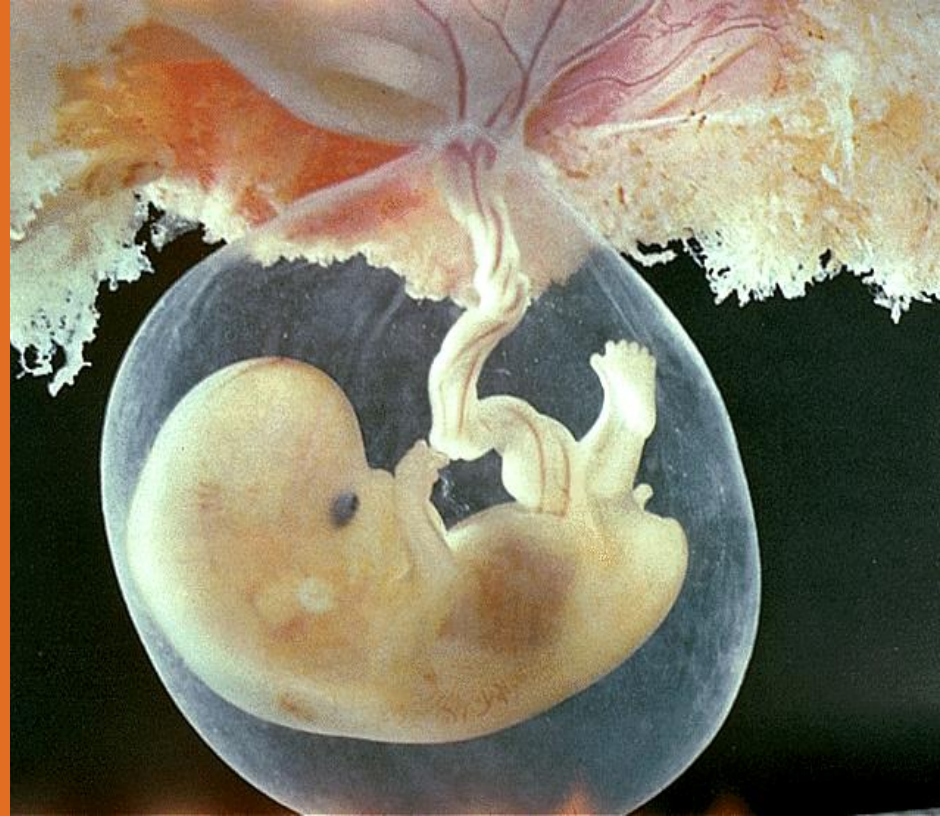


**Canadian Assisted
Reproductive
Technologies Register Plus
(CARTR Plus)**



**Canadian Fertility and Andrology Society
62nd Annual Meeting – Toronto
September 22-24, 2016**

CARTR Plus presentation outline

- All ART treatment cycles 2011–2015
- Birth outcomes – 2014
- All ART treatment cycles – 2015
- Primary transfer rate
- Cumulative pregnancy rate
- Key messages

List of abbreviations

CS	Cycle start
RET	Oocyte retrieval
ET	Embryo transfer
IVF	In vitro fertilization
FET	Frozen embryo transfer
PGS/PGD	Preimplantation genetic screening/diagnosis
IVM	In vitro maturation
OHSS	Ovarian hyperstimulation syndrome
eSET	Elective single embryo transfer
neSET	Non-elective single embryo transfer
eDET	Elective double embryo transfer
neDET	Non-elective double embryo transfer

Disclaimer

- This report is based on data submitted by assisted reproductive technology clinics from across Canada to the CARTR Plus database. Although significant effort has been made to ensure the accuracy of the information presented in this report, neither the authors nor BORN Ontario nor any other parties make any representation or warranties as to the accuracy, reliability or completeness of the information contained herein.
- Permission is granted for the reproduction of these materials solely for non-commercial and educational purposes.

Suggested citations

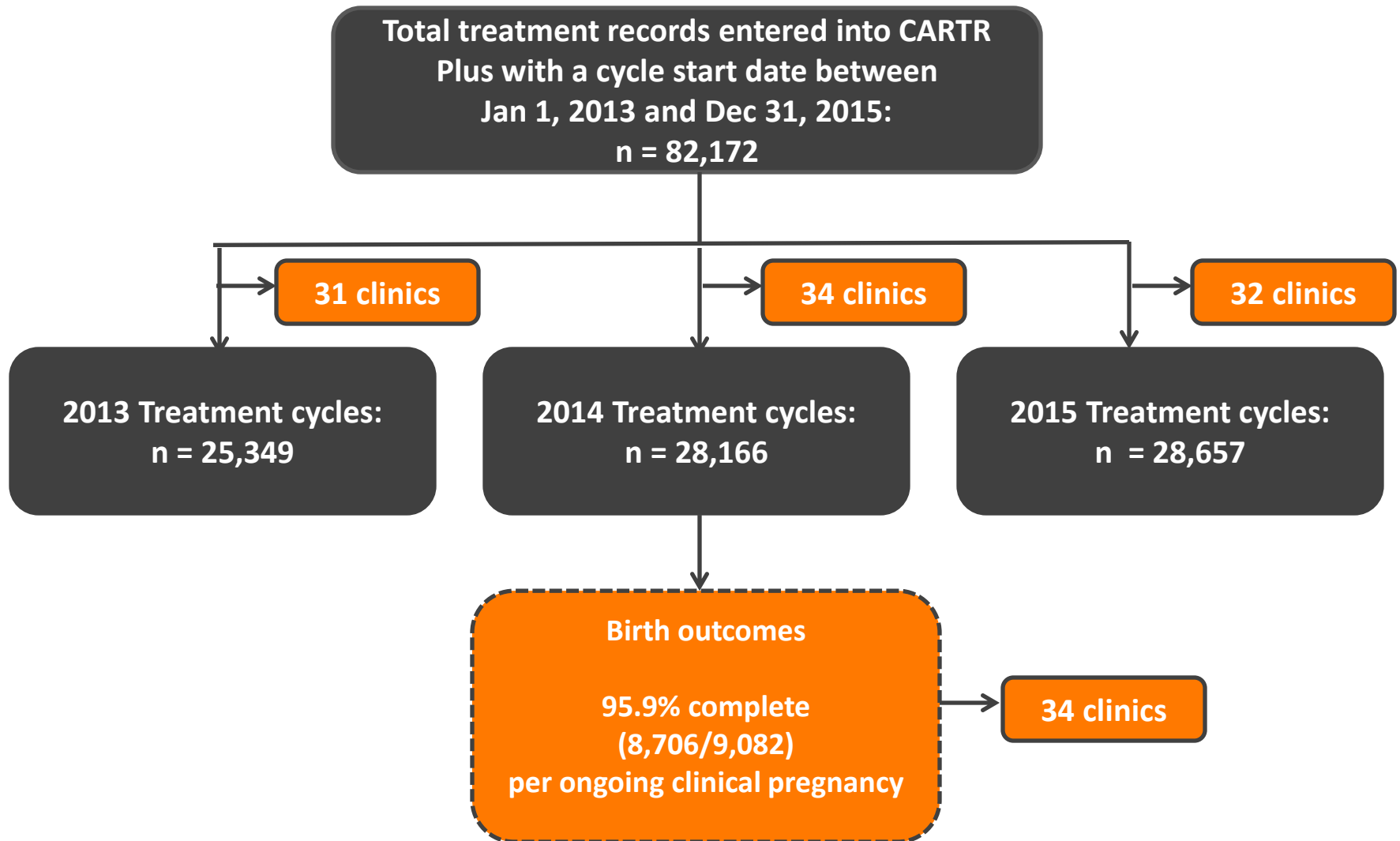
Canadian Assisted Reproductive Technologies Registry (CARTR) Plus. Final treatment cycle and pregnancy outcome data for 2014. Better Outcomes Registry & Network Ontario. Ottawa ON, September 2016.

Canadian Assisted Reproductive Technologies Registry (CARTR) Plus. Preliminary treatment cycle data for 2015. Better Outcomes Registry & Network Ontario. Ottawa ON, September 2016.

Notes

- All data current as of June 2016.
- Treatment cycle outcomes for 2015 cycle starts
 - Based on 32 clinics (not exactly the same clinics as previous years)
- Birth outcomes for 2014 cycle starts
 - Based on 34 clinics

CARTR Plus records extracted June 2016



* Unacknowledged records were included if they were "submitted" or if they linked to an outcome

Notes

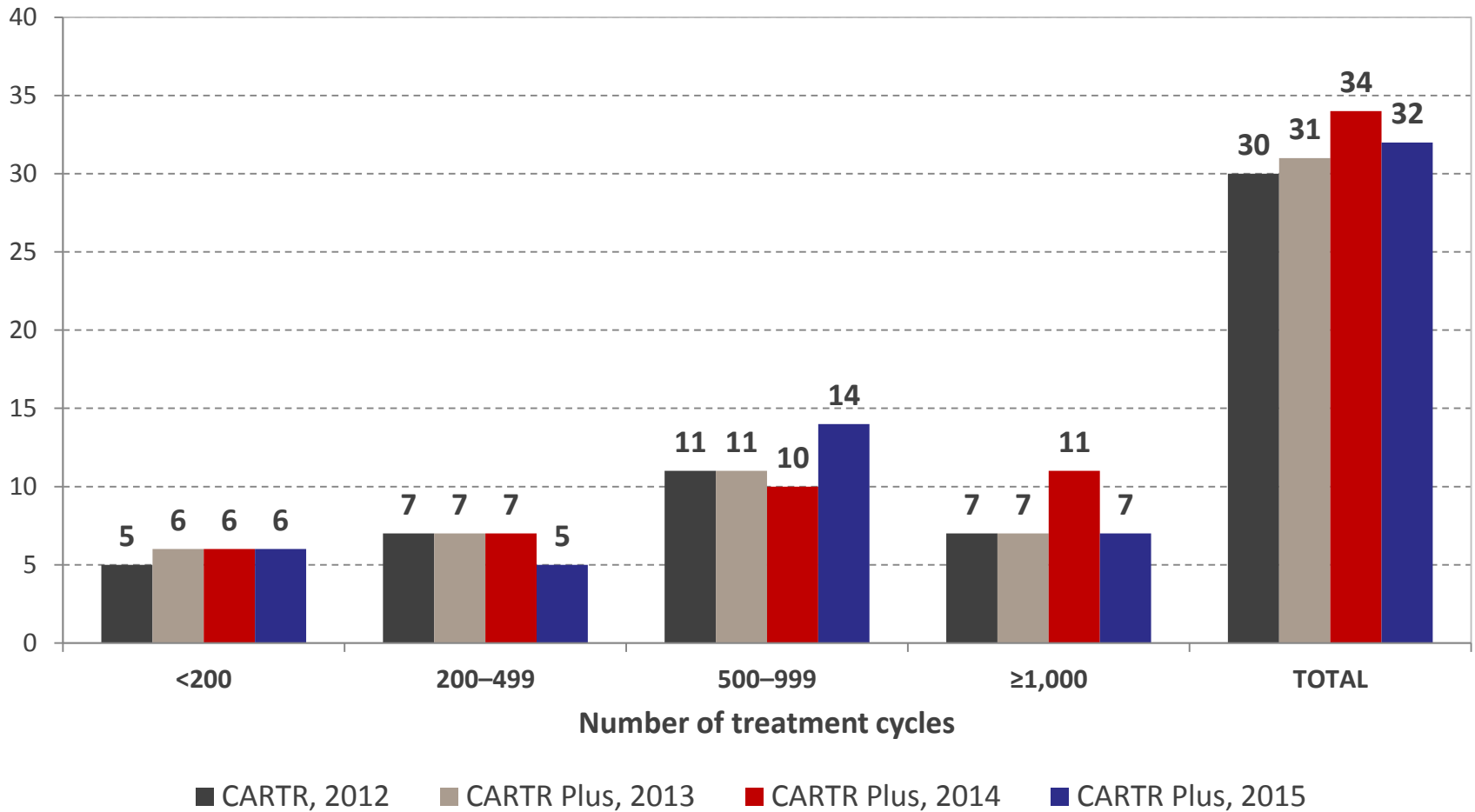
- These slides present descriptive estimates on which no formal statistical tests have been carried out; therefore, differences across treatment cycles, patient characteristics or embryo transfer characteristics may not be statistically significant and should be interpreted cautiously
- Unless otherwise specified, denominators for birth outcomes are based on the pregnancy level

INTRODUCTION

All ART treatment cycles (fresh and frozen)

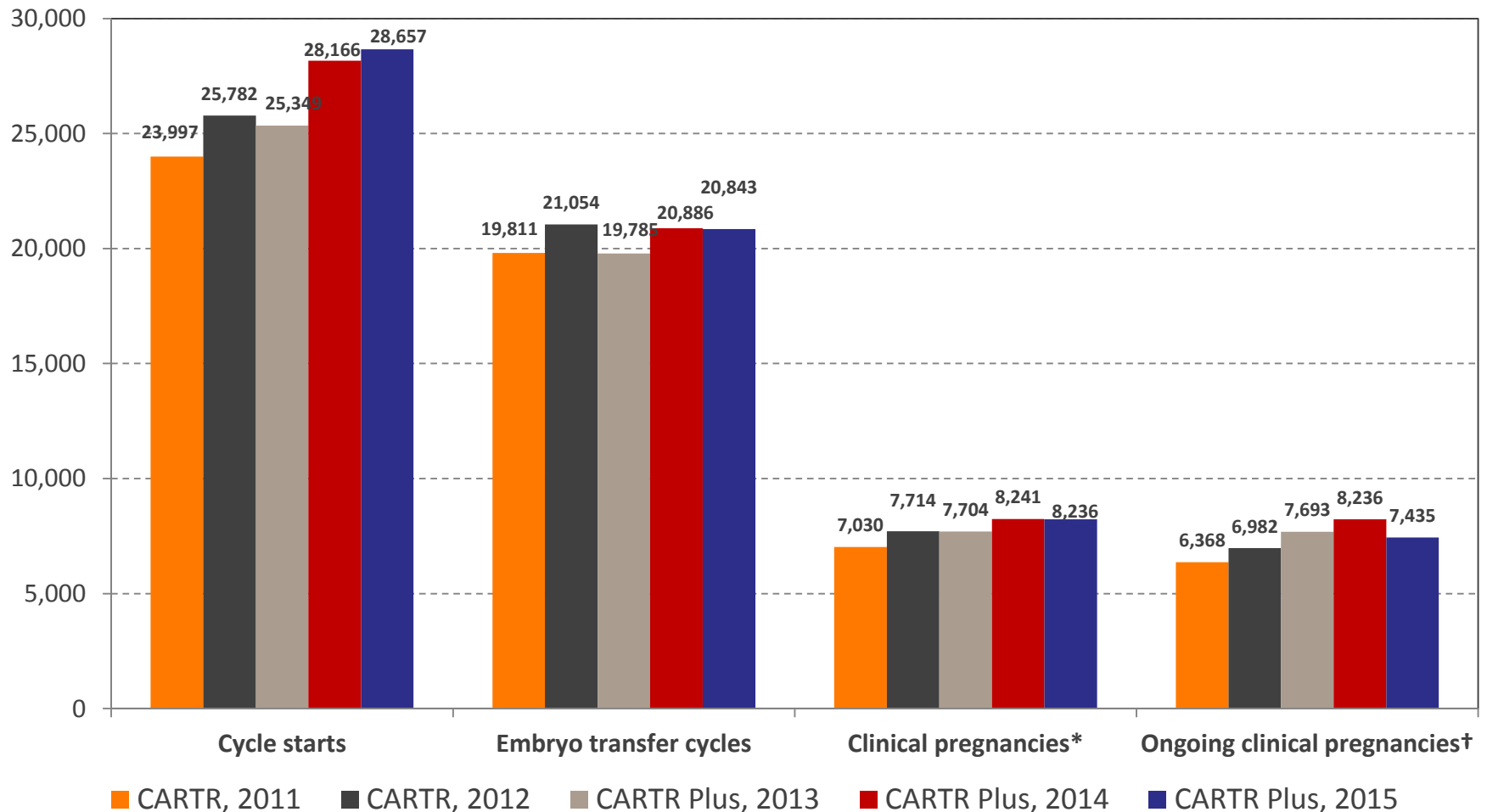
Number of clinics

All ART treatment cycles types



Number of cycles and clinical pregnancies

All ART treatment cycles types

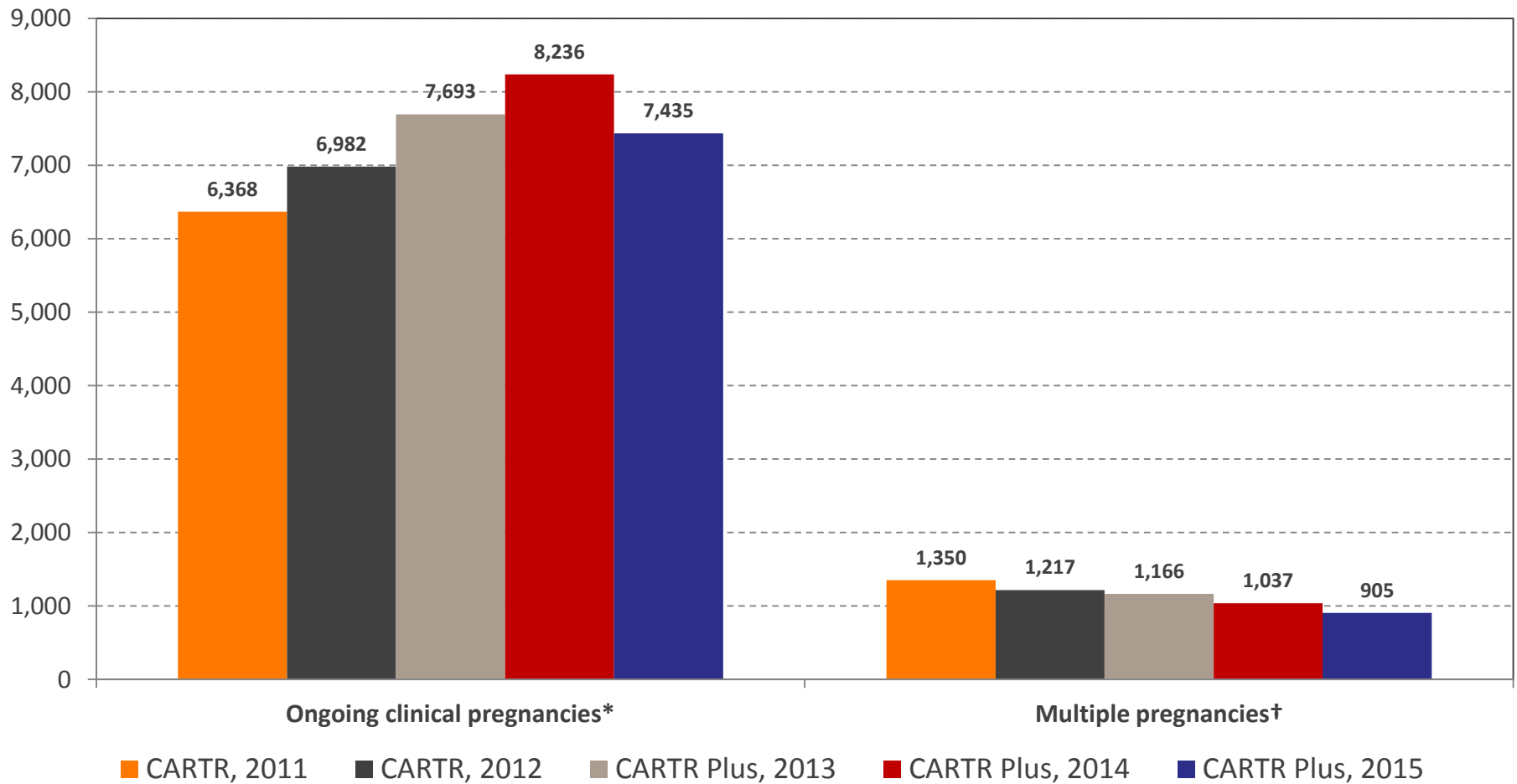


* Clinical pregnancy: clinical intrauterine, heterotopic, or ectopic pregnancy

† Ongoing clinical pregnancy: clinical pregnancy with ≥ 1 fetal heart beat on ultrasound

Number of multiple pregnancies

All ART treatment cycles types

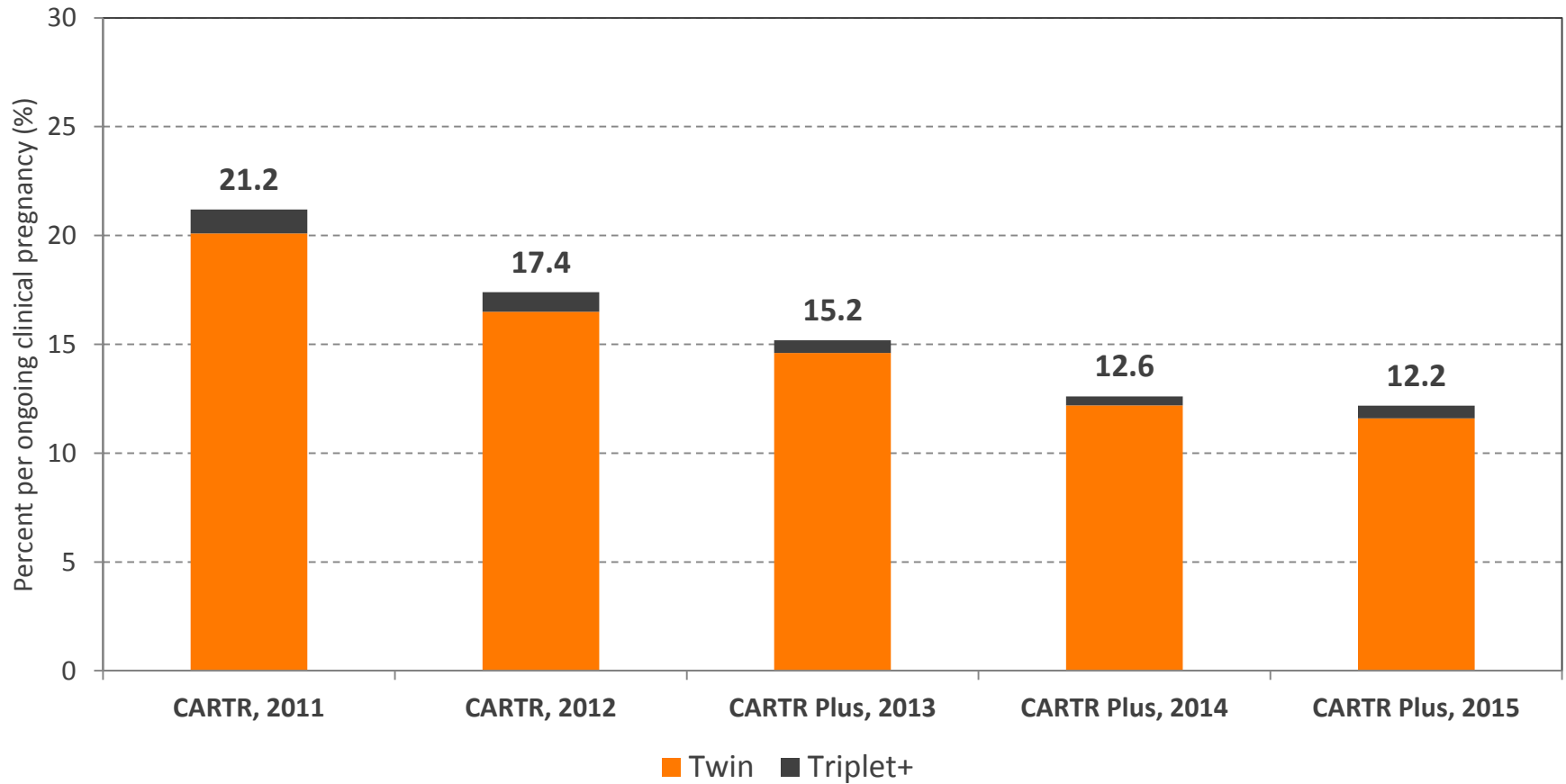


* Ongoing clinical pregnancy: clinical pregnancy with ≥ 1 fetal heart beat on ultrasound

† Multiple pregnancy: ongoing clinical pregnancy with >1 fetal heart beat on ultrasound

Percentage of multiple pregnancies

All ART treatment cycles types



Twin pregnancies	1,278	1,152	1,121	1,003	862
Triplet+ pregnancies	72	65	45	34	43

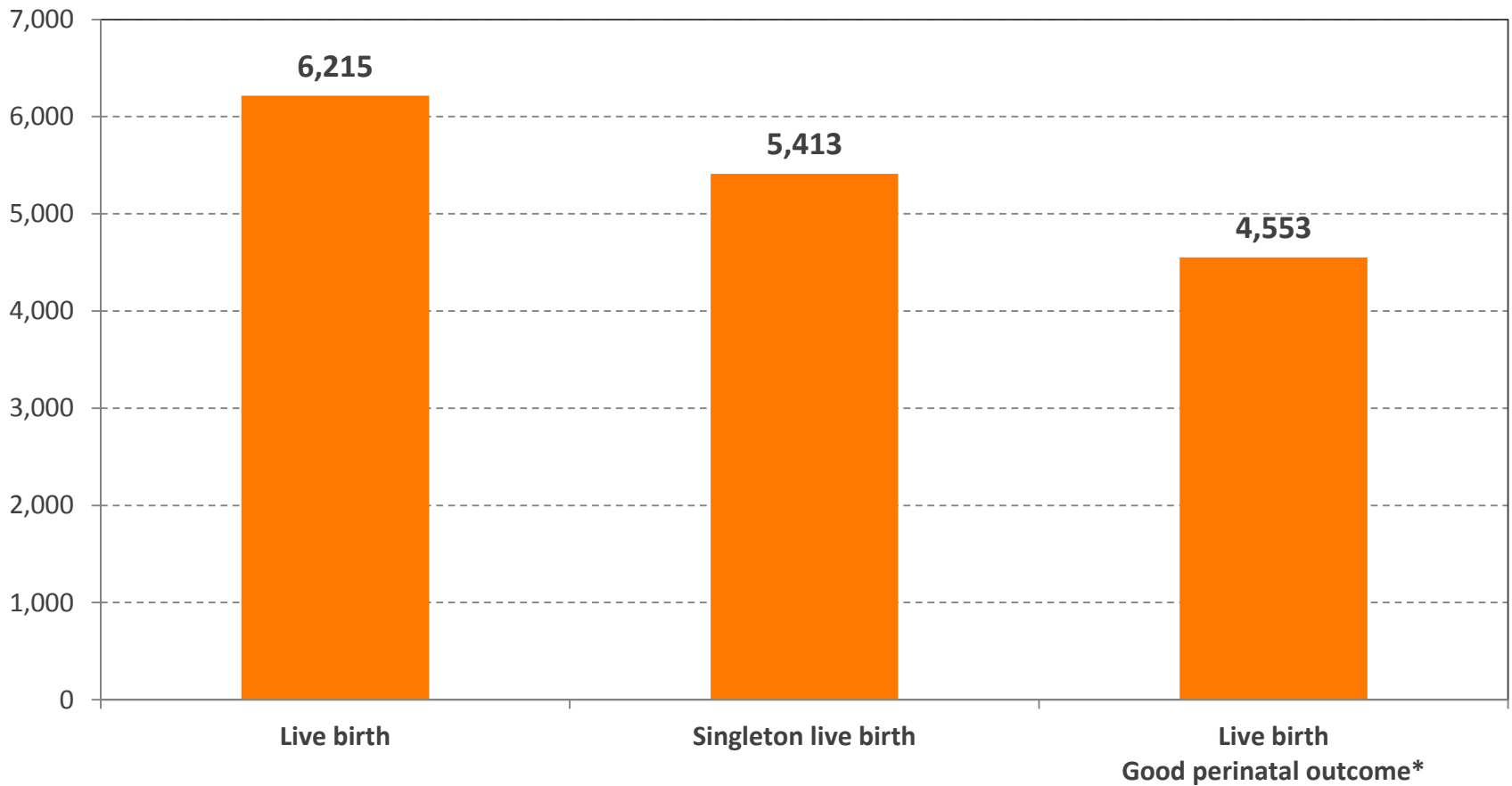
* Ongoing clinical pregnancy: clinical pregnancy with ≥ 1 fetal heart beat on ultrasound
 † Multiple pregnancy: ongoing clinical pregnancy with >1 fetal heart beat on ultrasound

BIRTH OUTCOMES FOR 2014

All ART treatment cycles (fresh and frozen)

