2023.

Clinics Characteristics

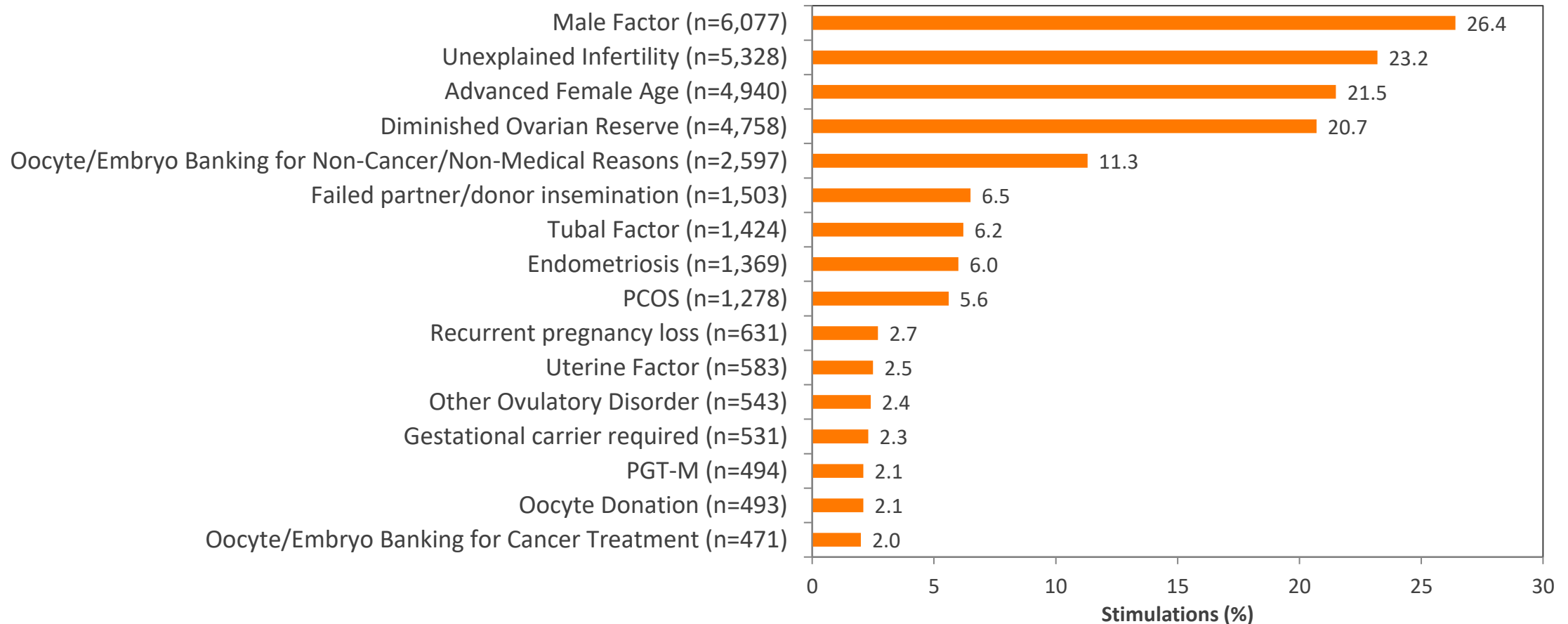
Own and donor oocytes, 2024



In 2024, 36 clinics submitted data on retrievals, embryo transfers and pregnancies. In 2023, 37 clinics submitted data on live births.

Reason for IVF Treatment

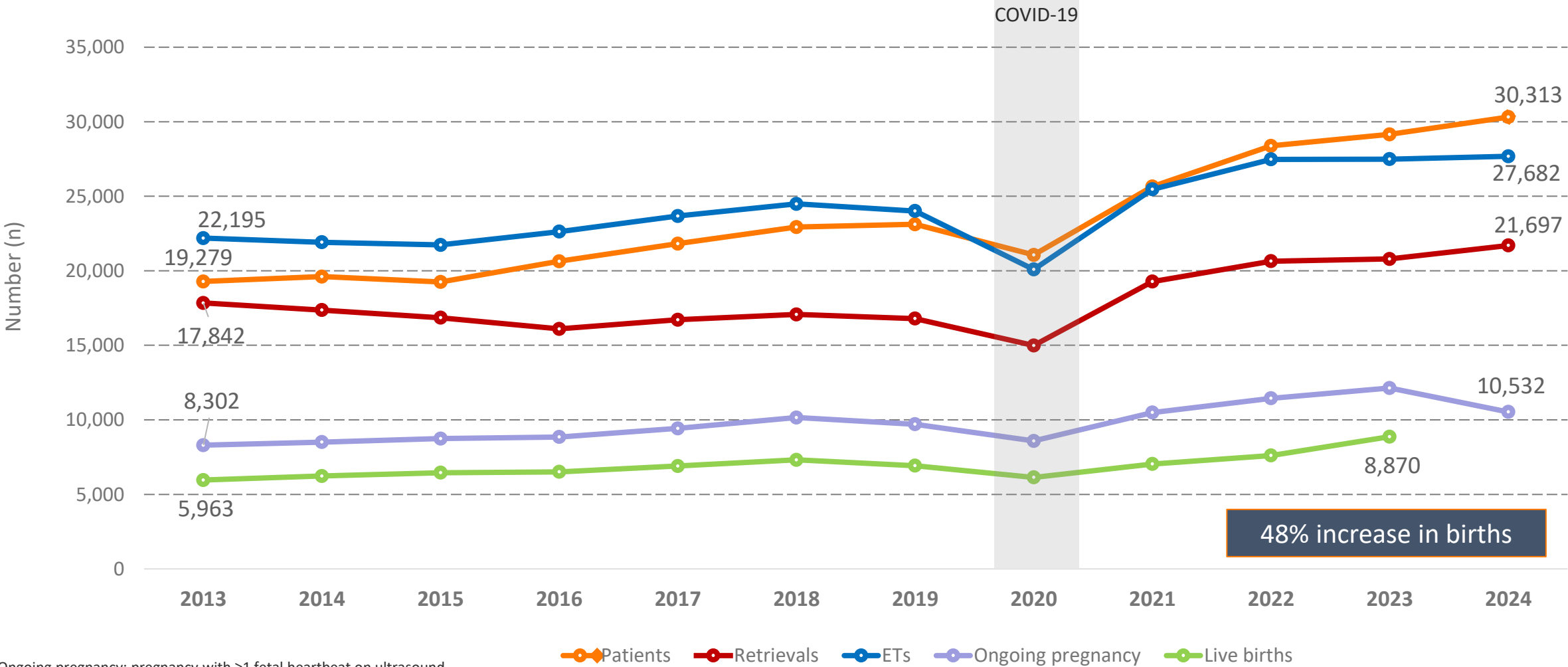
Stimulations, own oocytes, 2024



Categories are not mutually exclusive.

Patients, Retrievals, ETs, Pregnancies, & Births, by Year

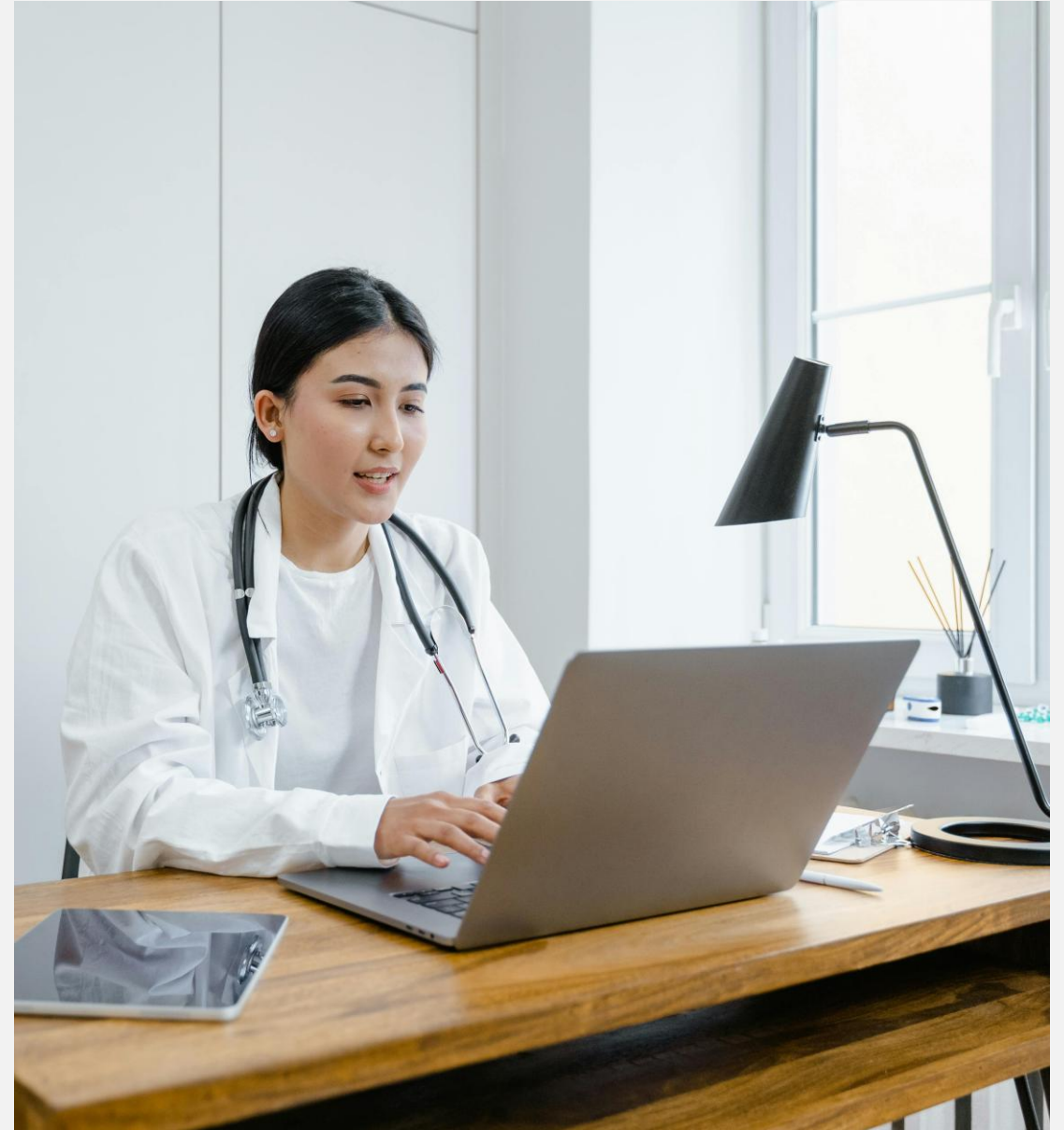
Own and donor oocytes, 2013 – 2024



Ongoing pregnancy: pregnancy with ≥1 fetal heartbeat on ultrasound.
Live birth: one or more live births at any gestational age.
Birth outcome data are available for cycles started in 2023.
Note: the number of ongoing pregnancies increases the following year as outcomes are entered up to 9 months later.

CFAS COMPLIANCE SEAL

Own oocytes



CFAS Compliance Seal

The CFAS Compliance Seal Program was designed to encourage all clinics to report their clinic specific success rates in a standardized way that is clear and easy to understand. The program has a number of requirements including:

- Separating fresh cycles from frozen-thaw cycles,
- Separating non-PGT-A from PGT-A cycles,
- Separating own oocyte from donor oocyte cycles,
- Reporting the number of cycles in each CARTR-Plus age category,
- Reporting the time period to which the data refers, and
- Using standardized definitions for clinical outcomes.

To qualify for the CFAS Seal clinics can present their data using clinical pregnancy, ongoing pregnancy and/or live birth as their benchmark for success.

In addition, they are invited to calculate their outcomes per embryo transfer, per primary embryo transfer or as the cumulative probability of success per oocyte retrieval. Clinics that adopt this standardized framework can apply for the CFAS Seal.

https://cfas.ca/Compliance_Seal.html

Each outcome is separated by oocyte origin (own vs donor), by age (<35, 35-37, 38-40, 41-42, 43+), and embryo transfer method - Fresh ET, FET (no PGT-A), and FET with PGT-A.

1. Clinical pregnancy per ET,
2. Ongoing pregnancy per ET,
3. Live birth per ET,
4. Clinical pregnancy per primary transfer,
5. Ongoing pregnancy per primary transfer,
6. Live birth per primary transfer,
7. Cumulative clinical pregnancy rate,
8. Cumulative ongoing pregnancy rate,
9. Cumulative live birth rate.

The 2025 Annual Report will calculate 2,3,5,6,8,9 with own oocytes only.

CFAS Compliance Seal

The CFAS Compliance Seal Program was designed to encourage all clinics to report their clinic specific success rates in a standardized way that is clear and easy to understand.

Clinics that adopt this standardized framework can apply for the CFAS Seal.



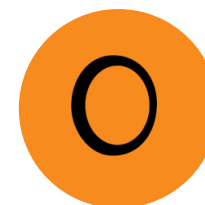
CLINICAL PREGNANCY

Per ET, per Primary Transfer, Cumulative



LIVE BIRTH

Per ET, per Primary Transfer, Cumulative



FRESH ET

By age, own vs donor



FET – NO PGT-A

By age, own vs donor

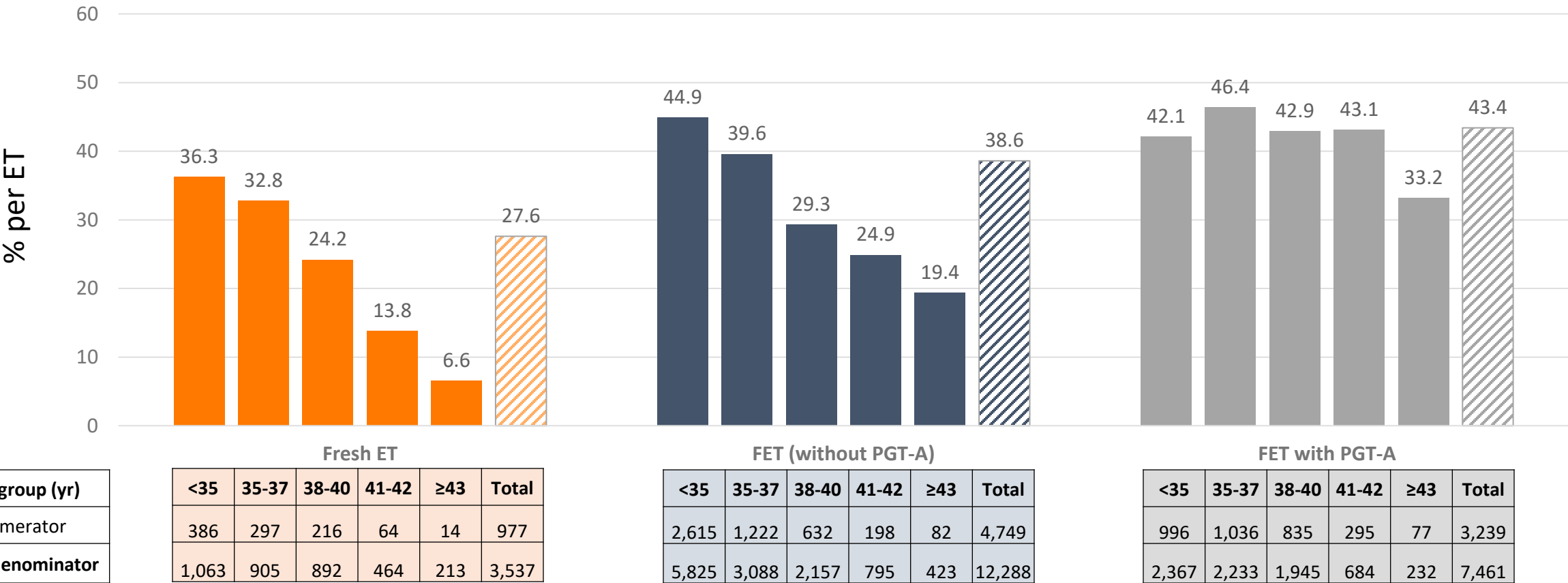


FET – PGT-A

By age, own vs donor

Ongoing Pregnancy Rate per ET

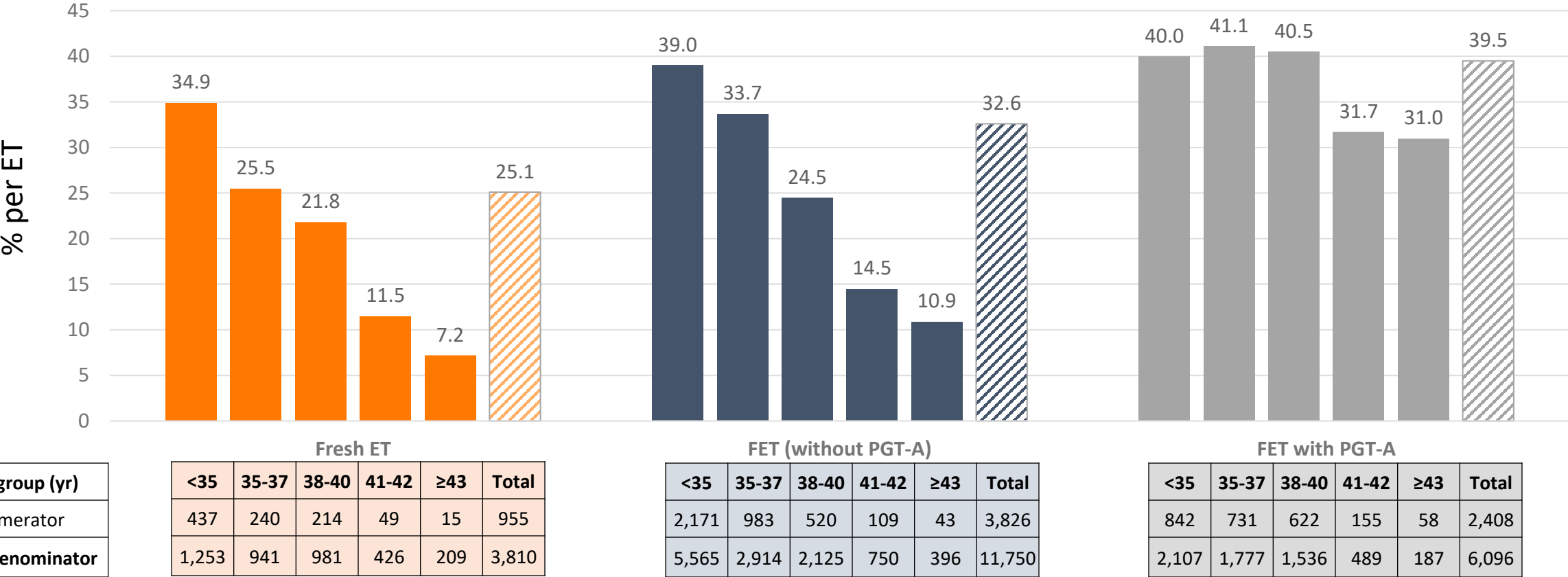
Own oocytes, 2024



Of all embryo transfers, 15.2% are fresh transfers, 52.8% are frozen transfers without PGT-A, and 32.0% are frozen transfers with PGT-A

Live Birth Rate per ET

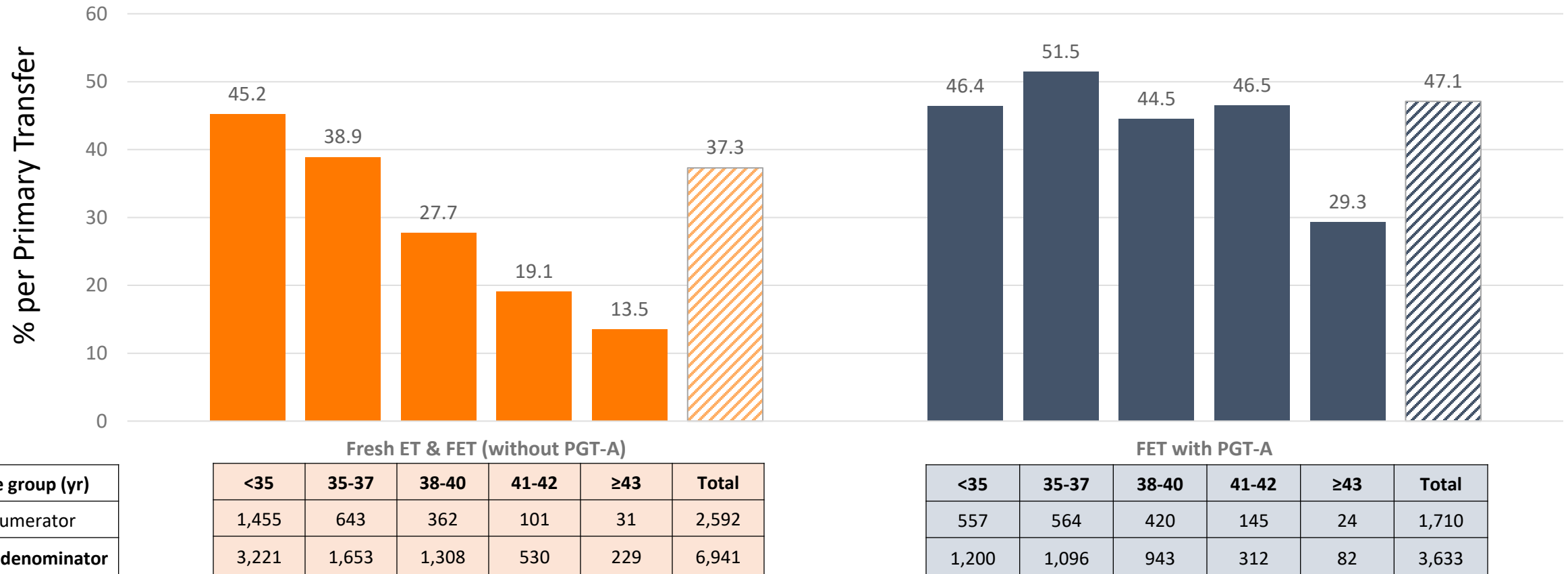
Own oocytes, 2023



Live birth: one or more live births at any gestational age. Birth outcome data are available for cycles started in 2023.
FETs with an ambiguous PGT-A result were excluded.

Ongoing Pregnancy Rate per Primary Transfer

Own oocytes, 2024



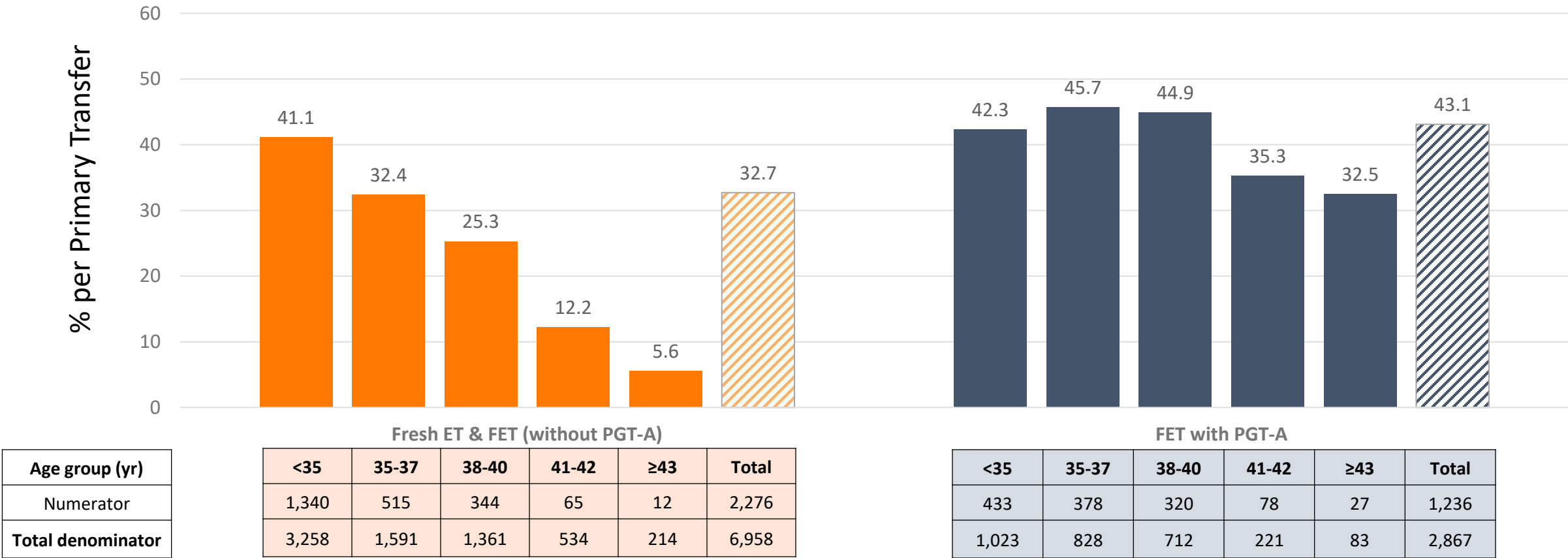
Ongoing pregnancy: pregnancy with ≥ 1 fetal heartbeat on ultrasound.

Primary transfer: first embryo transfer, whether fresh or frozen, following an oocyte retrieval per person.

FETs with an ambiguous PGT-A result were excluded.

Live Birth Rate per Primary Transfer

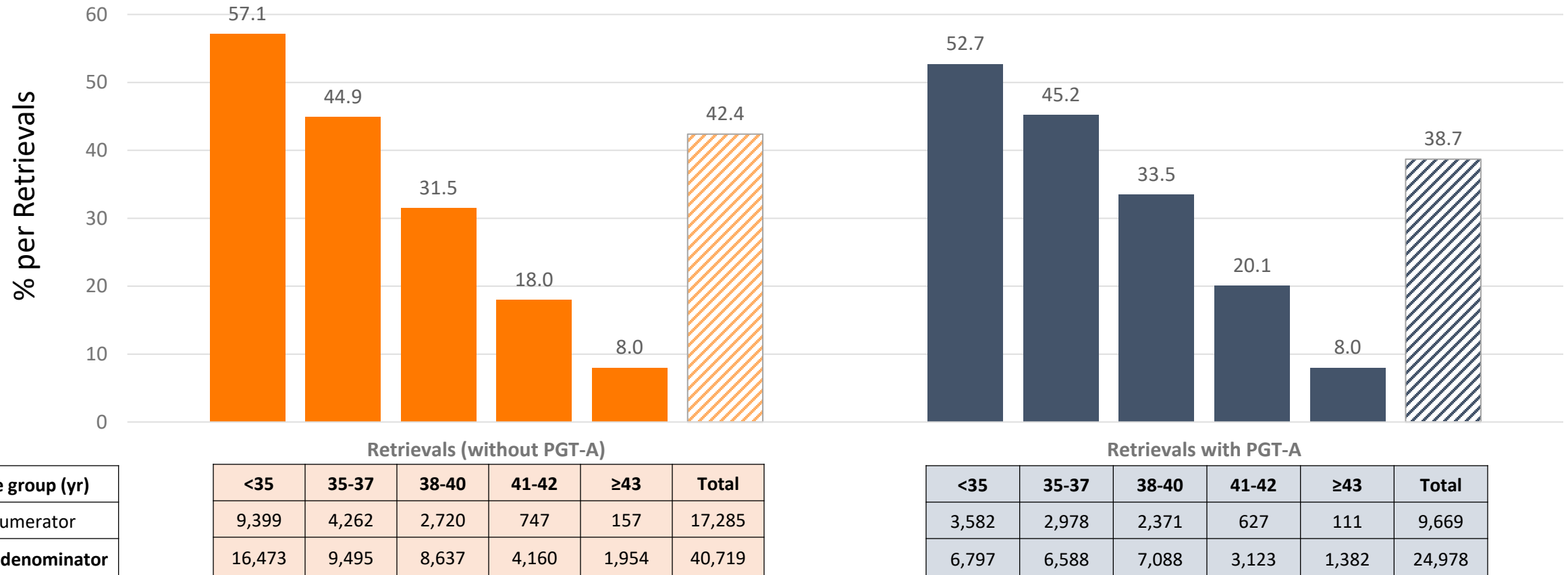
Own oocytes, 2023



Live birth: one or more live births at any gestational age. Birth outcome data are available for cycles started in 2023.
Primary transfer per person: first embryo transfer, whether fresh or frozen, following an oocyte retrieval per person.
FETs with an ambiguous PGT-A result were excluded.