Birth outcomes success rates

All ART treatment cycles types (fresh and frozen), 2014

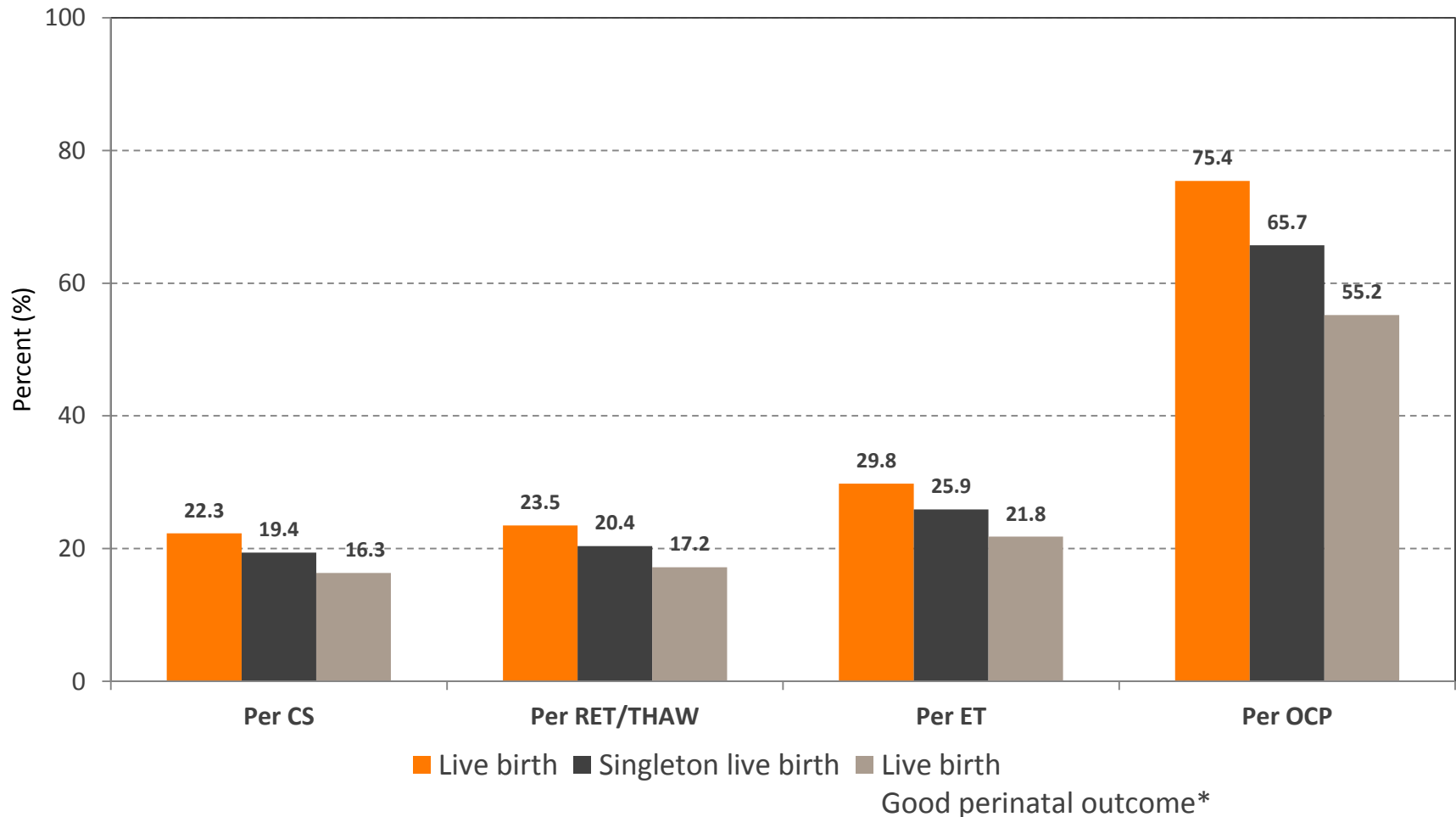


* Good perinatal outcome: singleton live birth at ≥ 37 weeks' gestation and a birth weight $\geq 2,500$ grams

† Cycle starts, oocyte retrievals/thaws and embryo transfers with an unknown birth outcome were removed from the denominator (n=353)

Birth outcomes success rates

All ART treatment cycles types (fresh and frozen), 2014



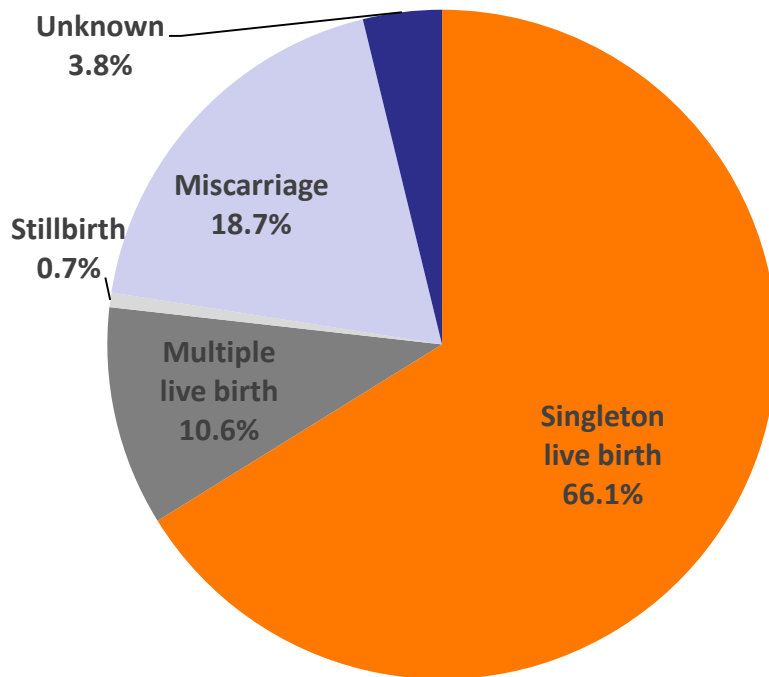
■ Live birth ■ Singleton live birth ■ Live birth
Good perinatal outcome*

* Good perinatal outcome: singleton live birth at ≥ 37 weeks' gestation and a birth weight $\geq 2,500$ grams
OCP - Ongoing clinical pregnancy: a clinical pregnancy with documentation of at least one fetal heart beat on ultrasound
Cycle starts, oocyte retrievals/thaws and embryo transfers with an unknown birth outcome were removed from the denominator (n=353)

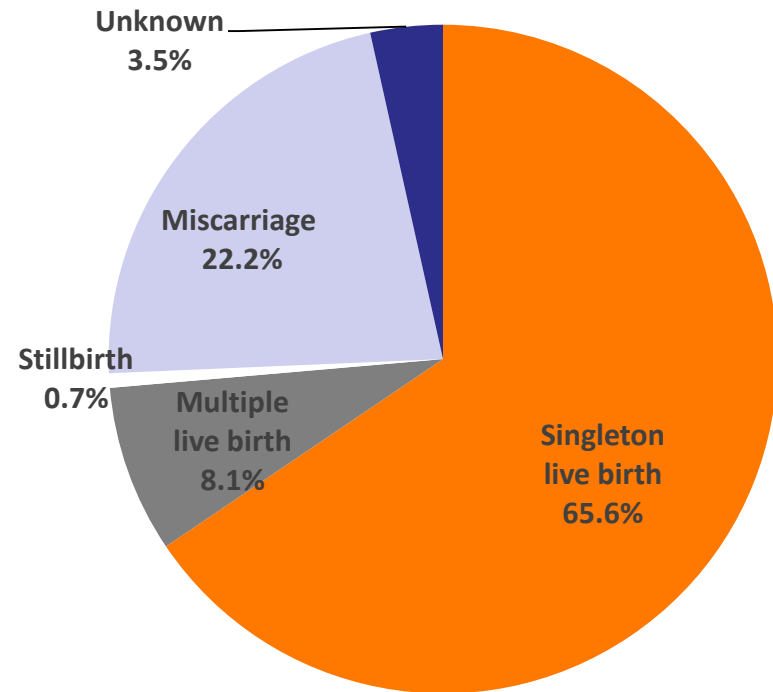
Distribution of birth outcomes among ongoing clinical pregnancies

ART cycles using IVF and FET – own oocytes, 2014

IVF – own oocytes
n= 4,022

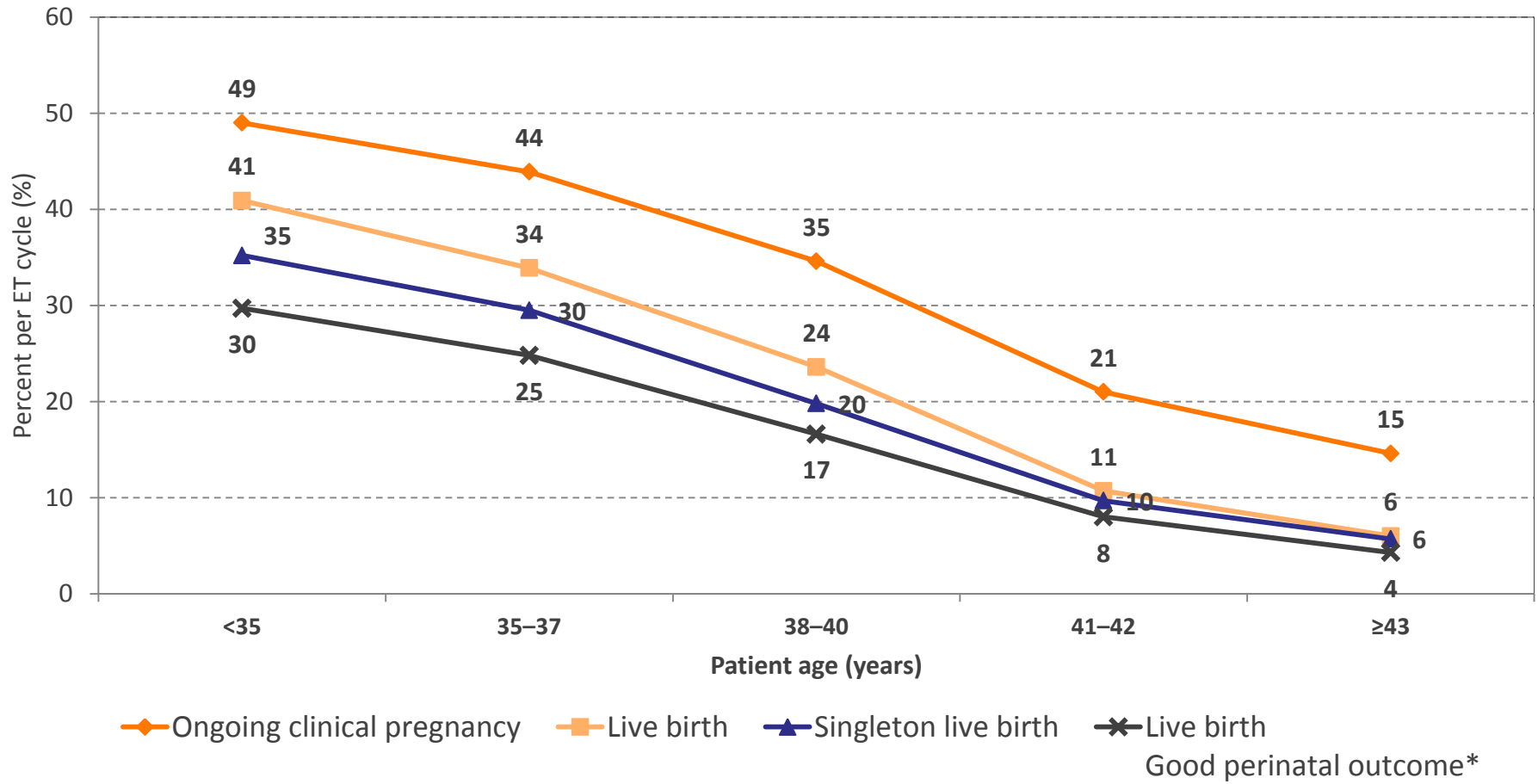


FET – own oocytes
n= 3,281



Birth outcome success rates

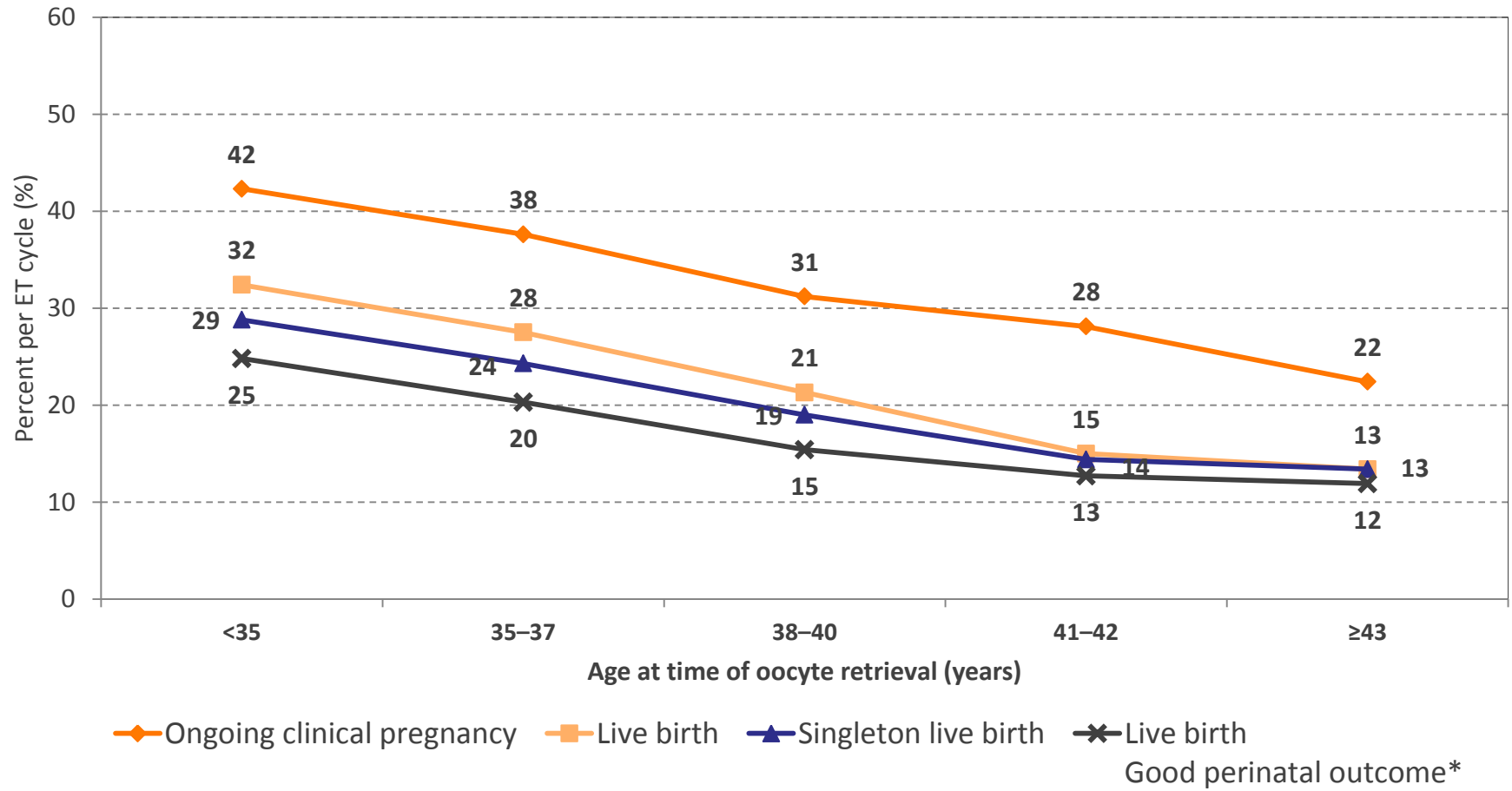
ART cycles using IVF – own oocytes, 2014



* Good perinatal outcome: singleton live birth at ≥37 weeks' gestation and a birth weight ≥2,500 grams

Birth outcome success rates

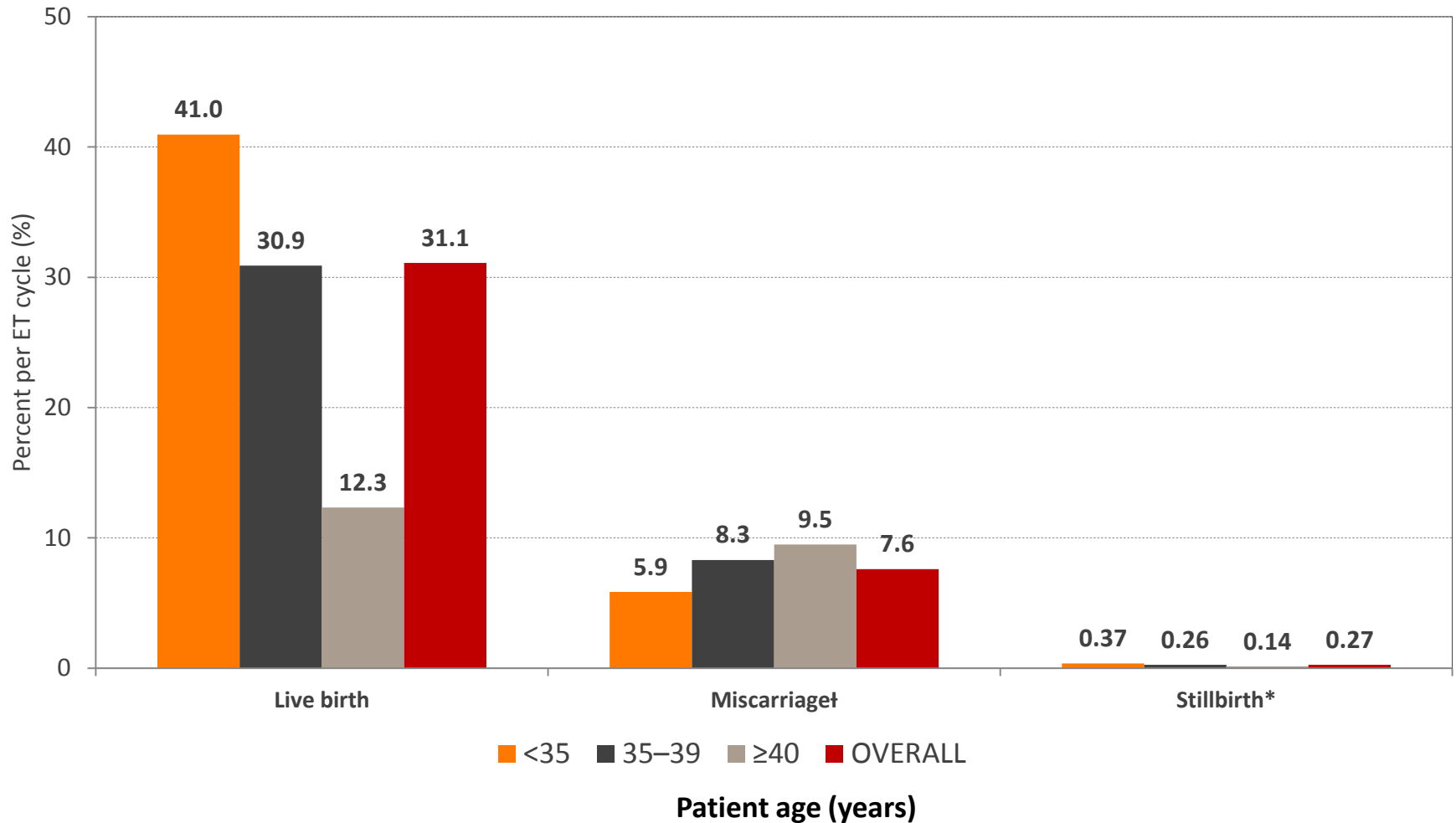
ART cycles using FET – own oocytes, 2014



* Good perinatal outcome: singleton live birth at ≥37 weeks' gestation and a birth weight ≥2,500 grams

Proportion of miscarriage and stillbirth rates

ART cycles using IVF – own oocytes, 2014

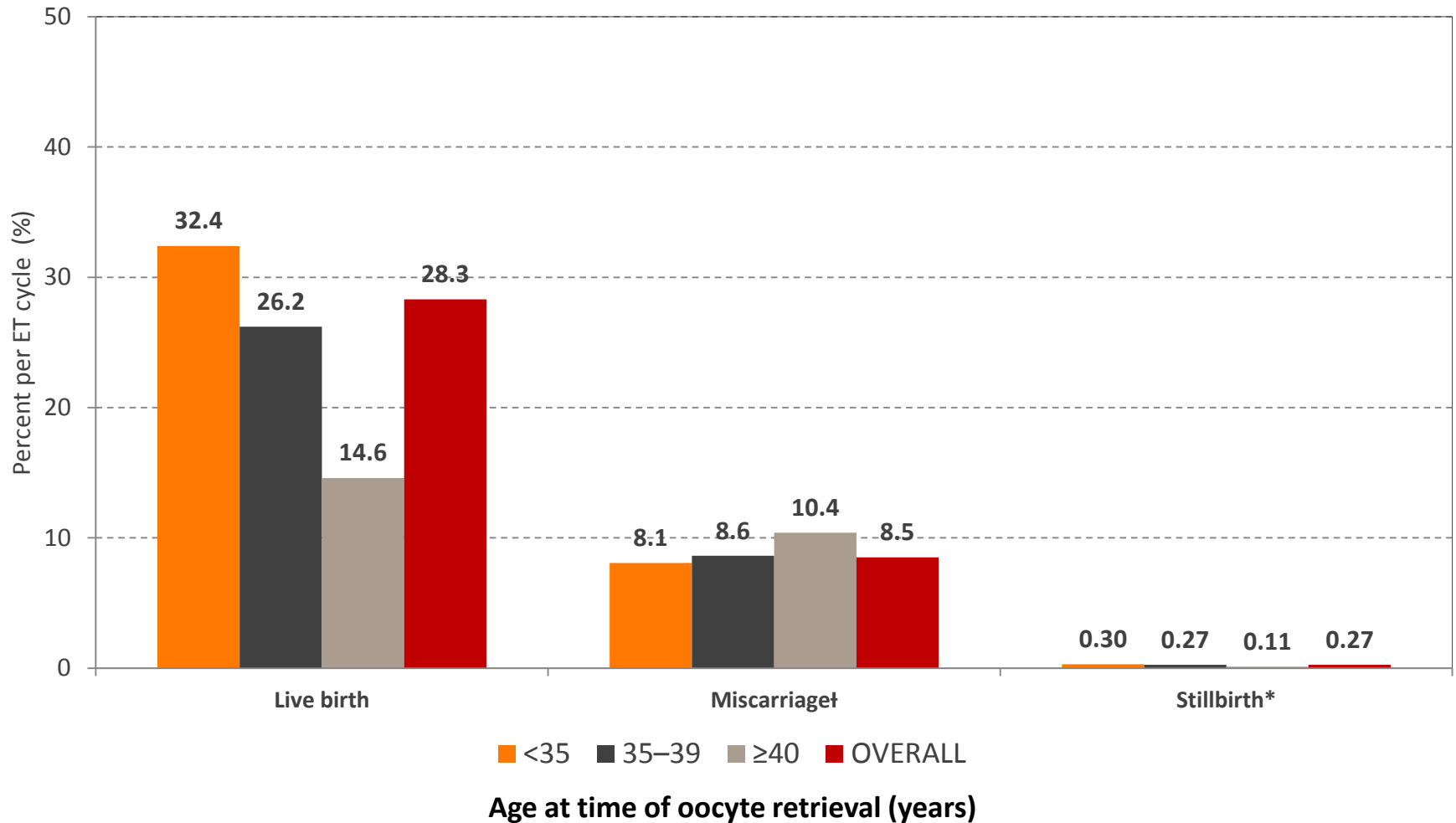


* Stillbirths: birth outcome where no fetus(es) was born alive and at least one stillbirth at ≥ 20 weeks' gestation

† Miscarriage: birth outcome where all fetuses were a 'pregnancy loss' at <20 weeks' gestation

Proportion of miscarriage and stillbirth rates

ART cycles using FET – own oocytes, 2014

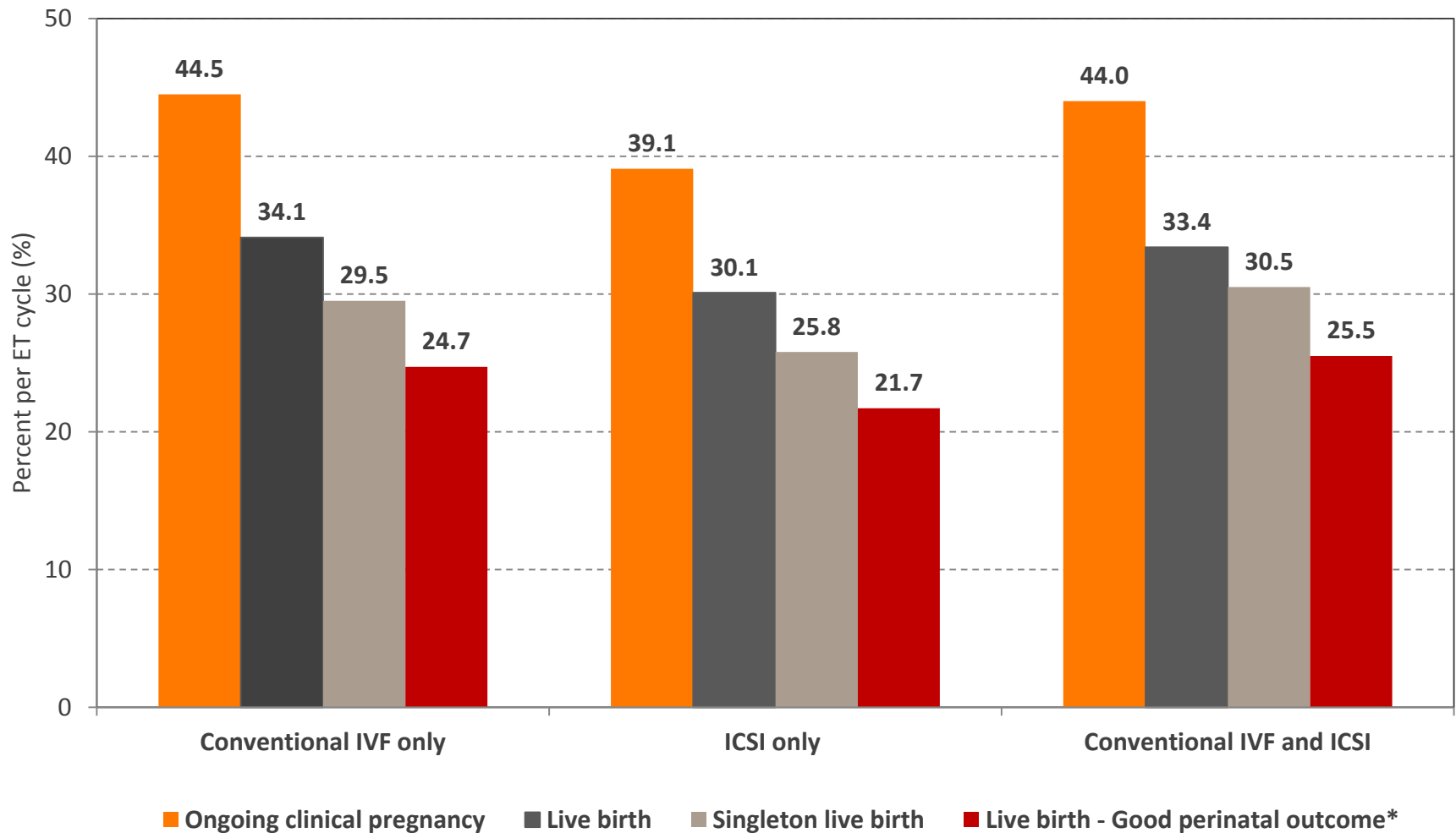


* Stillbirths: birth outcome where no fetus(es) was born alive and at least one stillbirth at ≥ 20 weeks' gestation

† Miscarriage: birth outcome where all fetuses were a 'pregnancy loss' at <20 weeks' gestation

Percentage of birth outcomes by method of insemination

ART cycles using IVF – own oocytes, 2014

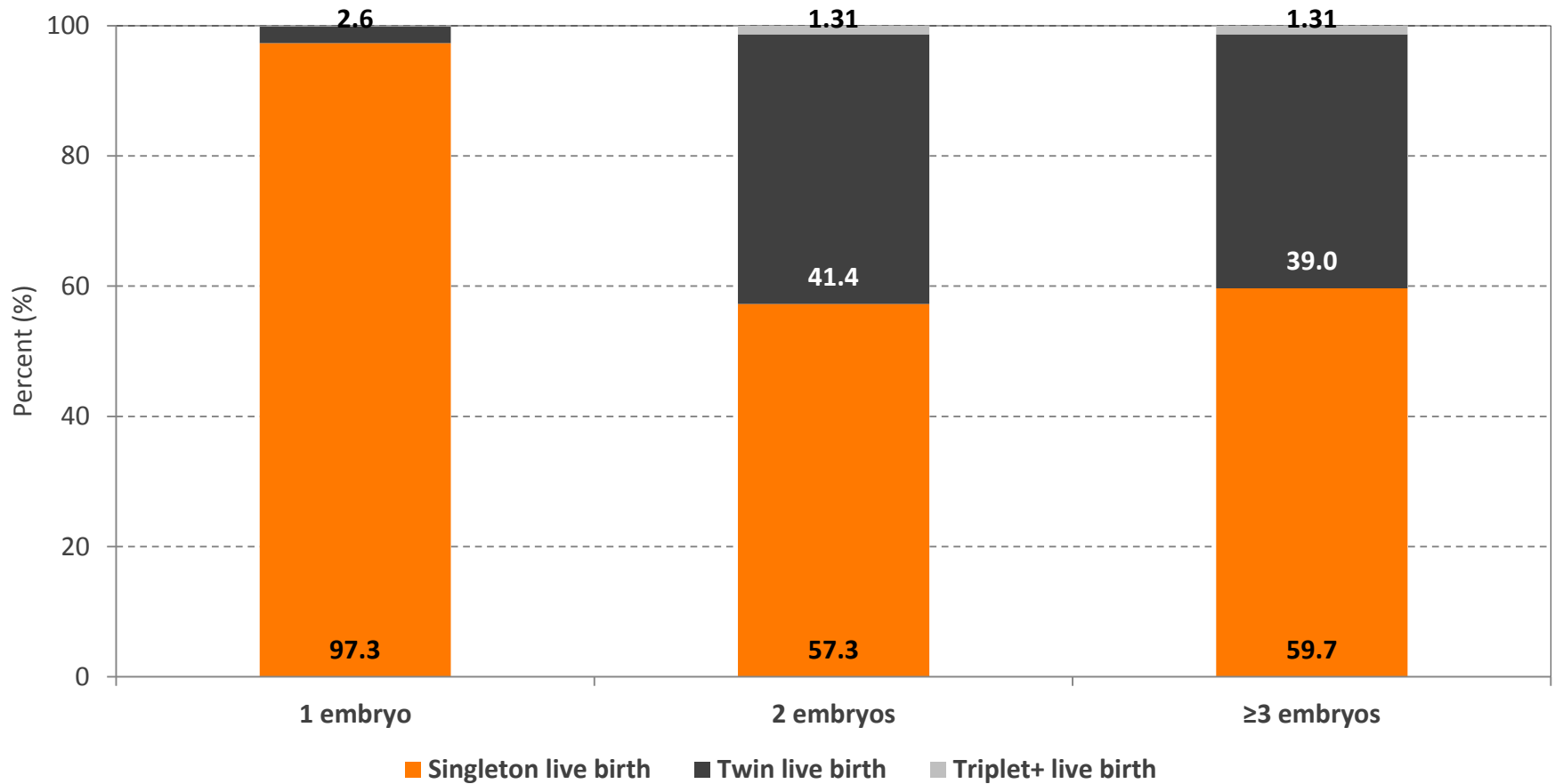


* Good perinatal outcome: singleton live birth at ≥ 37 weeks' gestation and a birth weight $\geq 2,500$ grams

† Conventional IVF and ICSI: a single ET cycle used both conventional IVF and ICSI

Proportion singleton and multiple live births

Baby level - All ART treatment cycles types (fresh and frozen), 2014



Live births

3,537

3,125

305

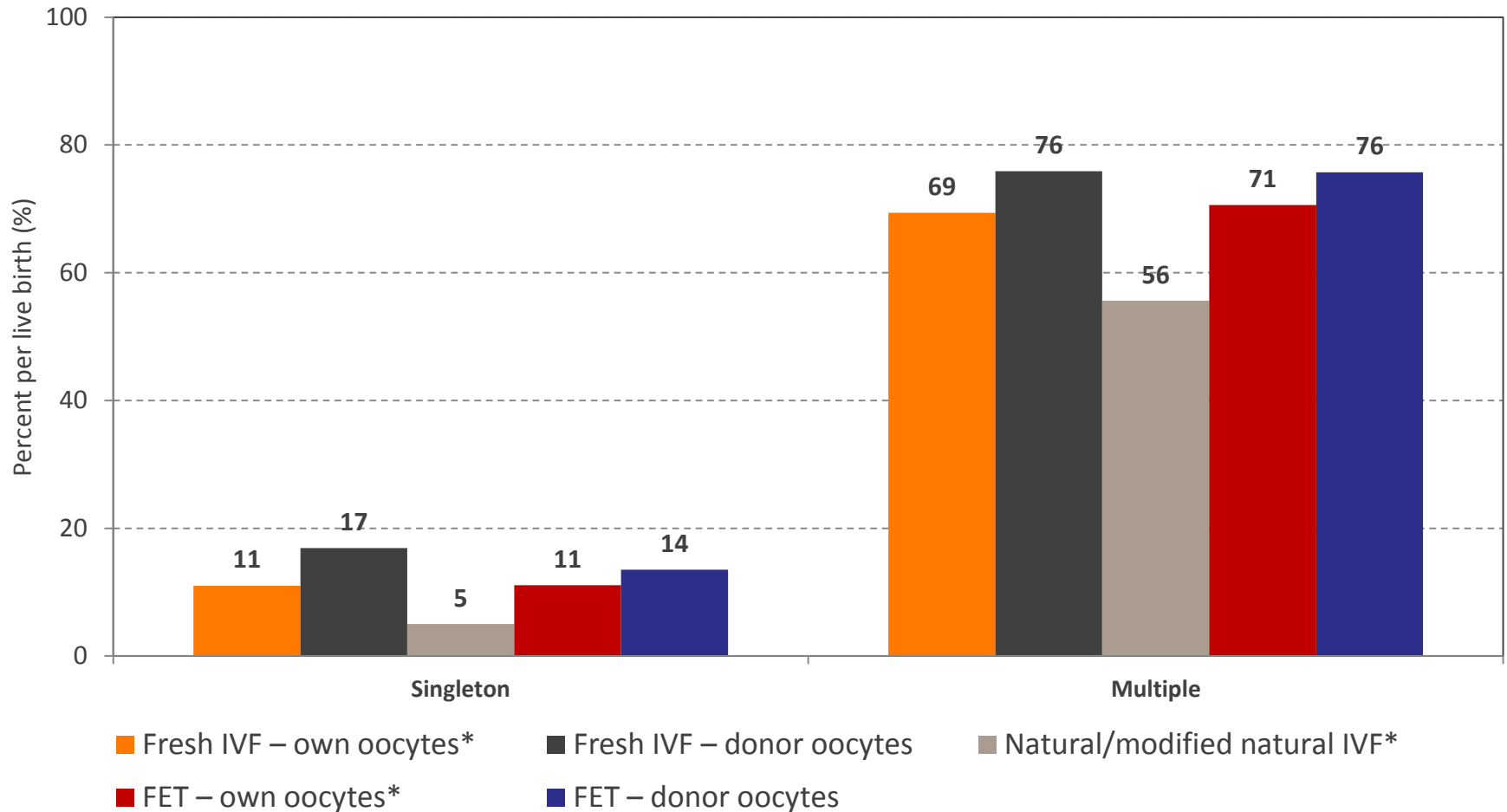
Singleton live birth: one live birth

Twin live birth: two births and at least one live birth

Triplet+ live birth: three or more births and at least one live birth

Proportion of preterm births by plurality

Baby level - All ART treatment cycles types (fresh and frozen), 2014



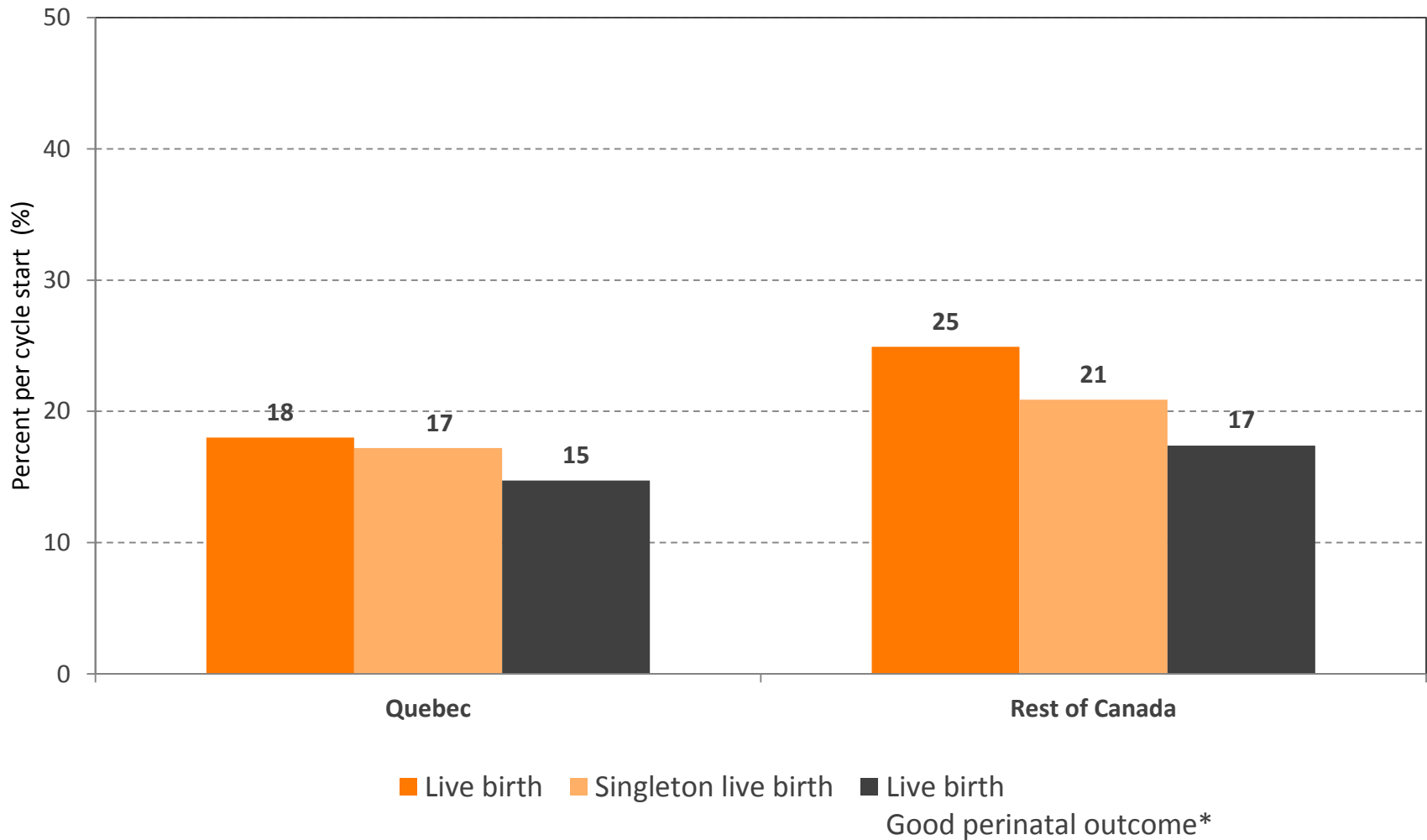
* Own oocytes exclusively

Preterm birth <37 weeks' gestation

Total number of live births were used as the denominator for these calculations.

Birth outcomes by province

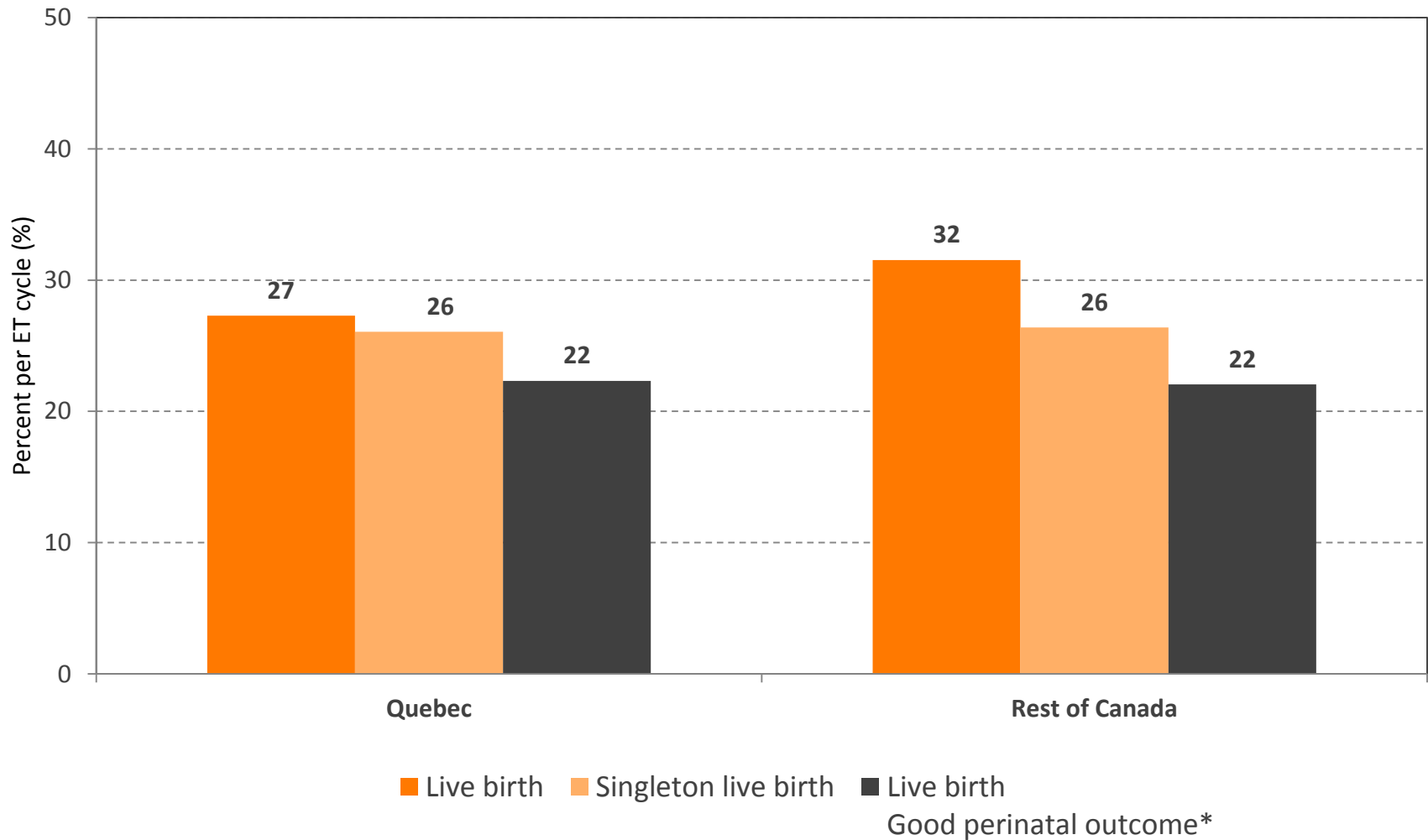
All ART treatment cycles types (fresh and frozen), 2014



* Good perinatal outcome: singleton live birth at ≥ 37 weeks' gestation and a birth weight $\geq 2,500$ grams
Cycle starts, and embryo transfers with an unknown birth outcome were removed from the denominator (n=353)

Birth outcomes by province

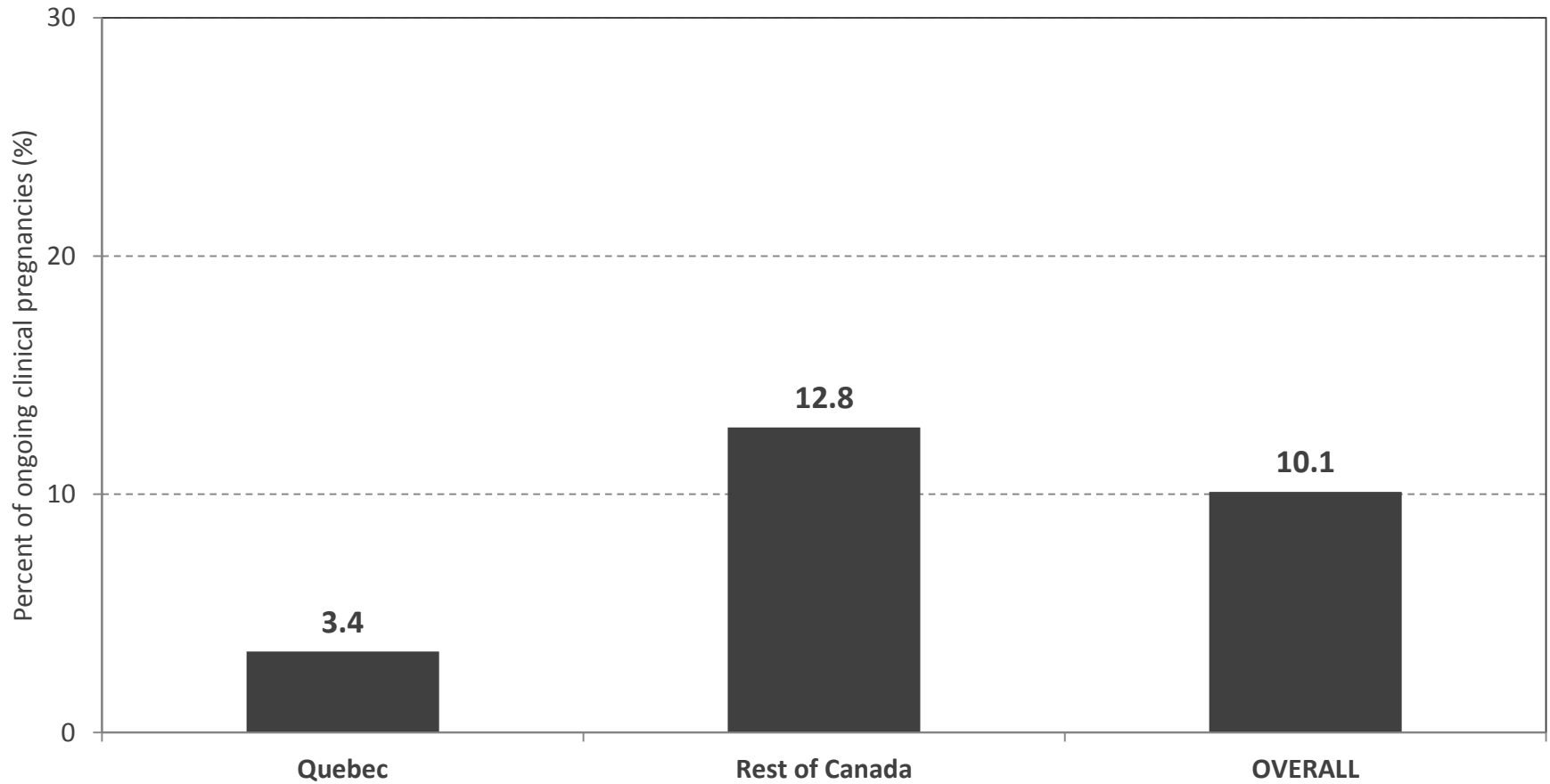
All ART treatment cycles types (fresh and frozen), 2014



* Good perinatal outcome: singleton live birth at ≥ 37 weeks' gestation and a birth weight $\geq 2,500$ grams
Cycle starts, and embryo transfers with an unknown birth outcome were removed from the denominator (n=353)

Percentage of multiple live births by province

All ART treatment cycles types (fresh and frozen), 2014



Multiple
births

77

725

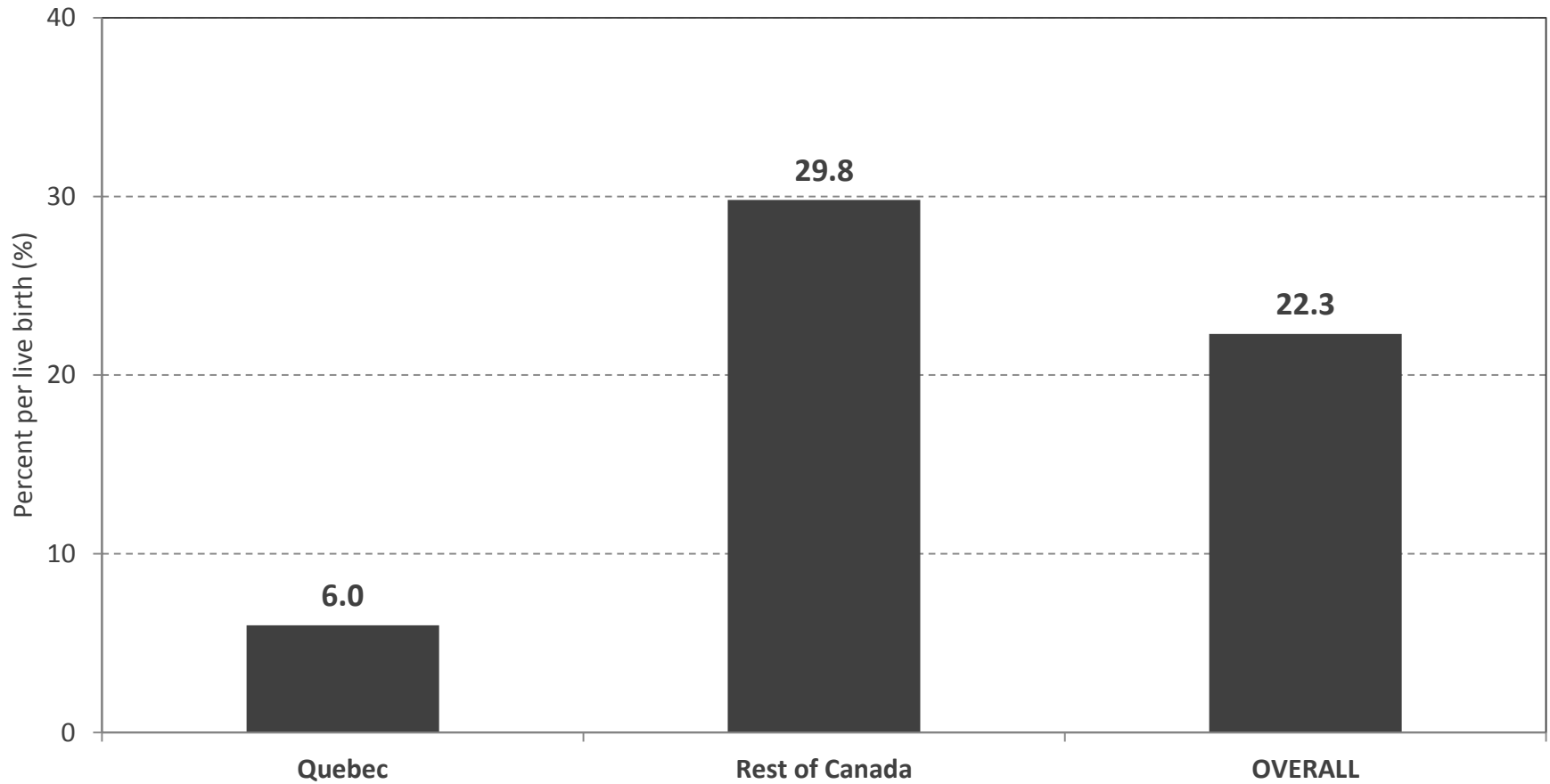
802

Ongoing clinical pregnancy: documentation of at least one fetal heart beat on ultrasound

Multiple birth: At least one live birth from a multiple pregnancy

Percentage of multiple live births by province

Baby level - All ART treatment cycles types (fresh and frozen), 2014



**Multiple
births**

105

1,449

1,554

Ongoing clinical pregnancy: documentation of at least one fetal heart beat on ultrasound

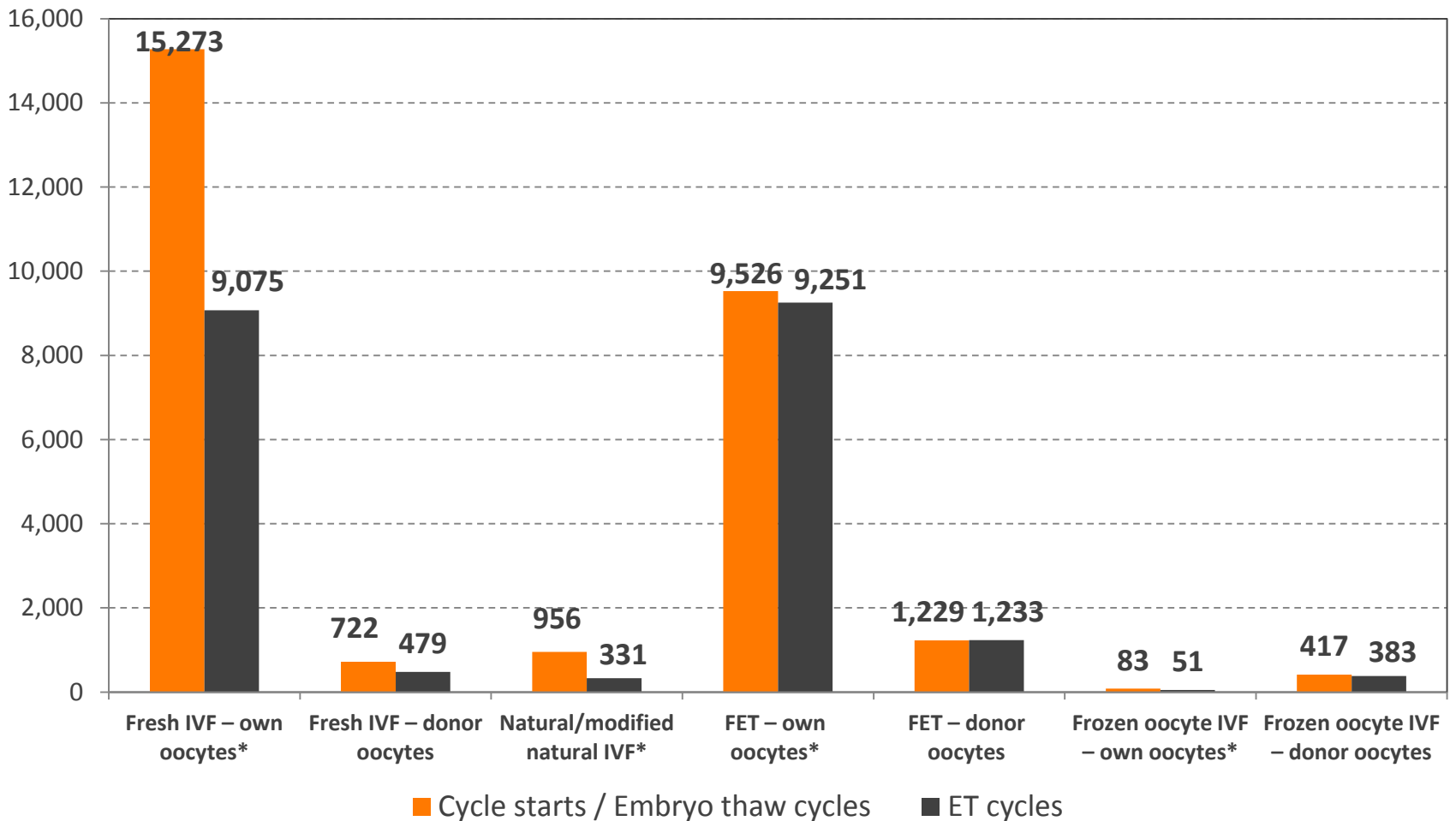
Multiple birth: At least one live birth from a multiple pregnancy

TREATMENT CYCLES FOR 2015

All ART treatment cycles (fresh and frozen)