Cumulative Ongoing Pregnancy Rate per Retrieval

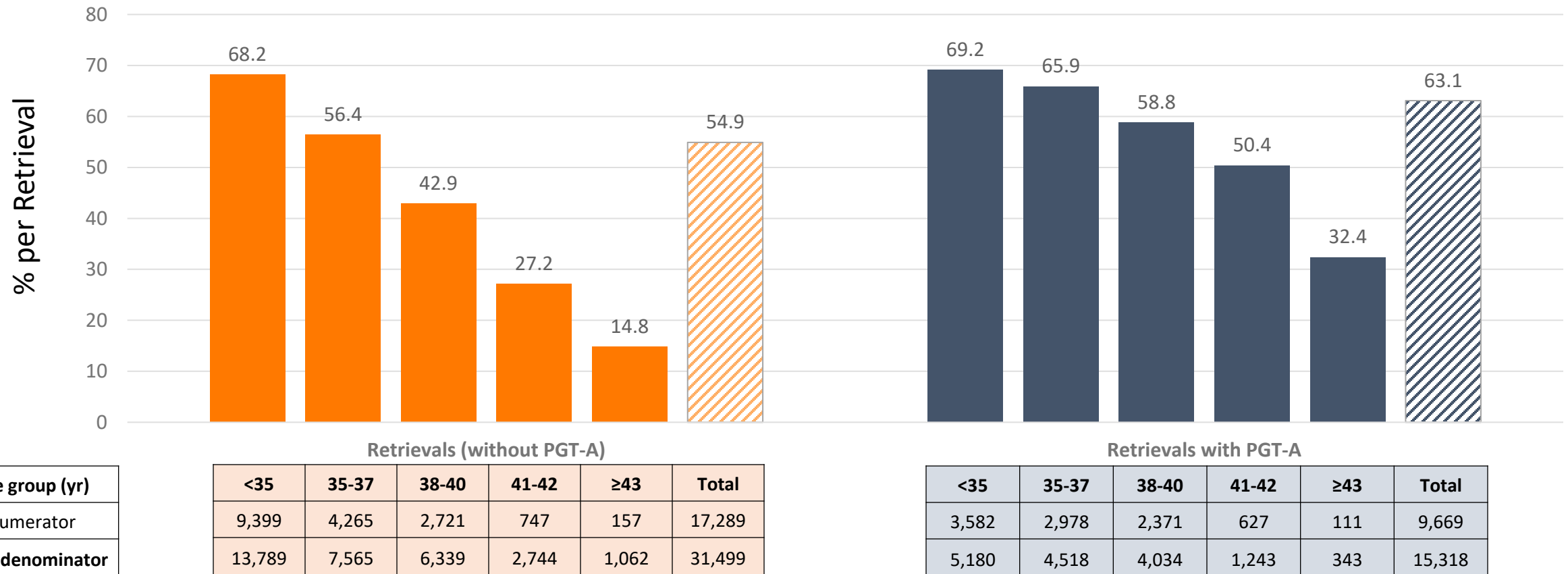
Retrievals with and without ET within 12 months, own oocytes, 2020-2023



Cumulative ongoing pregnancy rate – 12 month: Percent of oocyte retrievals resulting in at least one ongoing pregnancy within 12 month - with or without an ET. FETs with an ambiguous PGT-A result were excluded.

Cumulative Ongoing Pregnancy Rate per Retrieval

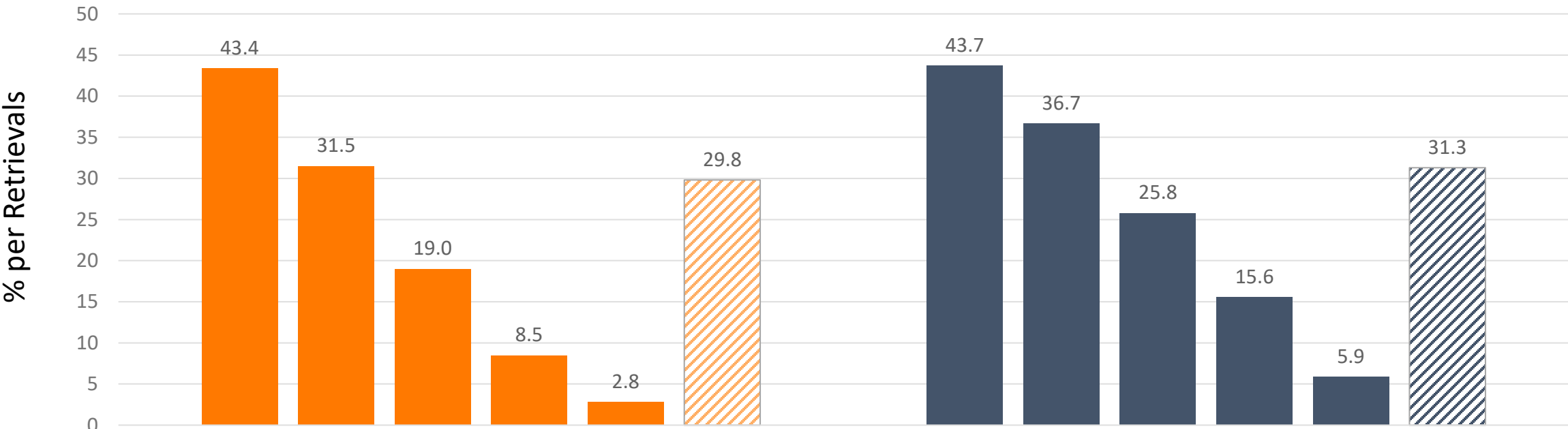
Retrievals with ≥ 1 ET within 12 months, own oocytes, 2020-2023



Cumulative ongoing pregnancy rate with ET - 12 months: Percent of oocyte retrievals resulting in at least one ongoing pregnancy within 12 month - with at least one ET.
FETs with an ambiguous PGT-A result were excluded.

Cumulative Live Birth Rate per Retrieval

Retrievals with and without ET within 12 months, own oocytes, 2020-2022



Retrievals (without PGT-A)

Age group (yr)	<35	35-37	38-40	41-42	43≥	Total
Numerator	5,322	2,295	1,251	274	42	9,184
Total denominator	12,261	7,280	6,590	3,221	1,509	30,861

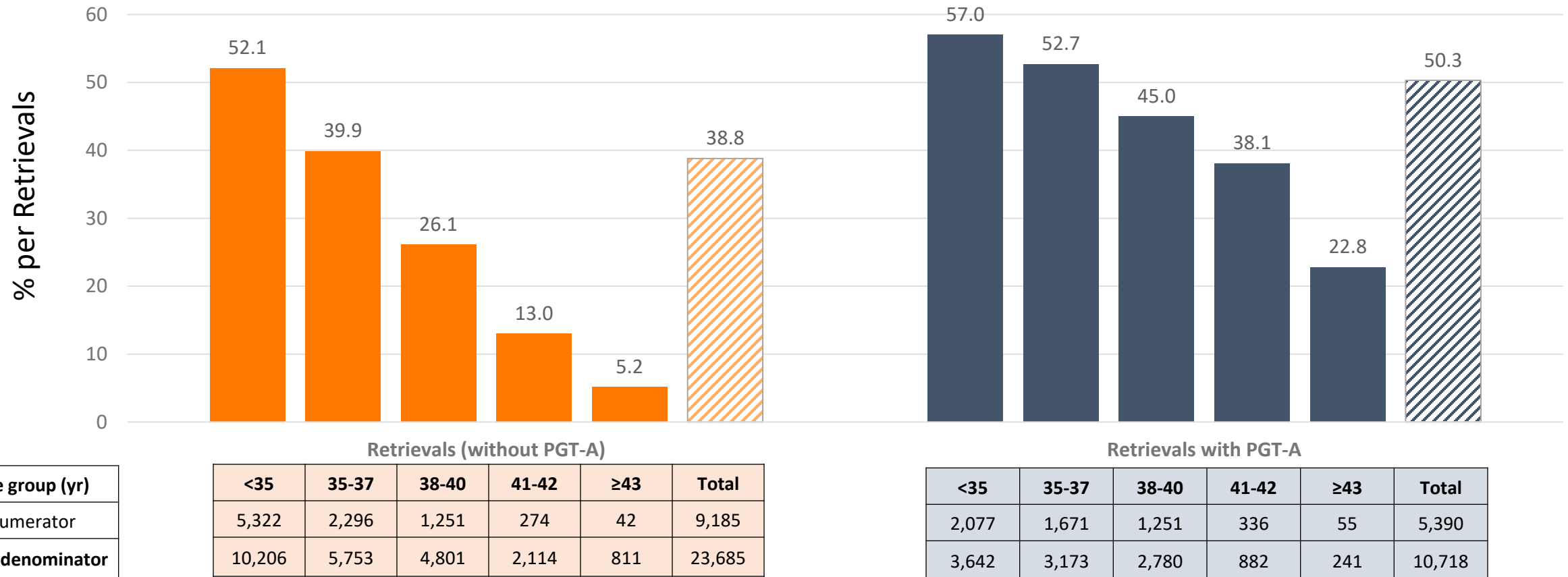
Retrievals with PGT-A

<35	35-37	38-40	41-42	43≥	Total
2,077	1,671	1,251	336	55	5,390
4,756	4,551	4,854	2,158	926	17,245

Cumulative live birth rate – 12 month: Percent of oocyte retrievals resulting in at least one live birth within 12 month - with or without an ET. FETs with an ambiguous PGT-A result were excluded.

Cumulative Live Birth Rate per Retrieval

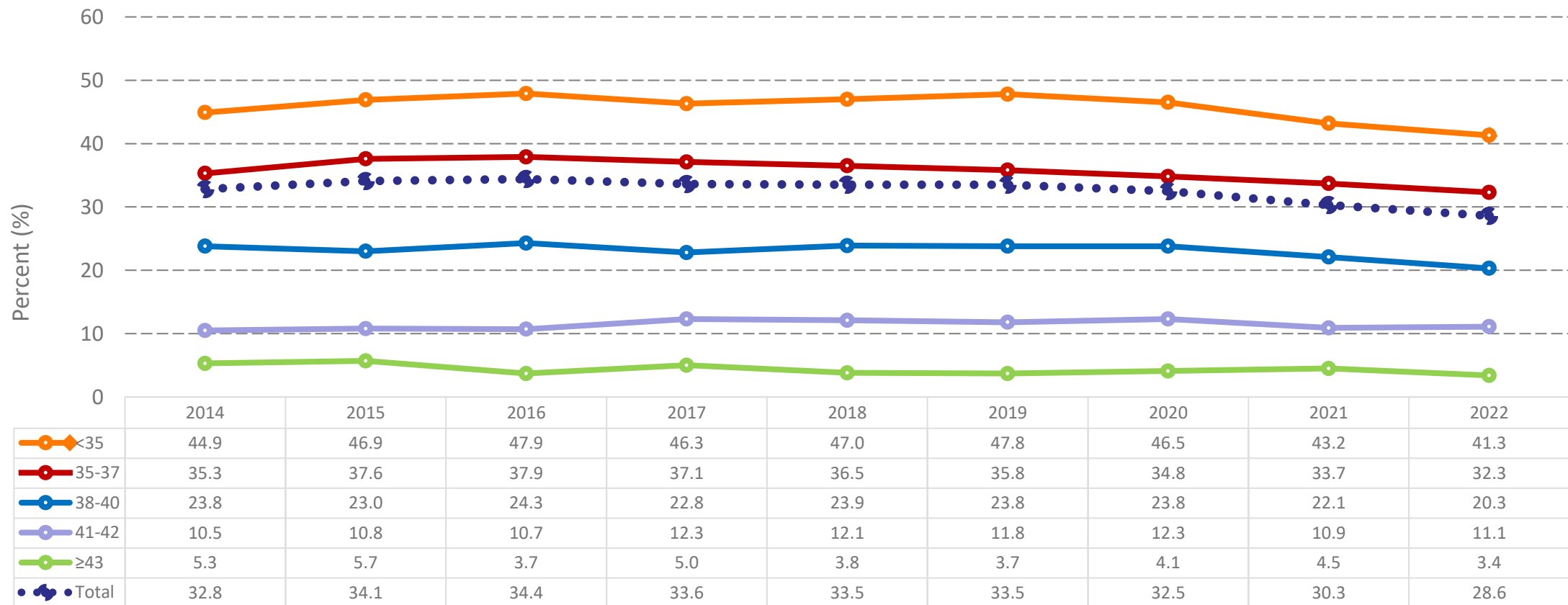
Retrievals with ≥ 1 ET within 12 months, own oocytes, 2020-2022



Cumulative live birth rate with ET - 12 months: Percent of oocyte retrievals resulting in at least one live birth within 12 month - with at least one ET.
FETs with an ambiguous PGT-A result were excluded.

Cumulative Live Birth Rate, by Year

Retrievals with and without ET within 12 months, own oocytes

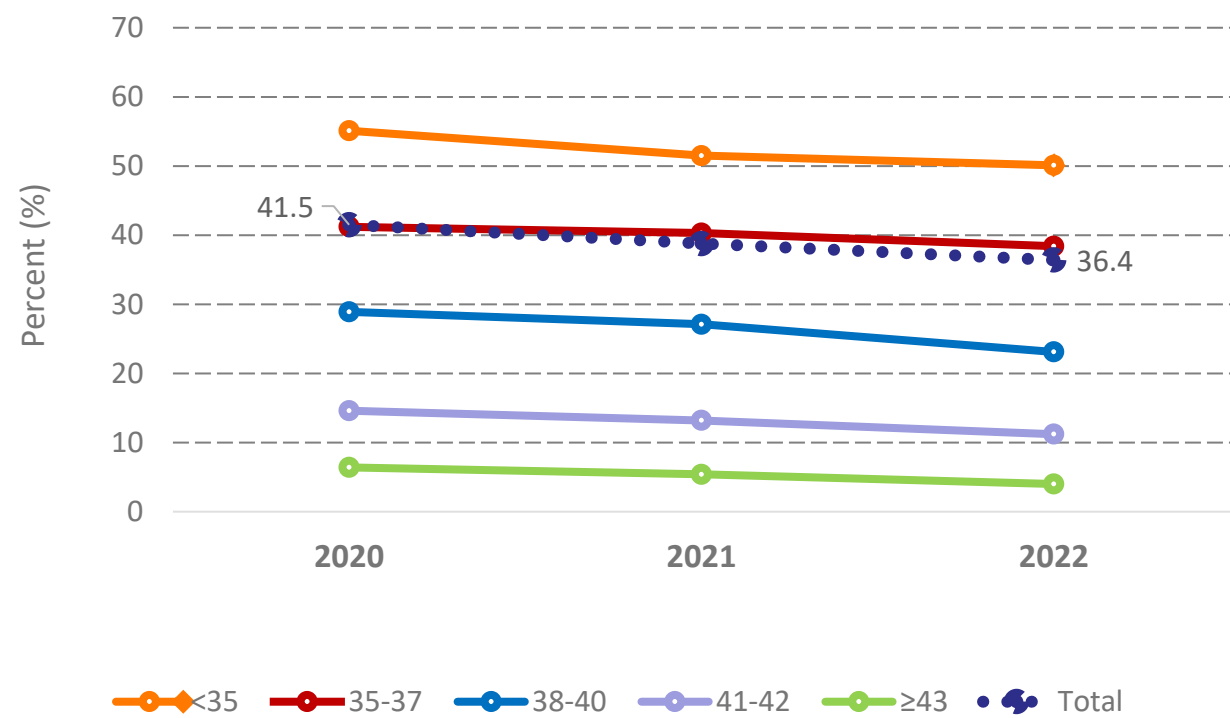


Cumulative live birth rate – 12 month: Percent of oocyte retrievals resulting in at least one live birth within 12 month - with or without an ET.
FETs with an ambiguous PGT-A result were excluded.

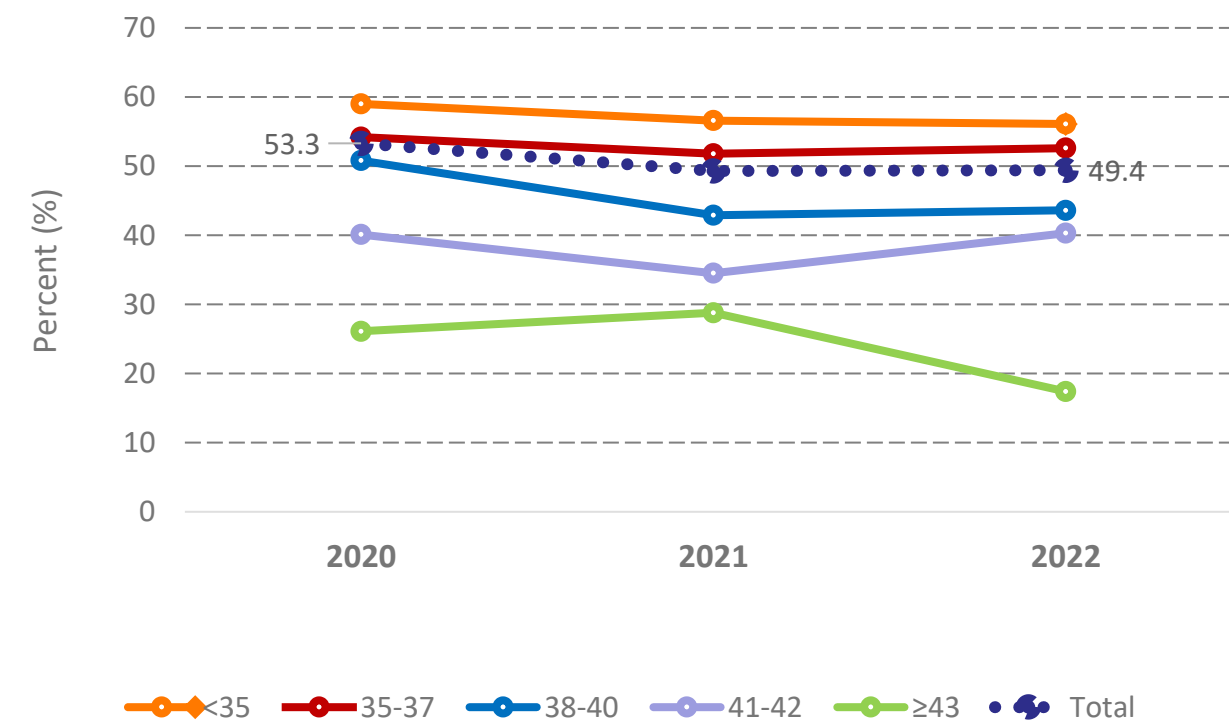
Cumulative Live Birth Rate per Retrieval, by Year

Retrievals with ≥ 1 ET within 12 months, own oocytes, 2020-2022

Retrievals (without PGT-A)



Retrievals with PGT-A

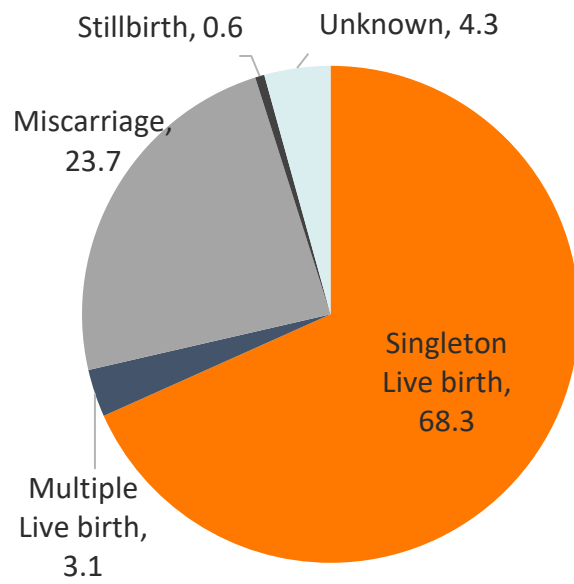


Cumulative live birth rate – 12 month: Percent of oocyte retrievals resulting in at least one live birth within 12 month - with an ET. FETs with an ambiguous PGT-A result were excluded.

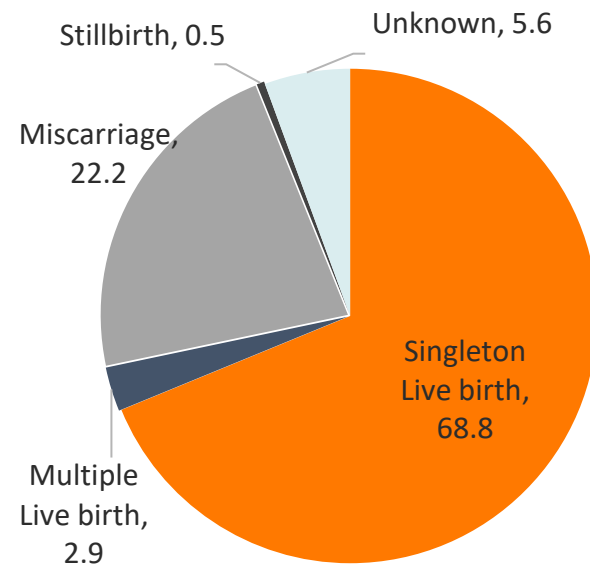
All Birth Outcomes Among Ongoing Pregnancies

Ongoing pregnancies, own oocytes, 2023

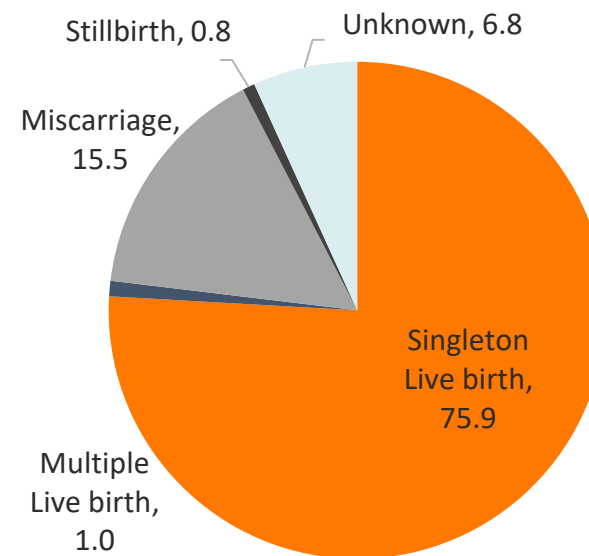
% per Ongoing Pregnancy



Fresh ET



FET (without PGT-A)



FET with PGT-A

Outcome
Numerator
Total denominator

Singleton live birth	Multiple live birth	Miscarriage	Still birth	Unknown
914	41	317	8	58
1,338	1,338	1,338	1,338	1,338

Singleton live birth	Multiple live birth	Miscarriage	Still birth	Unknown
3,672	154	1,184	26	300
5,336	5,336	5,336	5,336	5,336

Singleton live birth	Multiple live birth	Miscarriage	Still birth	Unknown
2,376	32	484	26	212
3,130	3,130	3,130	3,130	3,130

Singleton birth: one live birth at any gestational age; Multiple live birth: At least one live birth from a multiple pregnancy;
 Stillbirth: no fetus(es) was born alive and fetal loss occurred at ≥ 20 weeks' gestation; Miscarriage: fetal loss occurred at < 20 weeks' gestation.
 FETs with an ambiguous PGT-A result were excluded. Birth outcome data are available for cycles started in 2023.

CHOOSING WISELY



Choosing Wisely Canada

Choosing Wisely Canada is a clinician-led campaign that was founded in 2014 in partnership with the Canadian Medical Association, Health Canada, and the provincial and territorial Ministries of Health. Choosing Wisely Canada works with national clinical societies to identify frequently overused tests and treatments that do not add value to patient care.

The CFAS established the Choosing Wisely National Working Group, consisting of 11 clinicians to develop recommendations for fertility and andrology. The Working Group reviewed evidence, assessed clinical relevance, and selected 9 recommendations based on factors such as prevalence, cost, potential harm, and impact on clinical practice. The CFAS Board of Directors feedback was incorporated into the recommendations and approved by the Board in 2024.

<https://choosingwiselycanada.org/recommendation/fertility-and-andrology/>



The 9 recommendations are:

1. Don't routinely perform PGT-A screening on patients undergoing IVF,
2. Don't prescribe gonadotropins in doses of >450 IU daily for controlled ovarian stimulation in IVF,
3. Don't routinely perform assisted hatching on fresh embryos prior to transfer,
4. Don't prescribe lymphocyte immunization therapy,
5. Don't routinely perform sperm DNA fragmentation testing,
6. Don't routinely perform hysteroscopy prior to IVF in women with a normal transvaginal ultrasound,
7. Don't perform endometrial receptivity testing,
8. Don't do repetitive hormone tests and ultrasounds in the work up of infertility,
9. Don't conduct in-person visits if a virtual visit is feasible, clinically appropriate and preferred by the patient.

CARTR Plus has data on recommendations 1,2,3 and 7.

Choosing Wisely Canada is a clinician-led campaign in partnership with the Canadian Medical Association, Health Canada, and the provincial and territorial Ministries of Health.

The goal is to identify frequently overused tests and treatments that do not add value to patient care.

CFAS released the most recent guidelines for fertility and andrology in 2024.

Choosing Wisely Recommendations



DON'T ROUTINELY PERFORM PGT-A SCREENING

On patients undergoing IVF.



DON'T PRESCRIBE GONADOTROPINS IN DOSES >450 IU DAILY

For controlled ovarian stimulation.



DON'T ROUTINELY PERFORM ASSISTED HATCHING

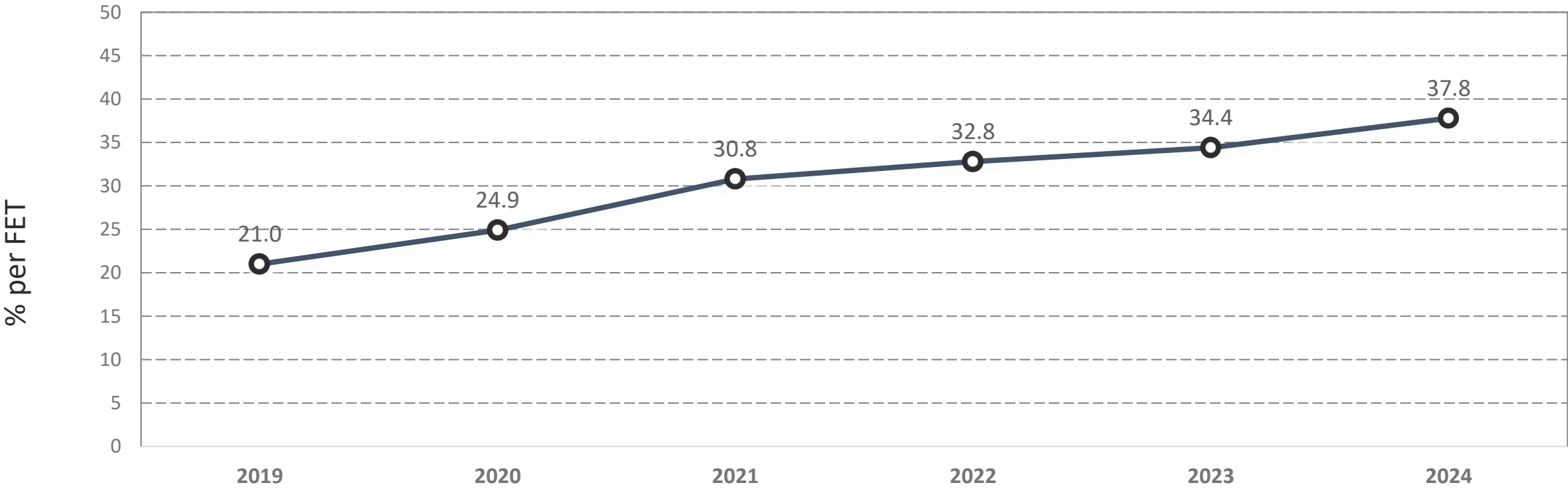
On fresh embryos prior to transfer.