Number of treatment cycles

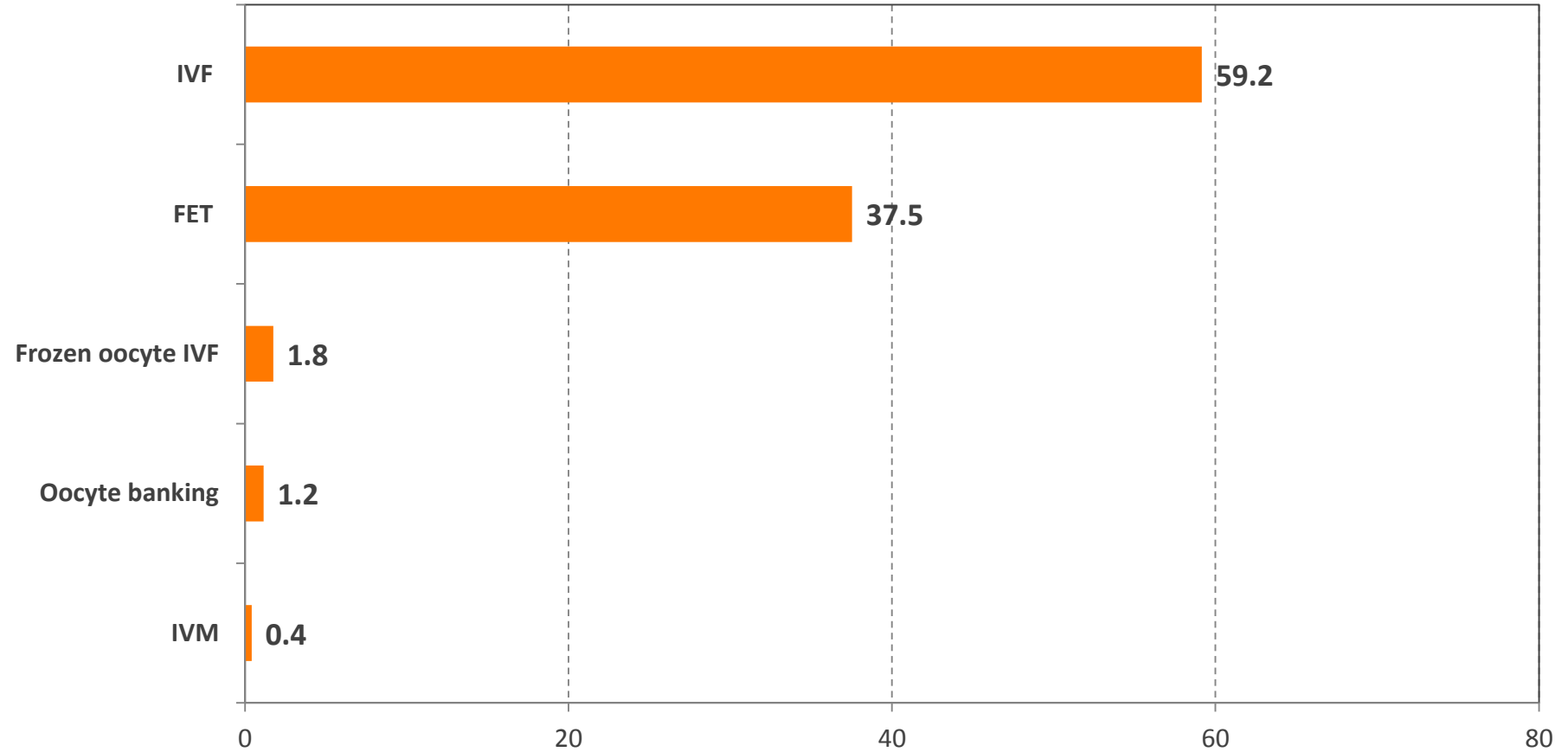
2015



* Own oocytes exclusively

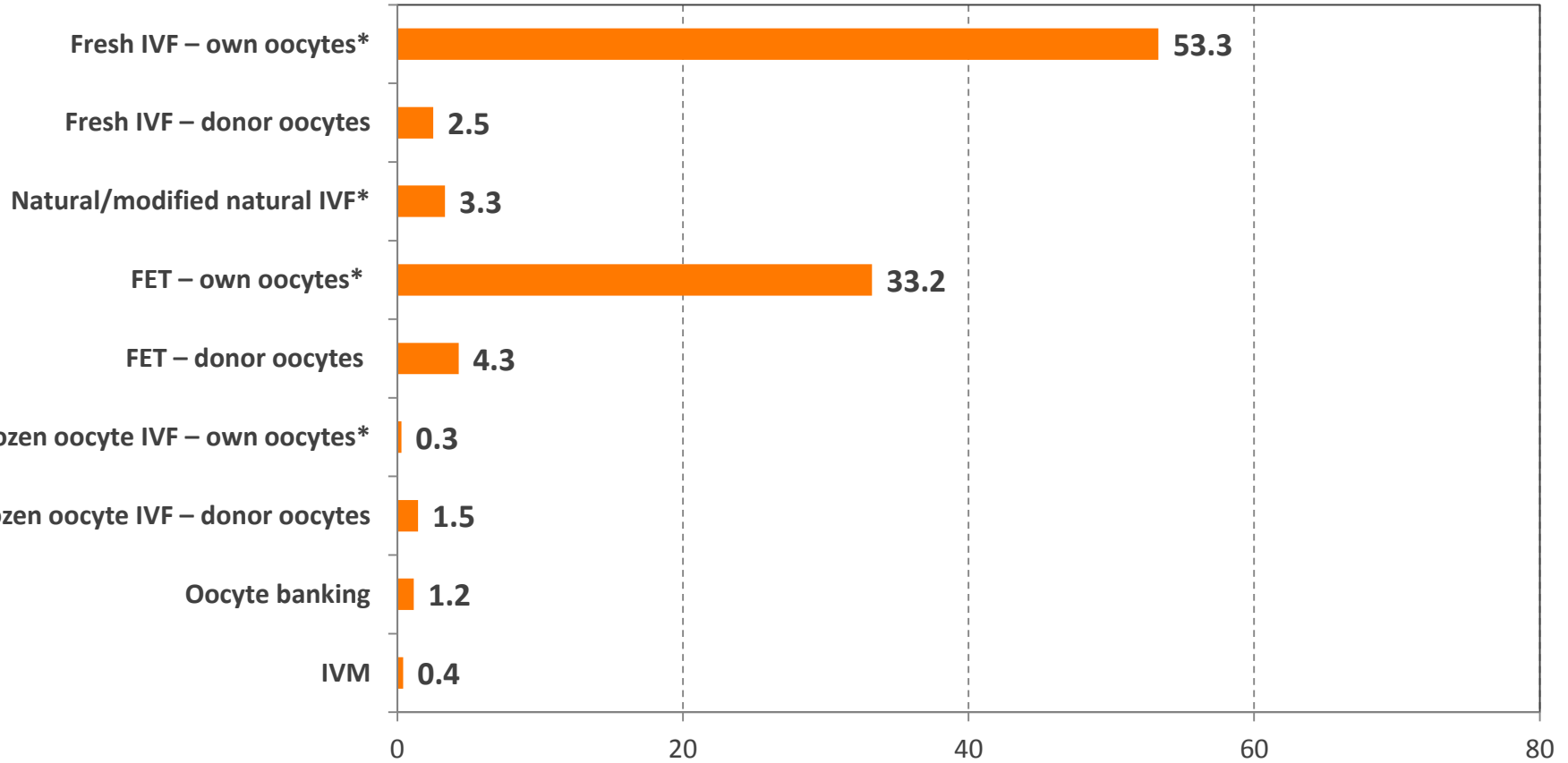
Type of treatment cycle, per cycle start

All ART treatment cycles (fresh and frozen), 2015



Type of treatment cycle, per cycle start

All ART treatment cycles (fresh and frozen), 2015



* Own oocytes exclusively

Type of treatment cycle, per cycle start

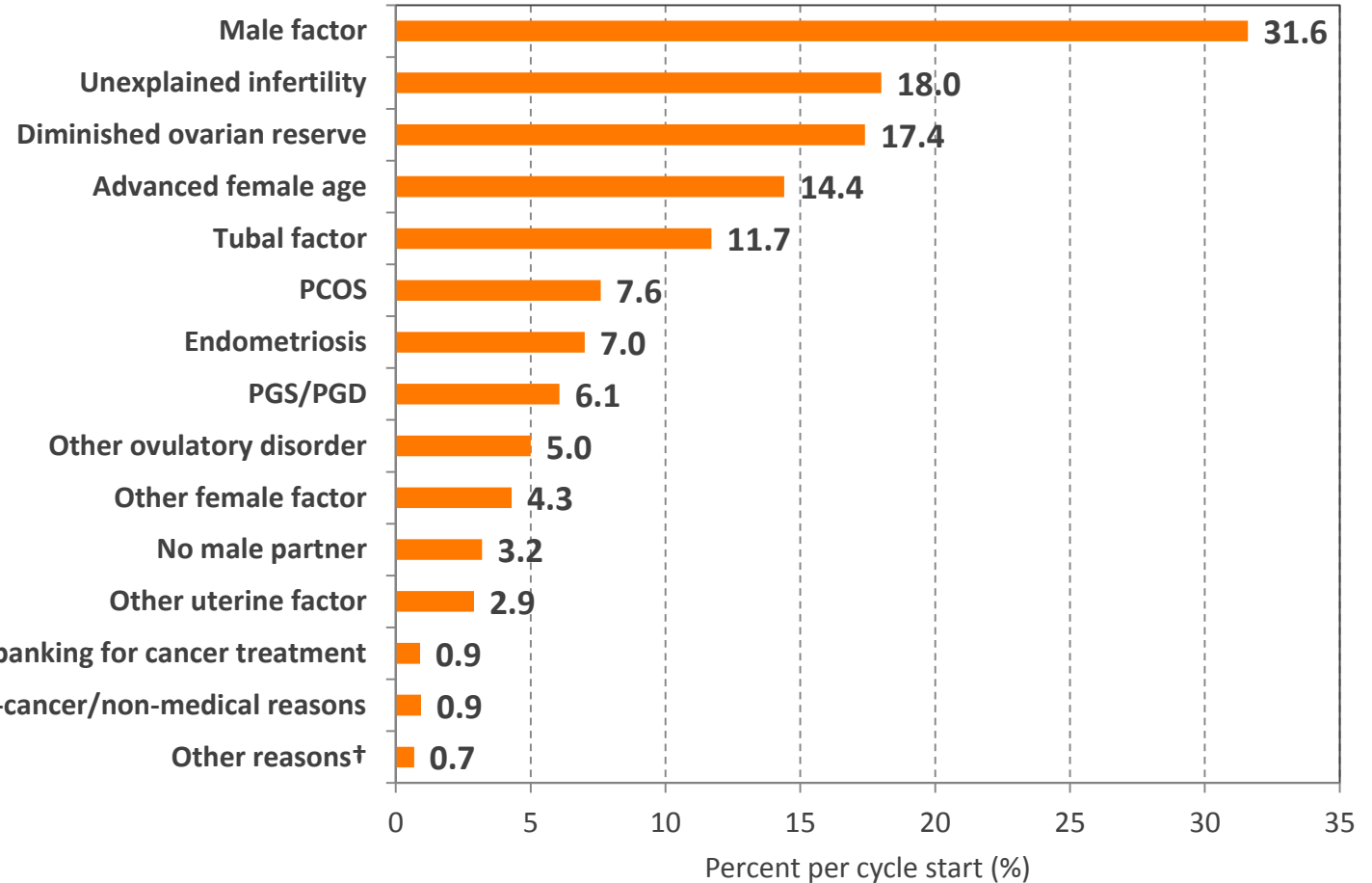
All ART treatment cycles (fresh and frozen), 2015

Type of treatment cycle	Number	Percent
IVF– own oocytes*	15,273	53.3
IVF– donor oocytes	722	2.52
Natural/modified natural IVF*	956	3.34
FET – own oocytes*	9,526	33.2
FET – donor oocytes	1,229	4.29
Frozen oocyte IVF – own oocytes*	83	0.29
Frozen oocyte IVF – donor oocytes	417	1.46
Oocyte banking	333	1.16
IVM	118	0.41
TOTAL TREATMENT CYCLES	28,657	

* Own oocytes exclusively

Reasons for treatment

All ART treatment cycles (fresh and frozen), 2015

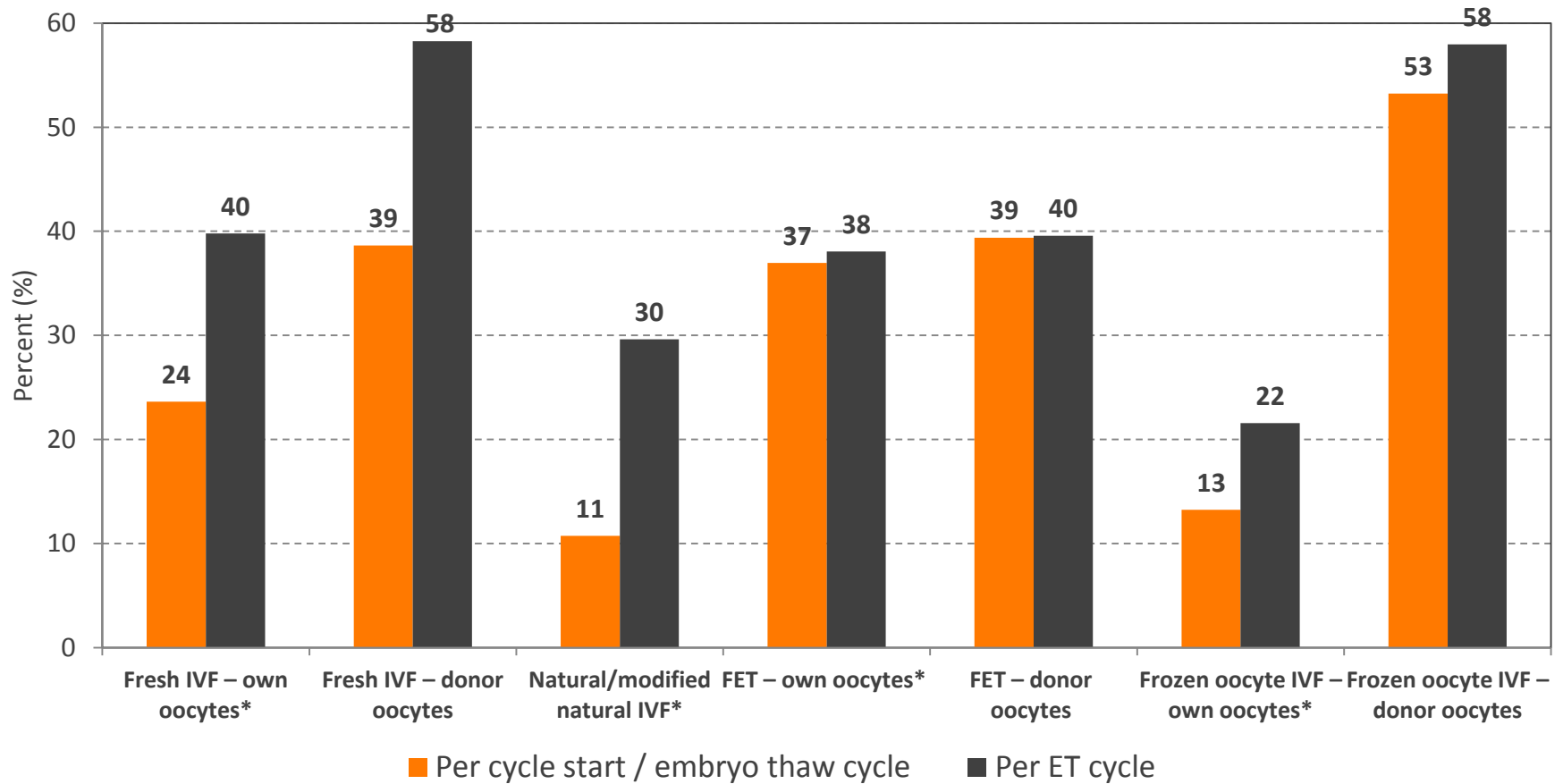


* Categories are not mutually exclusive

† Other reasons include: gonadotoxic therapy, no female partner and peritoneal factor or severe adhesions

Clinical pregnancy by type of treatment cycle

2015



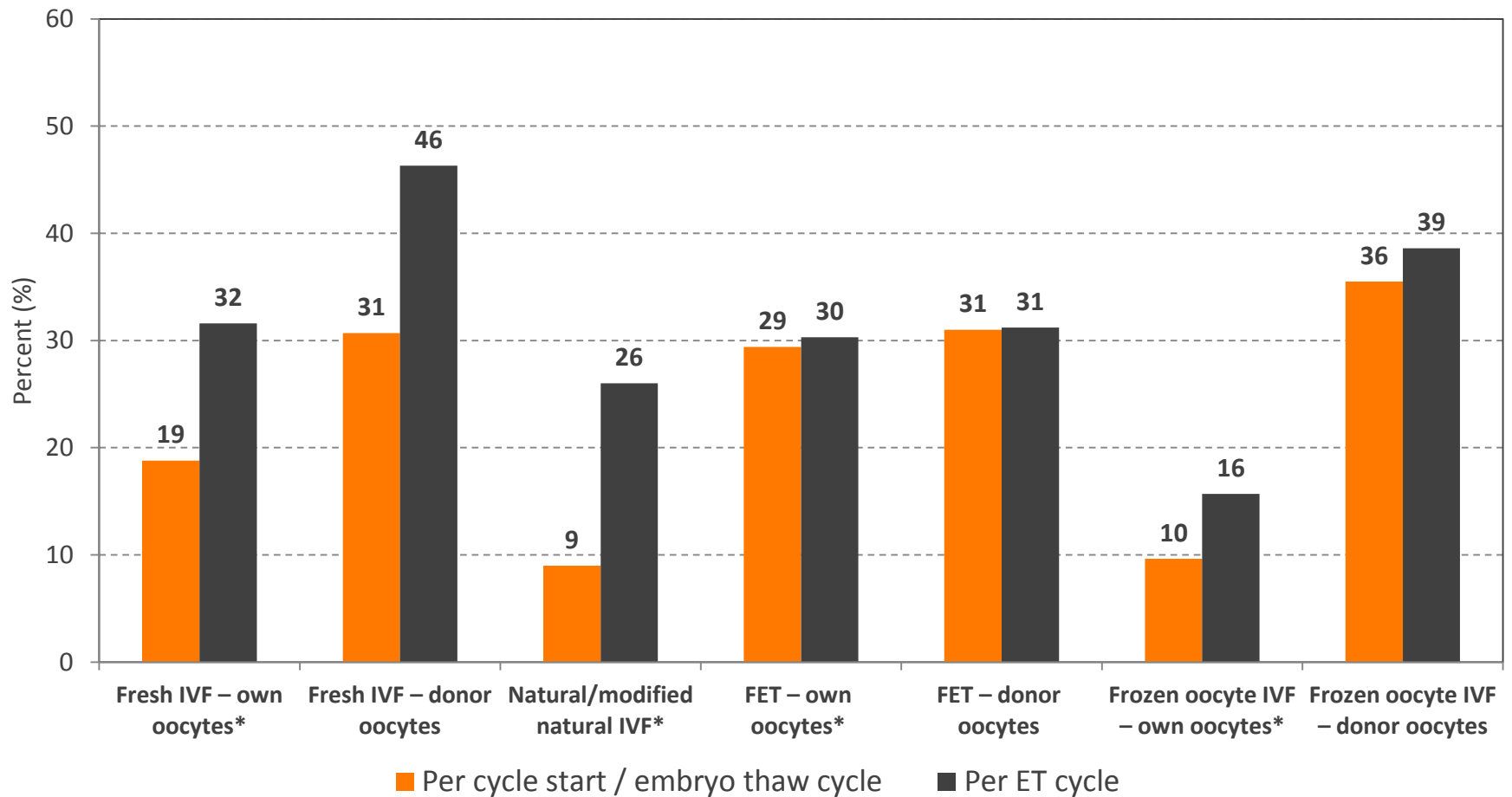
Treatment Cycle Type	Clinical pregnancies
Fresh IVF – own oocytes*	3,611
Fresh IVF – donor oocytes	279
Natural/modified natural IVF*	98
FET – own oocytes*	3,520
FET – donor oocytes	484
Frozen oocyte IVF – own oocytes*	11
Frozen oocyte IVF – donor oocytes	222

* Own oocytes exclusively

† Clinical pregnancy: clinical intrauterine, heterotopic, or ectopic pregnancy

Singleton ongoing clinical pregnancy by type of treatment cycle

2015



* Own oocytes exclusively

† Singleton pregnancy: ongoing clinical pregnancy with only one fetal heart beat on ultrasound

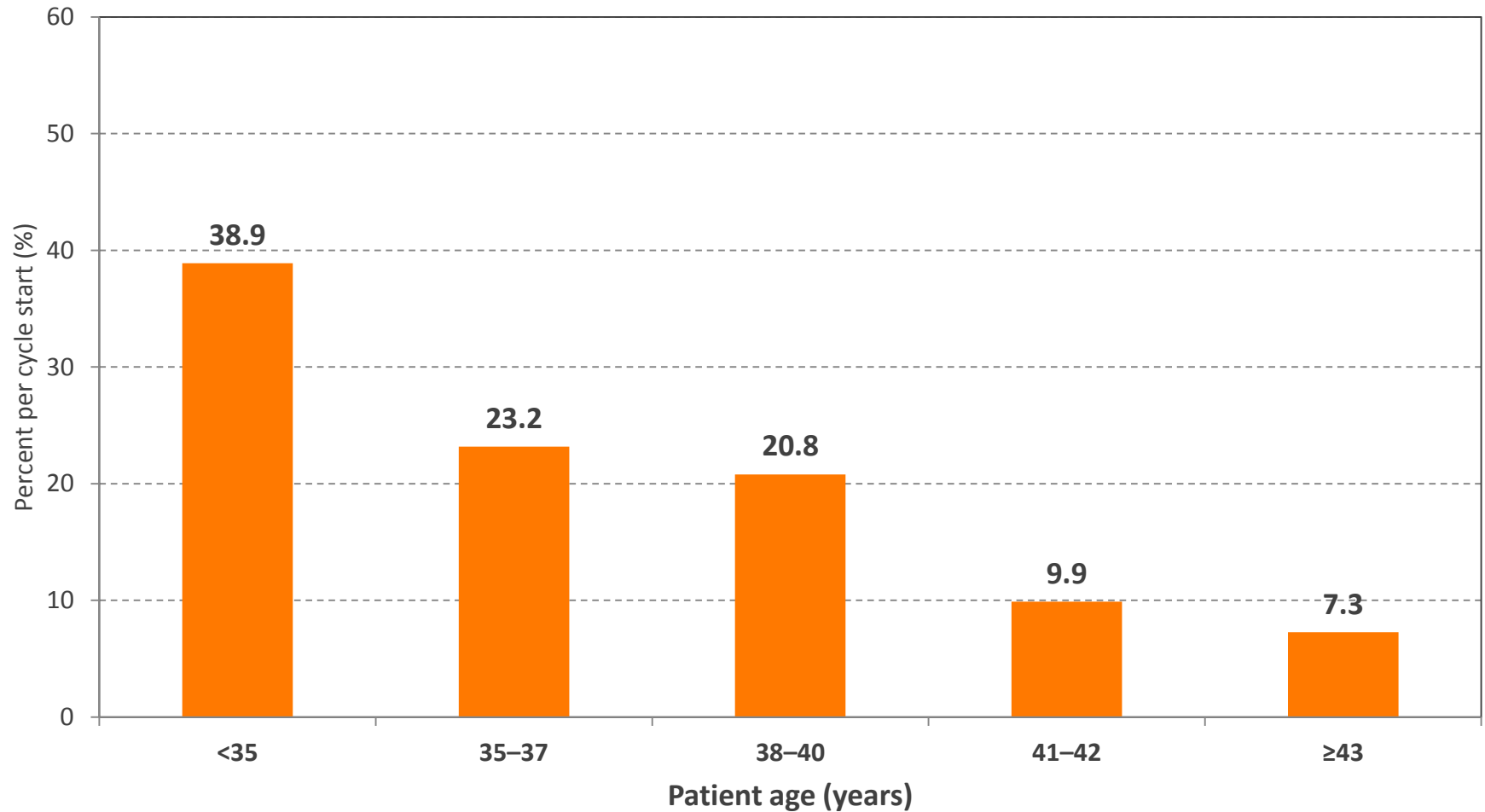
Specialized services

All ART treatment cycles (fresh and frozen), 2015

Description	Number of cycles
Gestational carrier	533
Pre-implantation genetic screening and/or diagnosis (PGS/PGD)	2,355
Oocyte or embryo banking due to cancer treatment	190
Oocyte or embryo banking due to non-cancer/non-medical reasons	266
Any use of donor oocytes or embryos	2,383
Frozen oocyte IVF	500

Patient age

All ART treatment cycles (fresh and frozen), 2015

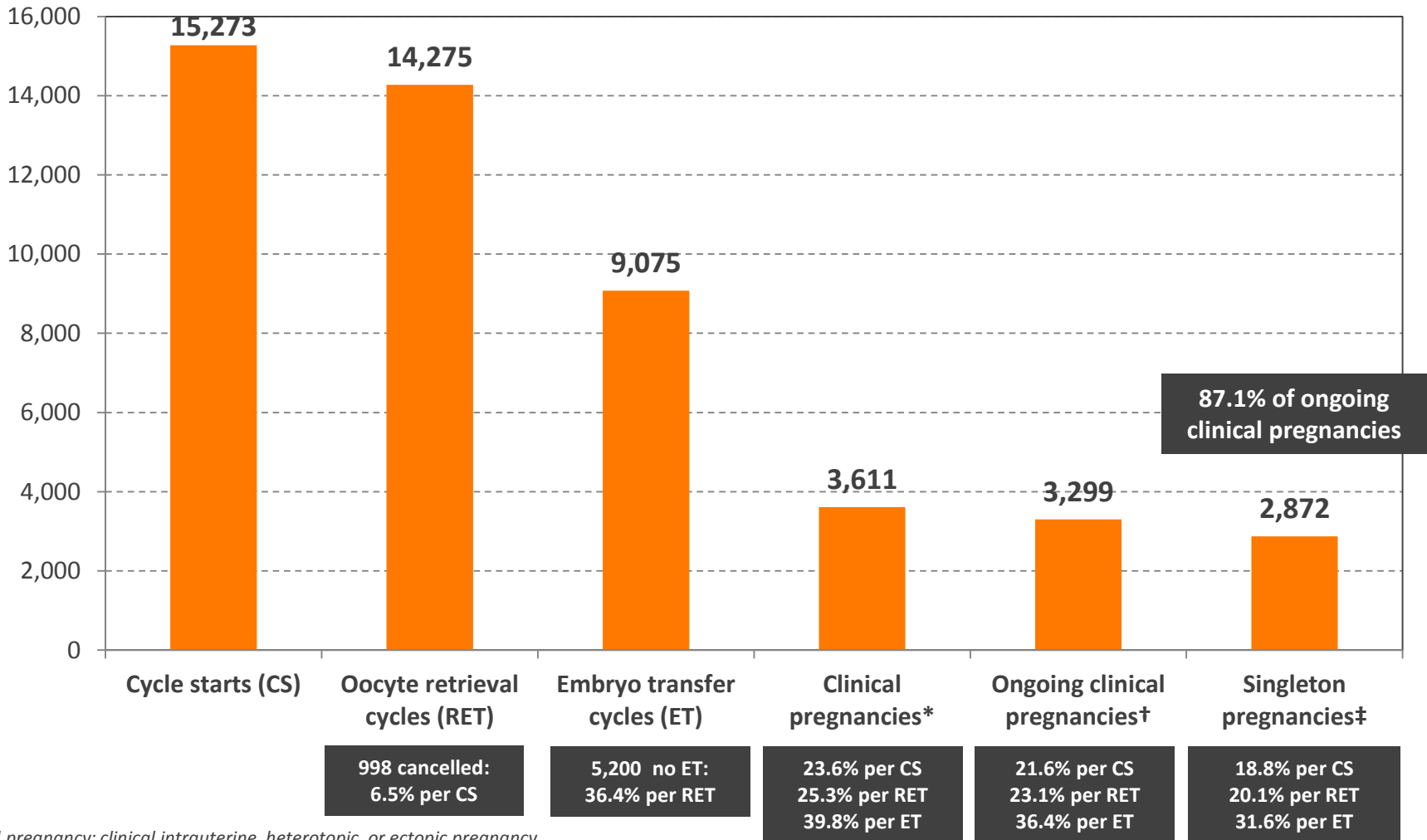


TREATMENT CYCLES FOR 2015

ART cycles using IVF— own oocytes

Stage of treatment and treatment outcomes

ART cycles using IVF – own oocytes, 2015



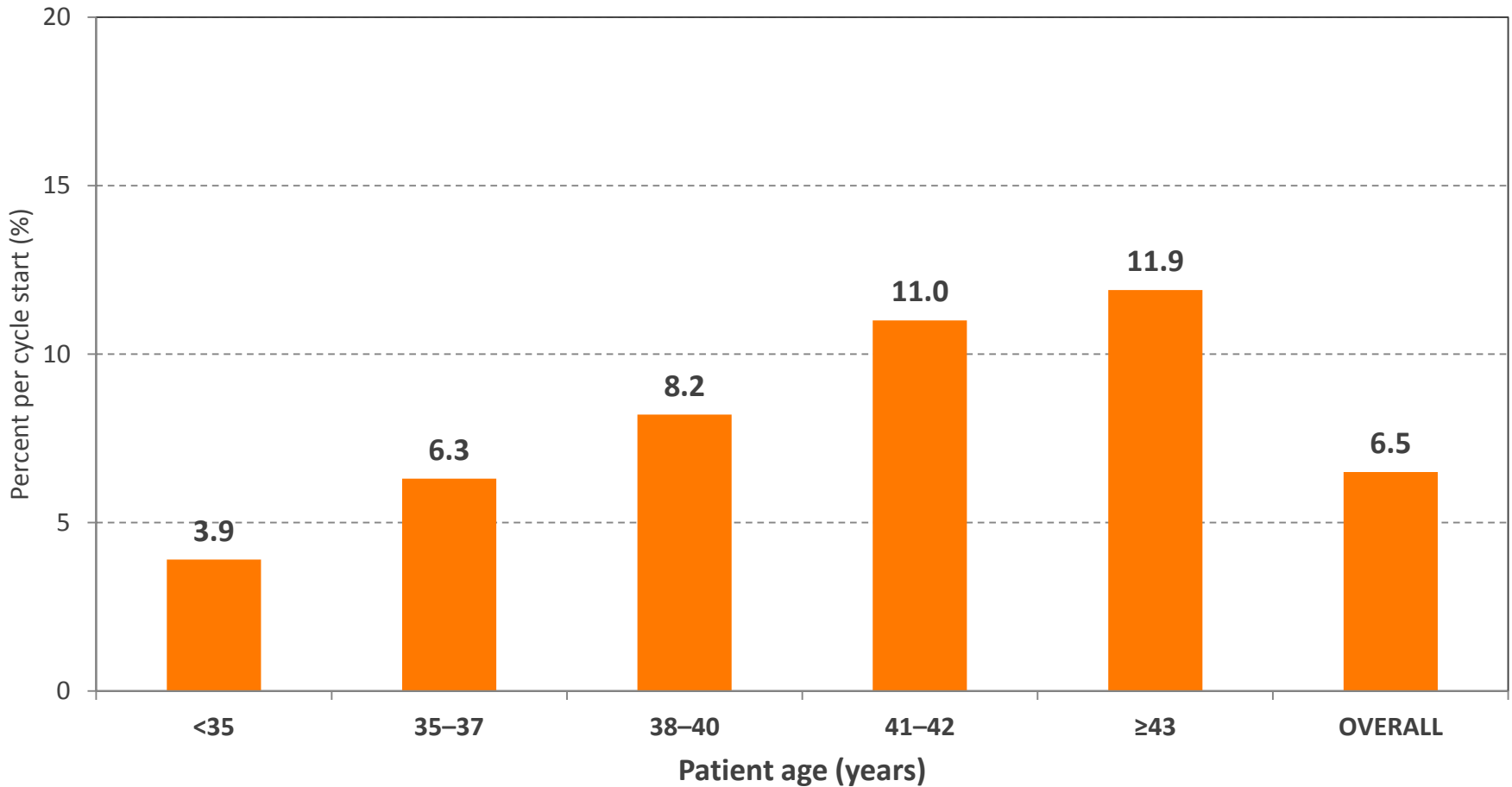
* Clinical pregnancy: clinical intrauterine, heterotopic, or ectopic pregnancy

† Ongoing clinical pregnancy: clinical pregnancy with ≥1 fetal heart beat on ultrasound

‡ Singleton pregnancy: ongoing clinical pregnancy with only one fetal heart beat on ultrasound

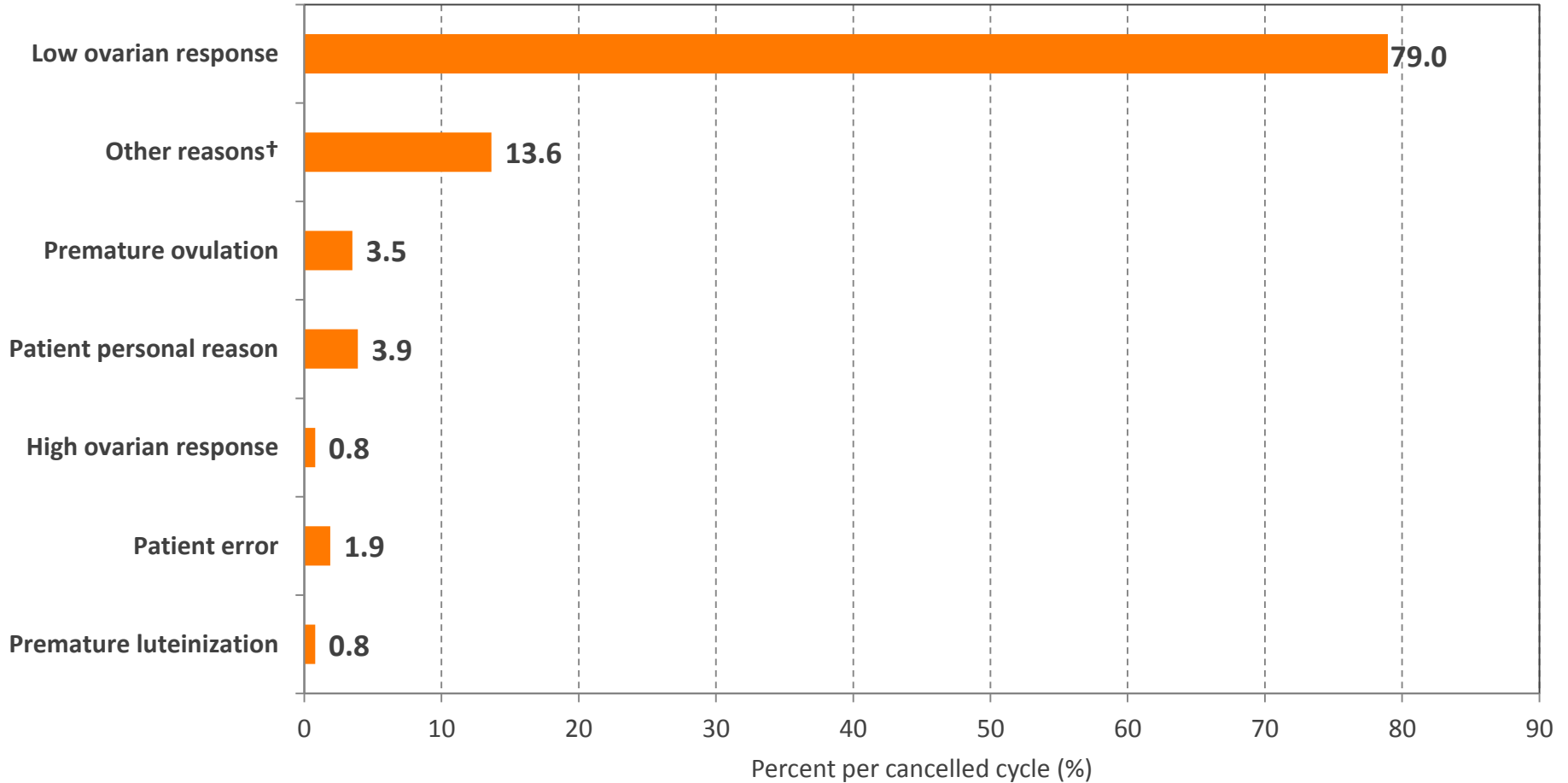
Percentage of cancelled cycles

ART cycles using IVF – own oocytes, 2015



Reasons for cycle cancellation

ART cycles using IVF – own oocytes, 2015

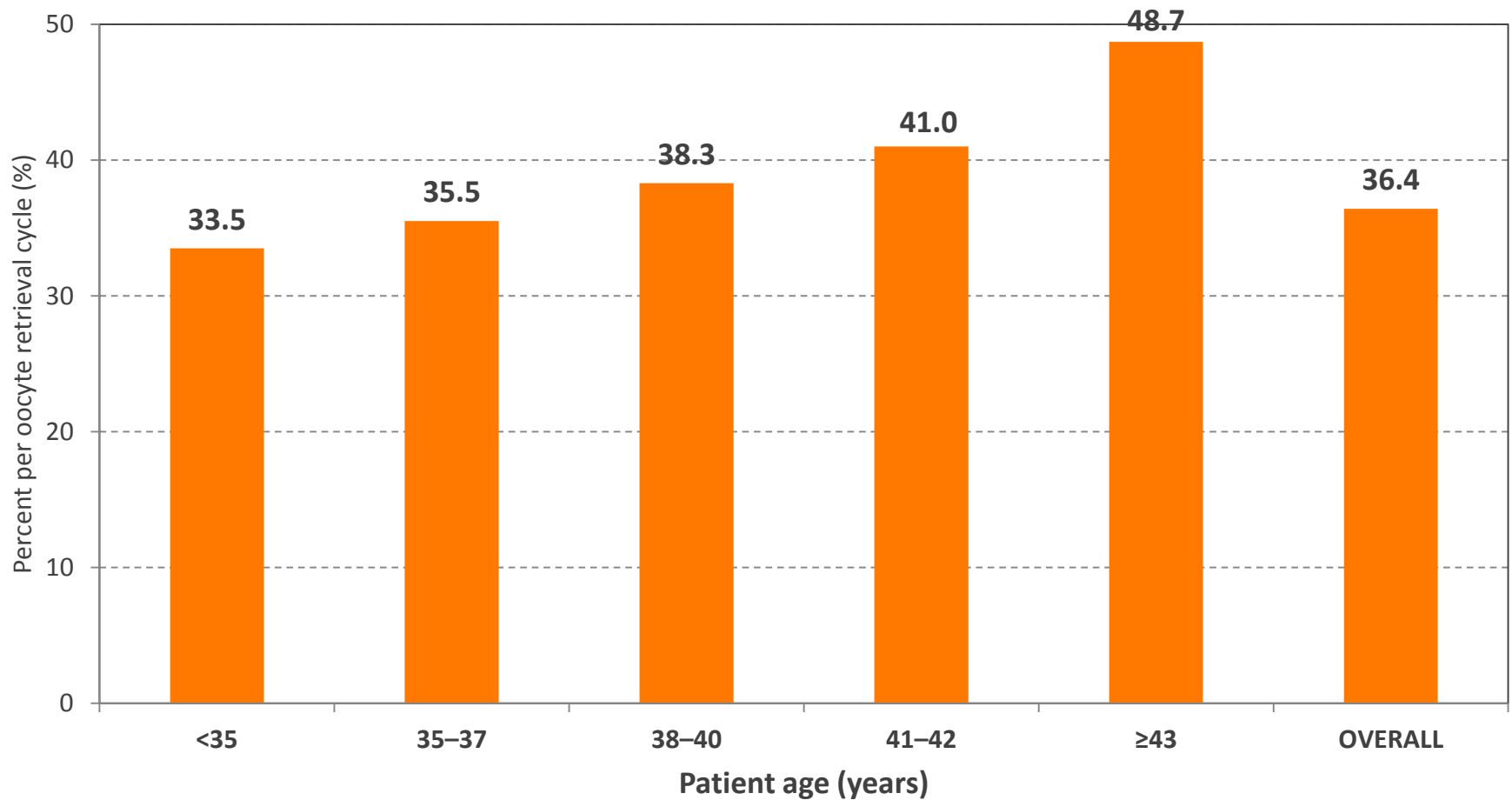


* Categories are not mutually exclusive

† Other reasons include: patient illness, donor illness, donor personal reason, donor error, no access to ovaries, other (unspecified)

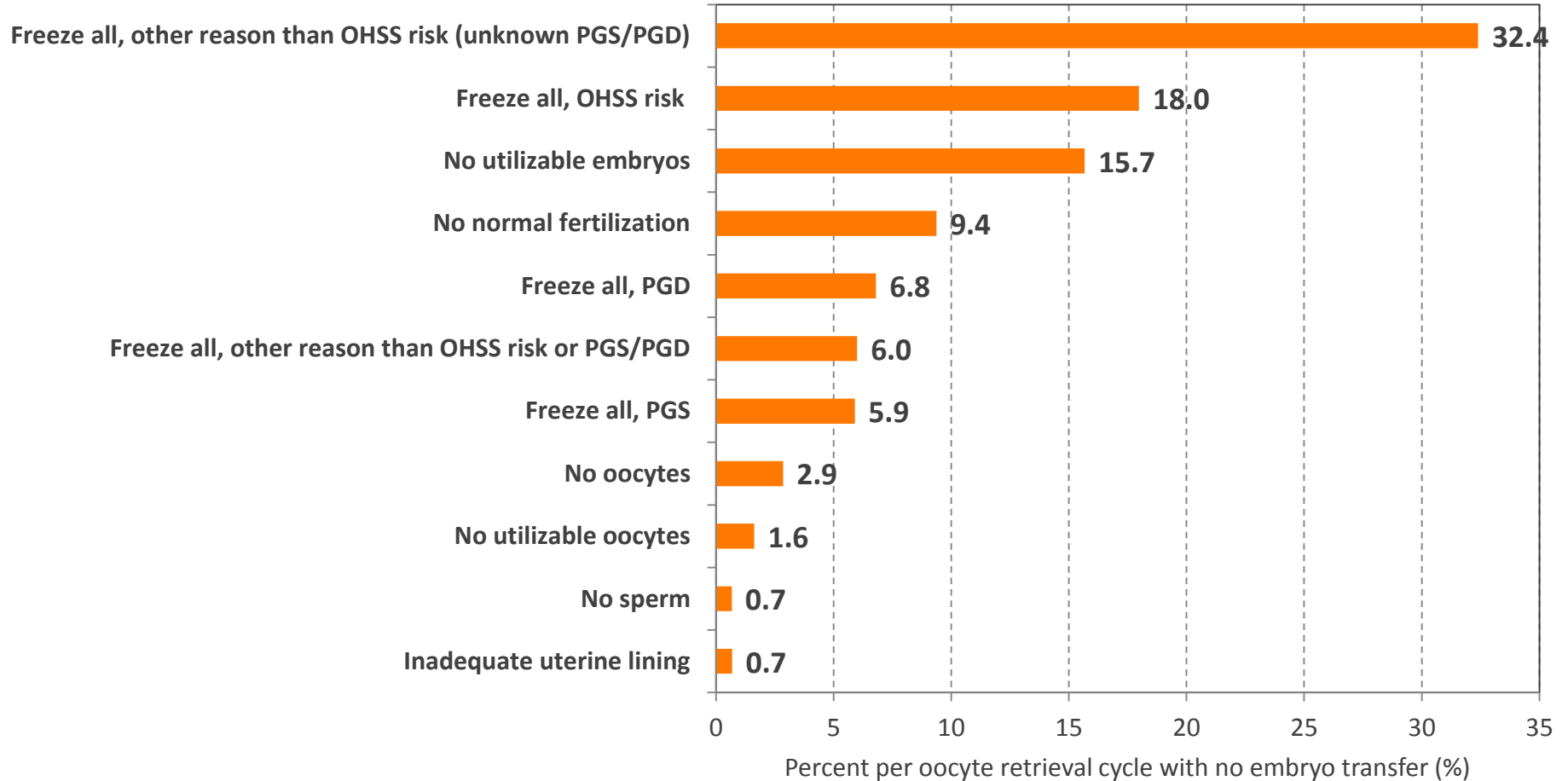
Percentage of cycles with no embryo transfer

ART cycles using IVF – own oocytes, 2015



Reasons for no embryo transfer

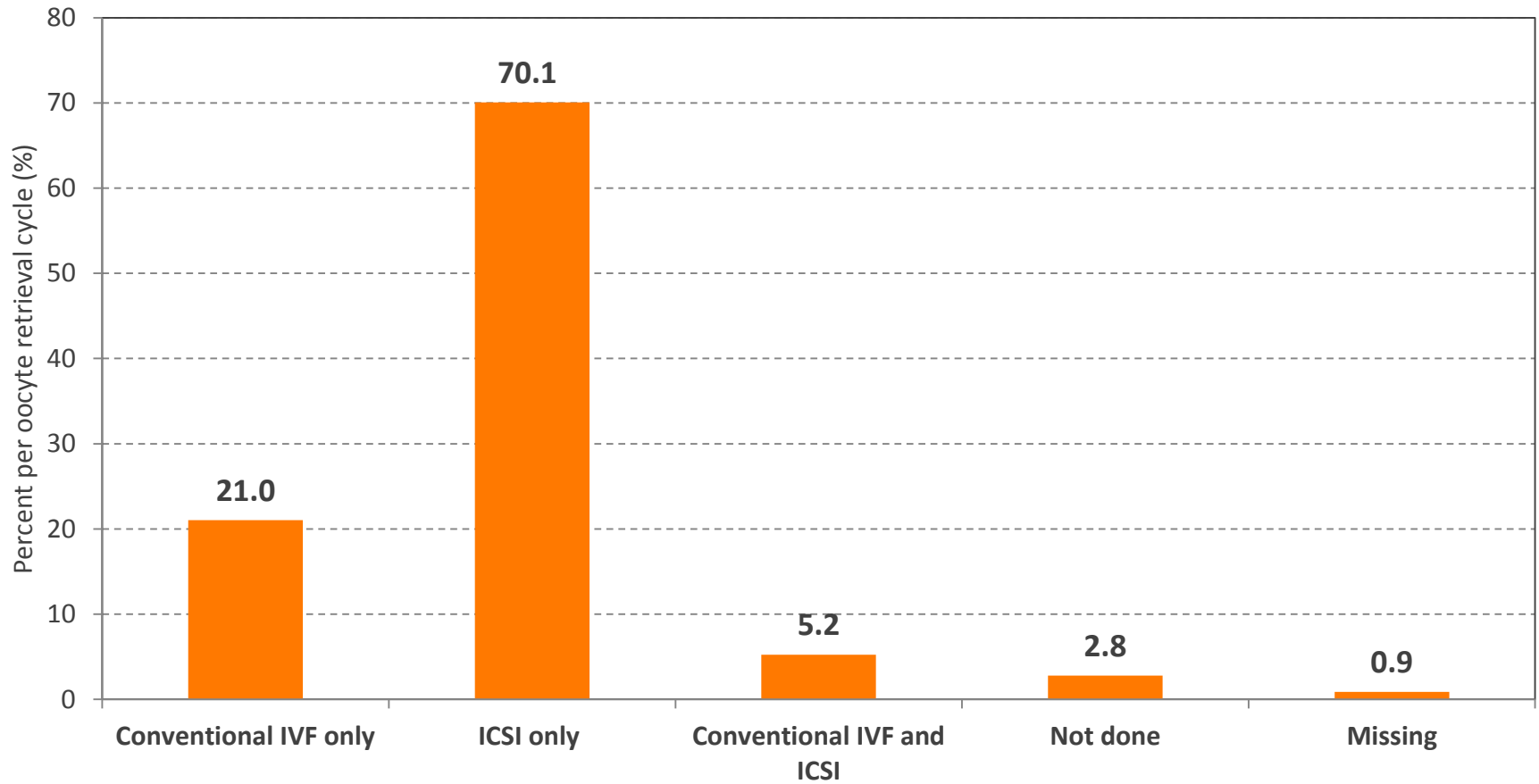
ART cycles using IVF – own oocytes, 2015



* Categories are mutually exclusive

Method of insemination

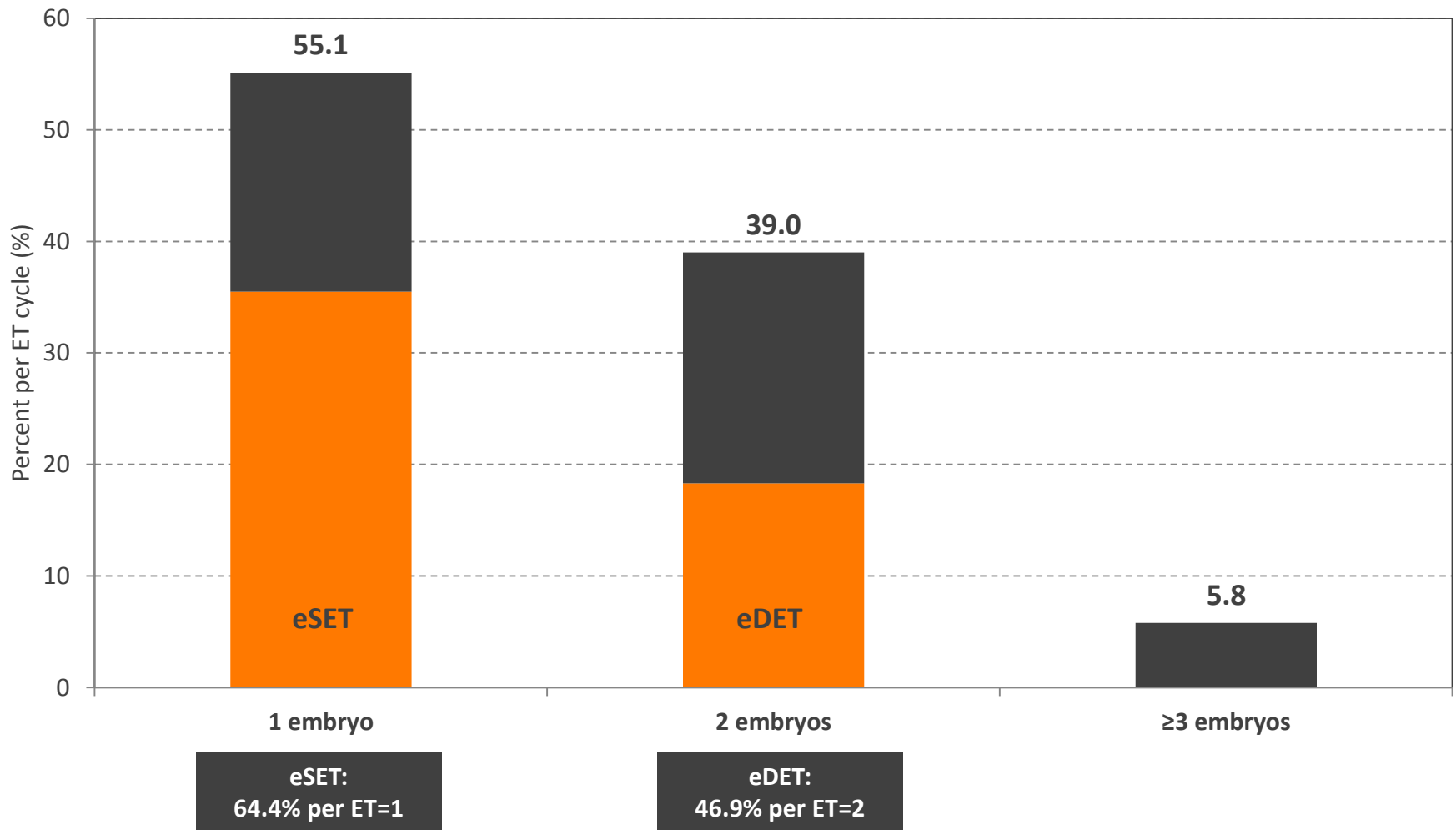
ART cycles using IVF – own oocytes, 2015



Conventional IVF and ICSI: a single ET cycle used both conventional IVF and ICSI

Number of embryos transferred

ART cycles using IVF – own oocytes, 2015

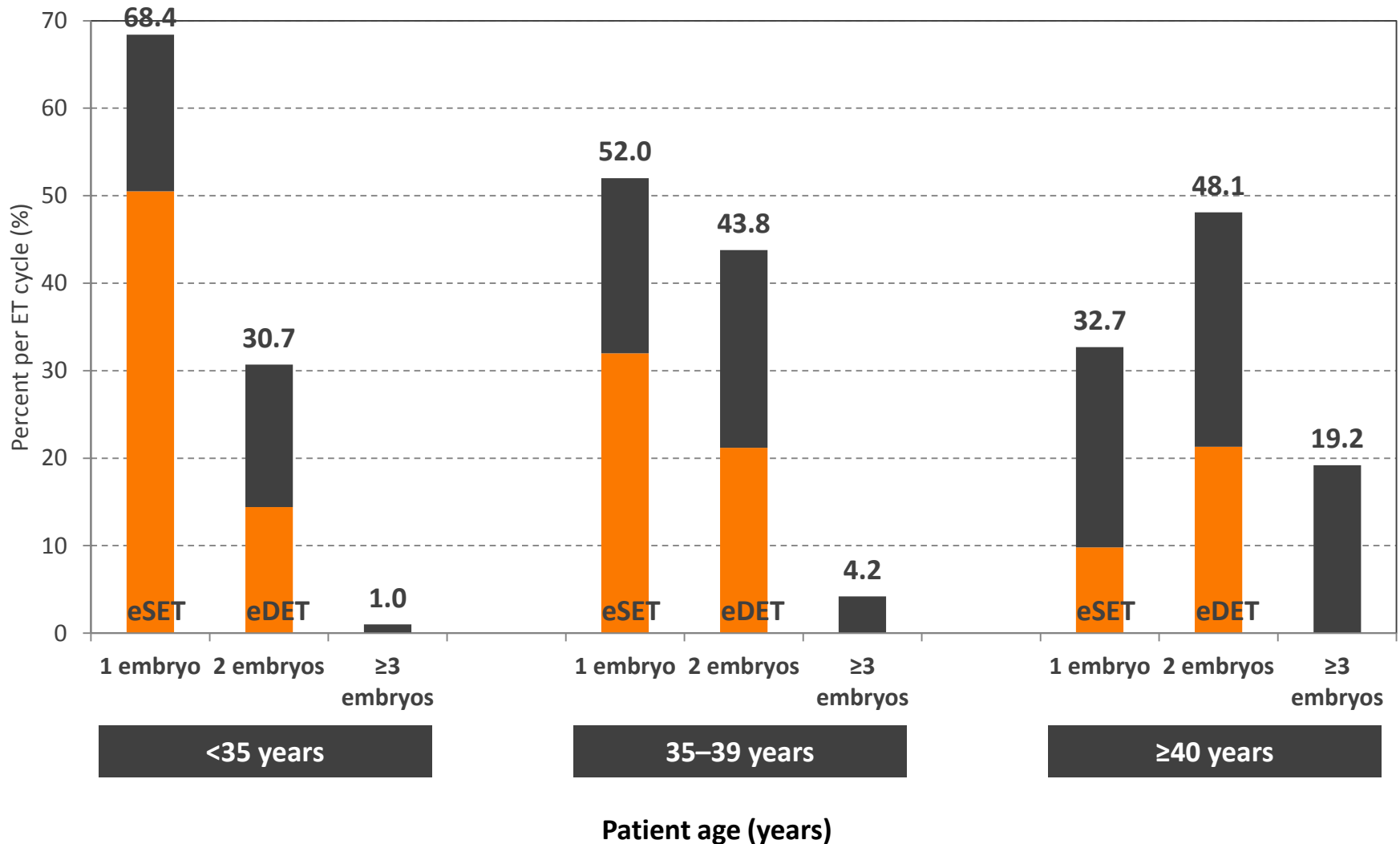


* Excludes records with missing number of embryos transferred

† Elective single (eSET) and double (eDET) embryo transfer: transfer of one embryo (eSET) or two embryos (eDET), selected from a larger cohort of available embryos