DON'T PERFORM ENDOMETRIAL RECEPTIVITY TESTING

Percent of FETs with PGT-A, by Year

FET, own oocytes, 2019-2024

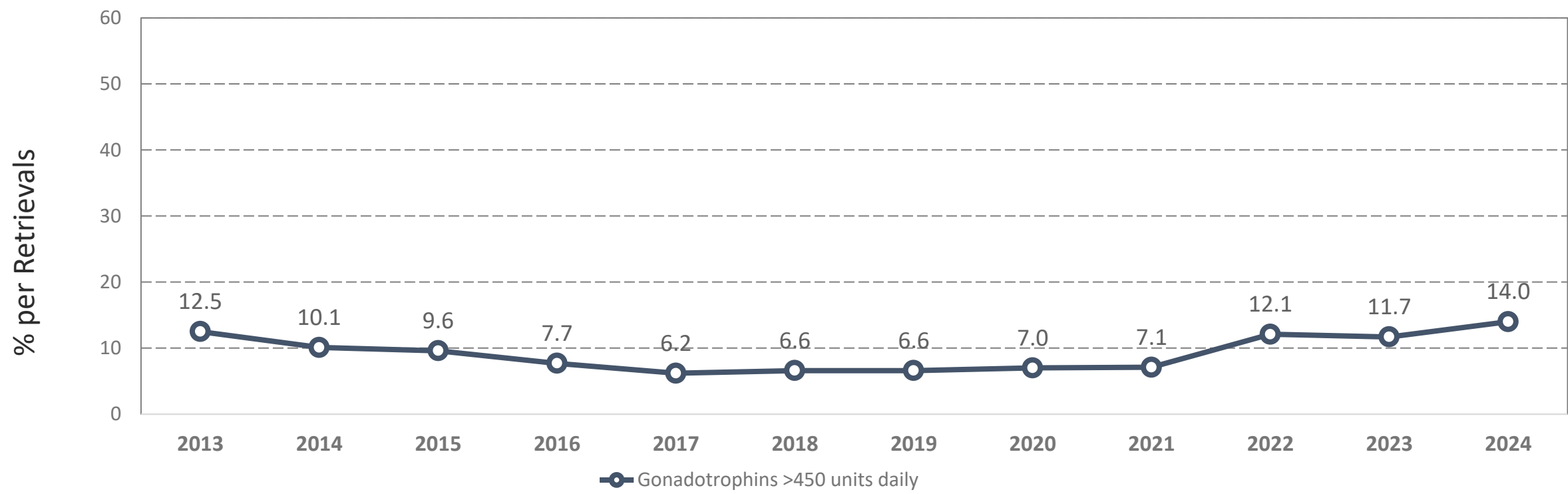


Numerator	2,843	3,105	5,059	5,692	6,308	7,461
Denominator	13,509	12,487	16,407	17,365	18,358	19,749

FETs with an ambiguous PGT-A result were excluded.

Gonadotropins Greater Than 450 IU Daily, by Year

Retrievals, own oocytes, 2013-2024

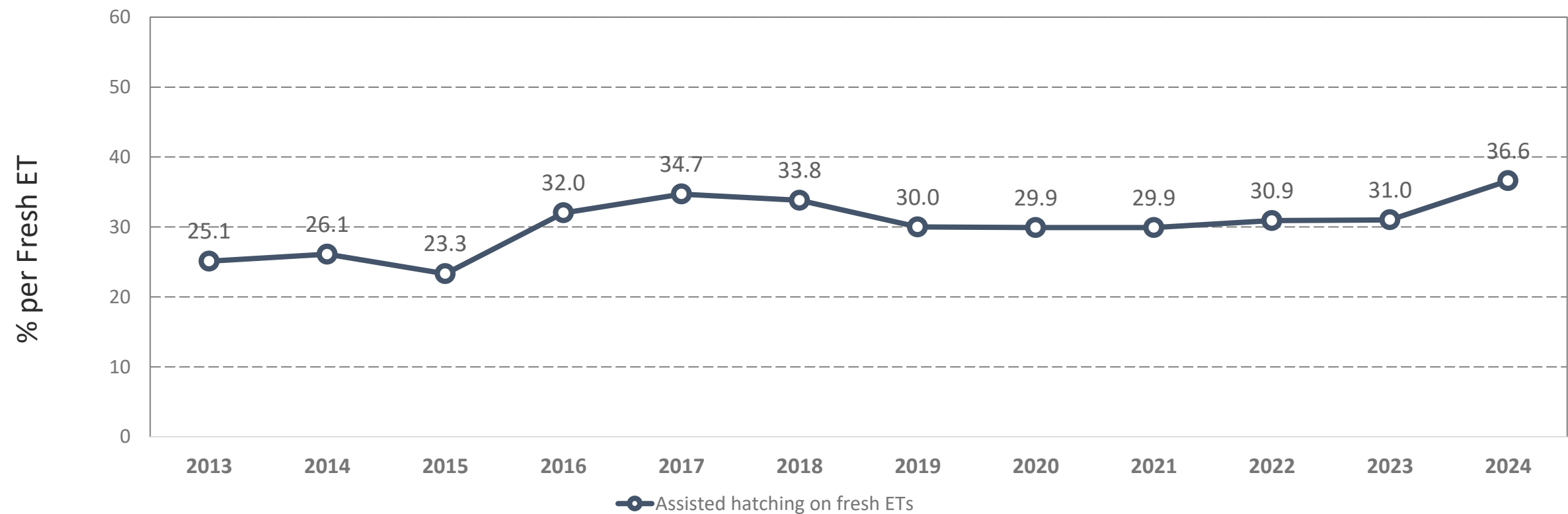


Numerator	2,029	1,630	1,499	1,133	944	997	931	913	1,148	2,023	1,968	2,541
Denominator	16,294	16,129	15,595	14,777	15,212	15,205	14,044	13,098	16,255	16,661	16,802	18,135

Gonadotropin calculation: Total dose of FSH (follicle stimulating hormone) measured in IU (12 mcg Rekovelle = 200 IU FSH).

Percent of Assisted Hatching on Fresh ETs, by Year

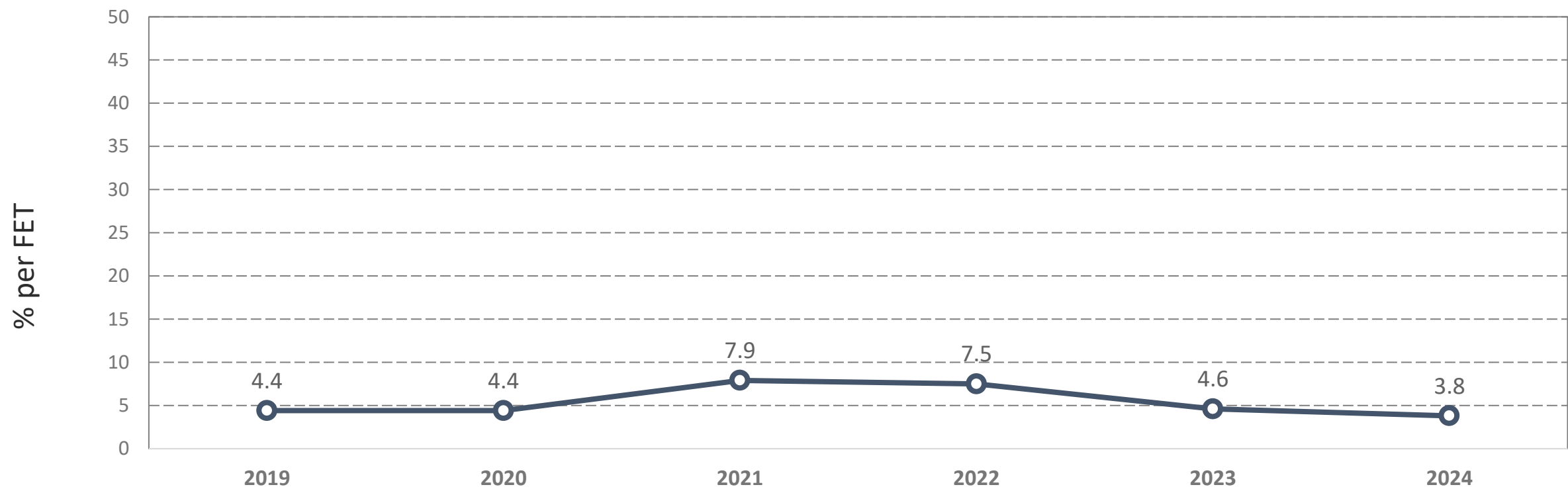
Fresh ETs, own oocytes, 2013-2024



Numerator	3,161	2,918	2,296	2,621	2,493	2,239	1,803	1,245	1,421	1,527	1,199	1,294
Denominator	12,579	11,168	9,834	8,197	7,179	6,622	6,006	4,168	4,747	4,944	3,868	3,537

Endometrial Receptivity Assay (ERA) Testing, by Year

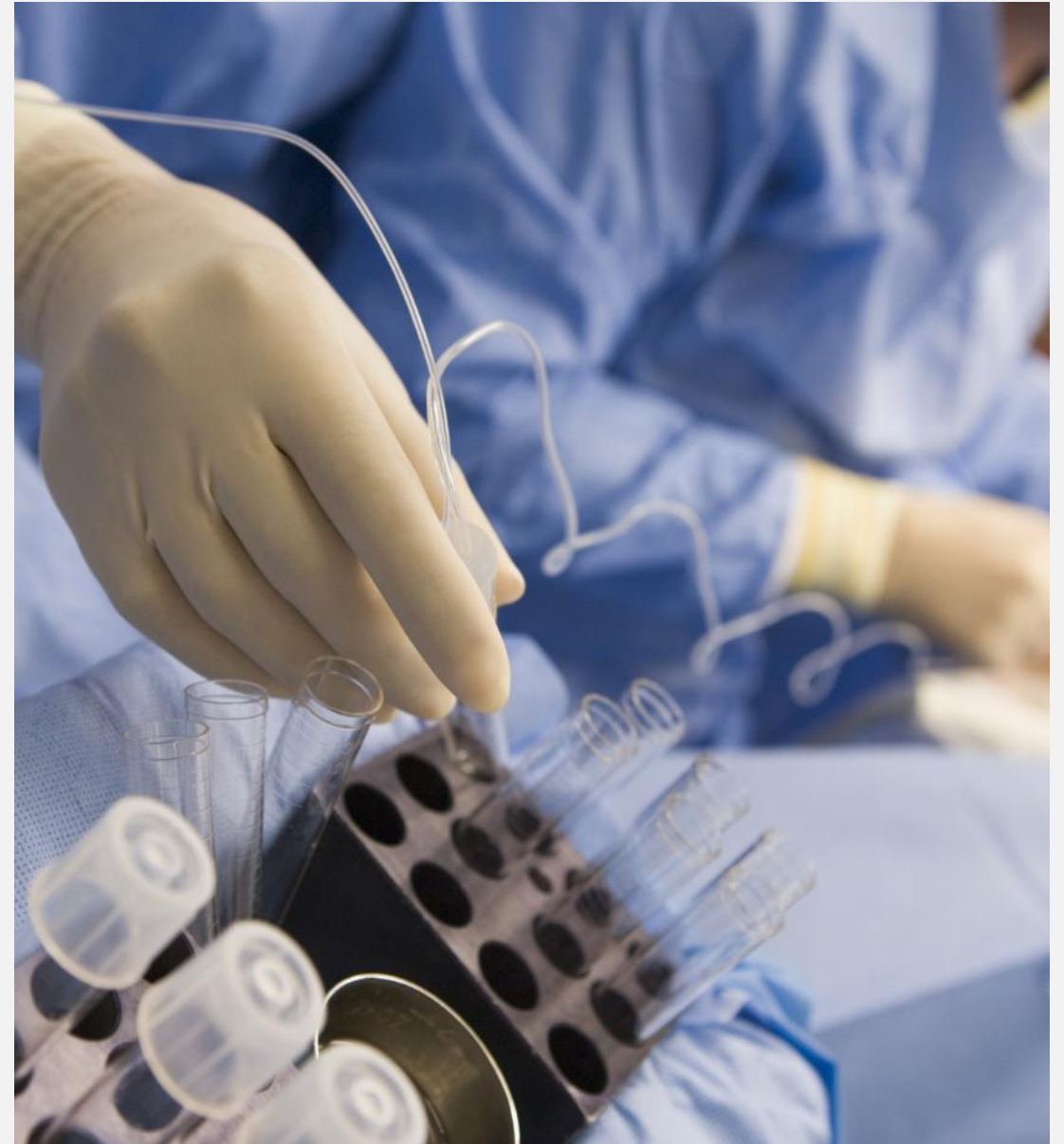
FET, own oocytes, 2019-2024



Numerator	665	603	1,417	1,421	947	804
Denominator	15,180	13,800	17,873	19,055	20,533	20,959

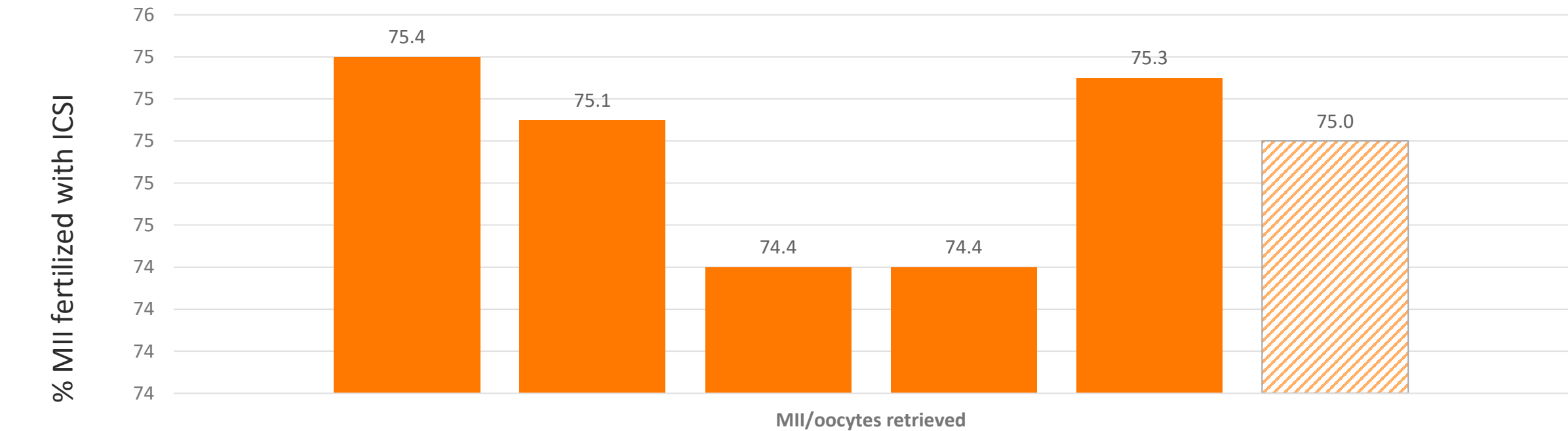
RETRIEVAL METRICS & LAB KPIs

Own oocytes



Maturity Rate

Own oocytes, 2024, ICSI

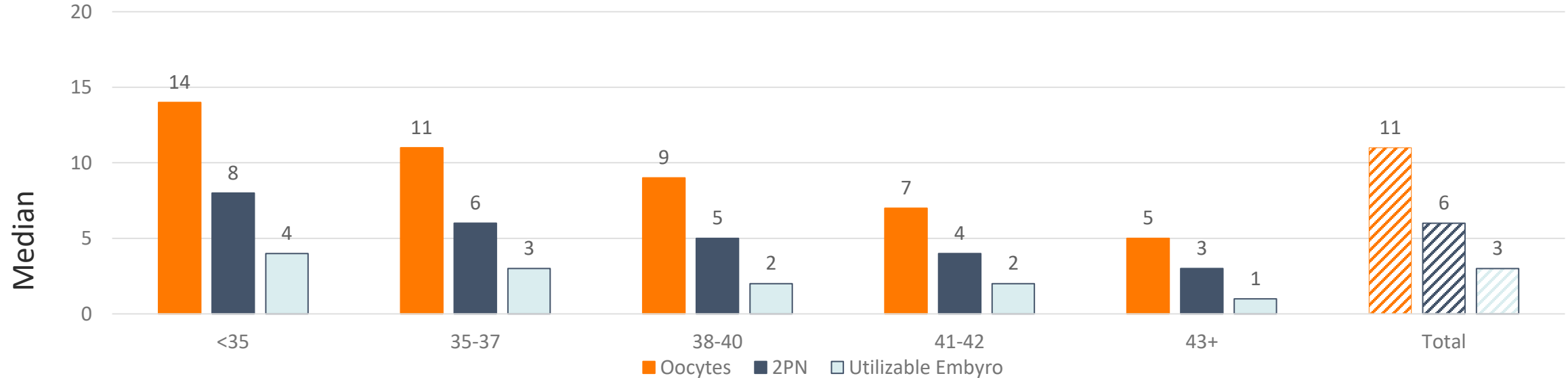


Age group (yr)	<35	35-37	38-40	41-42	≥43	Total
Numerator	62,801	36,071	27,724	10,190	4,318	141,104
Total denominator	83,333	48,048	37,287	13,704	5,732	188,104

MII: mature oocyte that is in the Metaphase II (MII) stage of meiosis.
 Maturity rate: MII/oocytes retrieved.
 ICSI: Intracytoplasmic Sperm Injection (ICSI) where a single sperm is directly injected into the cytoplasm of a mature egg (MII oocyte) to achieve fertilization.

Oocytes, 2PN, Utilizable Embryo

Per retrievals, own oocytes, 2024

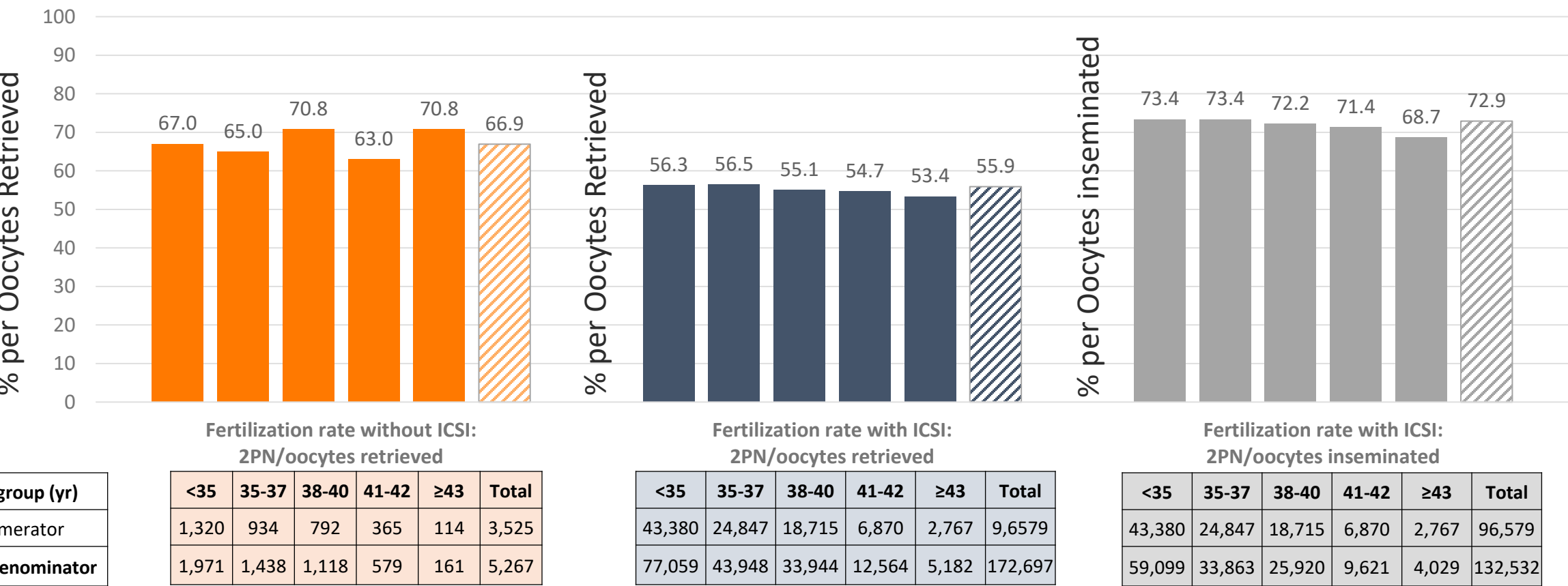


Age group	<35			35-37			38-40			41-42			≥43			Total		
	Oocyte	2PN	Utilizable Embryo	Oocyte	2PN	Utilizable Embryo	Oocyte	2PN	Utilizable Embryo	Oocyte	2PN	Utilizable Embryo	Oocyte	2PN	Utilizable Embryo	Oocyte	2PN	Utilizable Embryo
Mean	16.1	9.0	5.1	12.9	7.2	4.1	10.5	5.8	3.0	8.4	4.7	2.3	7.1	4.0	1.7	12.7	7.1	3.9
Median	14	8	4	11	6	3	9	5	2	7	4	2	5	3	1	11	6	3
IQR	9-21	4-12	2-7	7-17	3-10	1-6	5-14	2-8	1-4	4-12	2-7	1-3	3-9	1-5	0-2	6-17	3-10	1-5

2PN: two-pronuclear (2PN) stage of embryo development; Utilizable embryo rate: embryos cryopreserved or transferred/2PN.
Mean: The average, calculated by dividing the sum of all values by the number of values.
Median: The center number in a sorted list of values. Half the numbers are smaller than the median and half are larger.
Interquartile Range (IQR): The difference between the first quartile (Q1) and the third quartile (Q3), representing the middle 50% of the data.

Fertilization Rate

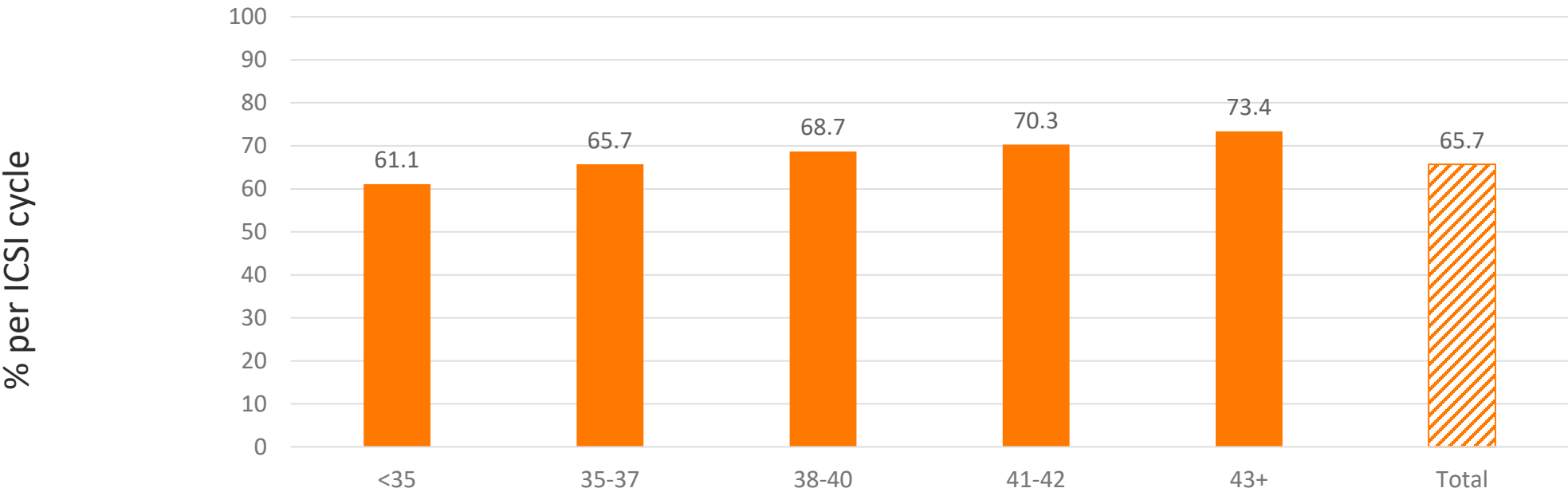
Own oocytes, 2024



2PN: two-pronuclear (2PN) stage of embryo development.
Fertilization rate: 2PN/MII; 2PN/oocytes retrieved.
ICSI: Intracytoplasmic Sperm Injection (ICSI) where a single sperm is directly injected into the cytoplasm of a mature egg (MII oocyte) to achieve fertilization.
Limited to validated data, defined as the number of MIIs ≥ inseminated oocytes, and inseminated oocytes ≥ 2PN. Cycles that used both ICSI and non-ICSI fertilization were excluded

Use of ICSI Without Male Factor Infertility

ICSI cycles, own oocytes, 2024



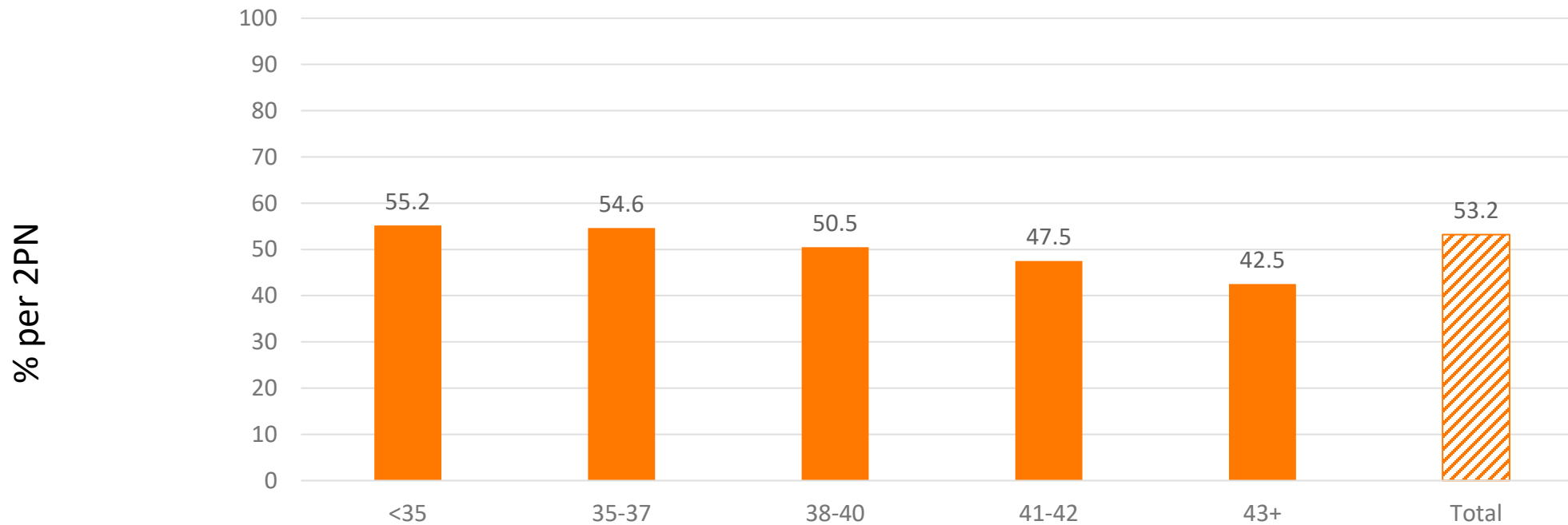
Age group (yr)
Numerator
Total denominator

<35	35-37	38-40	41-42	≥43	Total
3,415	2,609	2,545	1,188	578	10,335
5,586	3,973	3,704	1,691	787	15,741

ICSI: Intracytoplasmic Sperm Injection (ICSI) where a single sperm is directly injected into the cytoplasm of a mature egg (MII oocyte) to achieve fertilization.

Utilizable Embryo Rate

Own oocytes, 2024



Age group (yr)
Numerator
Total denominator

<35	35-37	38-40	41-42	≥43	Total
31,322	17,459	12,169	4,297	1,456	66,703
56,753	31,949	24,112	9,049	3,428	125,291

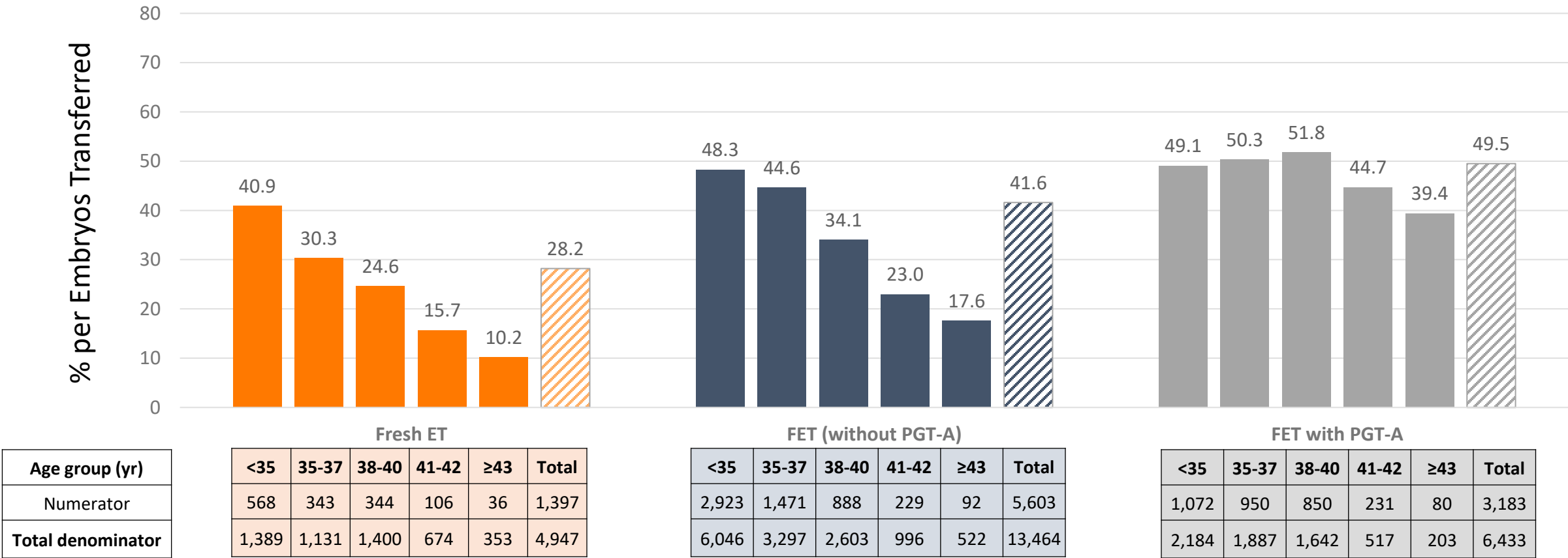
Utilizable embryo rate: embryos cryopreserved or transferred/2PN.

Limited to validated data, defined as the number of 2PN ≥ utilizable embryos.

ICSI: Intracytoplasmic Sperm Injection (ICSI) where a single sperm is directly injected into the cytoplasm of a mature egg (MII oocyte) to achieve fertilization.

Implantation Rate

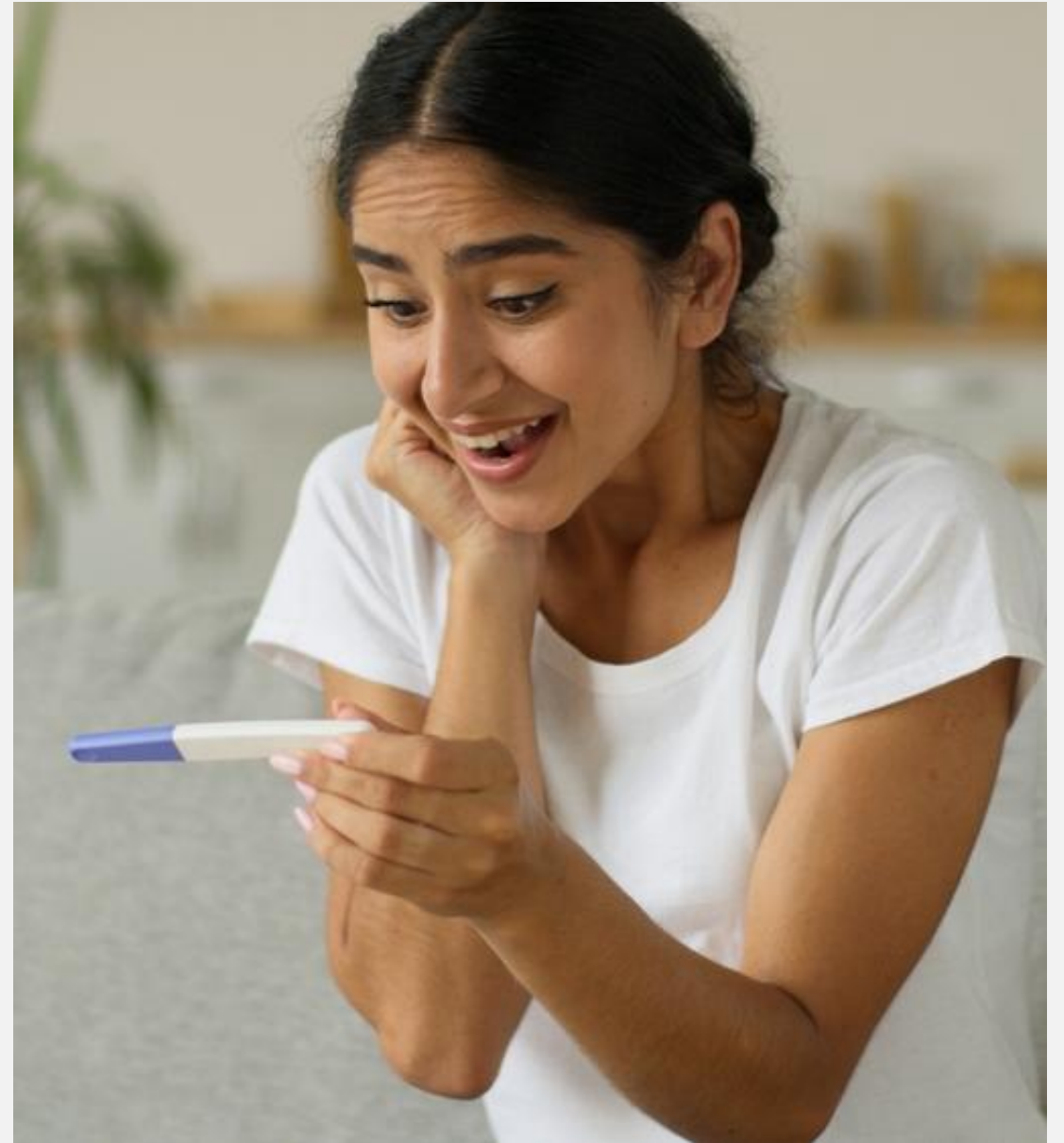
Own oocytes, 2024



Implantation rate: gestational sacs observed on ultrasound/number of embryos transferred.
FETs with an ambiguous PGT-A result were excluded.

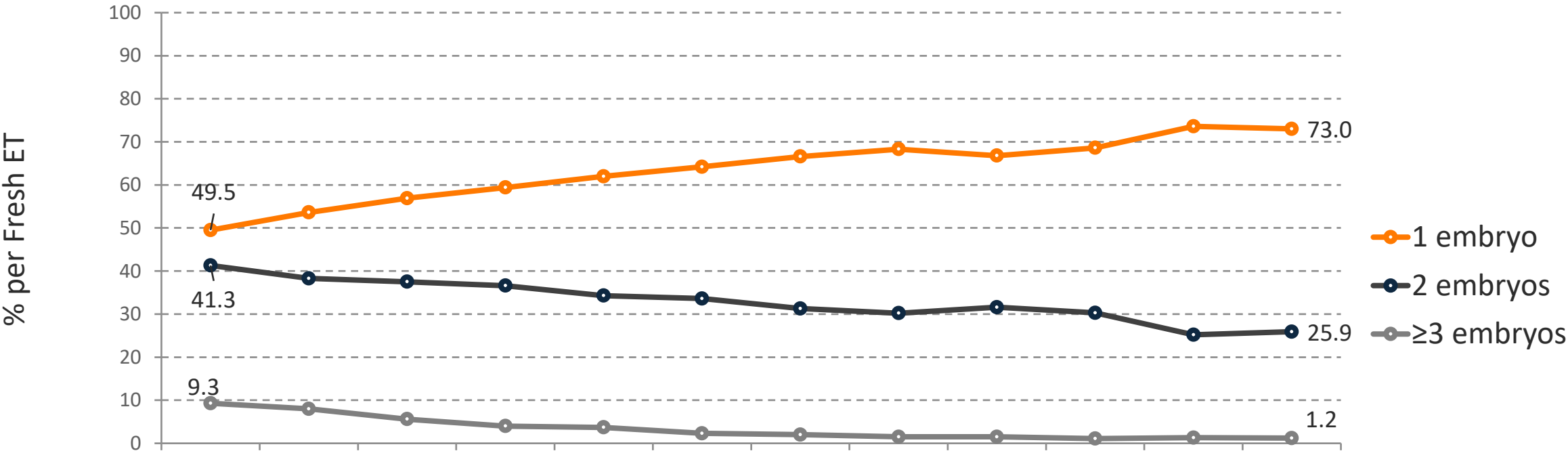
EMBRYO TRANSFER METRICS

Own oocytes



Number of Embryos Transferred in Fresh ET Cycles

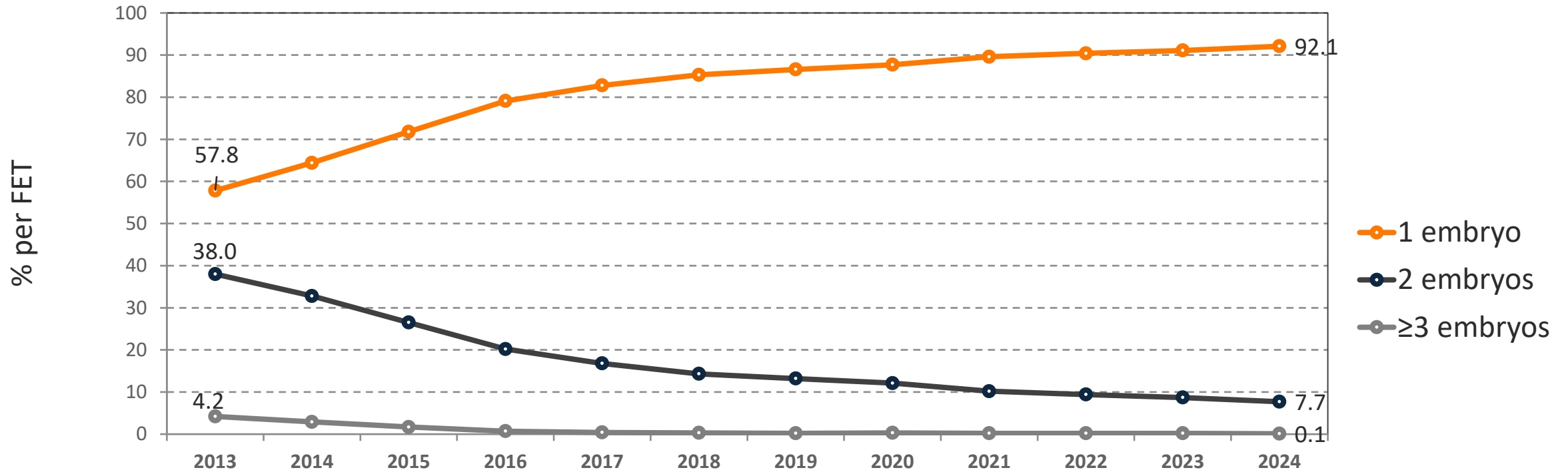
Fresh ETs, own oocytes, 2013 – 2024



	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
1 embryo	6,222	5,987	5,598	4,865	4,452	4,249	4,001	2,848	3,173	3,394	2,846	2,581
2 embryos	5,189	4,282	3,687	3,002	2,461	2,223	1,882	1,258	1,501	1,498	973	915
3 embryos	1,168	899	549	330	266	150	121	62	73	52	49	41
Total	12,579	11,168	9,834	8,197	7,179	6,622	6,004	4,168	4,747	4,944	3,868	3,537

Number of Embryos Transferred in FET Cycles

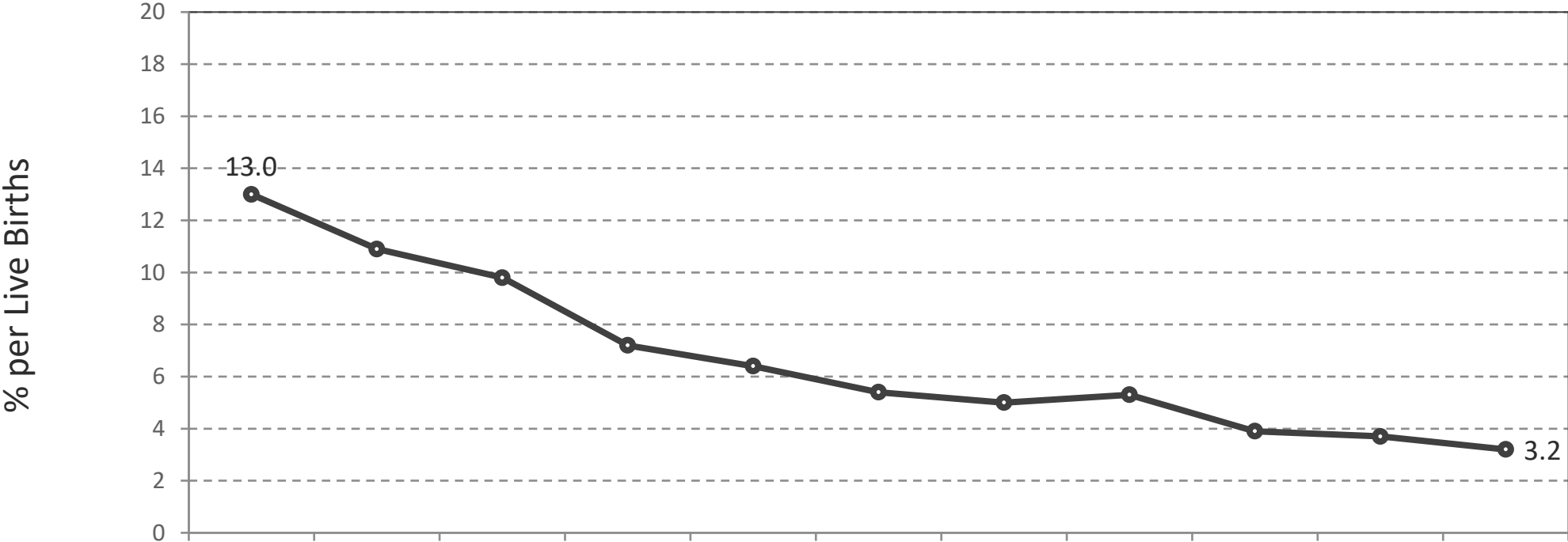
FETs, own oocytes, 2013 – 2024



	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
1 embryo	4,622	5,757	6,969	9,466	11,361	12,766	13,135	12,101	16,022	17,225	18,712	19,312
2 embryos	3,039	2,930	2,573	2,415	2,303	2,147	2,008	1,664	1,816	1,796	1,786	1,616
3 embryos	337	256	161	85	51	51	33	35	35	34	35	31
Total	7,998	8,943	9,703	11,966	13,715	14,964	15,176	13,800	17,873	19,055	20,533	20,959

Proportion of Multiple Live Births

Live births, own oocytes, 2013 – 2023

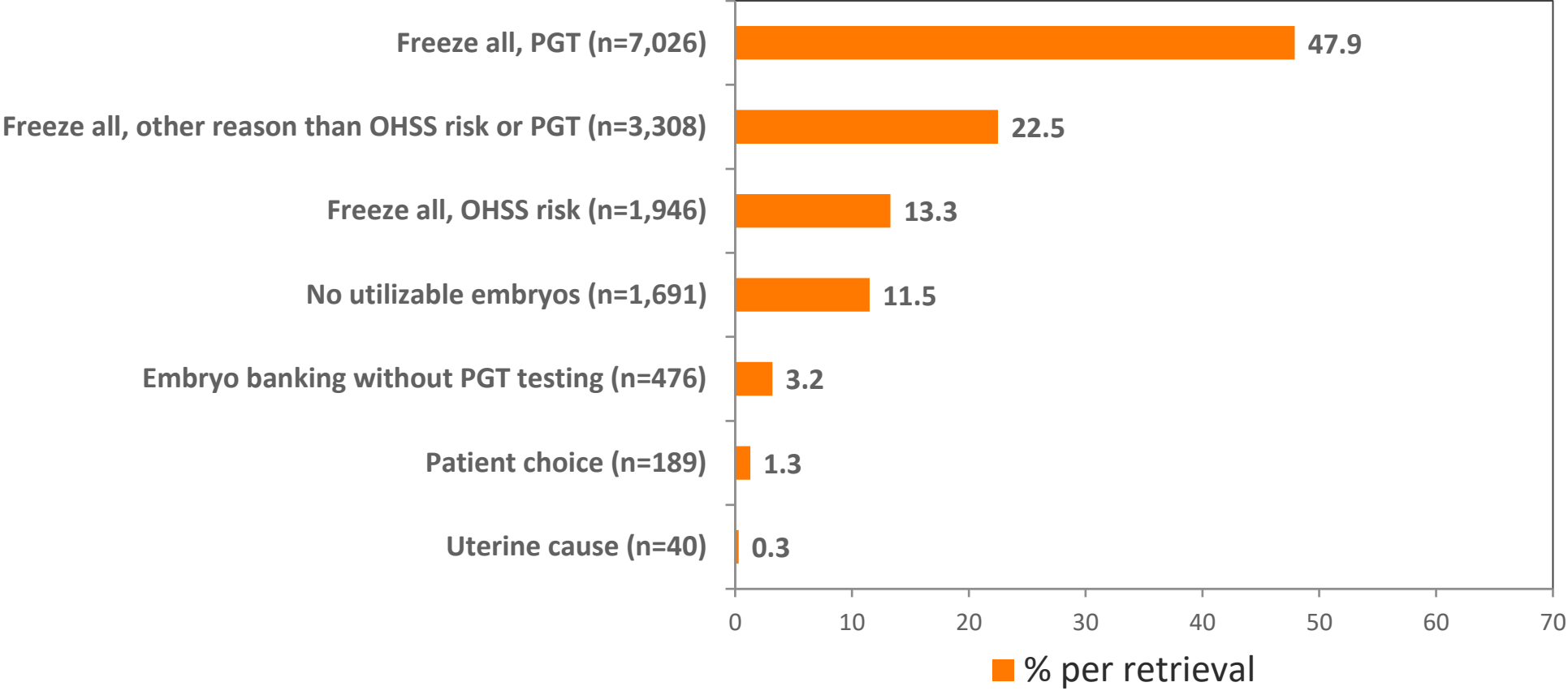


	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Singleton	1,724	2,164	2,471	3,246	3,877	4,360	4,436	4,307	5,054	5,466	6,784
Multiple	258	265	269	251	264	250	235	239	206	210	221
Total	1,982	2,429	2,740	3,497	4,141	4,610	4,671	4,546	5,260	5,676	7,005

Live birth: one or more live births at any gestational age.
Birth outcome data are available up to 2023.

Reason for No Fresh ET

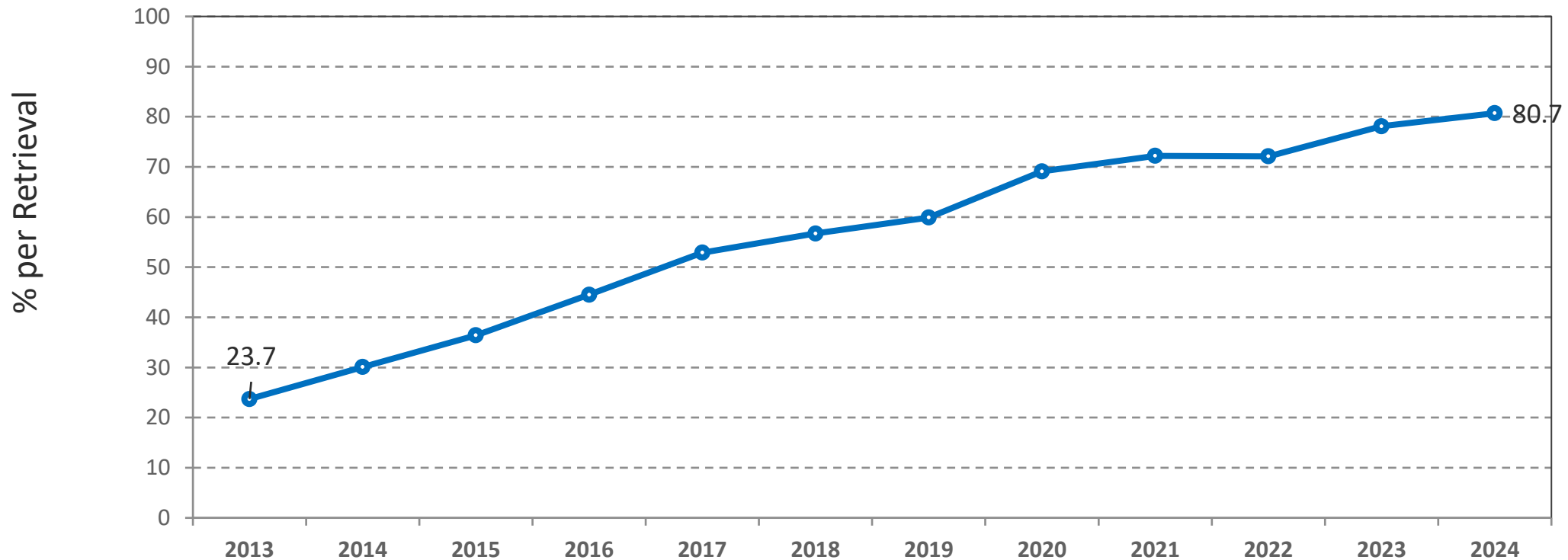
Retrievals, own oocytes, 2024



Categories are not mutually exclusive.

Retrievals Where All Embryos were Frozen (Freeze-Alls)

Retrievals, own oocytes, 2013 – 2024

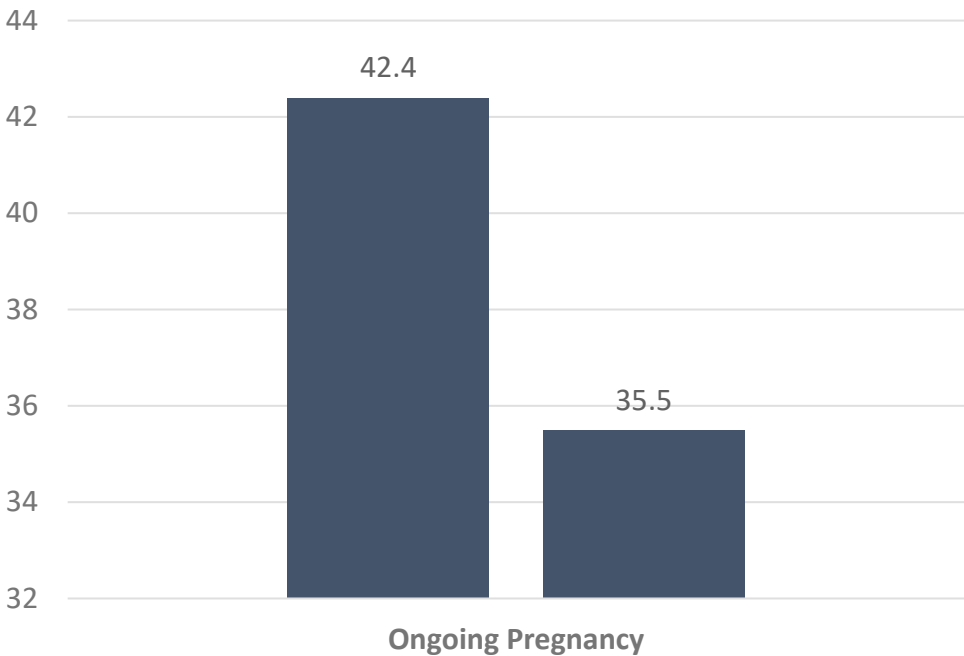
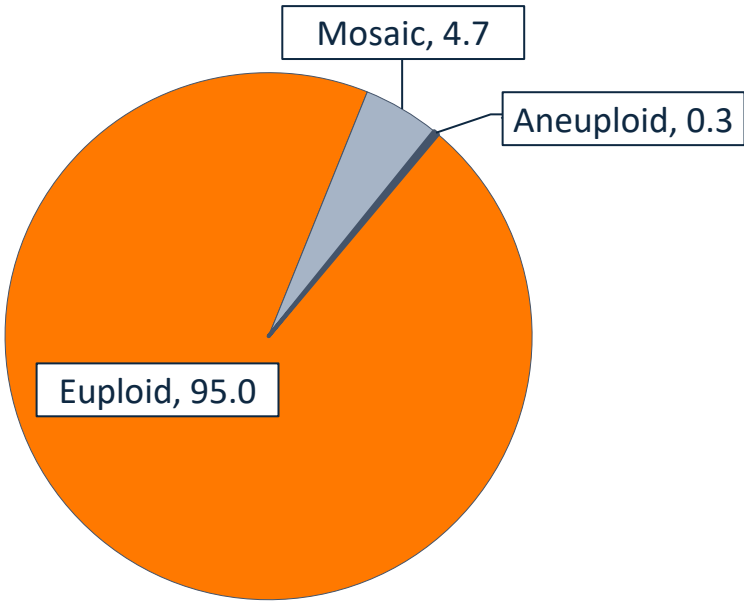


Freeze all	3,723	4,558	5,412	6,534	8,007	8,625	8,900	9,281	12,294	12,728	13,737	14,676
Retrievals	15,739	15,141	14,864	14,673	15,143	15,201	14,865	13,432	17,024	17,650	17,591	18,196

PGT-A Results for the Transferred Embryo

FET, own and donor oocytes, 2024

% FETs with PGT-A



Ploidy	Euploid	Mosaic	Aneuploid
Transferred embryos	8,270	411	24
Total denominator	8,705	8,705	8,705

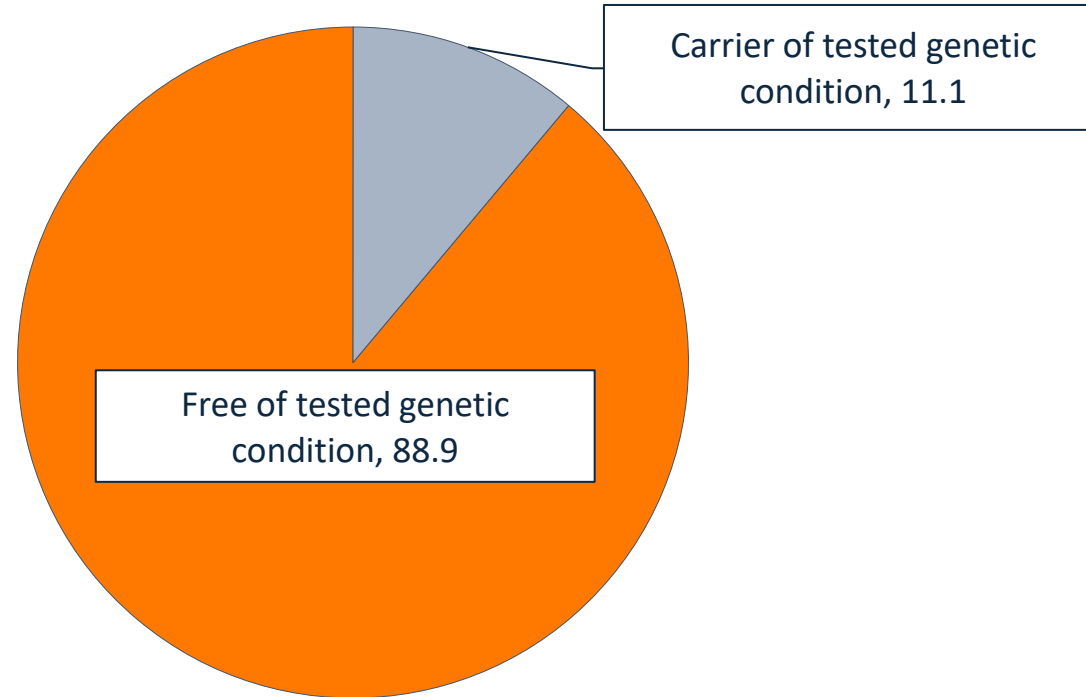
Ploidy	Euploid	Mosaic	Aneuploid
Ongoing pregnancy	3,504	146	<6
FET by ploidy	8,270	411	24

* A total of 9132 FET cycles were tested for PGT-A and/or PGT-M/SR. Of these cycles, 348 (3.8%) had an ambiguous result.