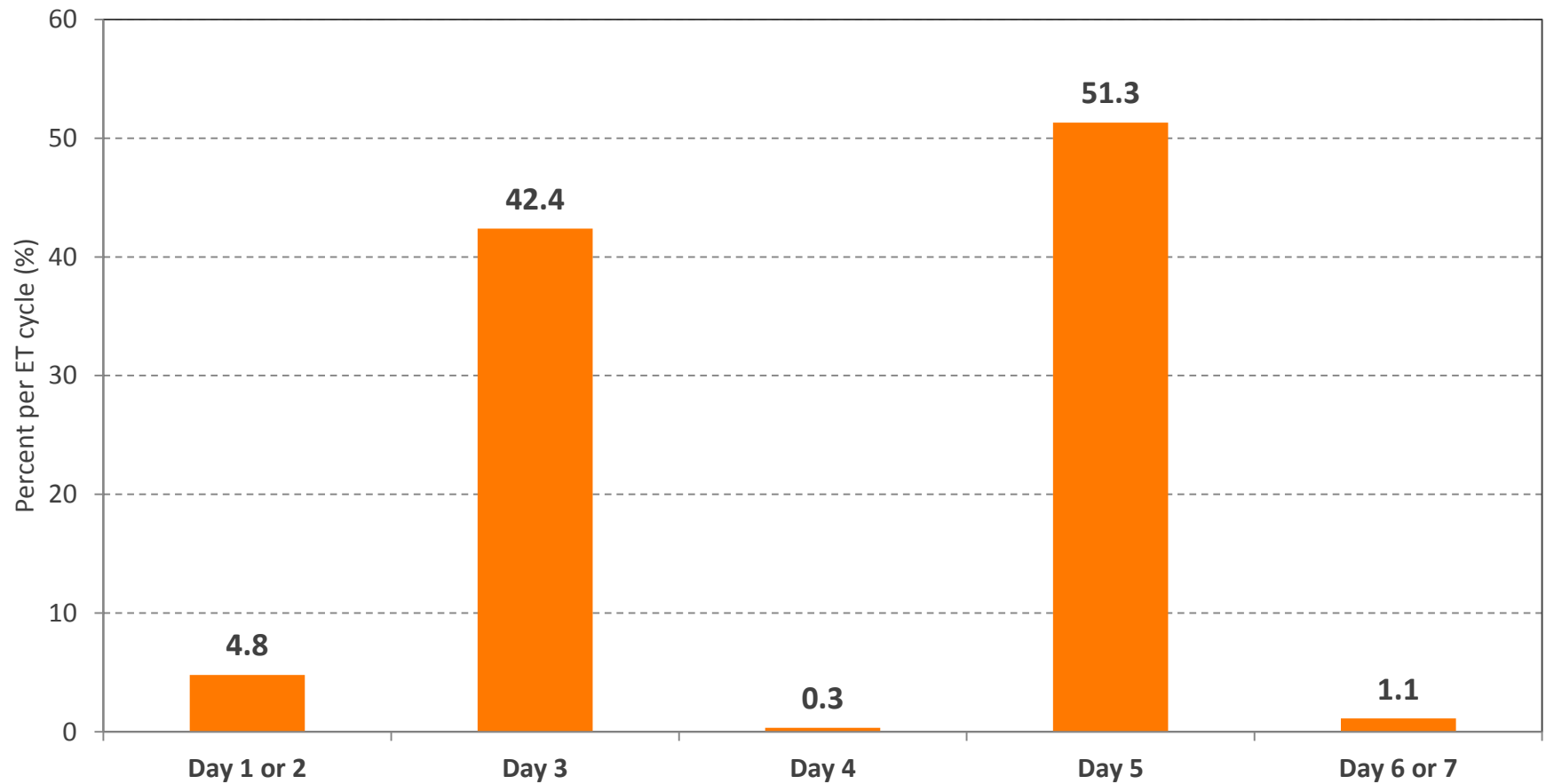
Number of embryos transferred

ART cycles using IVF – own oocytes, 2015



Embryo transfer day

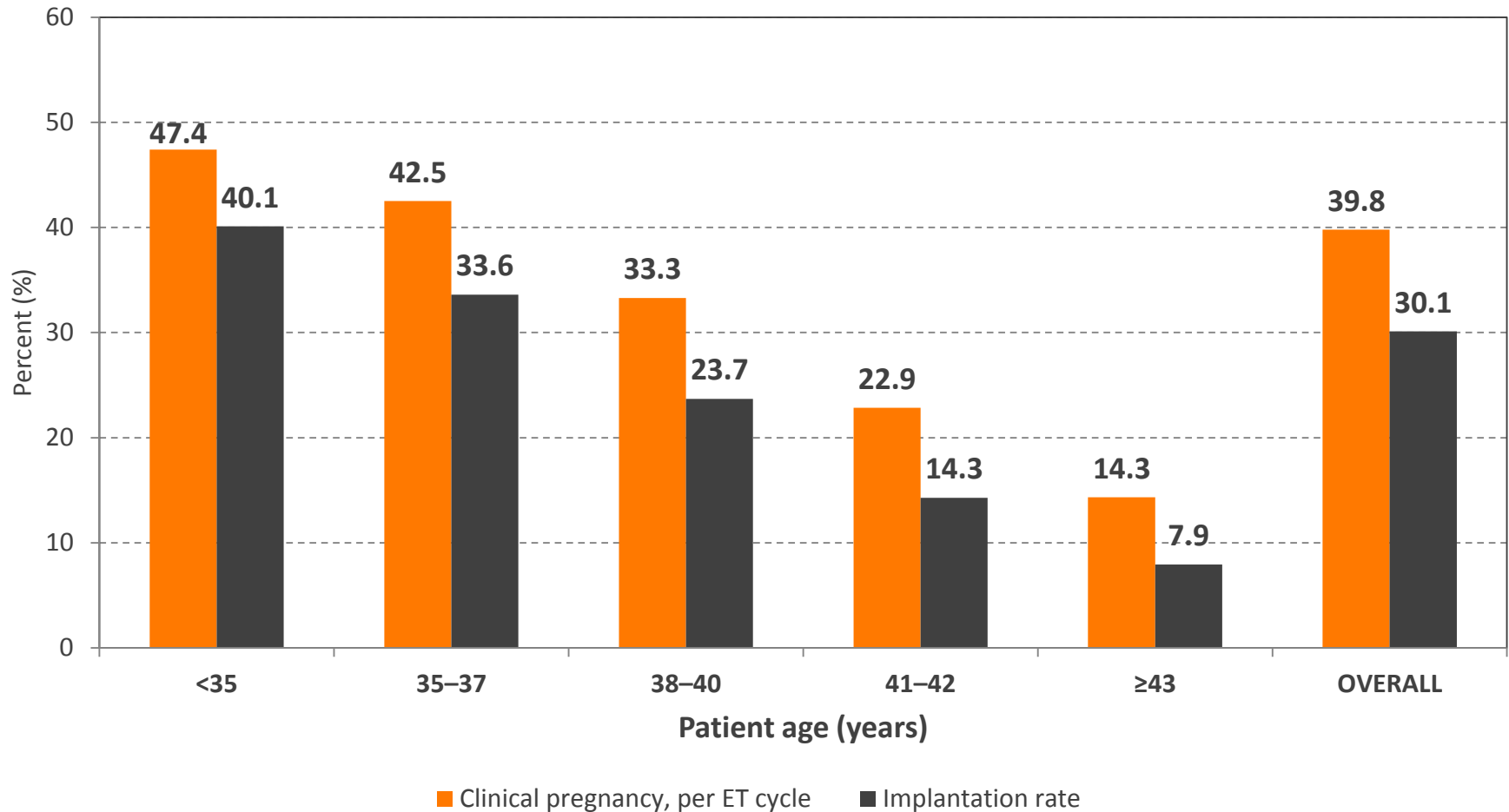
ART cycles using IVF – own oocytes, 2015



* Excludes records with missing embryo transfer day

Clinical pregnancy and implantation rate

ART cycles using IVF – own oocytes, 2015

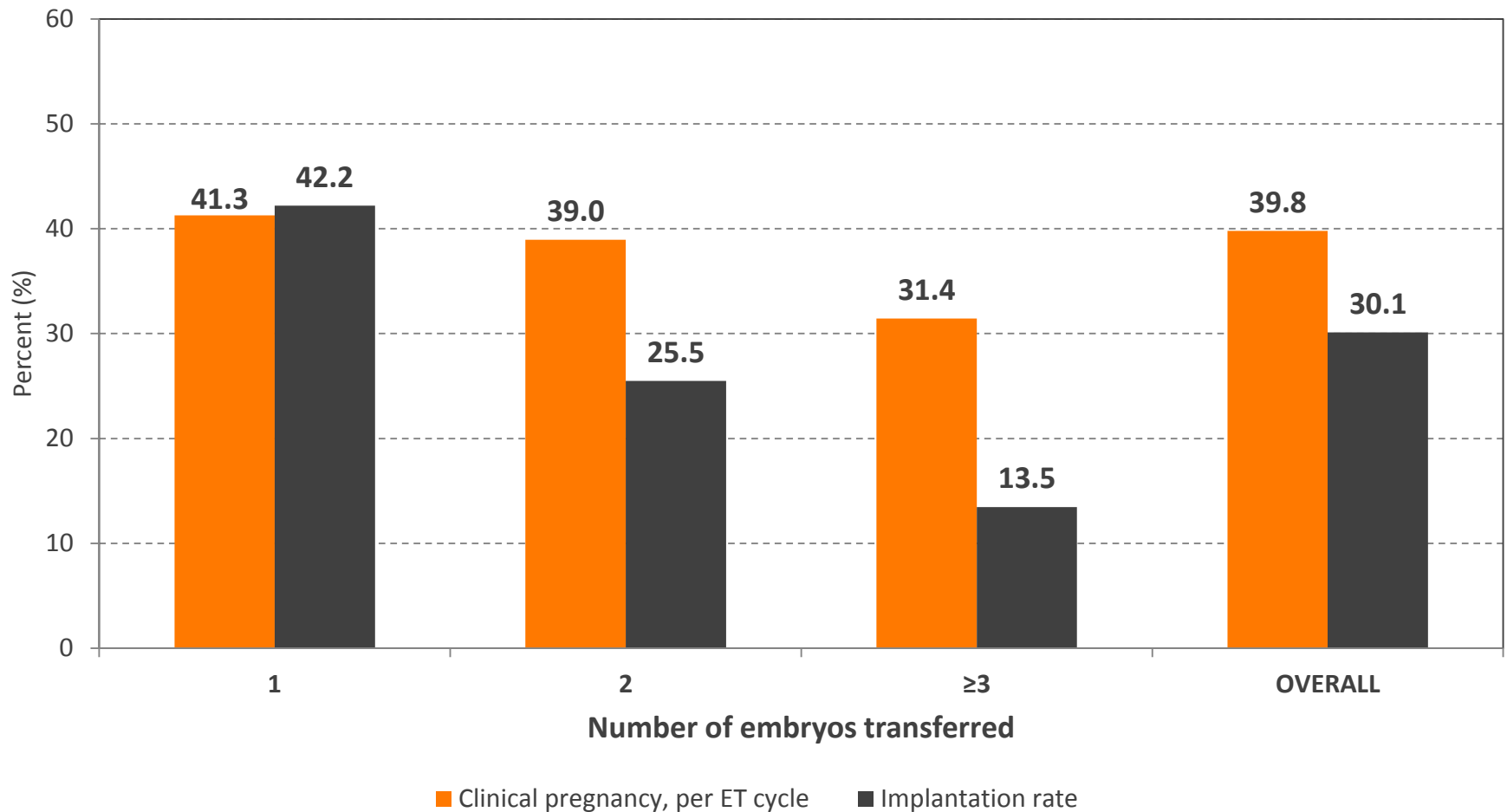


* Clinical pregnancy: clinical intrauterine, heterotopic, or ectopic pregnancy

† Implantation rate: number of gestational sacs observed on ultrasound, divided by the total number of embryos transferred

Clinical pregnancy and implantation rate

ART cycles using IVF – own oocytes, 2015

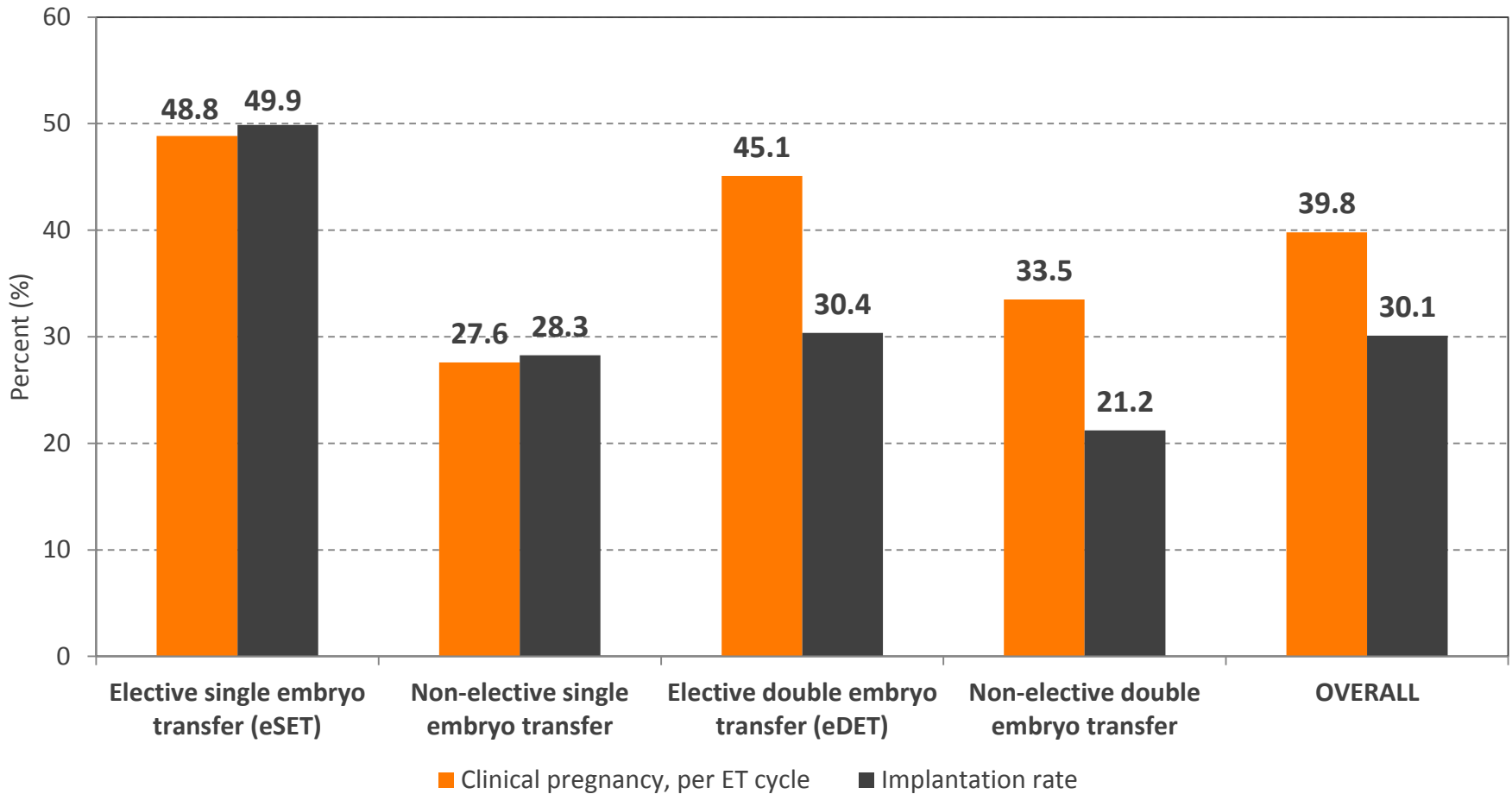


* Clinical pregnancy: clinical intrauterine, heterotopic, or ectopic pregnancy

† Implantation rate: number of gestational sacs observed on ultrasound, divided by the total number of embryos transferred

Clinical pregnancy and implantation rate by eSET/eDET

ART cycles using IVF – own oocytes, 2015



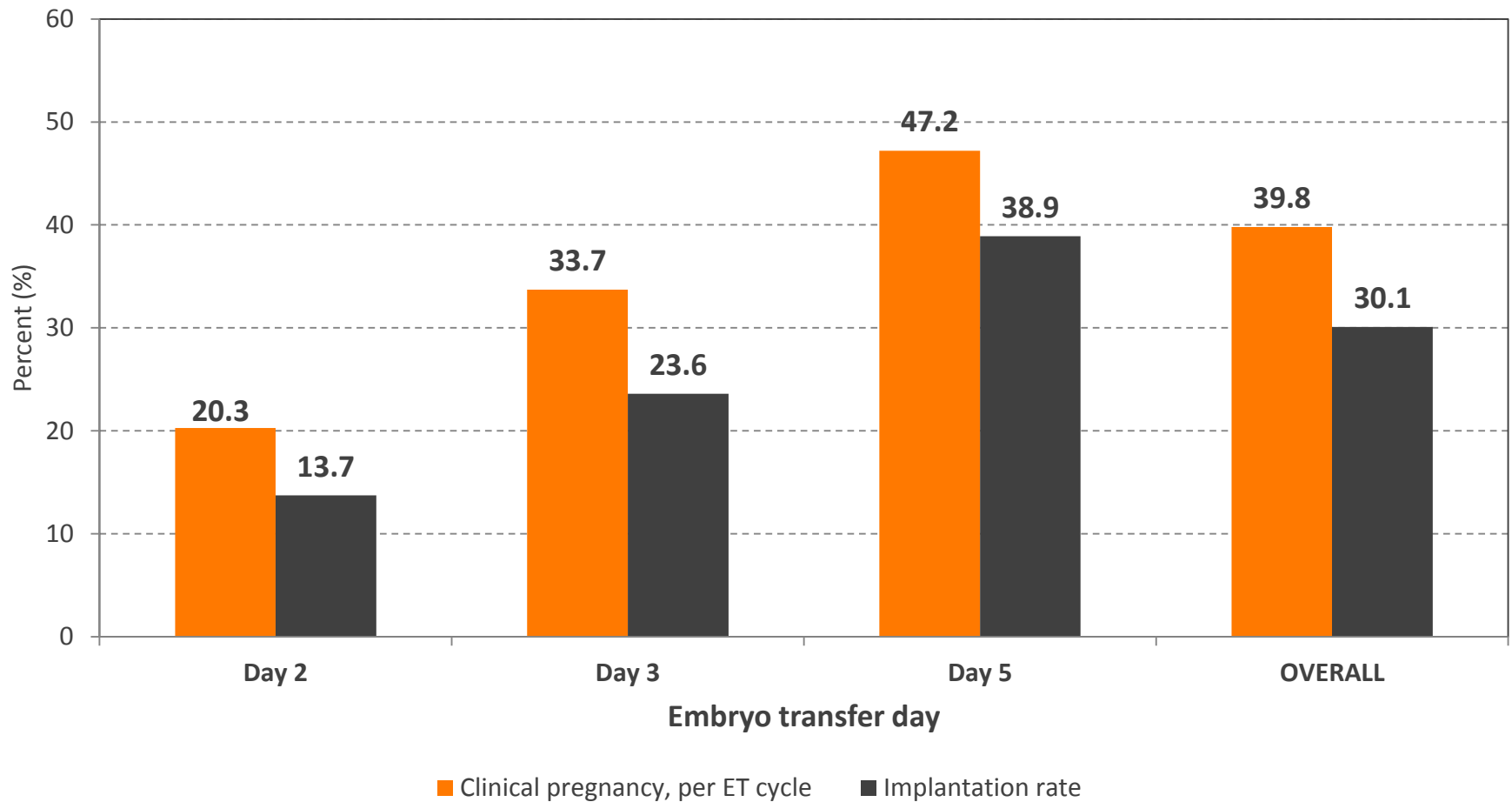
NOTE: In rare cases, a single embryo may divide and produce twins or triplets. For this reason, a small percentage of multiple pregnancies can result from a single embryo transfer

* Clinical pregnancy: clinical intrauterine, heterotopic, or ectopic pregnancy

† Implantation rate: number of gestational sacs observed on ultrasound, divided by the total number of embryos transferred

Clinical pregnancy and implantation rate

ART cycles using IVF – own oocytes, 2015

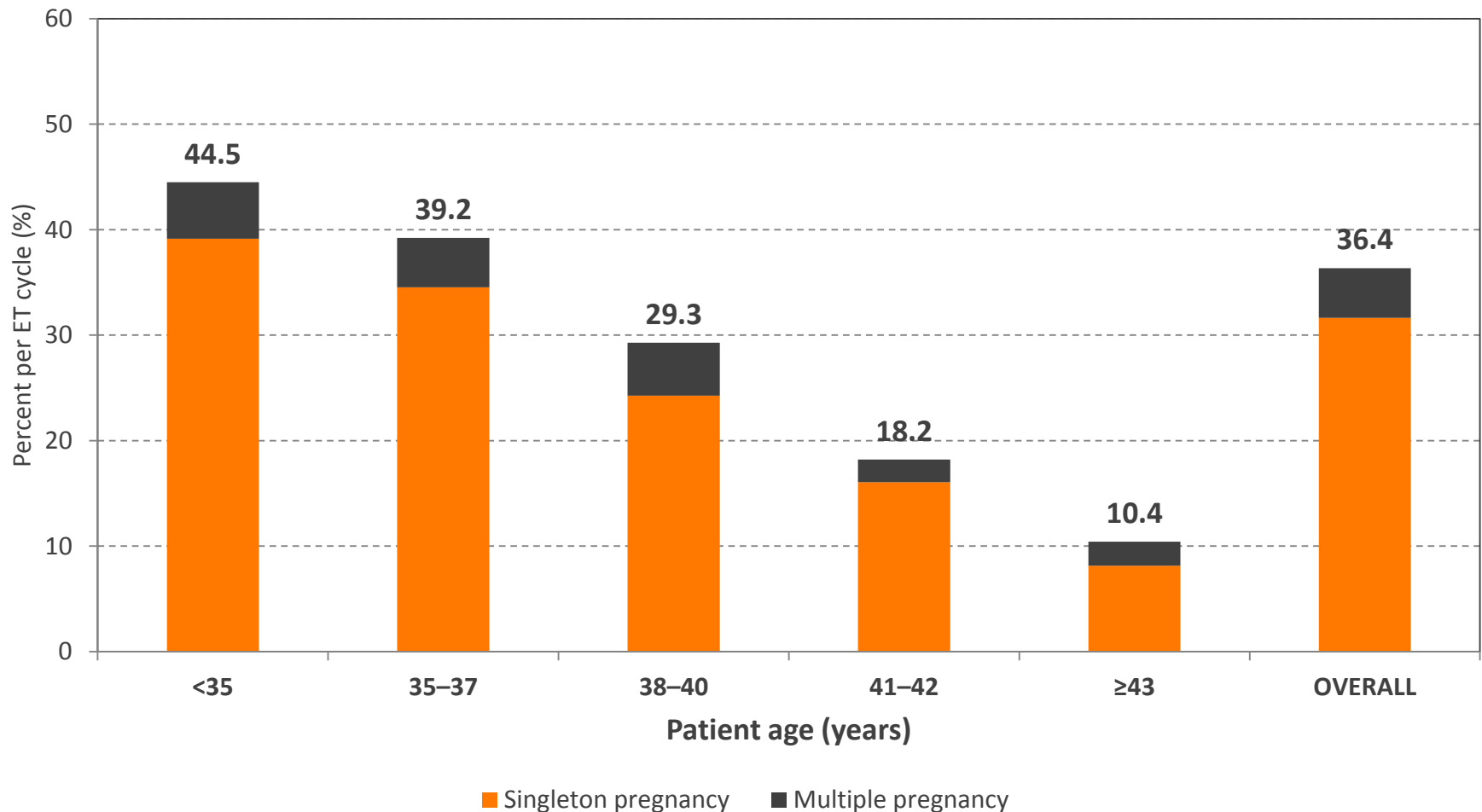


* Clinical pregnancy: clinical intrauterine, heterotopic, or ectopic pregnancy

† Implantation rate: number of gestational sacs observed on ultrasound, divided by the total number of embryos transferred

Proportion of cycles resulting in an ongoing clinical pregnancy

ART cycles using IVF – own oocytes, 2015

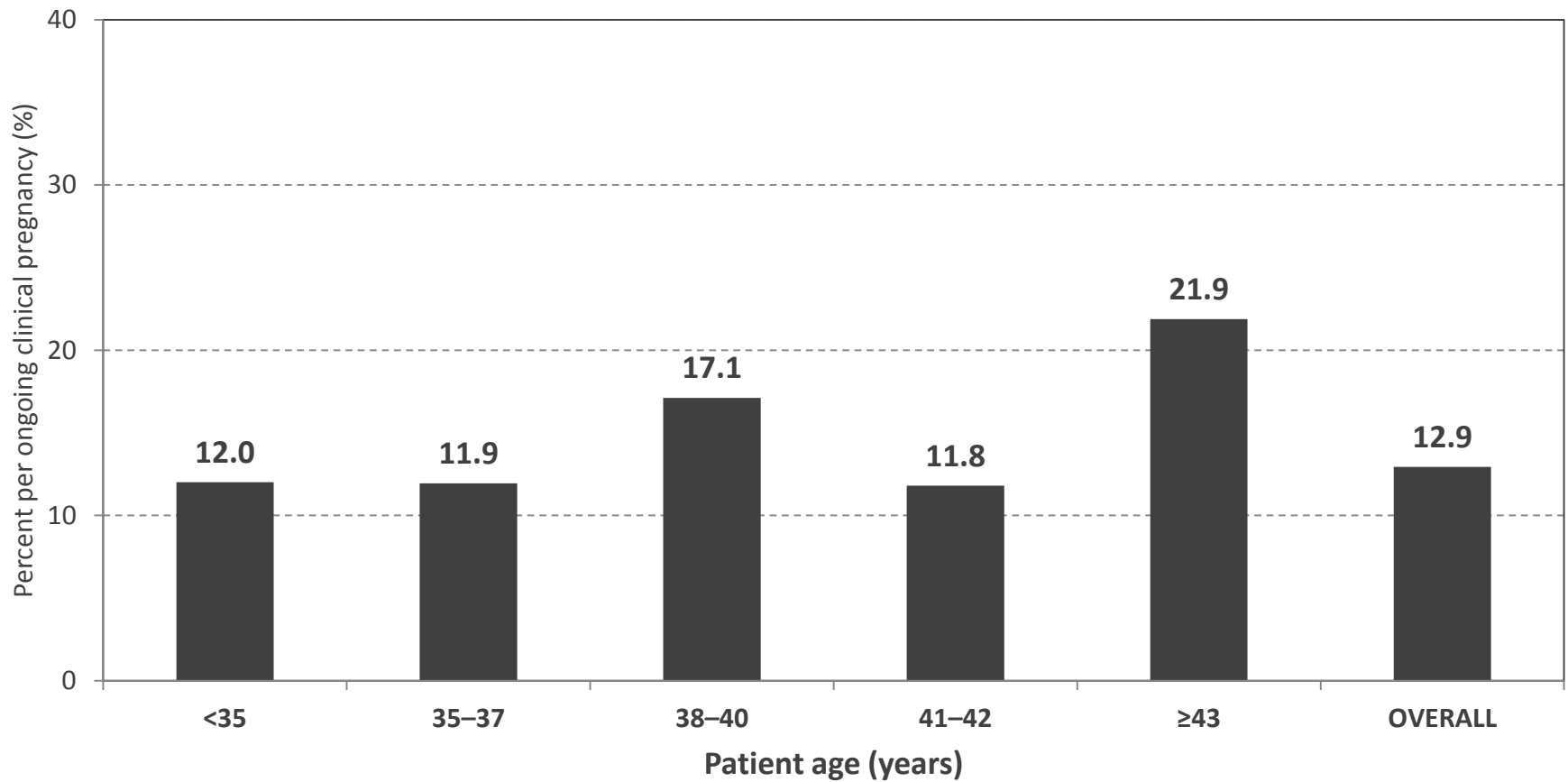


* Ongoing clinical pregnancy: clinical pregnancy with ≥ 1 fetal heart beat on ultrasound

† Singleton pregnancy: ongoing clinical pregnancy with only one fetal heart beat on ultrasound; multiple pregnancy: ongoing clinical pregnancy with >1 fetal heart beat

Percentage of multiple pregnancies

ART cycles using IVF – own oocytes, 2015



Multiple pregnancies

207

98

96

19

7

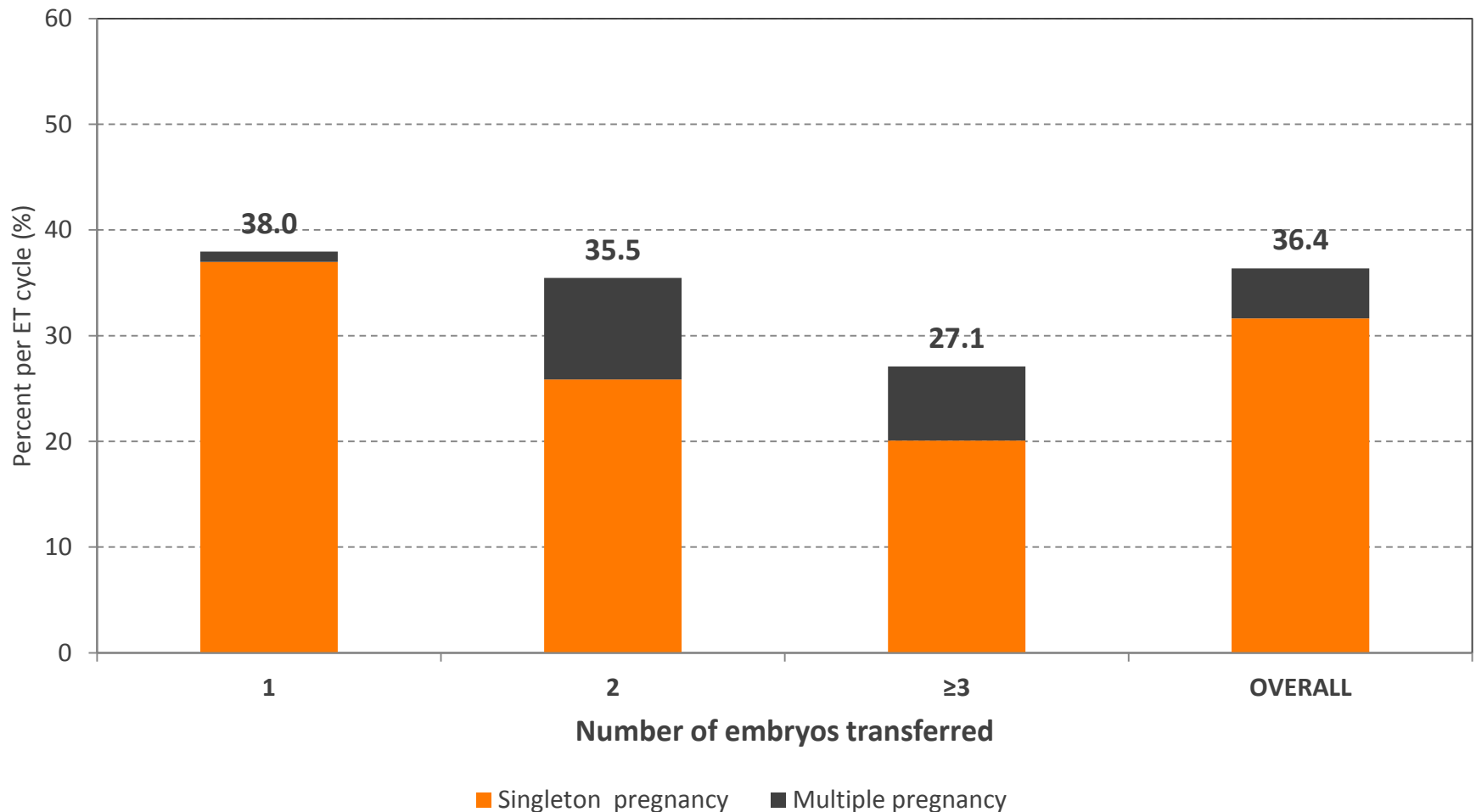
427

* Ongoing clinical pregnancy: clinical pregnancy with ≥ 1 fetal heart beat on ultrasound

† Multiple pregnancy: ongoing clinical pregnancy with >1 fetal heart beat on ultrasound