PGT-M/SR Genetic Status for the Transferred Embryo

FET, own and donor oocytes, 2020-2024

% FETs with PGT-M/SR



Genetic status
Transferred embryos
Total FET with PGT-M/SR testing

Free of genetic disease after testing	Carrier of genetic disease after testing
625	78
703	703

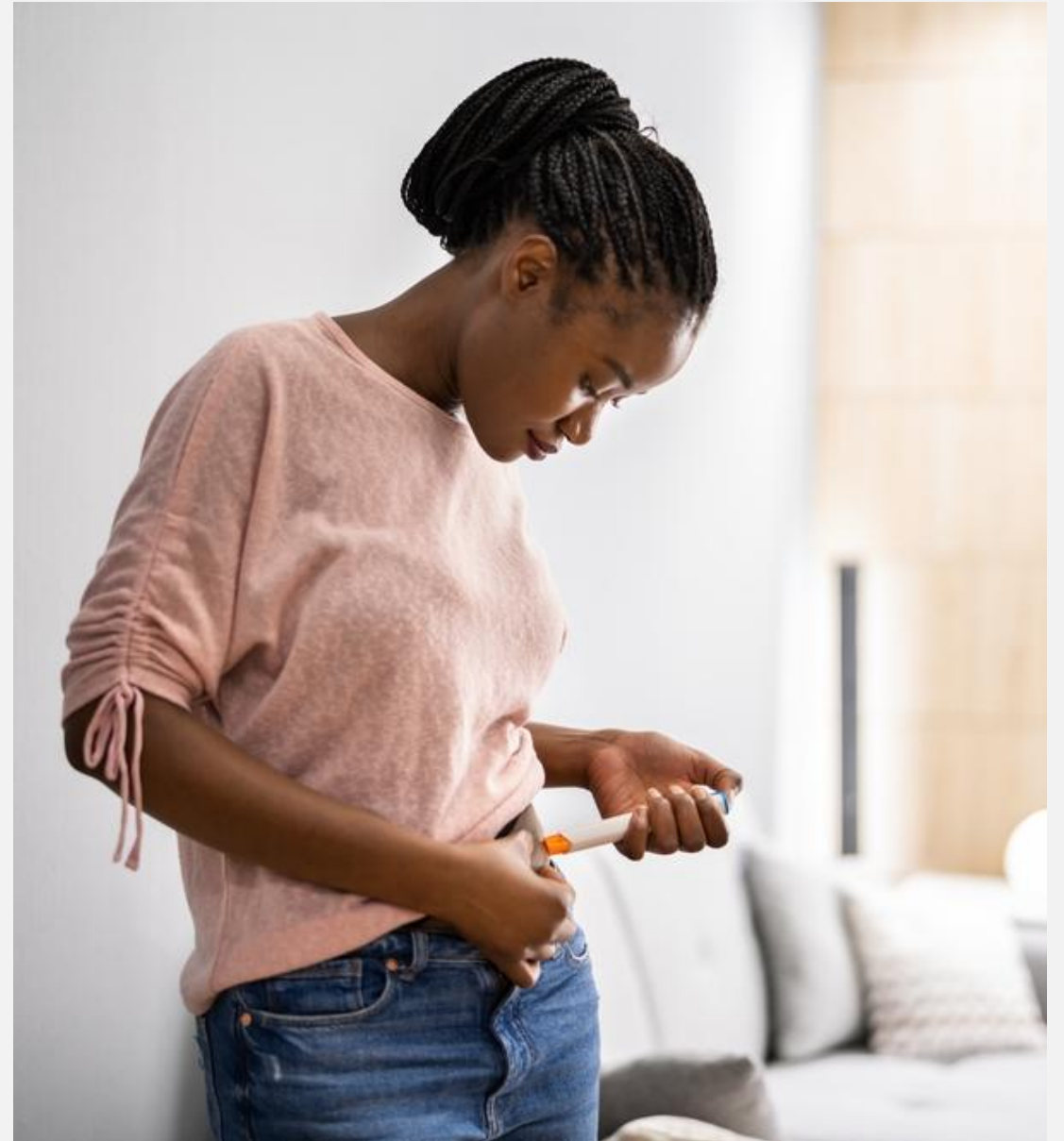
** A total of 9132 FET cycles were tested for PGT-A and/or PGT-M/SR. Of these cycles, 348 (3.8%) had an ambiguous result.*

PGT-M: Preimplantation Genetic Testing for Monogenic disorders.

PGT-SR: Preimplantation Genetic Testing for Chromosomal Structural Rearrangement.

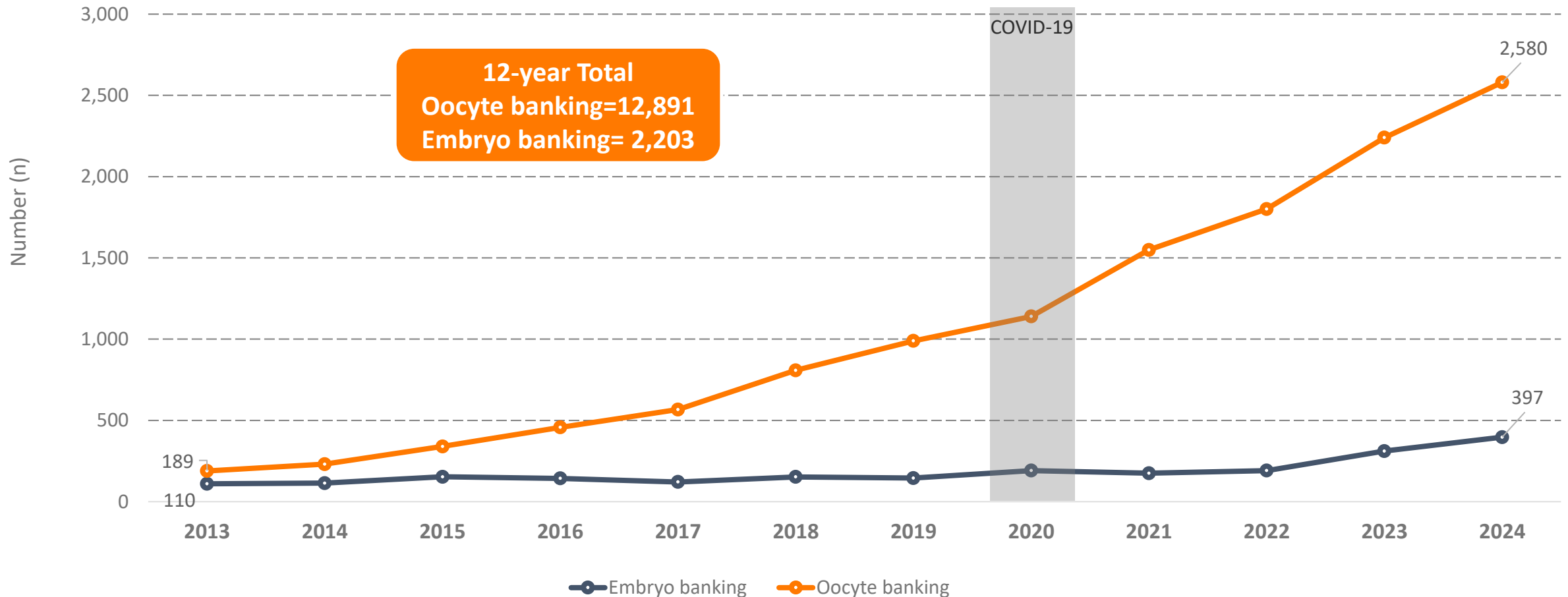
FERTILITY PRESERVATION

Own oocytes



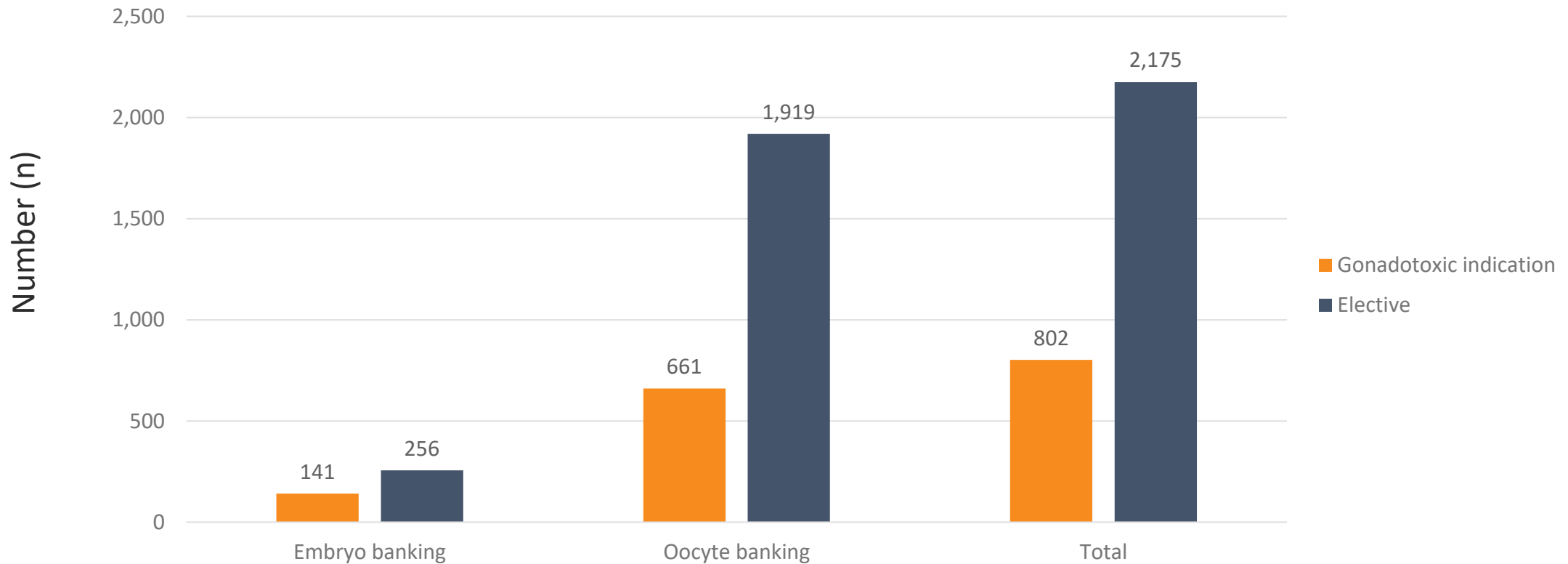
Number of Retrievals with Banking, by Year

Retrievals for banking, own oocytes, 2013 – 2024



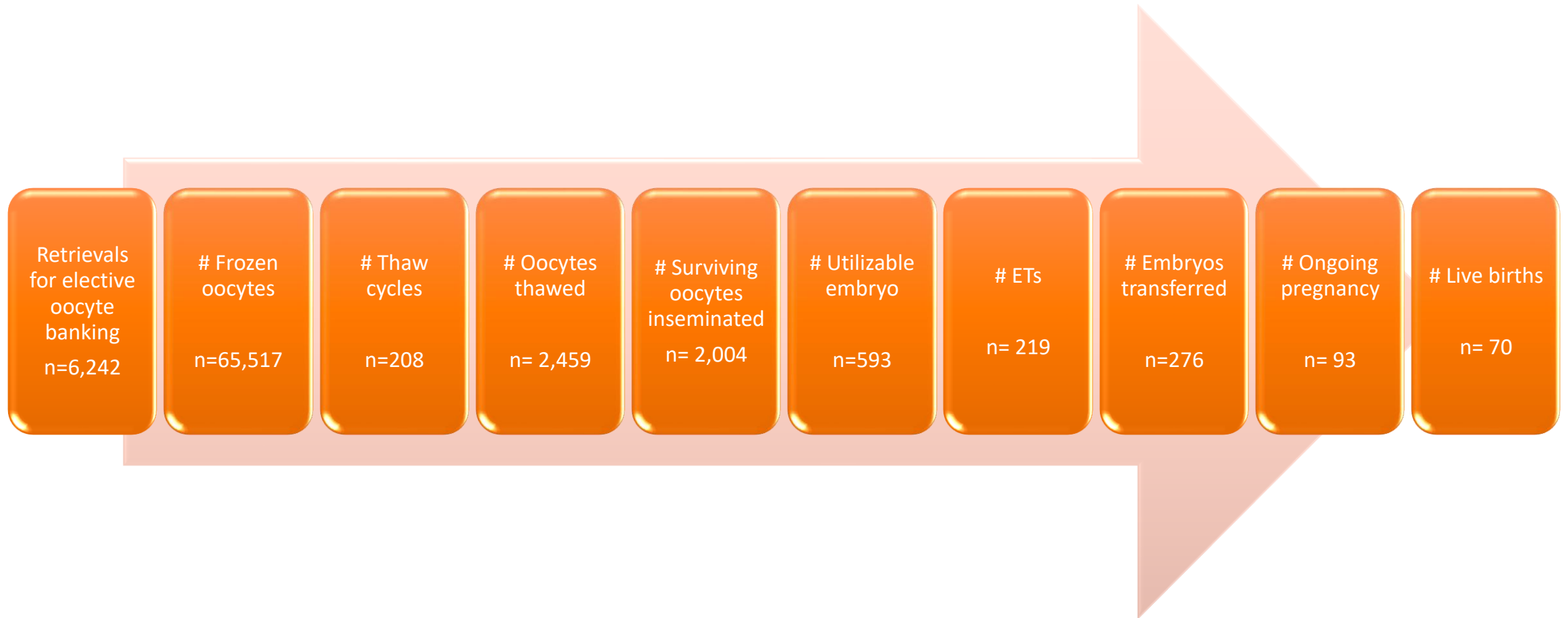
Banking Characteristics – Gonadotoxic vs Elective

Retrievals for banking, own oocytes, 2024



Elective Oocyte Banking

Own oocytes, 2013-2023

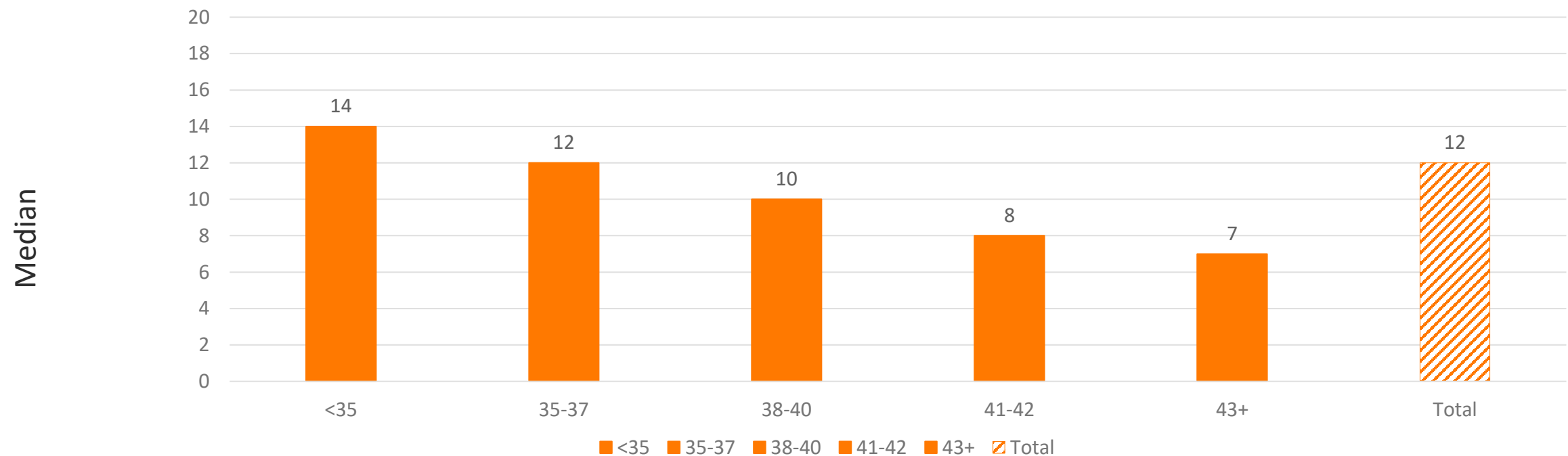


Birth cohort, all data are from 2013-2023.

Note: Initial findings from the analyses on fertility preservation were presented at the Canadian Fertility and Andrology Society Conference in September 2025. Following a subsequent analysis, this report provides the corrected and updated estimates.

Median Number of Oocytes Retrieved

Elective oocyte banking, 2013-2024



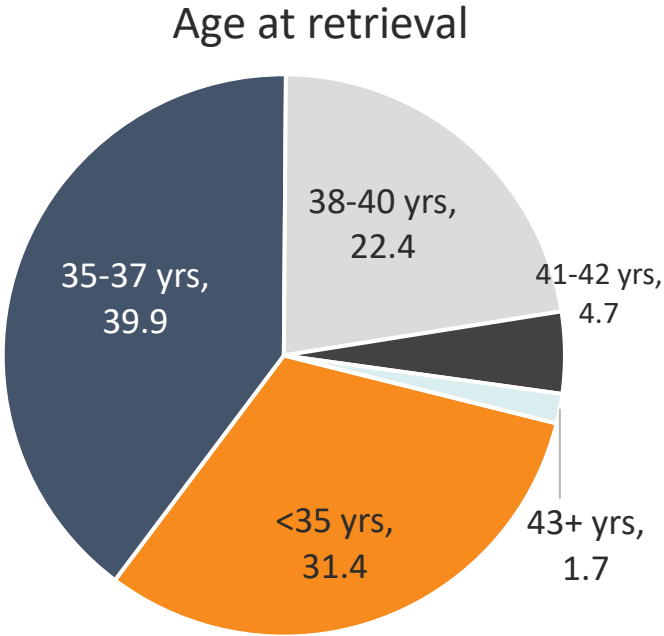
Age group	<35	35-37	38-40	41-42	43+	Total
Mean	15.3	13.7	11.7	9.6	8.0	13.6
Median	14	12	10	8	7	12
IQR	9-20	8-17	6-16	5-13	4-11	7-18

Mean: The average, calculated by dividing the sum of all values by the number of values.
Median: The center number in a sorted list of values. Half the numbers are smaller than the median and half are larger.
Interquartile Range (IQR): The difference between the first quartile (Q1) and the third quartile (Q3), representing the middle 50% of the data.

Elective Oocyte Freezing: Age At Retrieval and Thaw

Own oocytes, 2013-2024

% per Elective Oocyte Retrieval



Age group (yr)
Numerator
Total denominator

<35	35-37	38-40	41-42	≥43
2,007	2,547	1,429	299	106
6,388	6,388	6,388	6,388	6,388

Majority (~40%) of retrievals occur between 35-37 years

% per Elective Oocyte Thaw

Age at thaw

Age group (yr)	Percentage
<35 yrs	10.6
35-37 yrs	12.5
38-40 yrs	35.6
41-42 yrs	24.0
43+ yrs	17.3

Age group (yr)
Numerator
Total denominator

<35	35-37	38-40	41-42	≥43
22	26	74	50	36
208	208	208	208	208

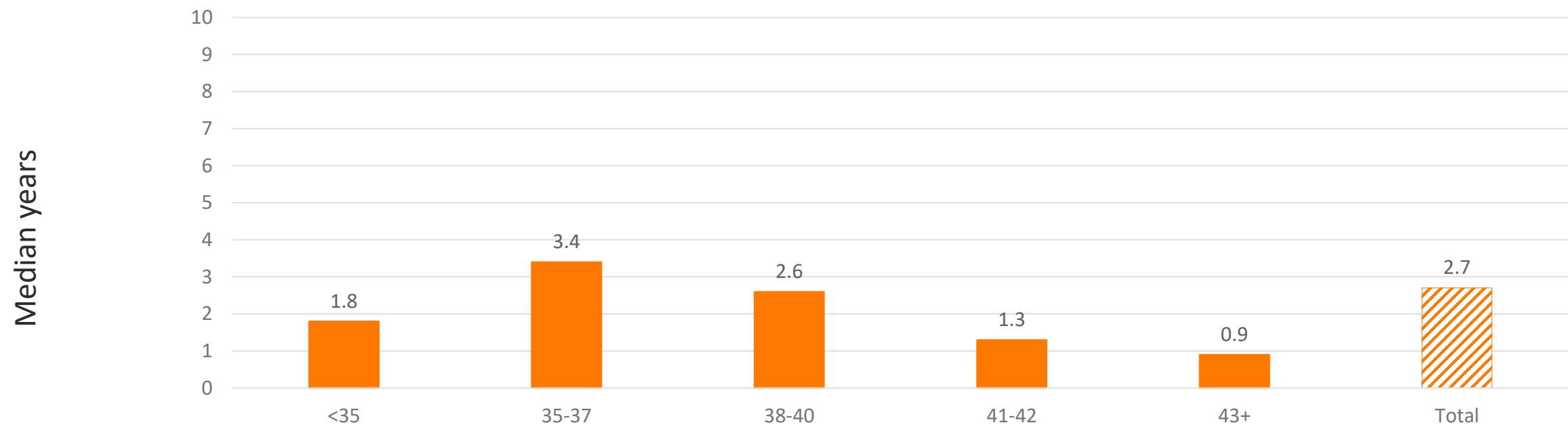
Majority (~35%) of thaws occur between 38-40 years

CARTR
Plus

52

Median number of years between freeze and thaw

Elective oocyte banking, own oocytes, 2013-2024

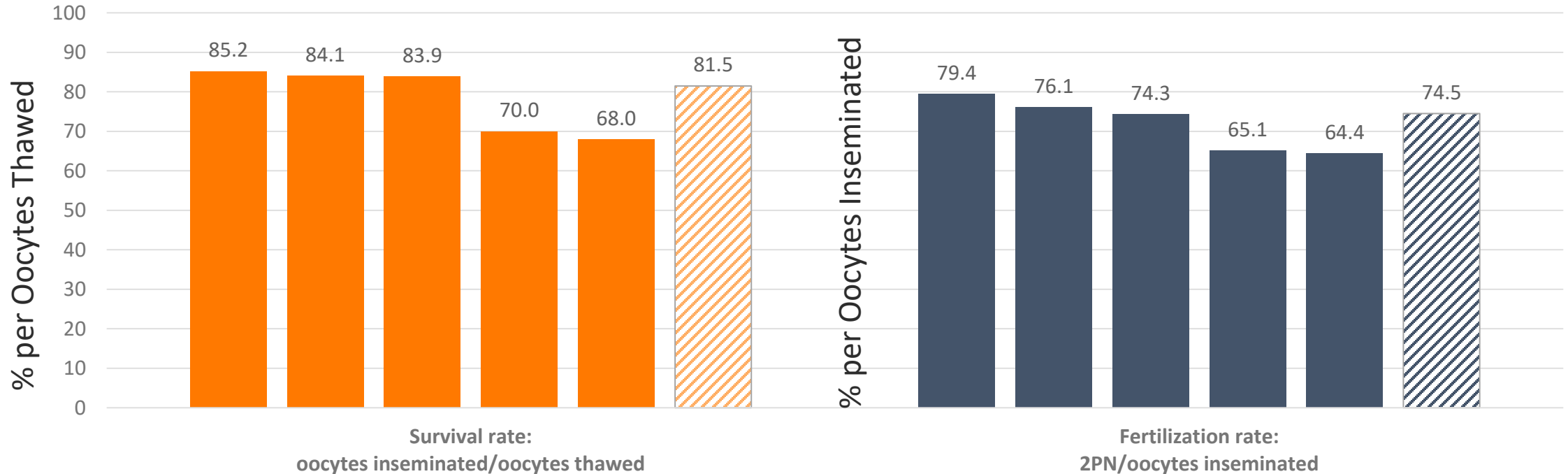


Age group	<35	35-37	38-40	41-42	≥43	Total
Mean	2.1	3.3	2.8	1.6	1.2	2.7
Median	1.8	3.4	2.6	1.3	0.9	2.7
IQR	0.5-3.4	2.0-4.5	1.7-3.8	0.5-2.7	0.7-1.4	1.3-3.8

Mean: the average, calculated by dividing the sum of all values by the number of values.
Median: The center number in a sorted list of values. Half the numbers are smaller than the median and half are larger.
Interquartile Range (IQR): The difference between the first quartile (Q1) and the third quartile (Q3), representing the middle 50% of the data.
Note: Age at retrieval.