Proportion of cycles resulting in an ongoing clinical pregnancy

ART cycles using IVF – own oocytes, 2015



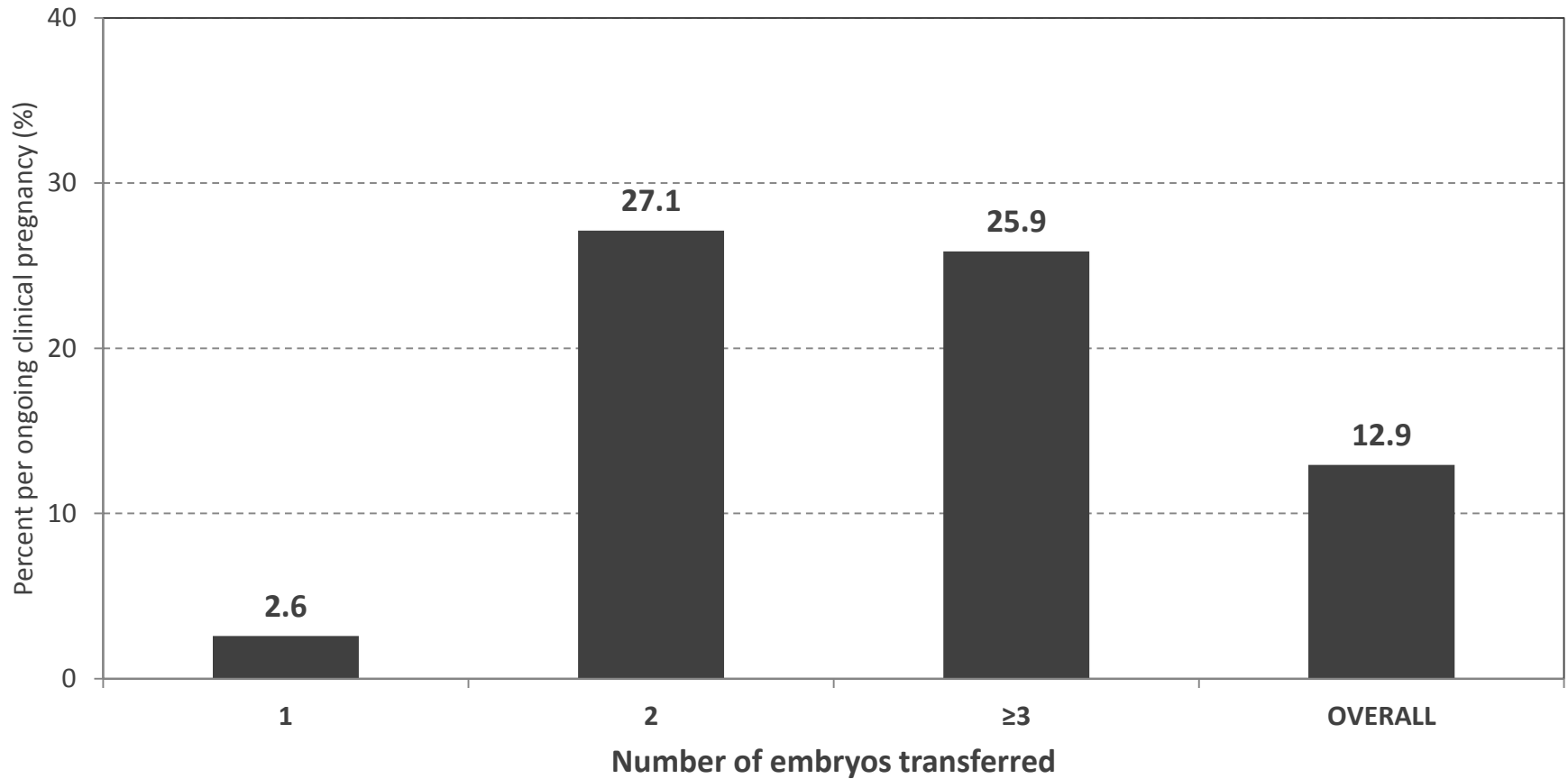
NOTE: In rare cases, a single embryo may divide and produce twins or triplets. For this reason, a small percentage of multiple pregnancies can result from a single embryo transfer

* Ongoing clinical pregnancy: clinical pregnancy with ≥ 1 fetal heart beat on ultrasound

† Singleton pregnancy: ongoing clinical pregnancy with only one fetal heart beat on ultrasound; multiple pregnancy: ongoing clinical pregnancy with >1 fetal heart beat

Percentage of multiple

ART cycles using IVF – own oocytes, 2015



Multiple pregnancies

49

341

37

427

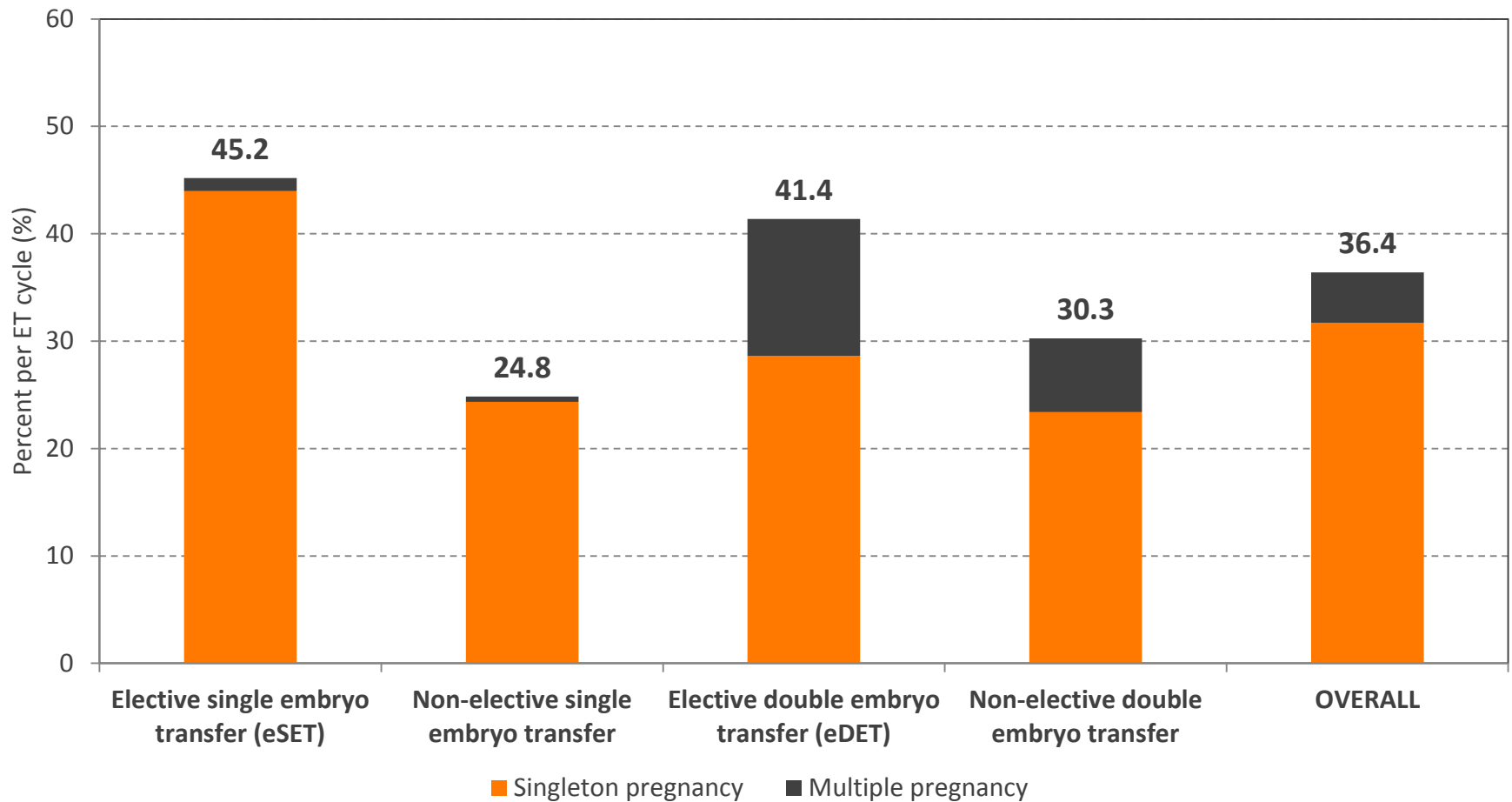
NOTE: In rare cases, a single embryo may divide and produce twins or triplets. For this reason, a small percentage of multiple pregnancies can result from a single embryo transfer

* Ongoing clinical pregnancy: clinical pregnancy with ≥ 1 fetal heart beat on ultrasound

† Multiple pregnancy: ongoing clinical pregnancy with >1 fetal heart beat on ultrasound

Proportion of cycles resulting in an ongoing clinical pregnancy by plurality and eSET/eDET

ART cycles using IVF – own oocytes, 2015



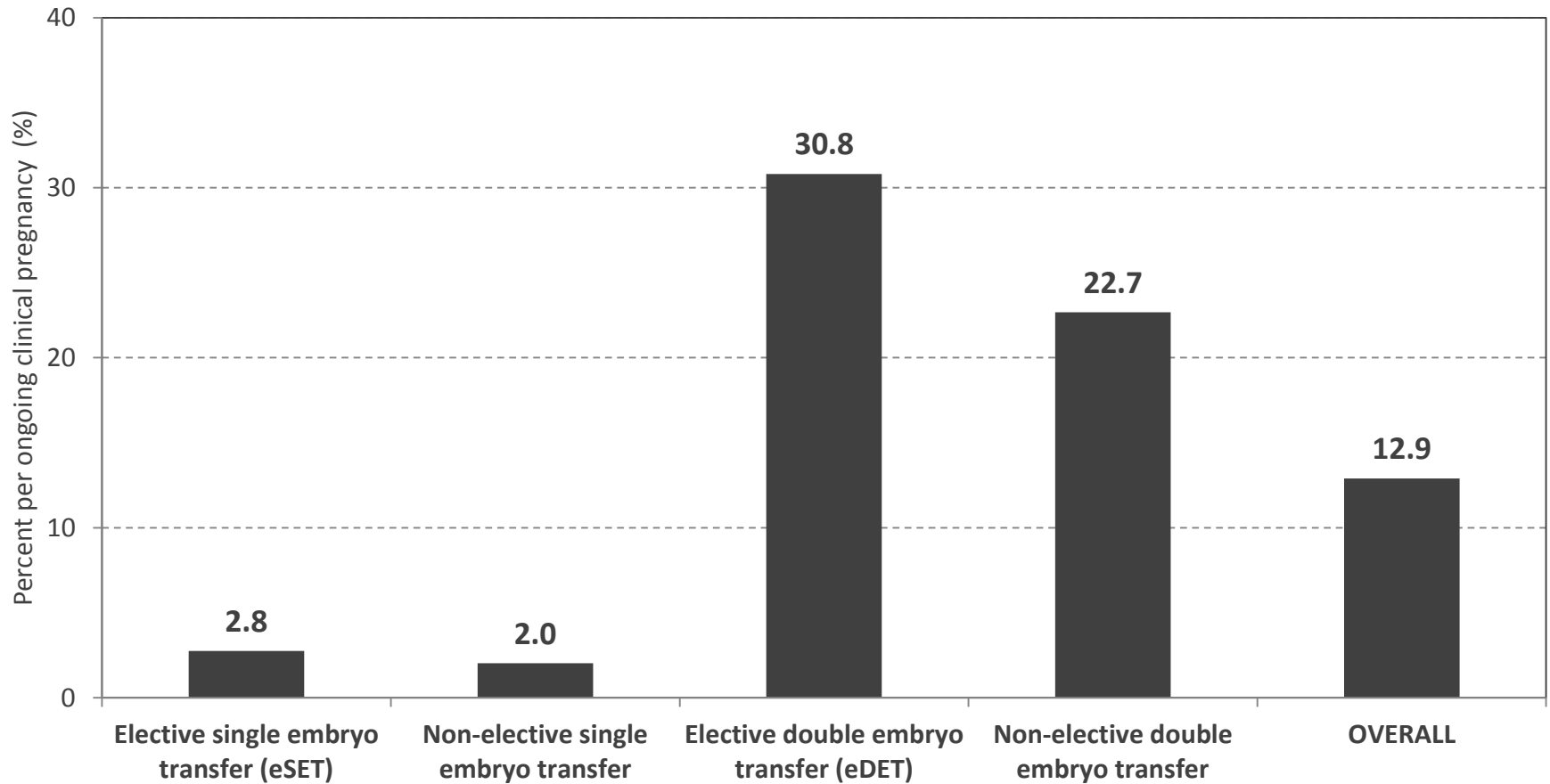
NOTE: In rare cases, a single embryo may divide and produce twins or triplets. For this reason, a small percentage of multiple pregnancies can result from a single embryo transfer

* Ongoing clinical pregnancy: clinical pregnancy with ≥ 1 fetal heart beat on ultrasound

† Singleton pregnancy: ongoing clinical pregnancy with only one fetal heart beat on ultrasound; multiple pregnancy: ongoing clinical pregnancy with >1 fetal heart beat

Percentage of multiple pregnancies by eSET/eDET

ART cycles using IVF – own oocytes, 2015



Multiple pregnancies

40

9

212

129

427

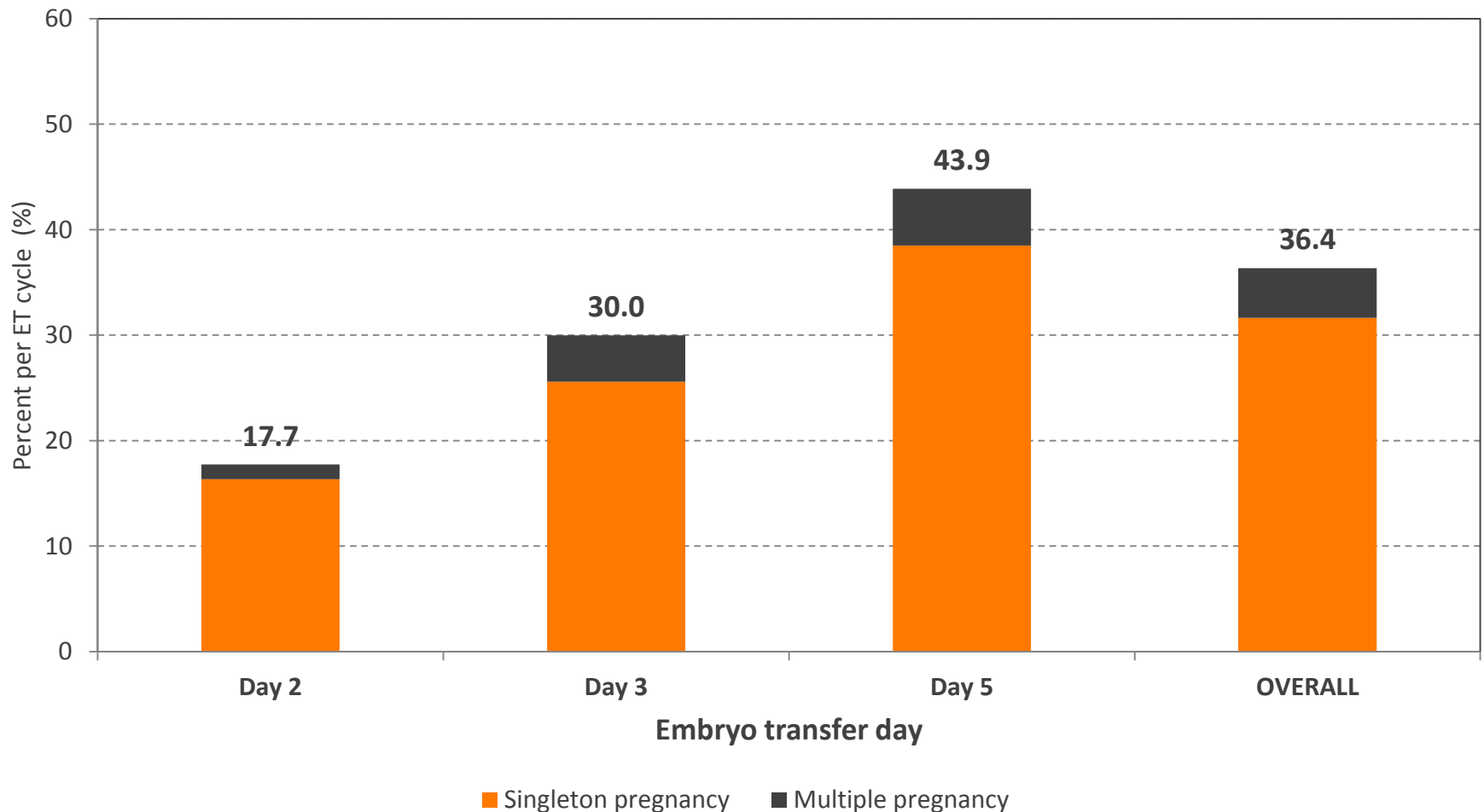
NOTE: In rare cases, a single embryo may divide and produce twins or triplets. For this reason, a small percentage of multiple pregnancies can result from a single embryo transfer

* Ongoing clinical pregnancy: clinical pregnancy with ≥ 1 fetal heart beat on ultrasound

† Multiple pregnancy: ongoing clinical pregnancy with >1 fetal heart beat on ultrasound

Proportion of cycles resulting in an ongoing clinical pregnancy

ART cycles using IVF – own oocytes, 2015

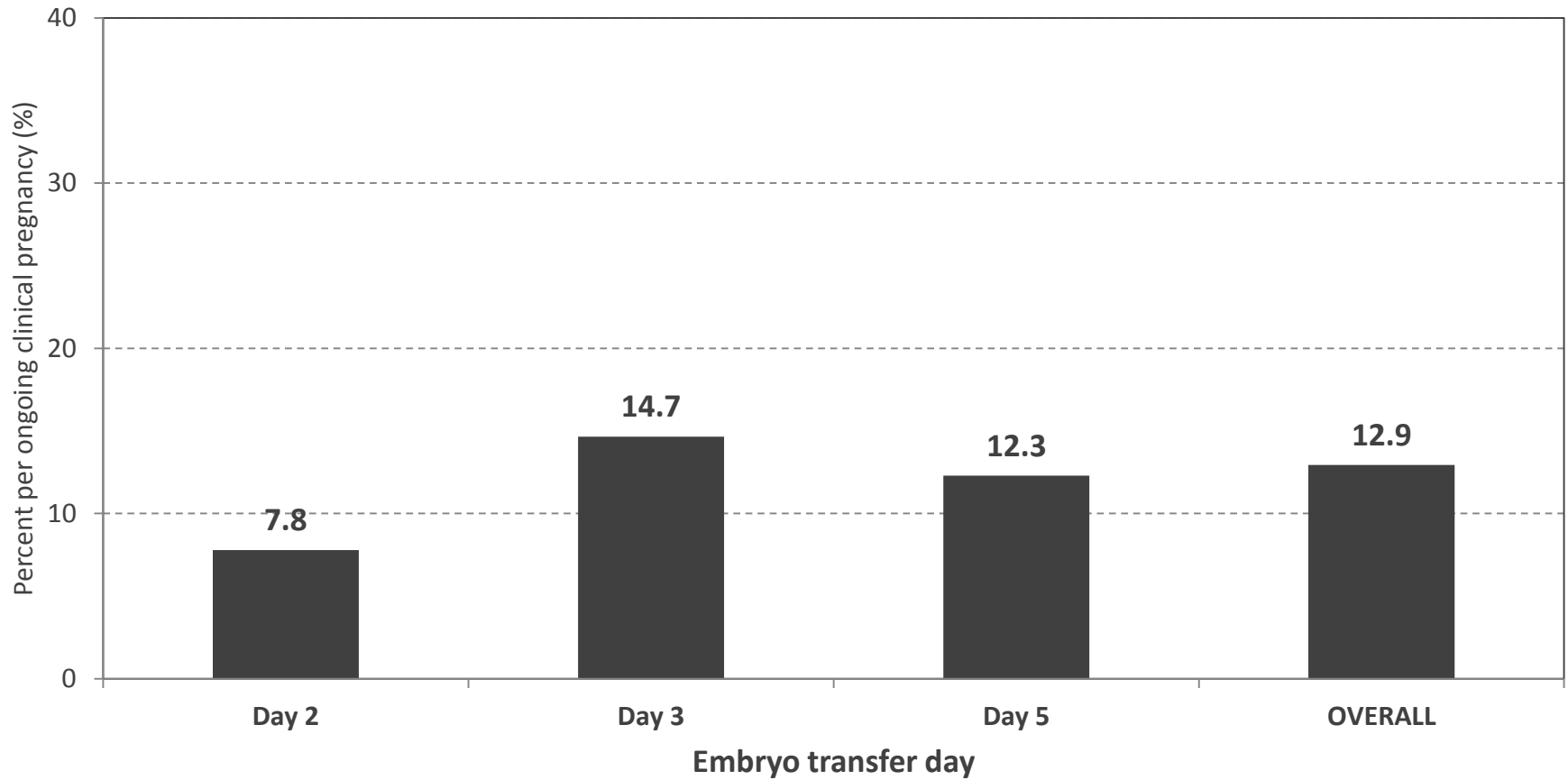


* Ongoing clinical pregnancy: clinical pregnancy with ≥ 1 fetal heart beat on ultrasound

† Singleton pregnancy: ongoing clinical pregnancy with only one fetal heart beat on ultrasound; multiple pregnancy: ongoing clinical pregnancy with >1 fetal heart beat

Percentage of multiple pregnancies

ART cycles using IVF – own oocytes, 2015



Multiple pregnancies

6

169

251

427

* Ongoing clinical pregnancy: clinical pregnancy with ≥ 1 fetal heart beat on ultrasound

† Multiple pregnancy: ongoing clinical pregnancy with >1 fetal heart beat on ultrasound

Treatment outcomes

ART cycles using IVF – own oocytes, 2015

Treatment outcome	Number	% per CS	% per ET	% per CP	% per OCP
Clinical pregnancy (CP)*	3,611	23.6	39.8		
Ongoing clinical pregnancy (OCP)†	3,299	21.6	36.4	91.4	
Singleton‡	2,872	18.8	31.6	79.5	87.1
Multiple‡	427	2.8	4.7	11.8	12.9
Multiple pregnancy‡	427	2.8	4.7	11.8	12.9
Twins	407	95.3% of multiple pregnancies were twin gestations			
Triplet or higher	20				

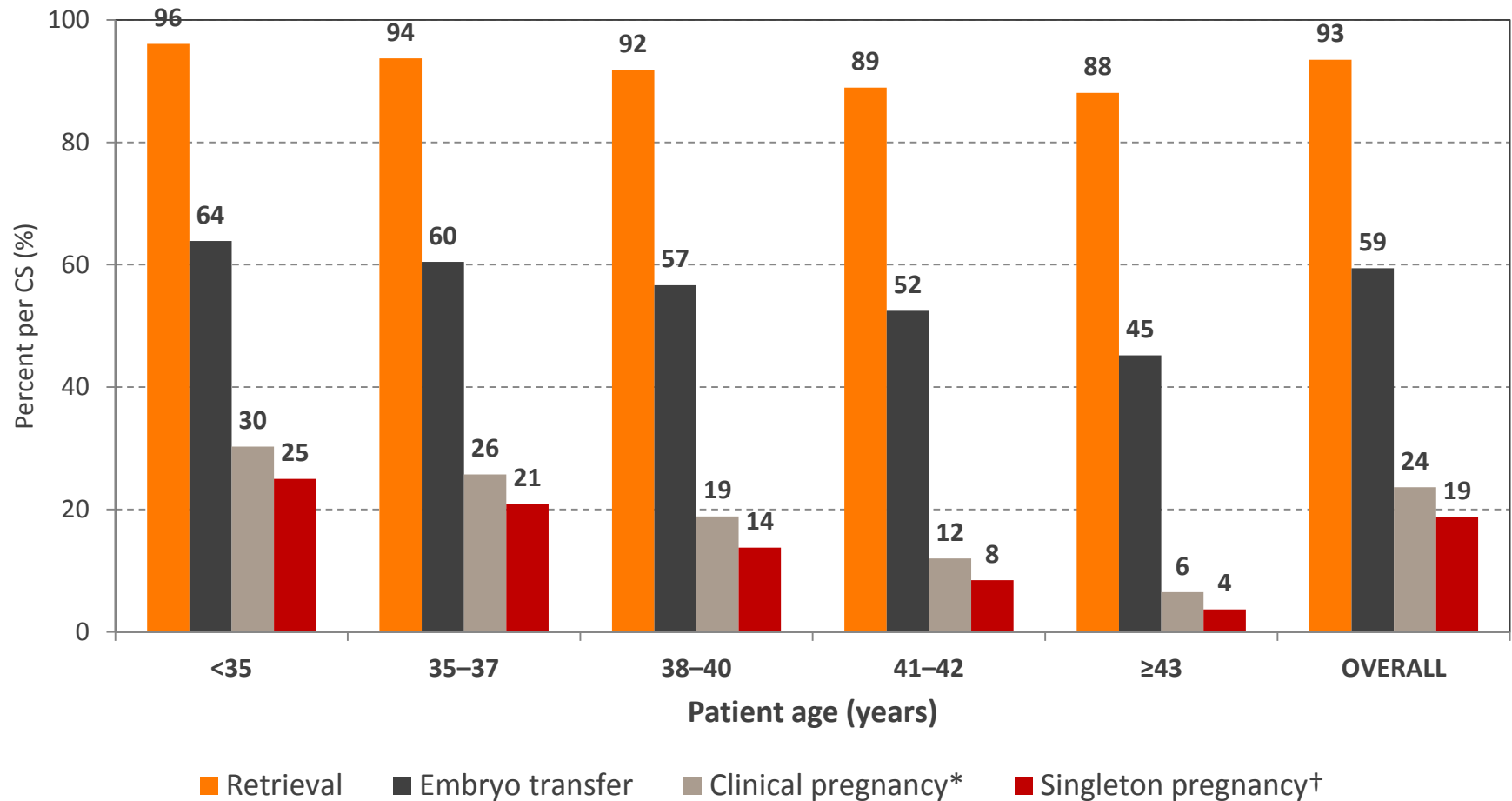
* Clinical pregnancy: clinical intrauterine, heterotopic, or ectopic pregnancy

† Ongoing clinical pregnancy: clinical pregnancy with ≥1 fetal heart beat on ultrasound

‡ Singleton pregnancy: ongoing clinical pregnancy with only one fetal heart beat on ultrasound; multiple pregnancy: ongoing clinical pregnancy with >1 fetal heart beat

Oocyte retrieval, embryo transfer, clinical pregnancy and singleton pregnancy

ART cycles using IVF – own oocytes, 2015



* Clinical pregnancy: clinical intrauterine, heterotopic, or ectopic pregnancy

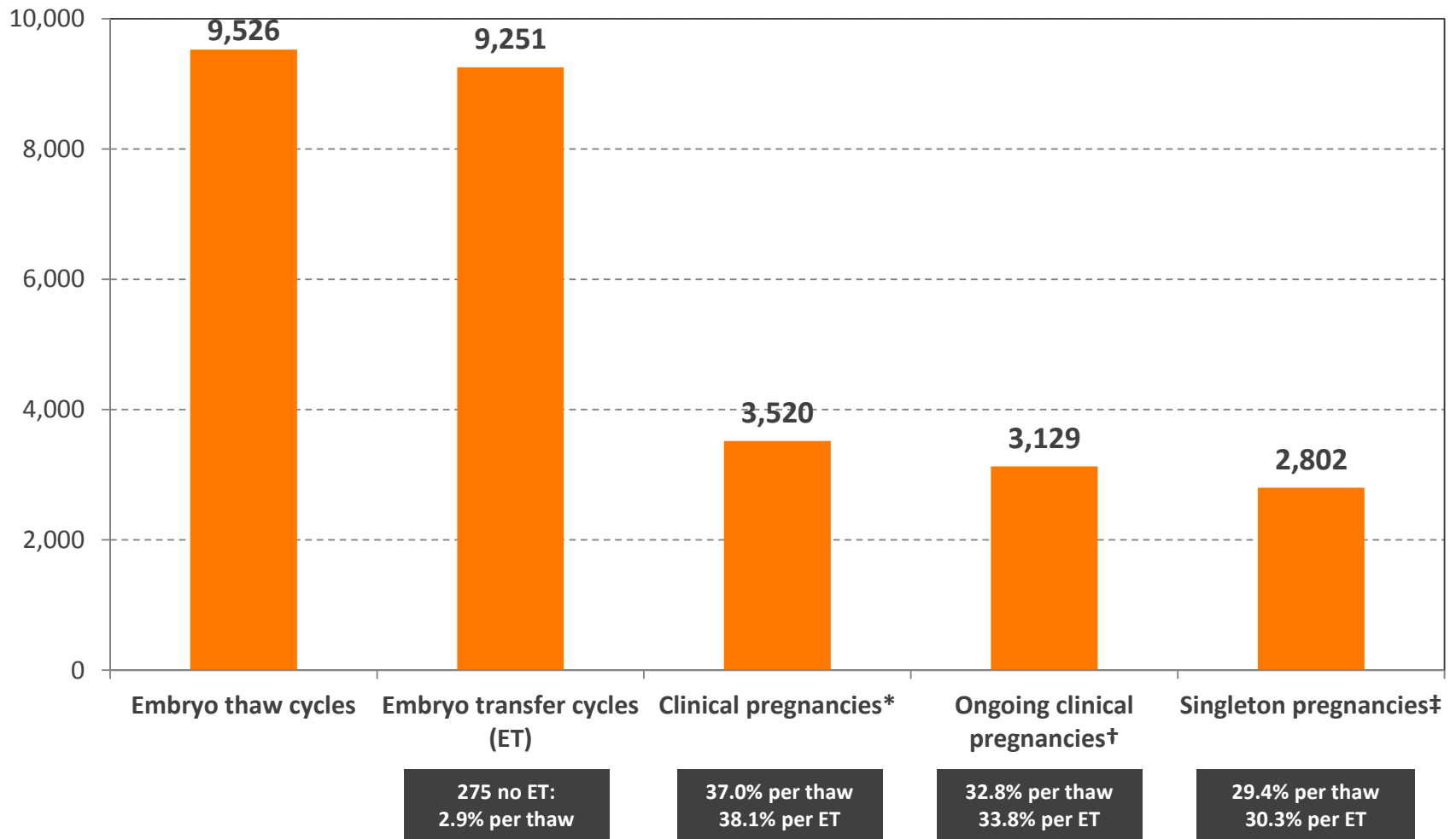
† Singleton pregnancy: ongoing clinical pregnancy with only one fetal heart beat on ultrasound