Elective Oocyte Freezing: Survival and Fertilization Rate

Own oocytes, 2013-2024



Age group (yr)	<35	35-37	38-40	41-42	≥43	Total
Numerator	437	631	611	238	87	2004
Total denominator	513	750	728	340	128	2459

<35	35-37	38-40	41-42	≥43	Total
347	480	454	155	56	1492
437	631	611	238	87	2004

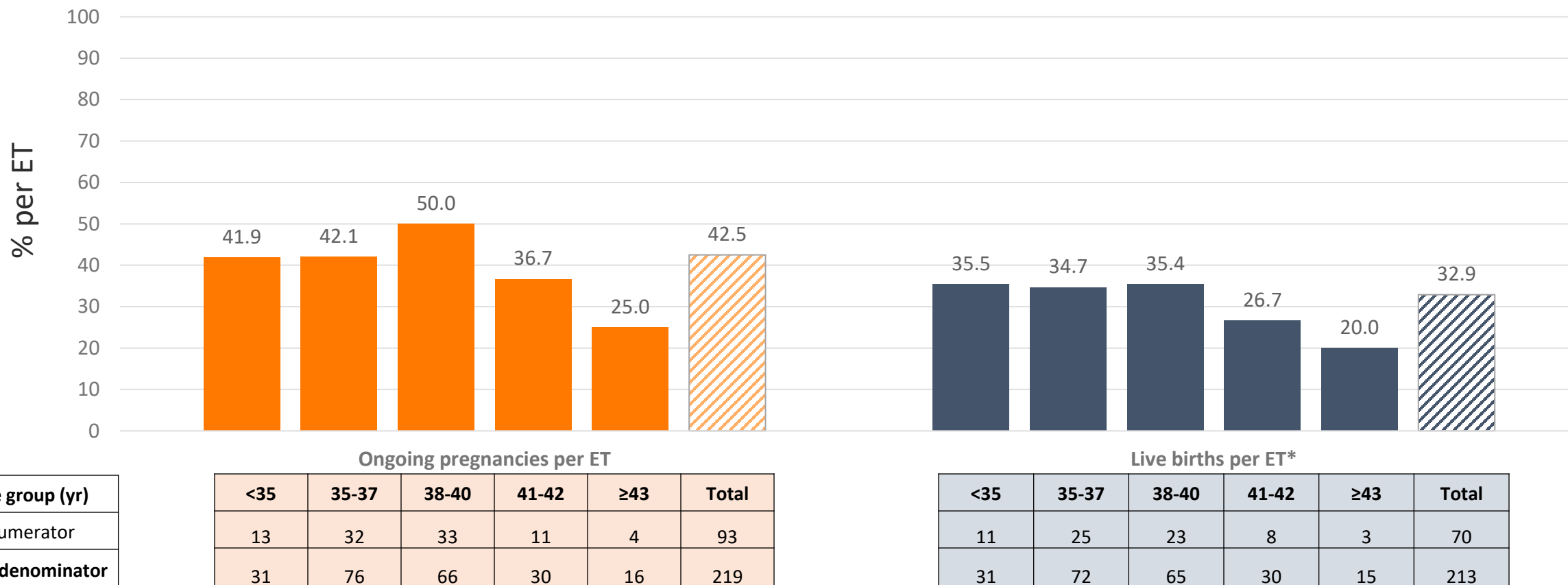
2PN: two-pronuclear (2PN) stage of embryo development.

Note: Initial findings from the analyses on fertility preservation were presented at the Canadian Fertility and Andrology Society Conference in September 2025.

Following a subsequent analysis, this report provides the corrected and updated estimates.

Elective Oocyte Freezing: Ongoing Pregnancy and Live Birth Rate

Fresh ET and FET, own oocytes, 2013-2024



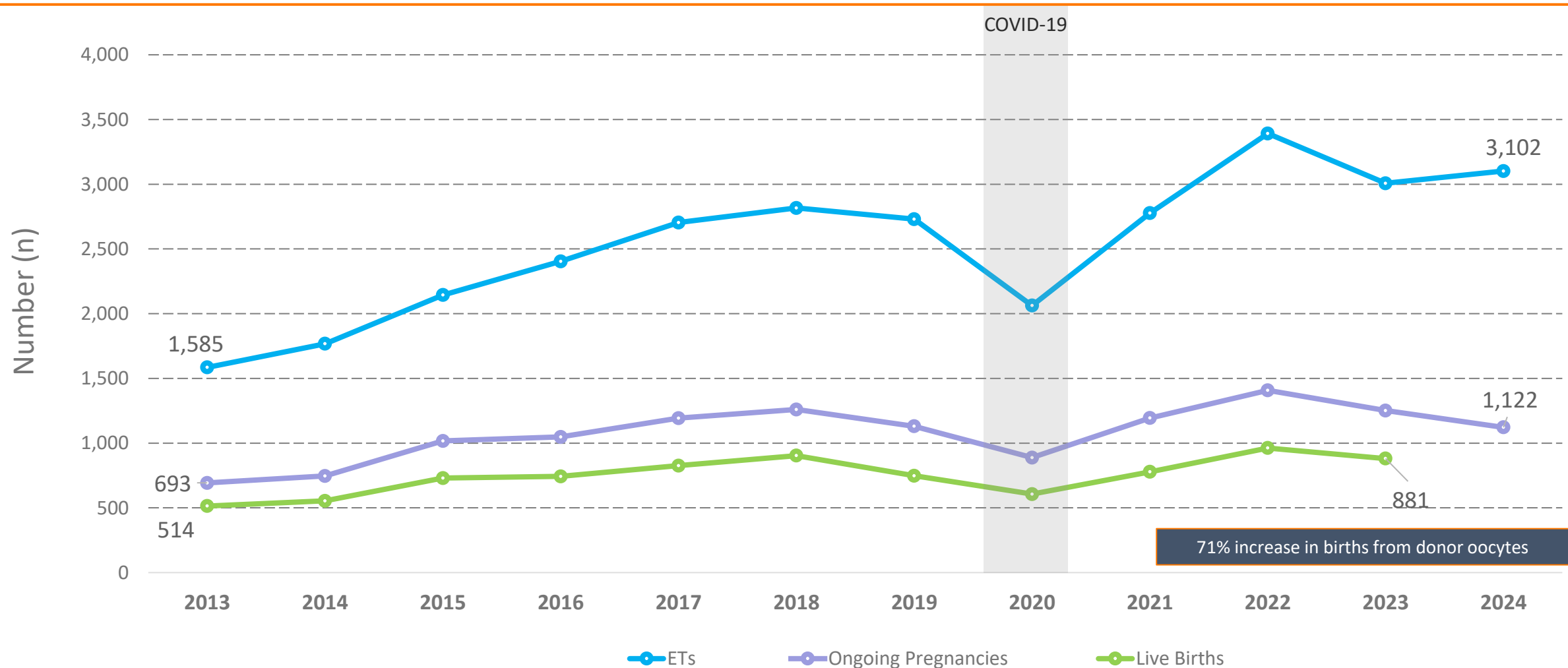
Ongoing pregnancy: pregnancy with ≥1 fetal heartbeat on ultrasound.
Live birth: one or more live births at any gestational age; *Birth outcome data are available for cycles initiated between 2013-2023.

THIRD PARTY FERTILITY



ETs, Ongoing Pregnancies, and Live Births, by Year

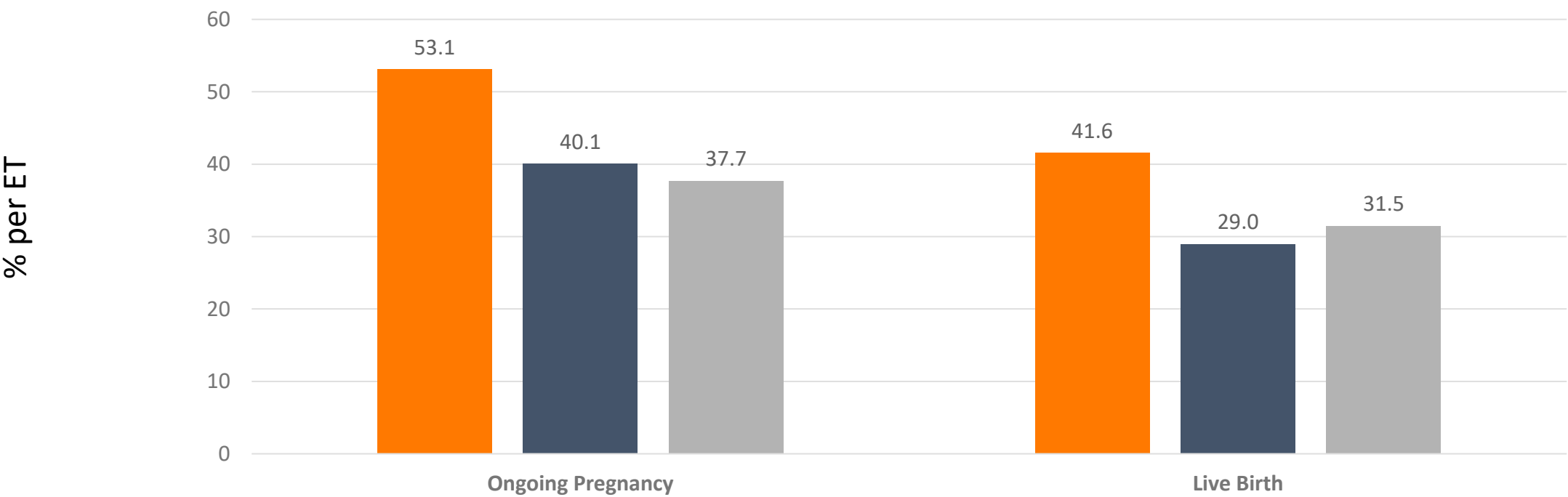
Fresh and frozen donor oocytes, 2013 – 2024



Ongoing pregnancy: pregnancy with ≥ 1 fetal heartbeat on ultrasound.
Live birth: one or more live births at any gestational age; Birth outcome data are available for cycles initiated between 2013-2023.
Note: the number of ongoing pregnancies increases the following year as outcomes are entered up to 9 months later.

Ongoing Pregnancy and Live Birth Rate per ET

Fresh and frozen donor oocytes, 2013-2023



ET method
Numerator
Total denominator

Fresh ET	FET (no PGT-A)	FET with PGT-A
1,331	5,850	802
2,505	14,585	2,128

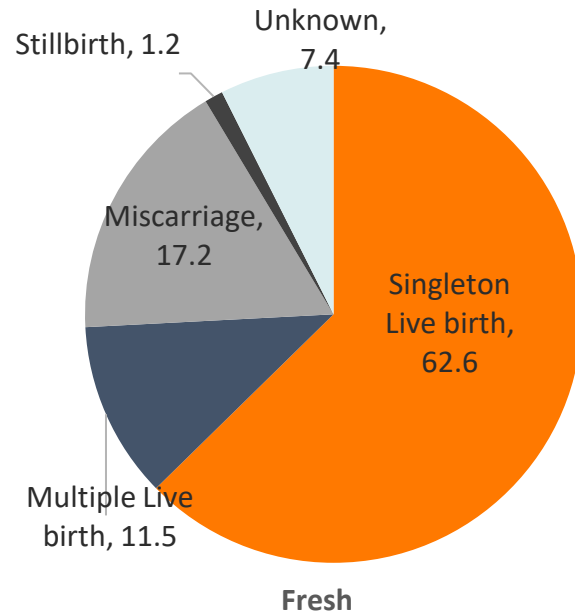
Fresh ET	FET (no PGT-A)	FET with PGT-A
1,001	3,716	526
2,409	12,800	1,670

Live birth: one or more live births at any gestational age; Birth outcome data are available for cycles initiated between 2013-2023.
FETs with an ambiguous PGT-A result were excluded.
Gestational carriers excluded. In Fresh ETs, the embryo itself was fresh. However, the oocyte may be fresh or frozen.

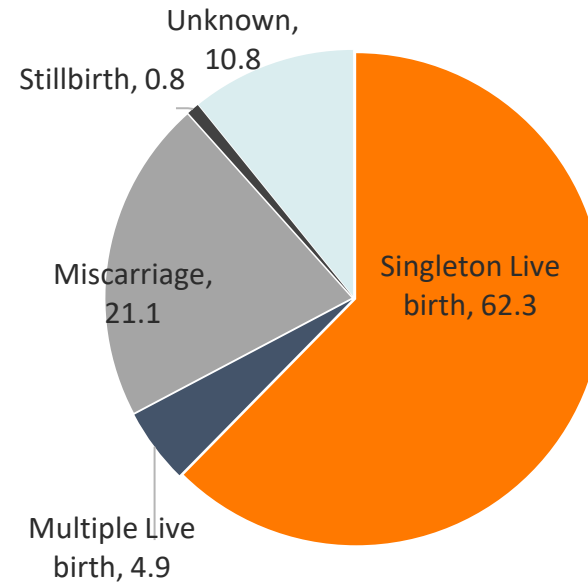
All Birth Outcomes from Donor Oocytes

Ongoing pregnancies, donor oocytes, 2013-2023

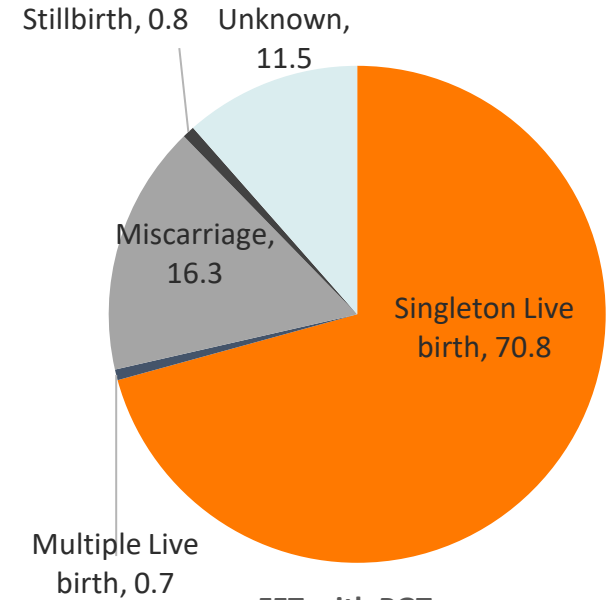
% per Ongoing Pregnancy



Fresh



FET (without PGT)



FET with PGT

Outcome
Numerator
Total denominator

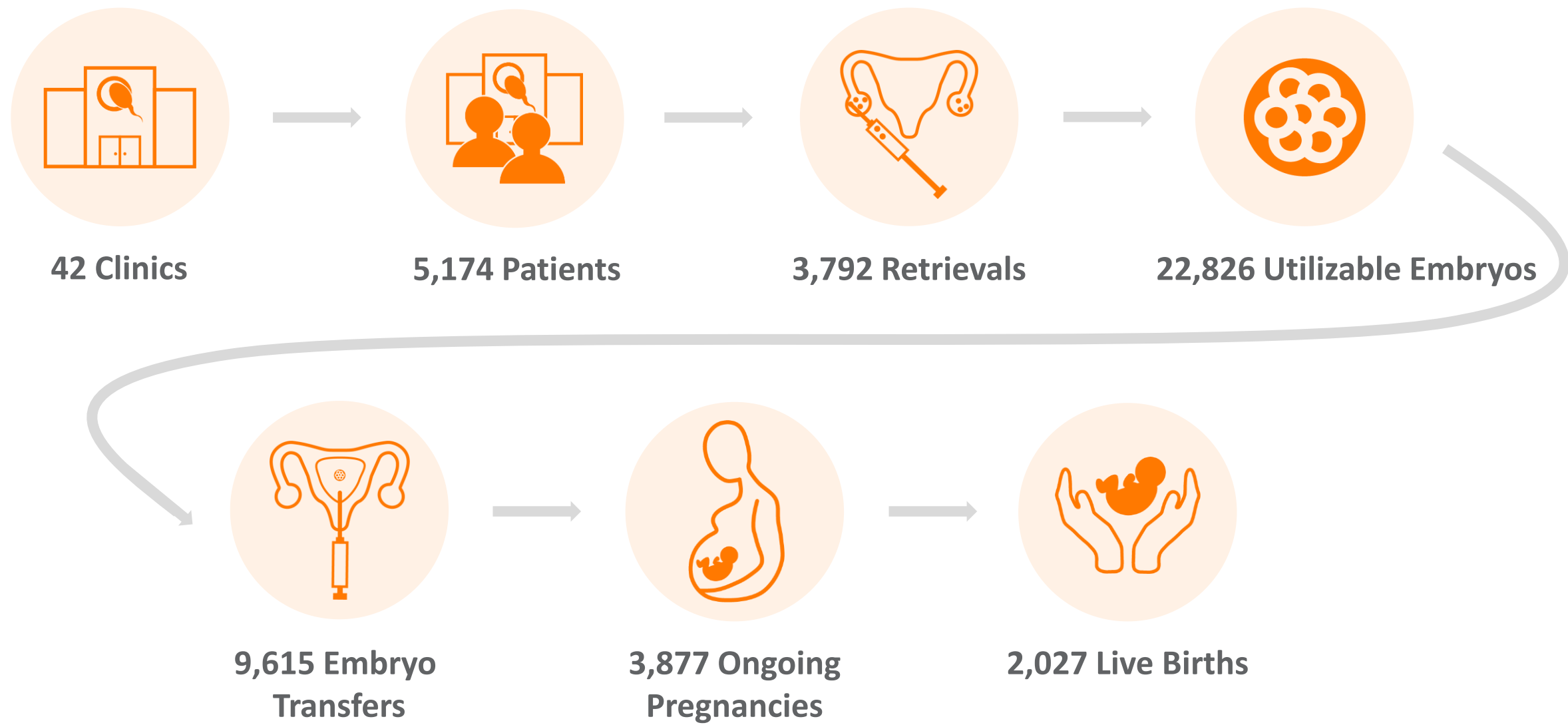
Singleton live birth	Multiple live birth	Miscarriage	Still birth	Unknown
963	177	265	19	114
1,538	1,538	1,538	1,538	1,538

Singleton live birth	Multiple live birth	Miscarriage	Still birth	Unknown
4,087	324	1,384	54	709
6,558	6,558	6,558	6,558	6,558

Singleton live birth	Multiple live birth	Miscarriage	Still birth	Unknown
922	9	212	10	150
1,303	1,303	1,303	1,303	1,303

Singleton birth: one live birth at any gestational age; Multiple live birth: At least one live birth from a multiple pregnancy; Stillbirth: no fetus(es) was born alive and fetal loss occurred at ≥ 20 weeks' gestation; Miscarriage: fetal loss occurred at < 20 weeks' gestation. Birth outcome data are available for cycles initiated between 2013-2023. FETs with an ambiguous PGT-A result were excluded.

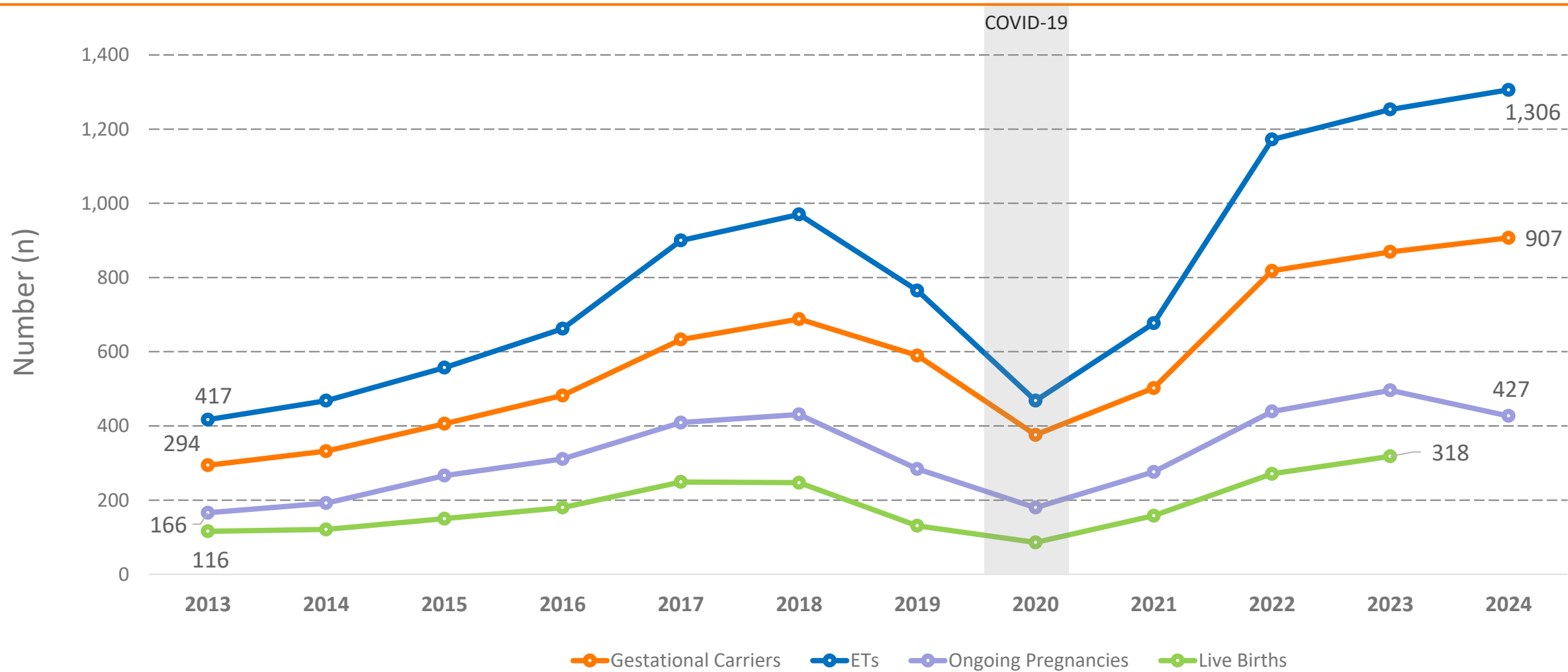
Gestational Carriers – 2013-2024



Gestational carrier: A person who carries a pregnancy with an agreement that they will give the offspring to the intended parent(s). Gametes can originate from the intended parent(s) and/or a third party (parties). The number of clinics contributing data has varied over time and up to 42 clinics have contributed data on gestational carriers since 2013. Birth outcome data are available for cycles initiated between 2013-2023.

Gestational Carriers, ETs, Pregnancies, and Live Births, by Year

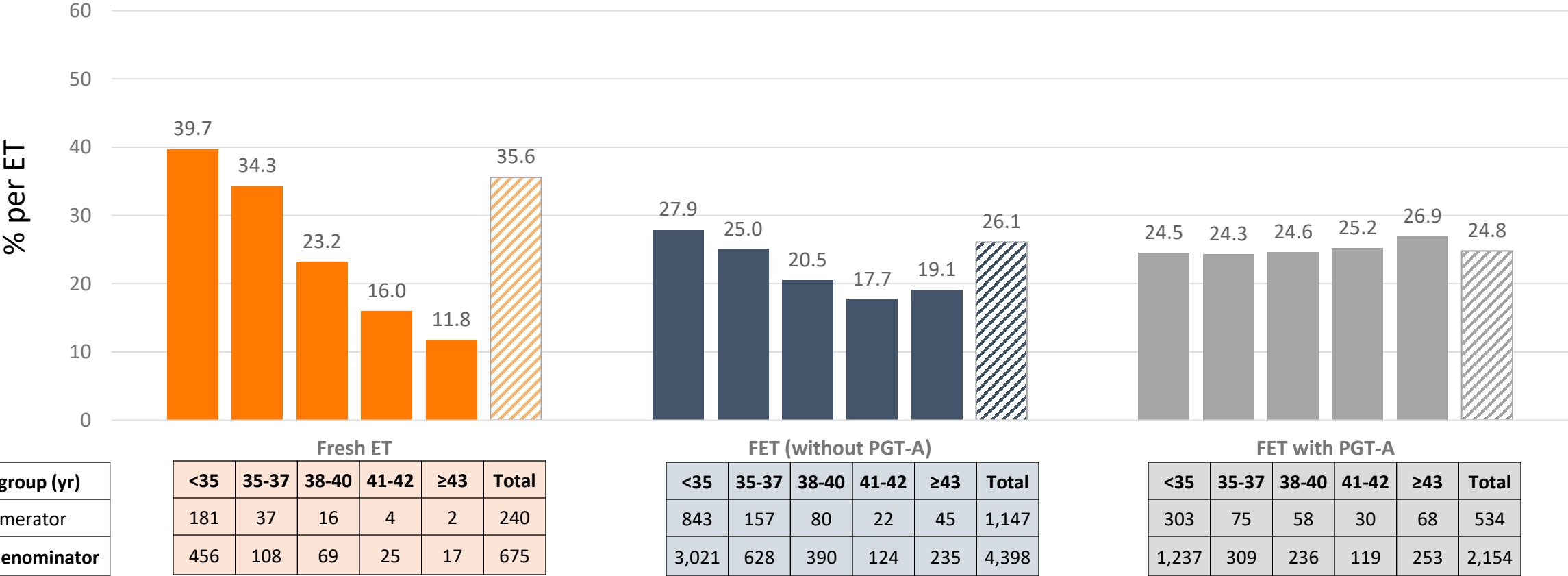
Own and donor oocytes, 2013 – 2024



Ongoing pregnancy: pregnancy with ≥ 1 fetal heartbeat on ultrasound.
Live birth: one or more live births at any gestational age.
Birth outcome data are available for cycles initiated between 2013-2023.
Note: the number of ongoing pregnancies increases the following year as outcomes are entered up to 9 months later.

Live Birth Rate per ET

Gestational carriers, 2013-2023

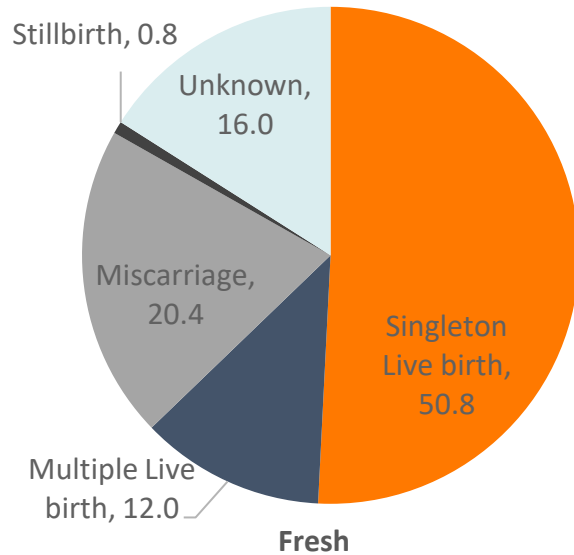


Live birth: one or more live births at any gestational age. Birth outcome data are available for cycles initiated between 2013-2023.
FETs with an ambiguous PGT-A result were excluded.
Age group is based on the age of oocyte provider, not gestational carrier.

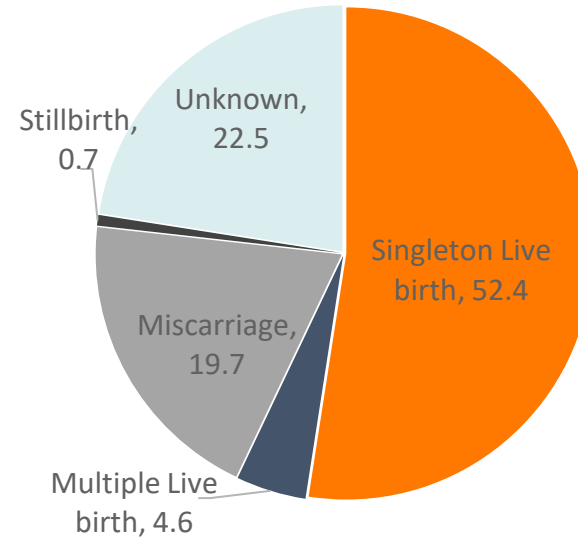
All Birth Outcomes from Gestational Carriers

Ongoing pregnancies, own & donor oocytes, 2013 -2023

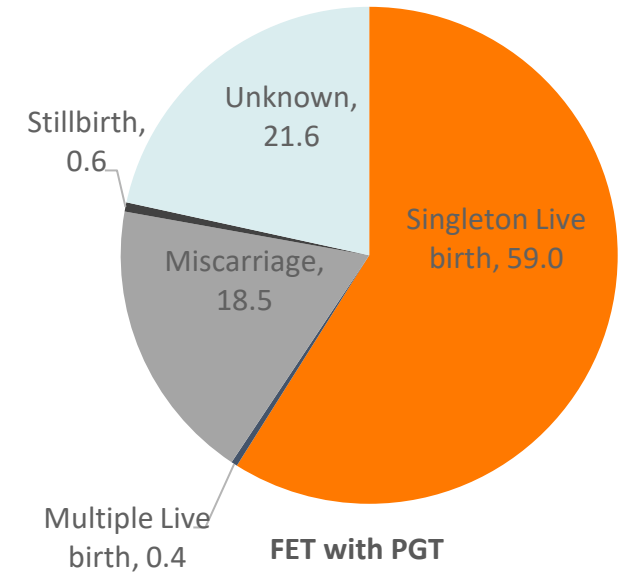
% per Ongoing pregnancy



Fresh



FET (without PGT)



FET with PGT

Outcome
Numerator
Total denominator

Singleton live birth	Multiple live birth	Miscarriage	Still birth	Unknown
194	46	78	3	61
382	382	382	382	382

Singleton live birth	Multiple live birth	Miscarriage	Still birth	Unknown
1,054	93	397	15	453
2,012	2,012	2,012	2,012	2,012

Singleton live birth	Multiple live birth	Miscarriage	Still birth	Unknown
530	4	166	5	194
899	899	899	899	899

Singleton birth: one live birth at any gestational age; Multiple live birth: At least one live birth from a multiple pregnancy;
 Stillbirth: no fetus(es) was born alive and fetal loss occurred at ≥20 weeks' gestation; Miscarriage: fetal loss occurred at <20 weeks' gestation.
 Birth outcome data are available for cycles initiated between 2013-2023.

ONTARIO FERTILITY PROGRAM

2023

The Ontario Fertility Program (OFP) covers the cost of **one** oocyte retrieval and any associated ETs for those under the age of 43 years with a valid Ontario health card. In certain instances, an OFP-funded cycle was initiated before their 43rd birthday, but the retrieval took place afterward and is included in the analyses. OFP does not cover the cost of medication.

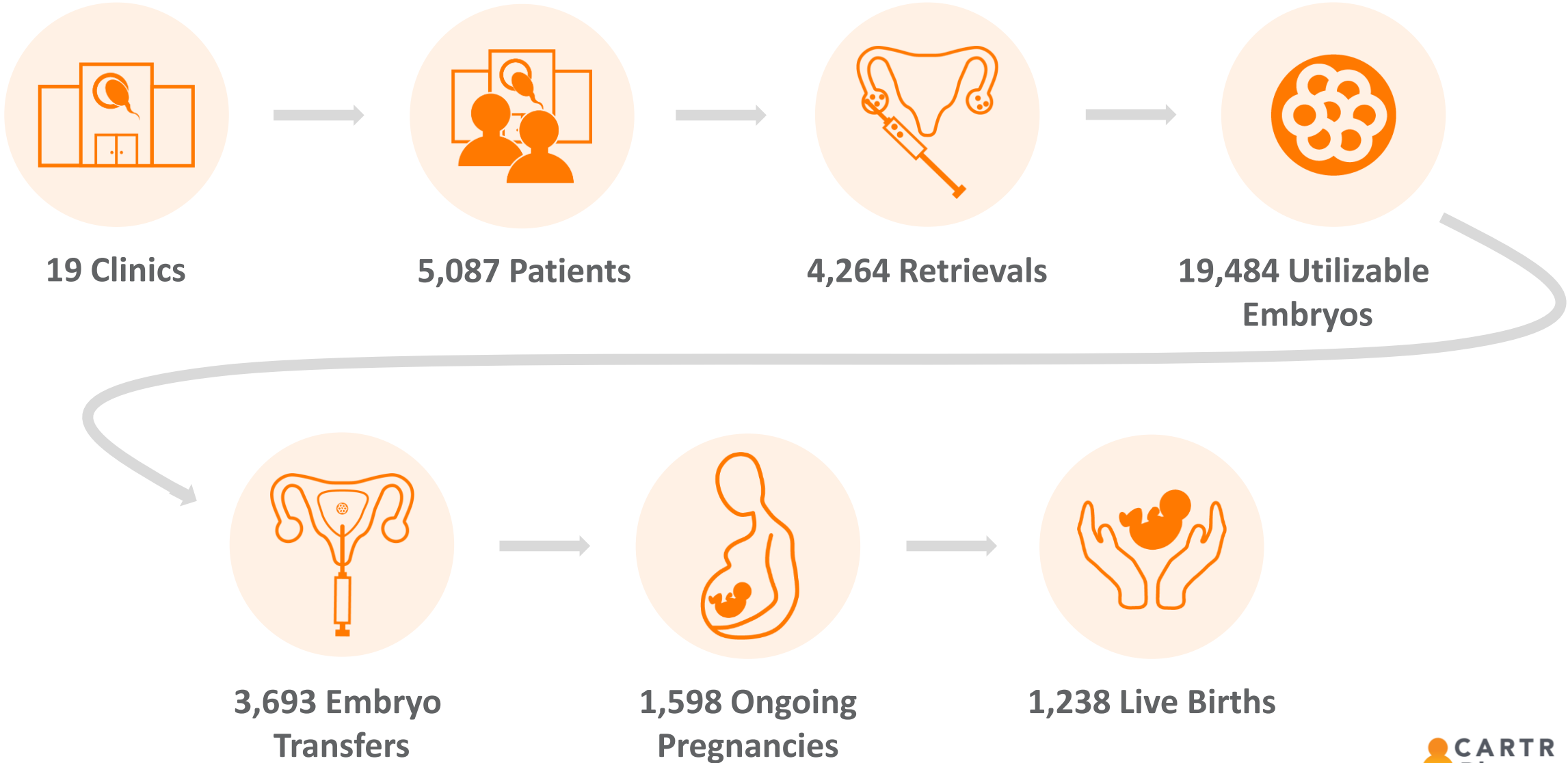
For more information:

<https://www.ontario.ca/page/get-fertility-treatments>



OFP Fertility Treatment Pathway, 2023

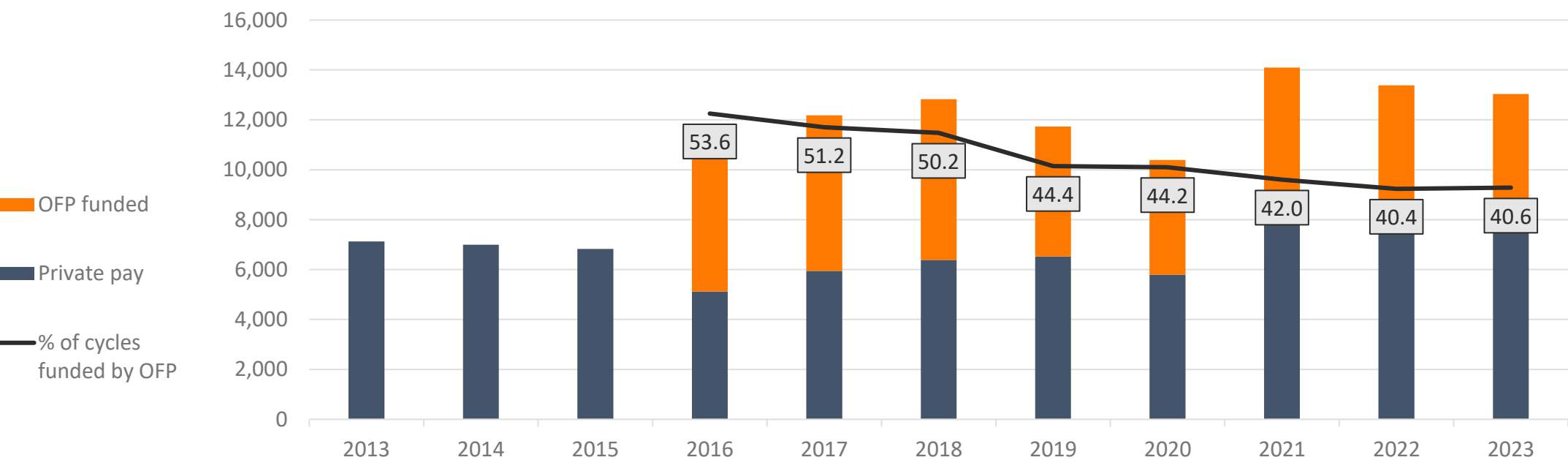
Own and donor oocytes



Birth outcome data are available for cycles started in 2023.

Ontario OFP Funded vs Private Pay, by Year

Retrievals and all associated embryo transfers, own and donor oocytes, 2013-2023



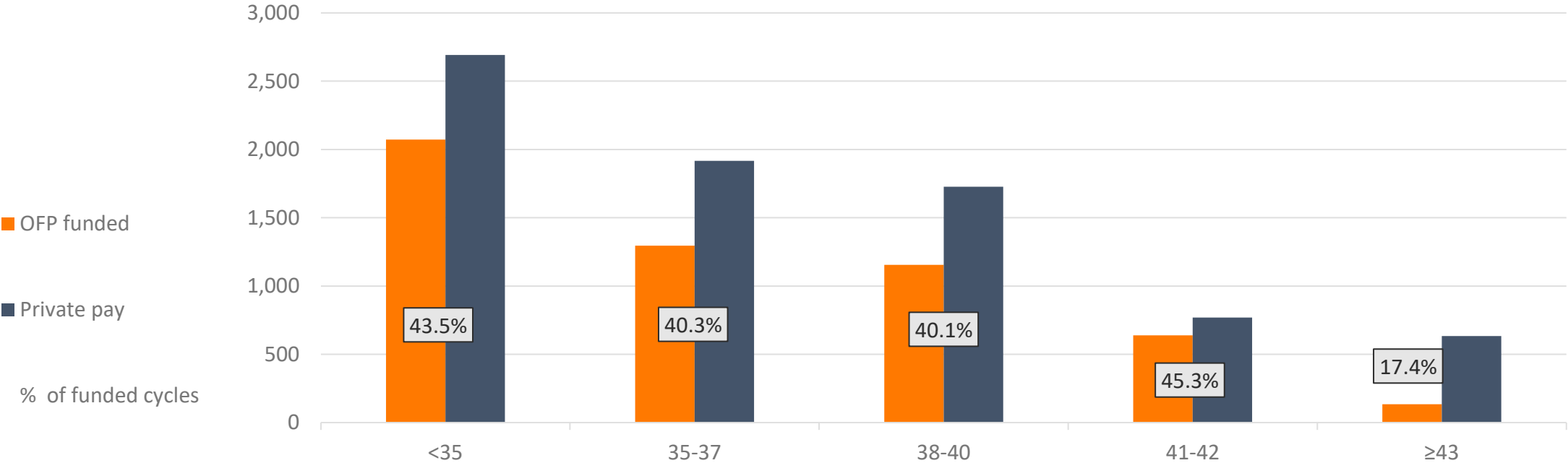
OFP funded cycles	0	0	0	5,904	6,231	6,440	5,210	4,594	5,915	5,409	5,295
Private pay cycles	7,129	6,998	6,824	5,116	5,950	6,385	6,523	5,793	8,183	7,972	7,739
Total cycles	7,129	6,998	6,824	11,020	12,181	12,825	11,733	10,387	14,098	13,381	13,034

The overall number of IVF cycles in Ontario has increased. However, the proportion of these cycles funded by OFP is declining, indicating a shift toward greater reliance on privately funded IVF treatments

An OFP cycle includes one retrieval and all associated embryo transfers. Each embryo transfer is counted as an additional funded cycle.

Ontario OFP Funded vs Private Pay, by Age

Retrievals and all associated embryo transfers, own and donor oocytes

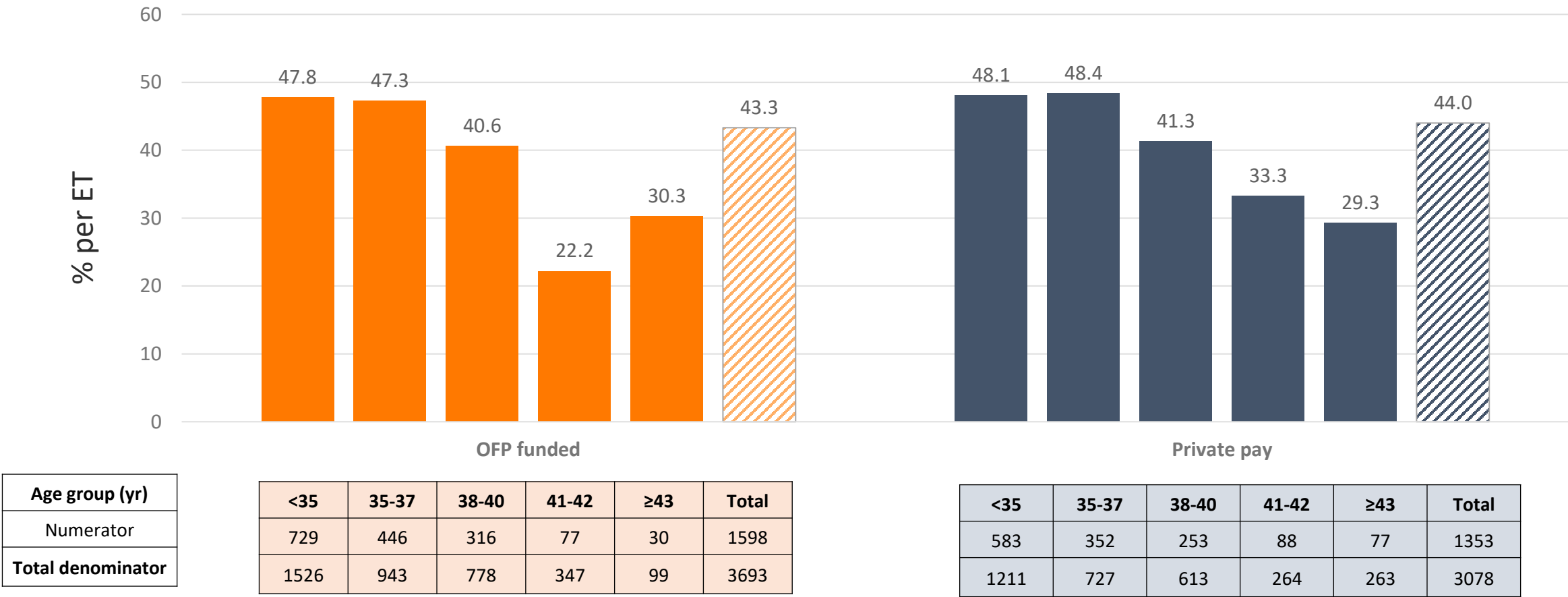


OFP funded cycles	2,072	1,296	1,155	638	134
Private pay cycles	2,692	1,916	1,727	770	634
Total cycles	4,764	3,212	2,882	1,408	768

Individuals aged ≥43 years were included in the analysis if their OFP-funded cycle was initiated prior to their 43rd birthday, even if the retrieval occurred after they had turned 43. An OFP funded cycle includes one retrieval and all associated embryo transfers. Each embryo transfer is counted as an additional funded cycle.

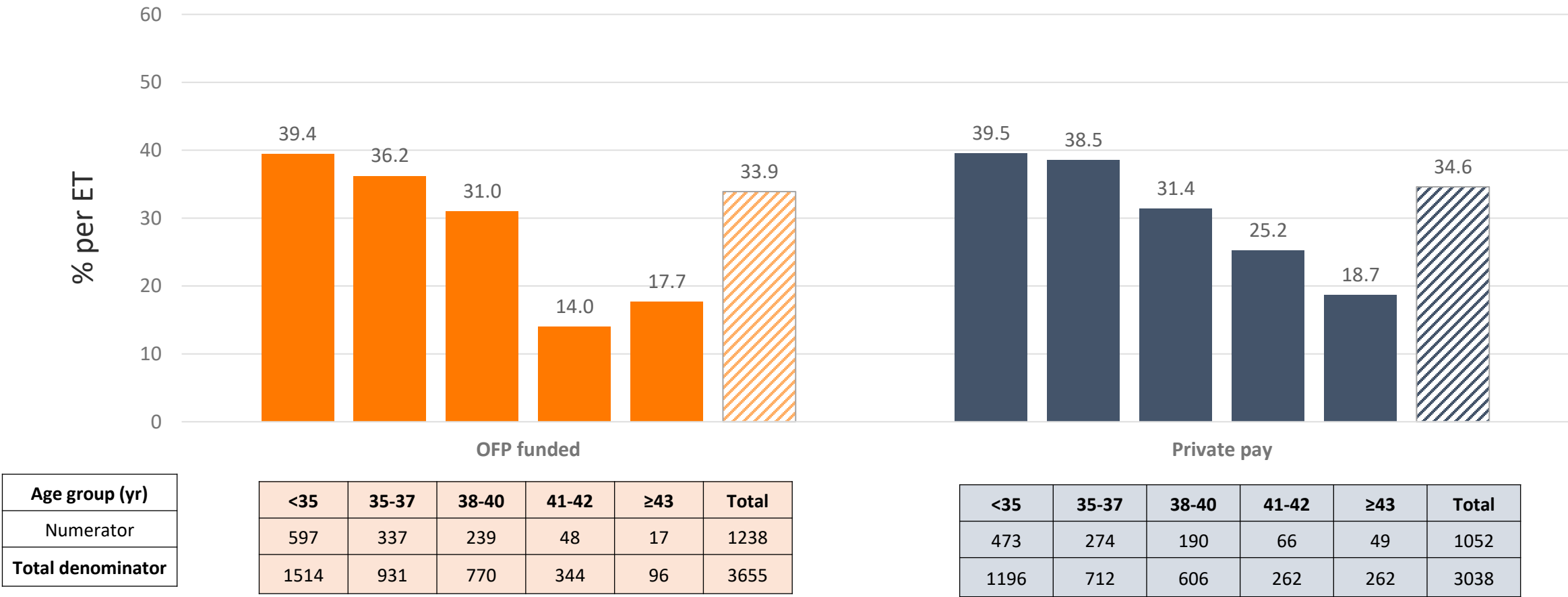
Ontario Pregnancy Rate per ET, OFP Funded vs Private Pay

Retrievals and all associated embryo transfers, own and donor oocytes, 2023



Ontario Live Birth Rate per ET, OFP Funded vs Private Pay

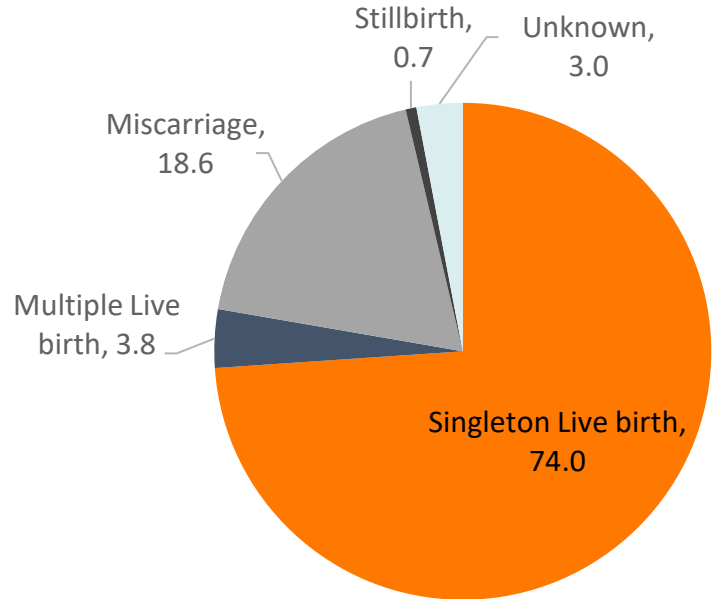
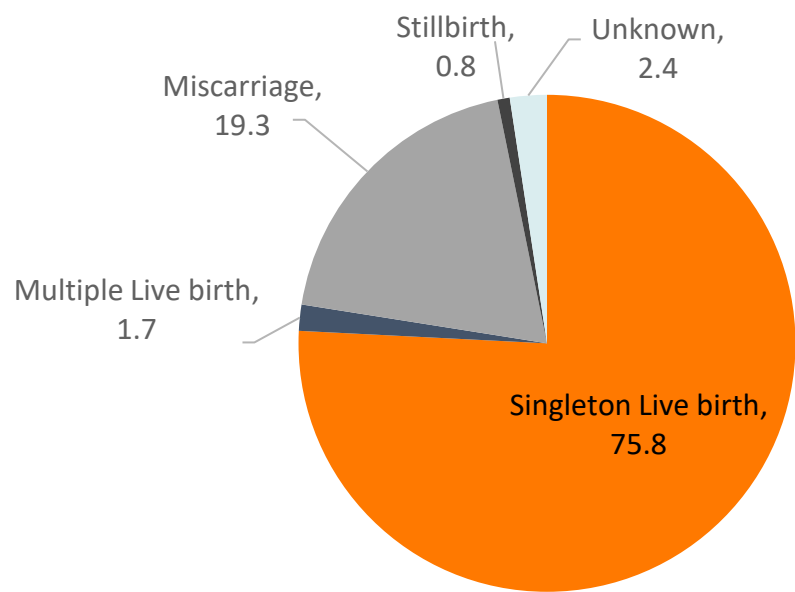
Retrievals and all associated embryo transfers, own and donor oocytes, 2023



Live birth: one or more live births at any gestational age. Missing birth outcomes are excluded.
Individuals aged >42 years were included in the analysis if their OFP-funded cycle was initiated prior to their 43rd birthday, even if the retrieval occurred after they had turned 43.
An OFP funded cycle includes one retrieval and all associated embryo transfers. Each embryo transfer is counted as an additional funded cycle.

Ontario Birth Outcomes: OFP Funded Vs Private Pay

Ongoing pregnancies, own and donor oocytes, 2023



Similar birth outcomes in OFP vs Private pay

Outcome
Numerator
Total denominator

OFP funded				
Singleton live birth	Multiple live birth	Miscarriage	Still birth	Unknown
1,211	27	309	13	38
1,598	1,598	1,598	1,598	1,598

Private pay				
Singleton live birth	Multiple live birth	Miscarriage	Still birth	Unknown
1,001	51	251	10	40
1,353	1,353	1,353	1,353	1,353

Singleton birth: one live birth at any gestational age; Multiple live birth: At least one live birth from a multiple pregnancy;
Stillbirth: no fetus(es) was born alive and fetal loss occurred at ≥20 weeks’ gestation; Miscarriage: fetal loss occurred at <20 weeks’ gestation.
Birth outcome data are available for cycles started in 2023.

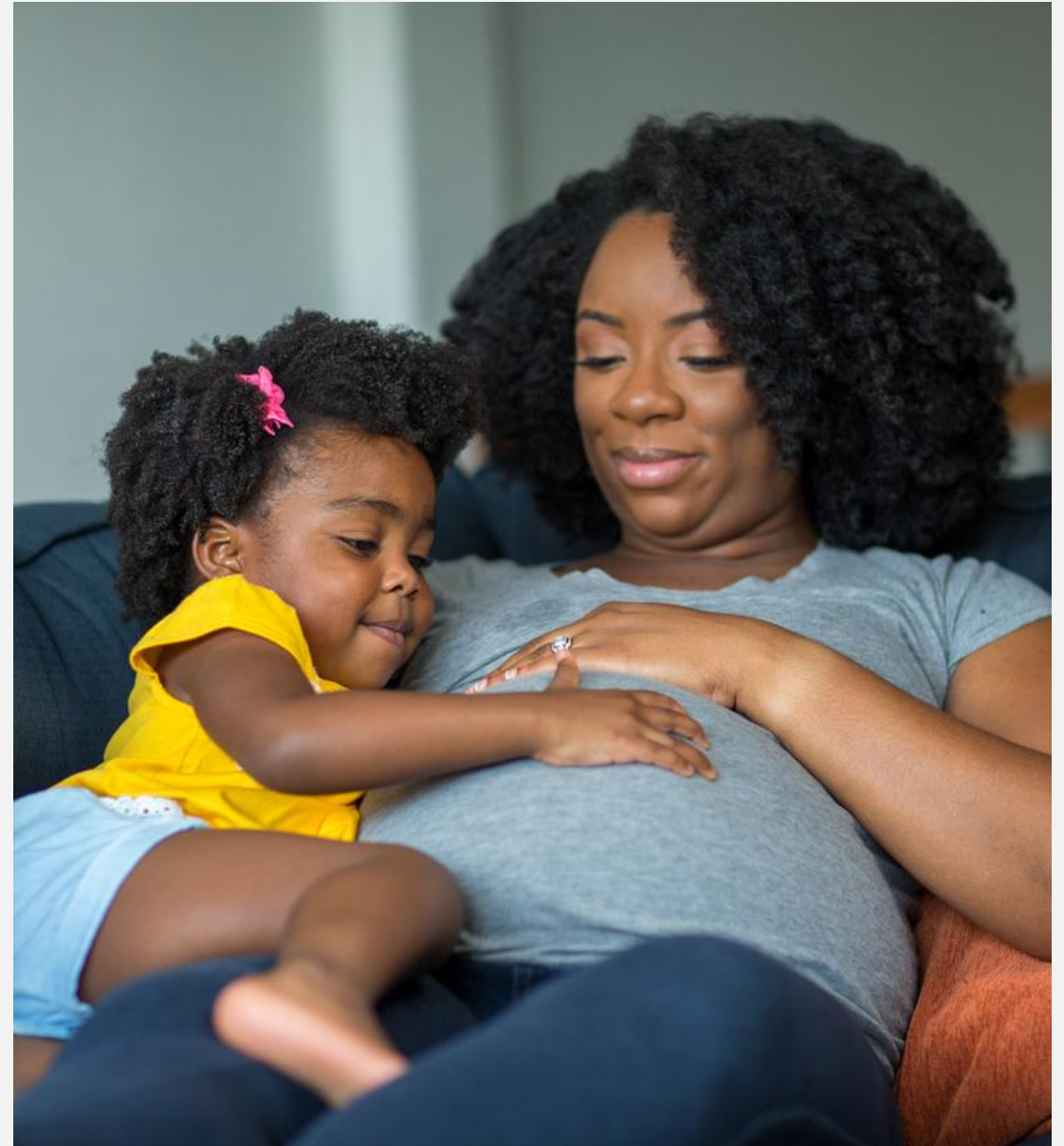
QUÉBEC FERTILITY PROGRAM

2023

The Québec fertility funding program covers the cost of **one** oocyte retrieval for those under the age of 41 and the cost of any resulting embryo transfers for those under age 42. Medications for IVF are also largely covered either by the province or by private insurers if the patient has private insurance.

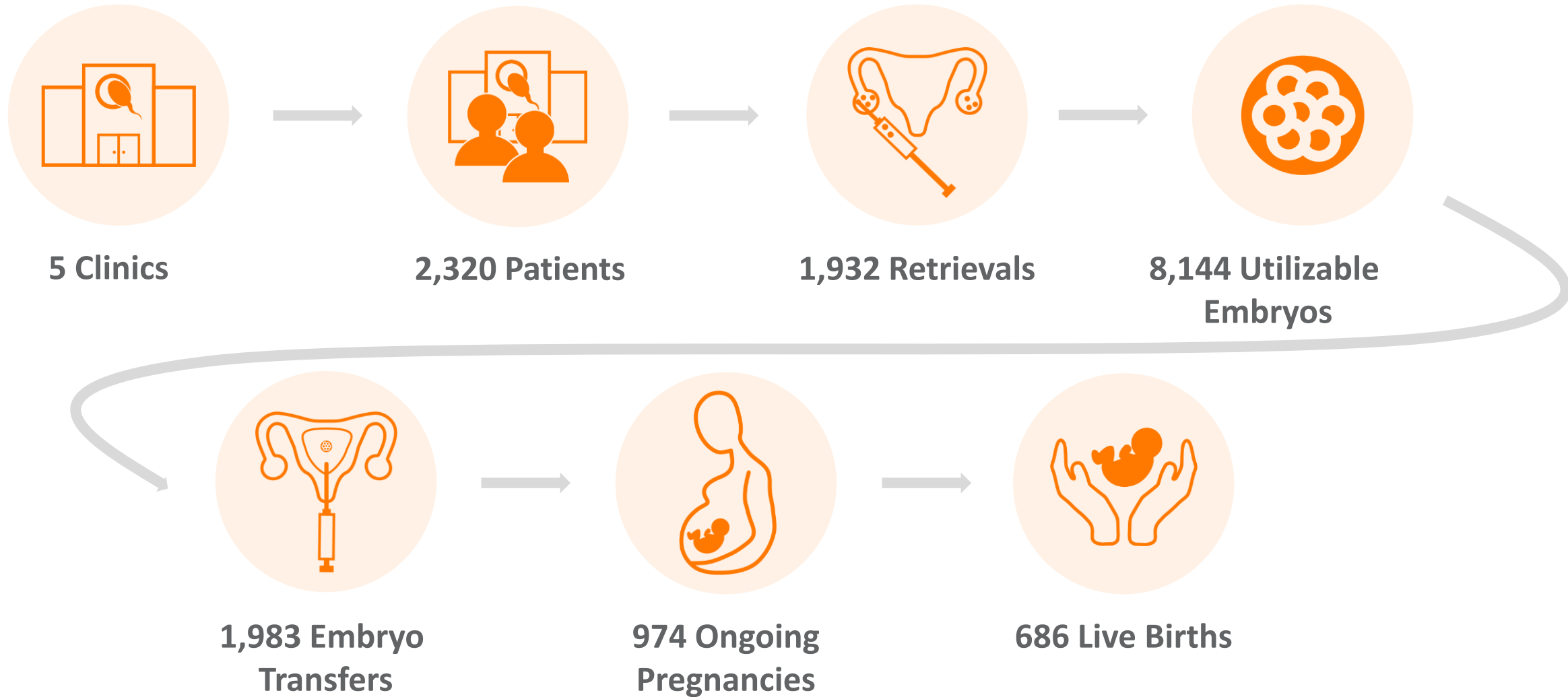
These results should be interpreted in the context that only **five** IVF clinics in Québec submitted data to CARTR in 2023 .

For more information: <https://www.quebec.ca/en/family-and-support-for-individuals/pregnancy-parenthood/assisted-reproduction/medically-assisted-reproduction-program>



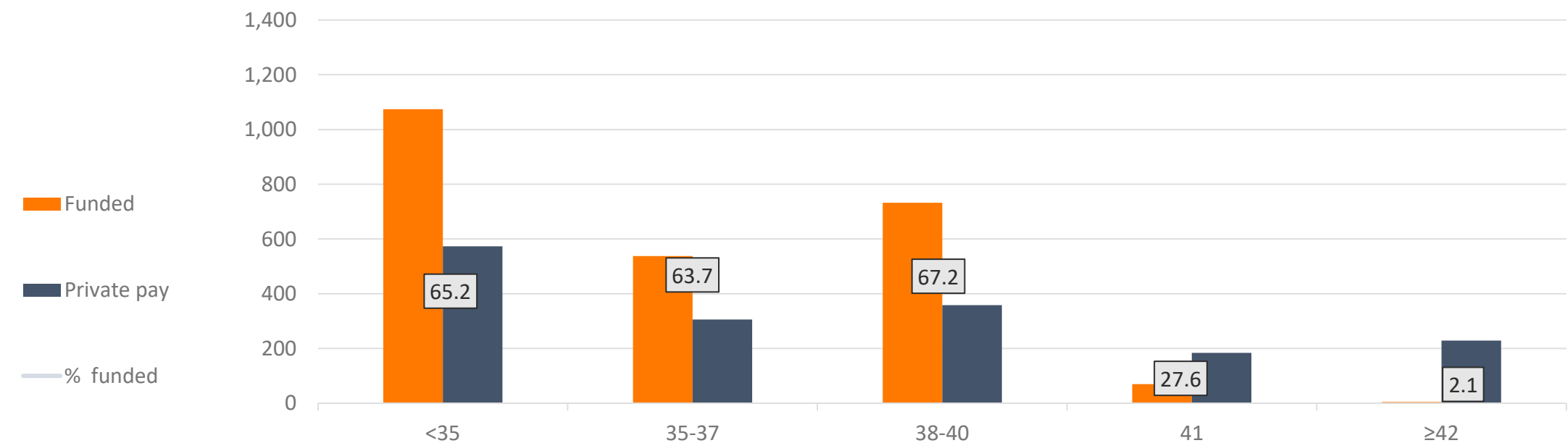
Québec Funded Fertility Treatment Pathway, 2023

Own and donor oocytes



Québec Funded vs Private Pay, by Age

2023



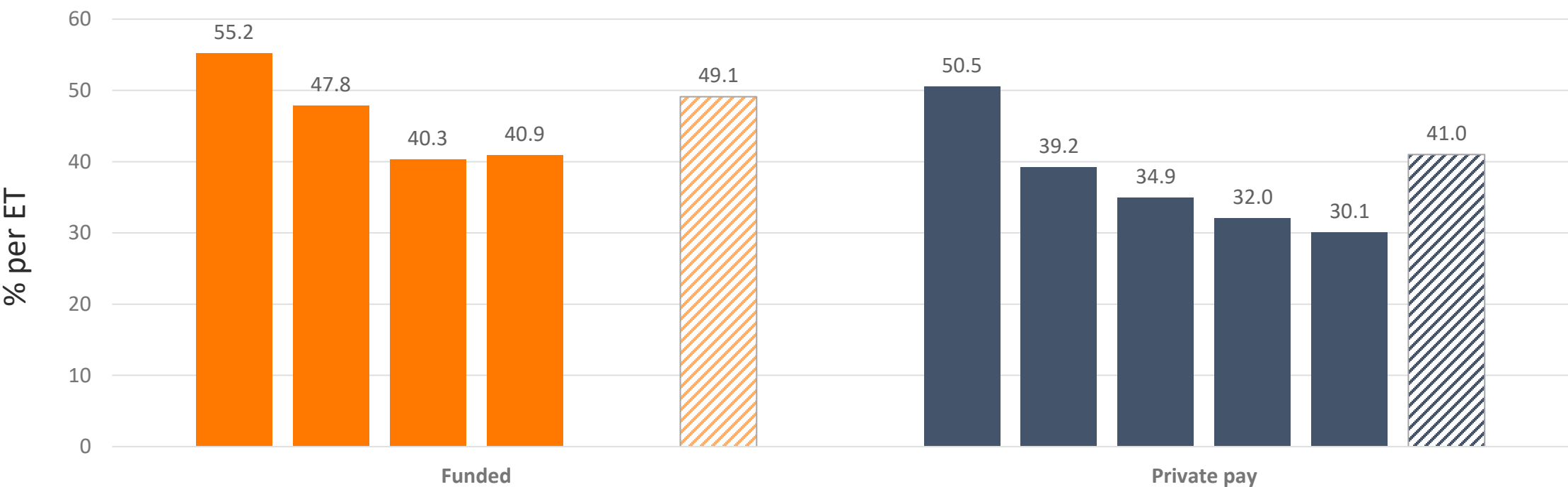
Funded cycles	1,074	538	732	70	5
Private pay cycles	573	306	358	184	229
Total cycles	1,647	844	1,090	254	234

In Québec, 59.4% of the 4,069 total cycles are publicly funded (2,419 funded vs. 1,650 private pay)

Birth cohort, all birth data are from 2023.
Individuals aged ≥42 were included in the analysis if their funded cycle was initiated prior to their 42nd birthday, even if the retrieval occurred after they had turned 42.
These results should be interpreted in the context that only five IVF clinics in Québec submitted data to CARTR in 2023.

Québec Ongoing Pregnancy Rate per ET, Funded vs Private Pay

Retrievals and all associated embryo transfers, own and donor oocytes, 2023



Age group (yr)
Numerator
Total denominator

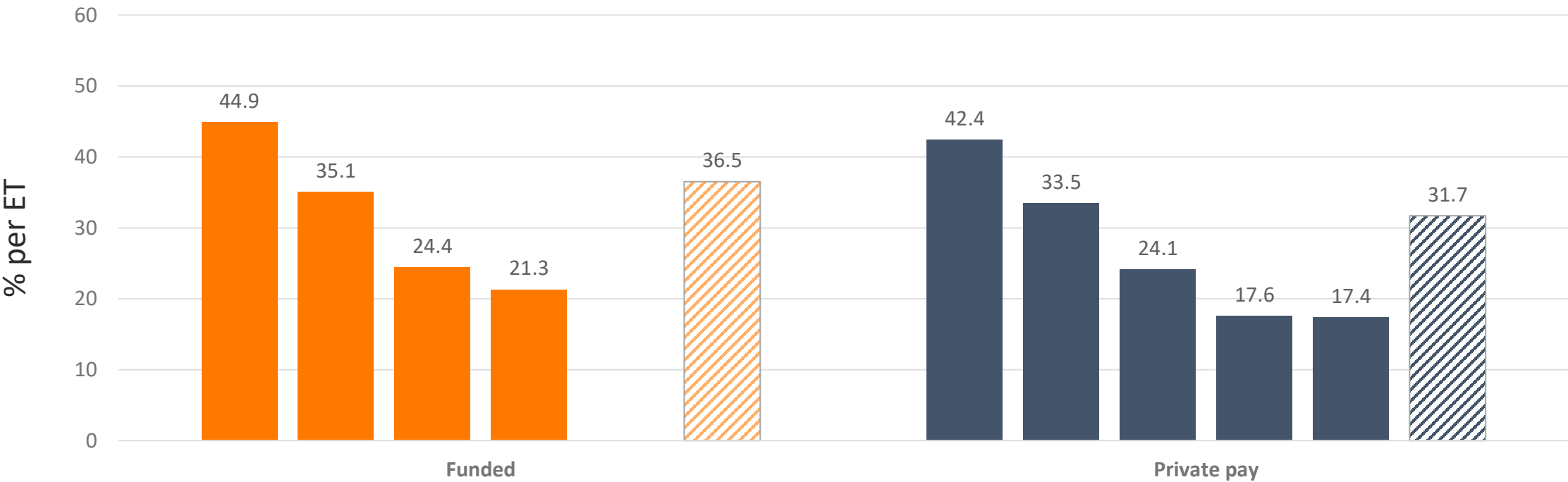
<35	35-37	38-40	41	≥42	Total
523	214	210	27	0	974
947	448	521	66	1	1983

<35	35-37	38-40	41	≥42	Total
193	73	66	24	41	397
382	186	189	75	136	968

Birth cohort, all birth data are from 2023.
Individuals aged ≥42 were included in the analysis if their funded cycle was initiated prior to their 42nd birthday, even if the retrieval occurred after they had turned 42.
These results should be interpreted in the context that only five IVF clinics in Québec submitted data to CARTR in 2023.

Québec Live Birth Rate per ET, Funded vs Private Pay

Retrievals and all associated embryo transfers, own and donor oocytes, 2023



Age group (yr)
Numerator
Total denominator

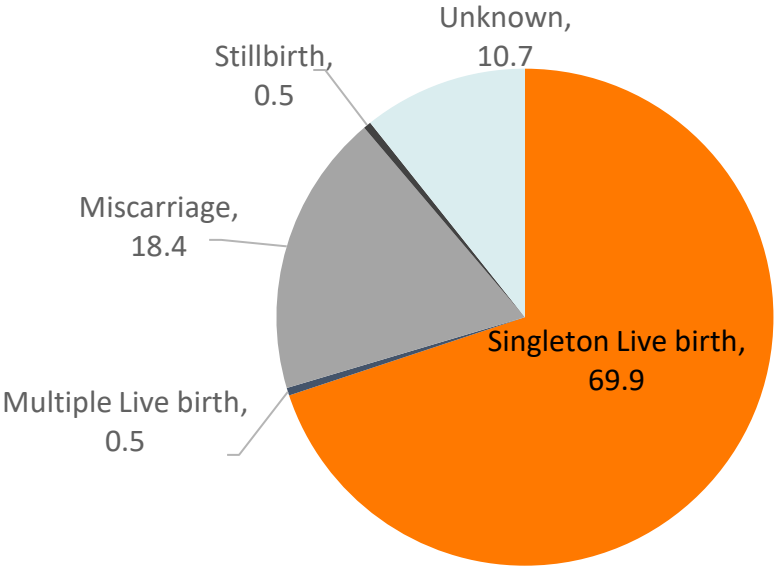
<35	35-37	38-40	41	≥42	Total
403	149	121	13	0	686
897	425	495	61	1	1,879

<35	35-37	38-40	41	≥42	Total
161	62	45	13	23	304
380	185	187	74	132	958

Birth cohort, all birth data are from 2023. Missing birth outcomes are excluded.
Individuals aged ≥42 were included in the analysis if their funded cycle was initiated prior to their 42nd birthday, even if the retrieval occurred after they had turned 42.
These results should be interpreted in the context that only five IVF clinics in Québec submitted data to CARTR in 2023.

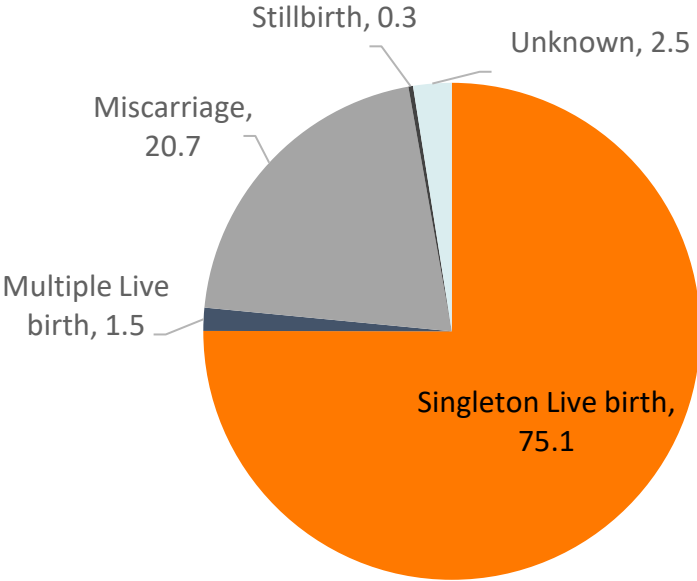
Québec Birth Outcomes: Funded Vs Private Pay

Ongoing pregnancies, own and donor oocytes, 2023



Funded

Outcome	Singleton live birth	Multiple live birth	Miscarriage	Still birth	Unknown
Numerator	681	5	179	5	104
Total denominator	974	974	974	974	974



Private pay

Outcome	Singleton live birth	Multiple live birth	Miscarriage	Still birth	Unknown
Numerator	298	6	82	1	10
Total denominator	397	397	397	397	397

When unknown outcomes are removed, there are similar birth outcomes in funded vs private pay

Singleton birth: one live birth at any gestational age; Multiple live birth: At least one live birth from a multiple pregnancy;
Stillbirth: no fetus(es) was born alive and fetal loss occurred at ≥20 weeks’ gestation; Miscarriage: fetal loss occurred at <20 weeks’ gestation; Birth cohort, all birth data are from 2023.
These results should be interpreted in the context that only five IVF clinics in Québec submitted data to CARTR in 2023.

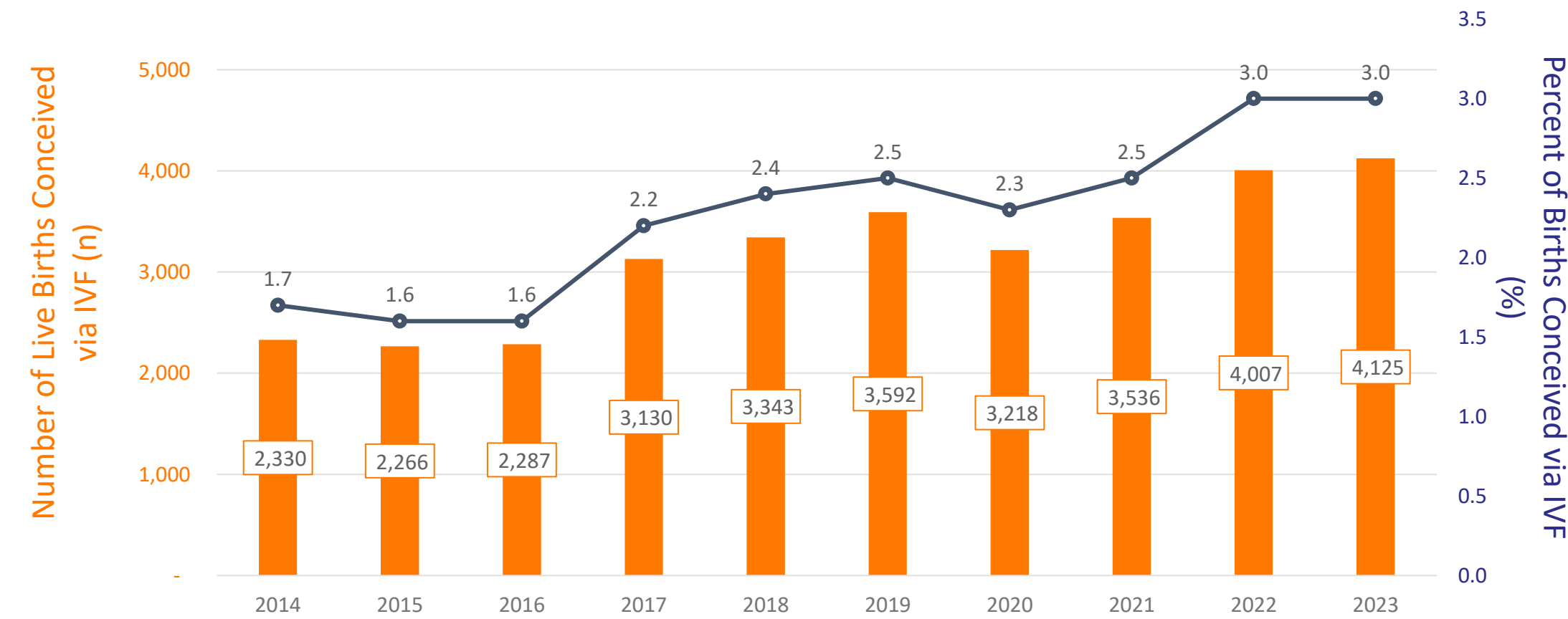
PERINATAL OUTCOMES

Ontario birth cohort



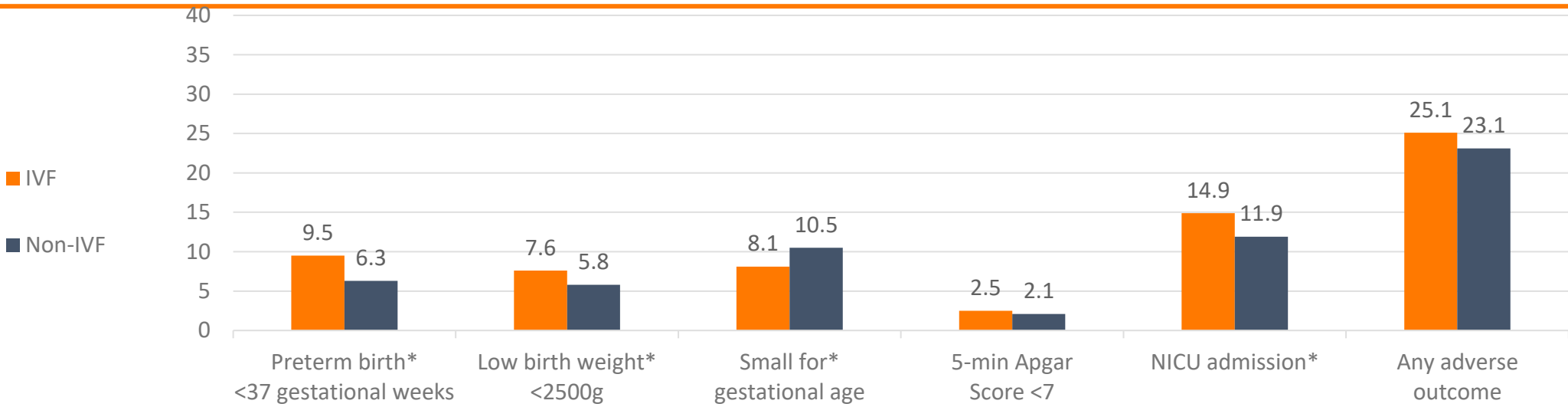
Prevalence of Live Births Conceived via IVF in Ontario

Ontario births, own and donor oocytes, 2014-2023



Adverse Neonatal Outcomes, IVF vs Non-IVF

Ontario singleton infants, own and donor oocytes, 2023

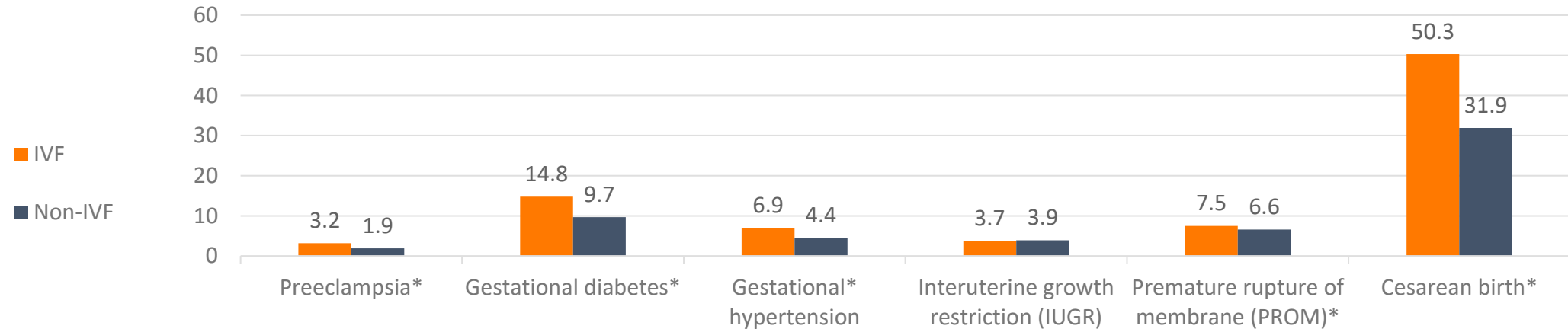


N IVF infants	369	298	317	97	583	981
Total IVF infants	3,902	3,902	3,902	3,902	3,902	3,902
N non-IVF infants	8,108	7,350	13,463	2,681	15,155	29,501
Total non-IVF infants	127,775	127,775	127,775	127,775	127,775	127,775
RR (95% CI)	1.49 (1.34-1.65)	1.34 (1.20-1.51)	0.78 (0.70-0.87)	1.19 (0.97-1.46)	1.29 (1.19-1.39)	1.10 (1.03-1.16)
ARR (95% CI)	1.28 (1.15-1.43)	1.21 (1.08-1.36)	0.79 (0.71-0.89)	1.11 (0.90-1.38)	1.19 (1.10-1.29)	1.06 (1.00-1.12)

Live births only. Cases with missing neonatal outcome data were excluded;
Small for gestational age: Birth weight below the 10th percentile for gestational age, determined using standardized growth charts specific to singleton births from the Canadian Perinatal Surveillance System.
Risk Ratios (RR) and 95% Confidence Intervals (CI) were estimated using modified Poisson regression models and Generalized Estimating Equations. Adjusted Risk Ratios (ARR) adjust for potential confounders including patient age, parity, pre-existing hypertension, gestational hypertension, pre-existing diabetes, gestational diabetes, and pulmonary conditions. Regression models exclude missing data on confounders. Asterisk (*) denote statistical significance.

Adverse Perinatal Outcomes, IVF vs non-IVF

Ontario pregnancies resulting in a singleton birth, own and donor oocytes, 2023



N IVF	122	571	266	144	288	1,938
Total IVF	3,851	3,851	3,851	3,851	3,851	3,851
N non-IVF pregnancies	2,390	12,415	5,618	5,029	8,427	40,672
Total non-IVF pregnancies	127,381	127,381	127,381	127,381	127,381	127,381
RR (95% CI)	1.71 (1.43-2.04)	1.52 (1.40-1.64)	1.56 (1.39-1.76)	0.96 (0.81-1.13)	1.12 (1.00-1.26)	1.57 (1.52-1.62)
ARR (95% CI)	1.38 (1.15-1.65)	1.14 (1.05-1.23)	1.32 (1.17-1.50)	0.99 (0.83-1.17)	1.14 (1.01-1.28)	1.34 (1.30-1.39)

Live and still births included. Cases with missing perinatal outcome data were excluded;

Risk Ratios (RR) and 95% Confidence Intervals (CI) were estimated using modified Poisson regression models and Generalized Estimating Equations. Adjusted Risk Ratios (ARR) adjust for potential confounder. Preeclampsia, IUGR, PROM and cesarean birth were adjusted for patient age, parity, pre-existing hypertension, pre-existing diabetes, and pre-existing pulmonary conditions. Gestational diabetes was adjusted for patient age, parity, pre-existing hypertension and pre-existing pulmonary conditions only. Gestational hypertension was adjusted for patient age, parity, pre-existing diabetes, and pre-existing pulmonary conditions only.

Regression models exclude missing data on confounders. Asterisk (*) denote statistical significance.

CONCLUSION



Conclusion



IVF births have increased 48% since 2013

With over 21,600 retrievals, 10,500 pregnancies and 8,800 live births



PGT-A testing and freeze-all are increasing

Over 37% of FETs are PGT-A tested and over 80% of retrievals are freeze-all



CFAS Compliance Seal and Choosing Wisely Guidelines

Two Canadian initiatives to focused on strengthening evidence-based recommendations to improve care



Increase in elective oocyte banking

With 2,580 retrievals in 2024, representing a 15% growth in a single year



Provincial funding in Ontario and Québec

With 1,238 live births in Ontario and 686 live births in Québec supported by provincial funding programs



Acknowledgments



This annual report would not be possible without the dedication and hard work of our entire team.

BORN CARTR PLUS TEAM

- **Dr. Katherine Muldoon, PhD**, Epidemiologist, Assistant Professor, Department of OBGYN, University of Ottawa
- **Sheryll Dimanlig-Cruz, MSc**, Senior Data Analyst
- **Tatung Nath, MSc**, Data Analyst
- **Emily Reeson, RN**, Clinical Content Specialist, CARTR Plus Coordinator
- **Matt O'Grady**, Business System Analyst
- **Krista Beneš**, Manager, Prenatal Screening Ontario and Complex Perinatal Portfolio
- **Dr. Andrea Lanes, PhD**, Clinical Content Specialist
- **Shelley Dougan**, Director, Prenatal Screening Ontario and Complex Perinatal Portfolio

CARTR PLUS STEERING COMMITTEE

- **Dr. Neal Mahutte, MD**, Medical Director, The Montreal Fertility Centre (Co-Chair)
- **Dr. Jason Hitkari, MD**, Medical Director, Olive Fertility Centre (Co-Chair)
- **Dr. Ellen M Greenblatt, MD**, REI staff physician, Mount Sinai Fertility, Professor, Dept OBGYN, University of Toronto
- **Dr. Scot Hamilton, PhD, HCLD**, Laboratory Director, Mount Sinai Fertility, Assistant Professor, Laboratory Medicine and Pathology, University of Toronto
- **Dr Jim Meriano, PhD**, Lab Director
- **Dr. Simon Phillips PhD FRSB**, OVO Fertility / TFP Faculty of Medicine, University of Montreal



Participating Clinics

Alberta	Alberta Reproductive Centre Oasis Fertility Centre Pacific Centre for Reproductive Medicine (Edmonton) Regional Fertility Programme	Ontario	Anova Fertility and Reproductive Health ASTRA Fertility Centre CReATe IVF Programme Hannam Fertility Centre IVF Canada & LIFE Programme Generation Fertility Toronto West Generation Fertility Vaughan Generation Fertility Waterloo Markham Fertility Centre Mount Sinai Fertility Nahal Fertility Programme NewLife Fertility Centre Omega Fertility Center ONE Fertility (Burlington) ONE Fertility (KW) Ottawa Fertility Centre Reproductive Care Centre TRIO Fertility Twig Fertility Victory Reproductive Care
British Columbia	Grace Fertility Centre Olive Fertility Centre Pacific Centre for Reproductive Medicine (BC)		
Manitoba	Heartland Fertility Clinic		
New Brunswick	Conceptia Clinic		
Nova Scotia	Atlantic Assisted Reproductive Therapies		
Québec	Montreal Fertility Centre OriginElle Fertility Clinic & Women's Health Centre OVO Fertility Procrea (Québec) St Justine Hospital McGill Reproductive Centre		
		Saskatchewan	Aurora Reproductive Care

THANK YOU