TREATMENT CYCLES FOR 2015

ART cycles using FET – own oocytes

Stage of treatment and treatment outcomes

ART cycles using FET – own oocytes, 2015



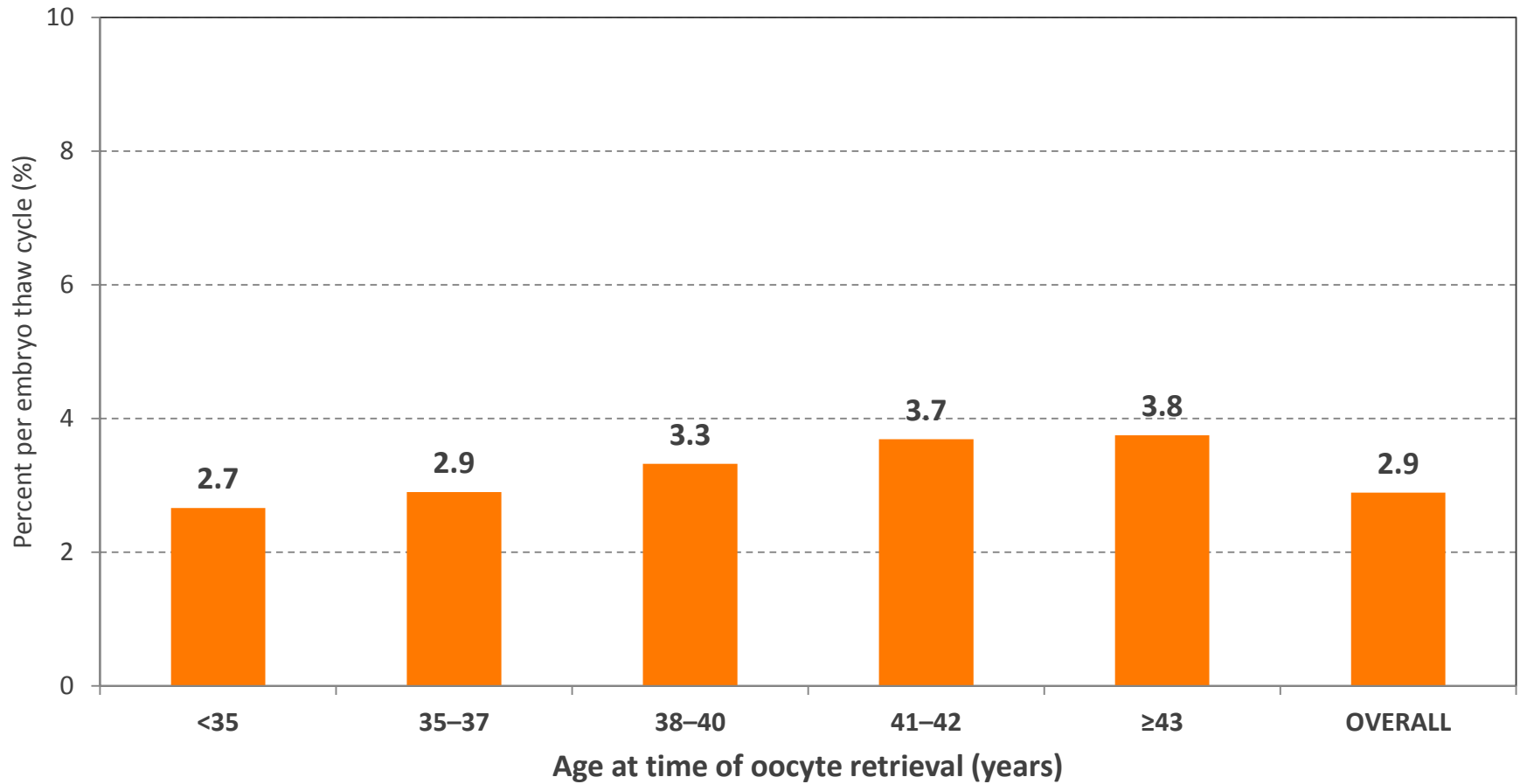
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‡ Singleton pregnancy: ongoing clinical pregnancy with only one fetal heart beat on ultrasound

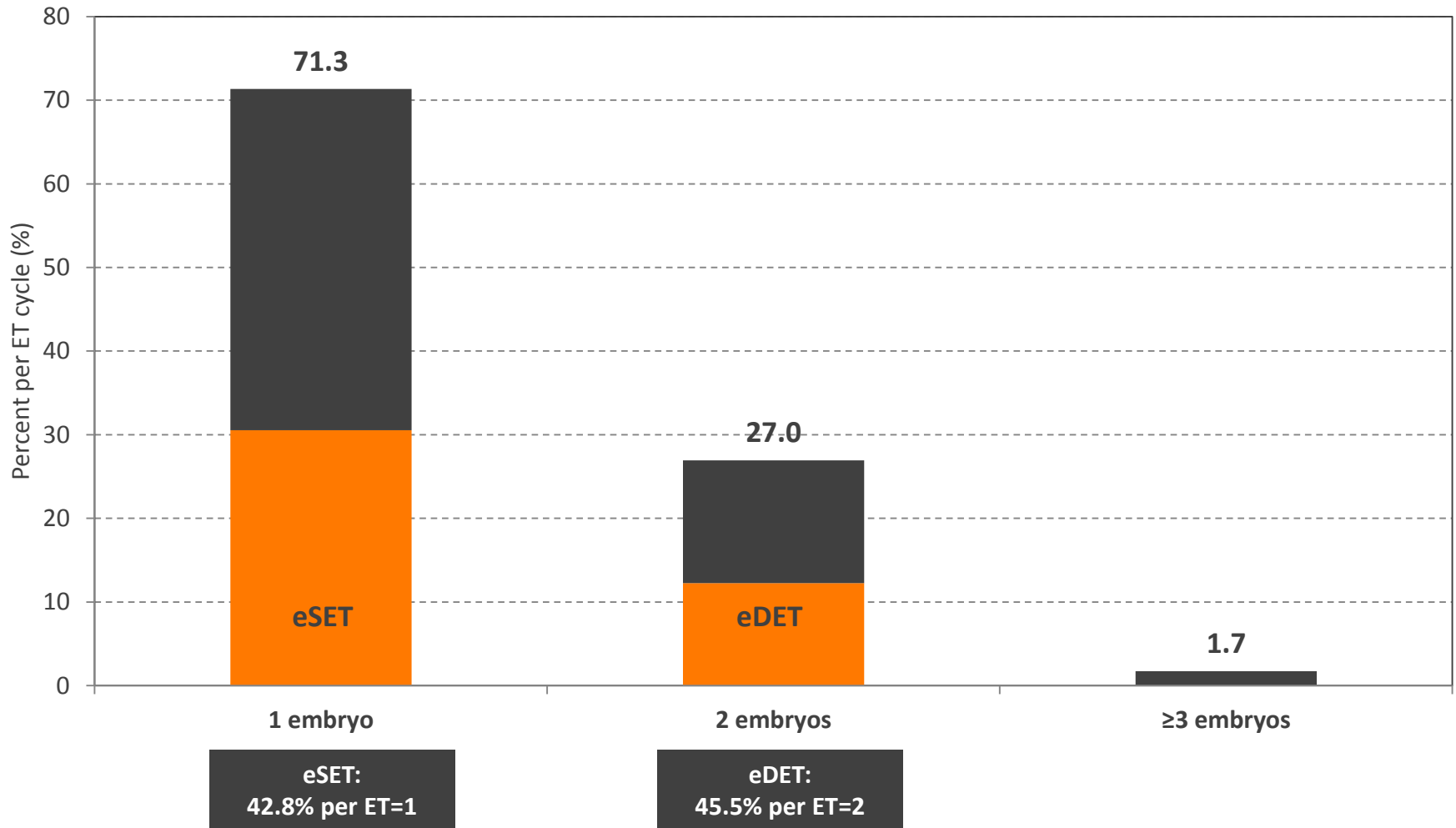
Percentage of no embryo transfer

ART cycles using FET – own oocytes, 2015



Number of embryos transferred

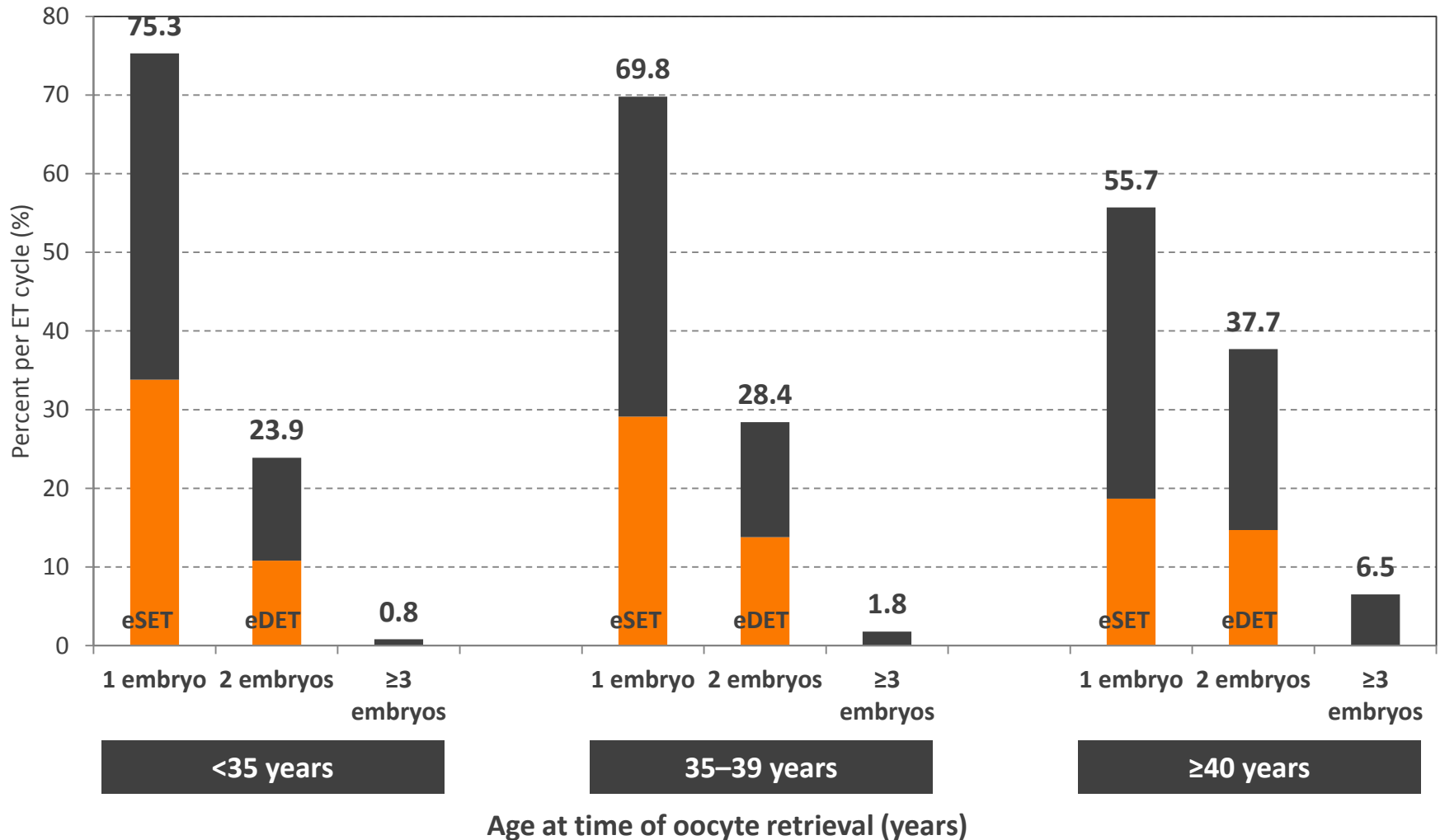
ART cycles using FET – own oocytes, 2015



* Elective single (eSET) and double (eDET) embryo transfer: transfer of one embryo (eSET) or two embryos (eDET), selected from a larger cohort of available embryos

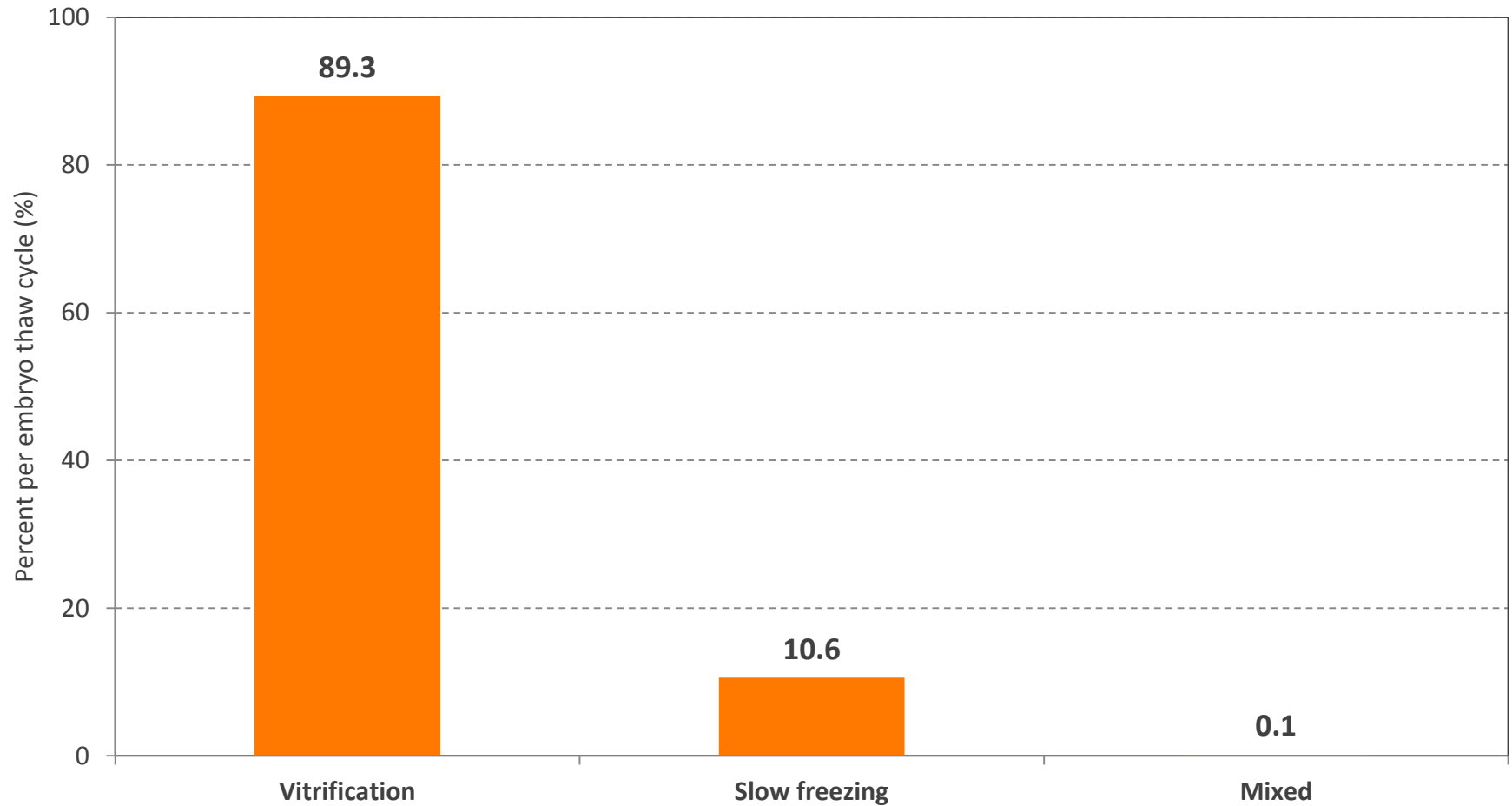
Number of embryos transferred

ART cycles using FET – own oocytes, 2015



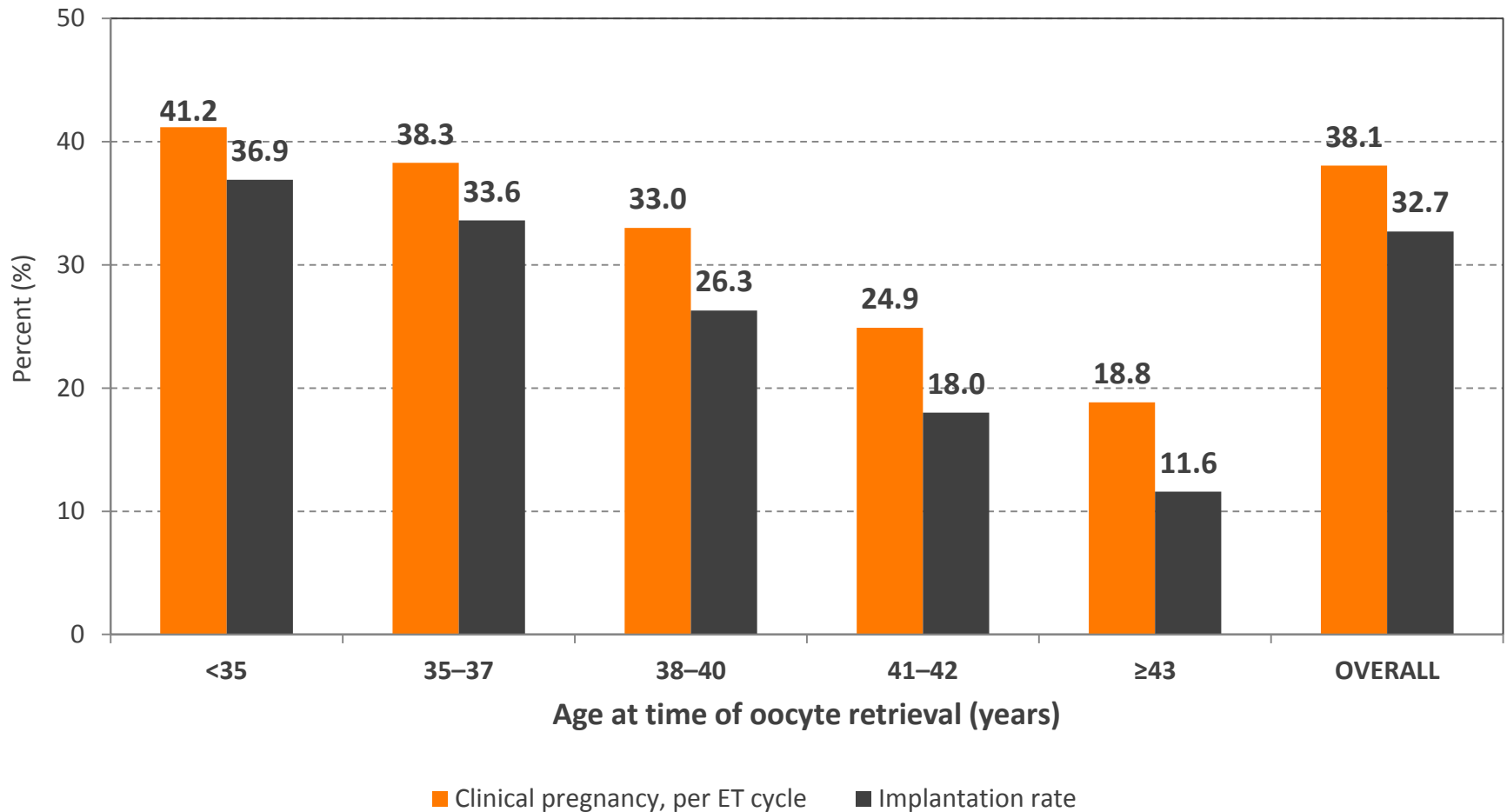
Method of embryo cryopreservation

ART cycles using FET – own oocytes, 2015



Clinical pregnancy and implantation rate

ART cycles using FET – own oocytes, 2015

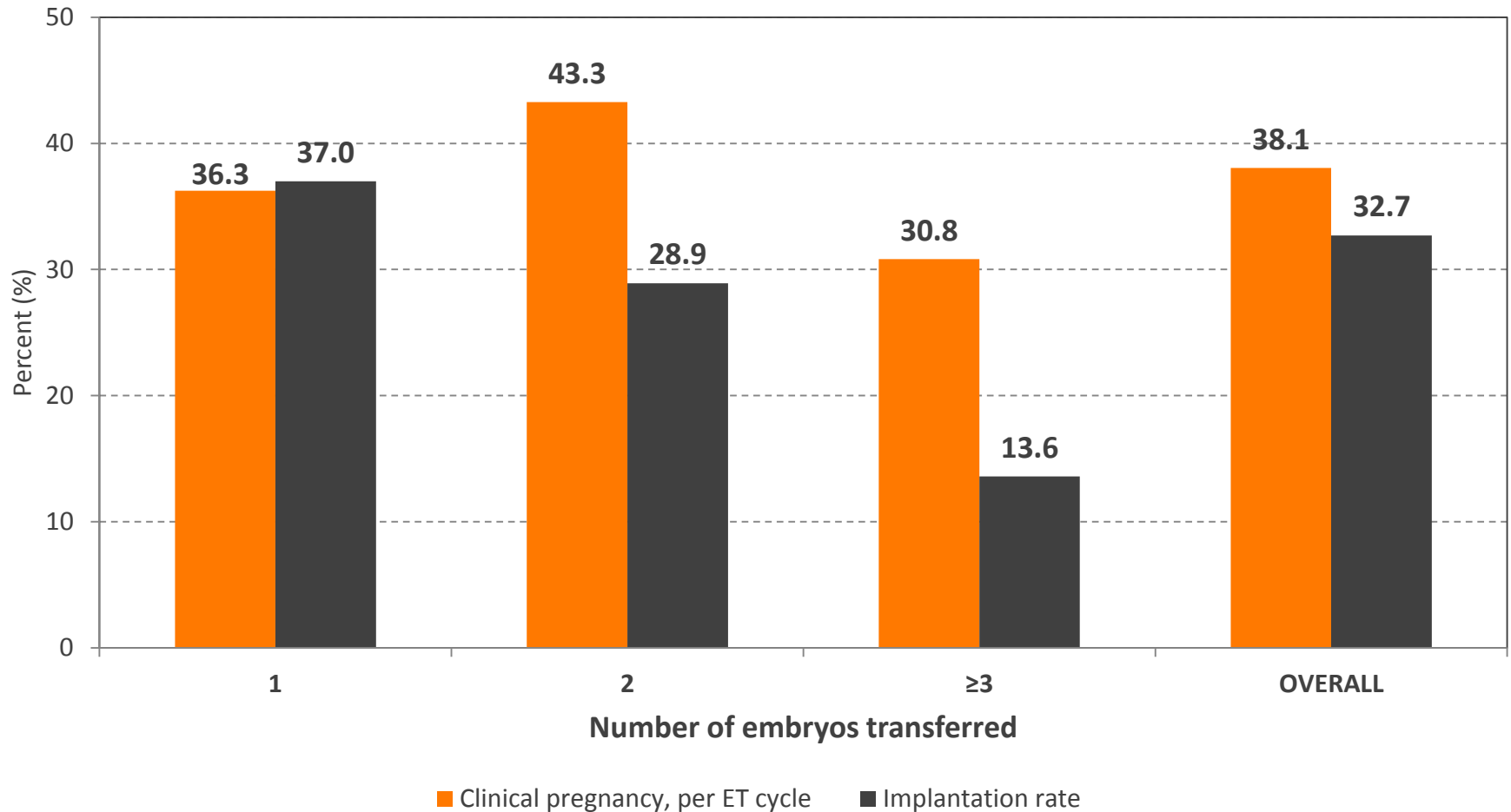


* Clinical pregnancy: clinical intrauterine, heterotopic, or ectopic pregnancy

† Implantation rate: number of gestational sacs observed on ultrasound, divided by the total number of embryos transferred

Clinical pregnancy and implantation rate

ART cycles using FET – own oocytes, 2015

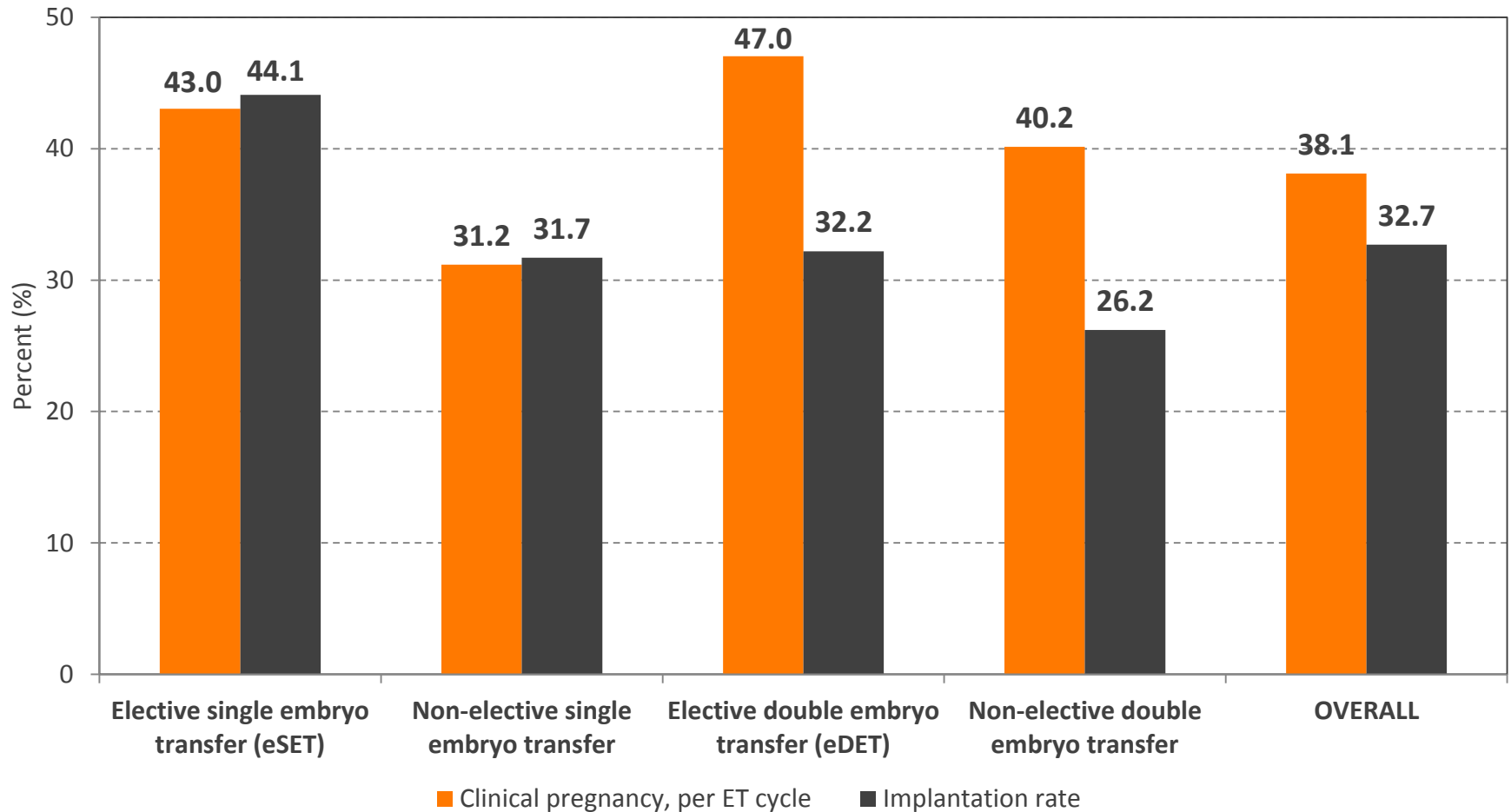


* Clinical pregnancy: clinical intrauterine, heterotopic, or ectopic pregnancy

† Implantation rate: number of gestational sacs observed on ultrasound, divided by the total number of embryos transferred

Clinical pregnancy and implantation rate by eSET/eDET

ART cycles using FET – own oocytes, 2015



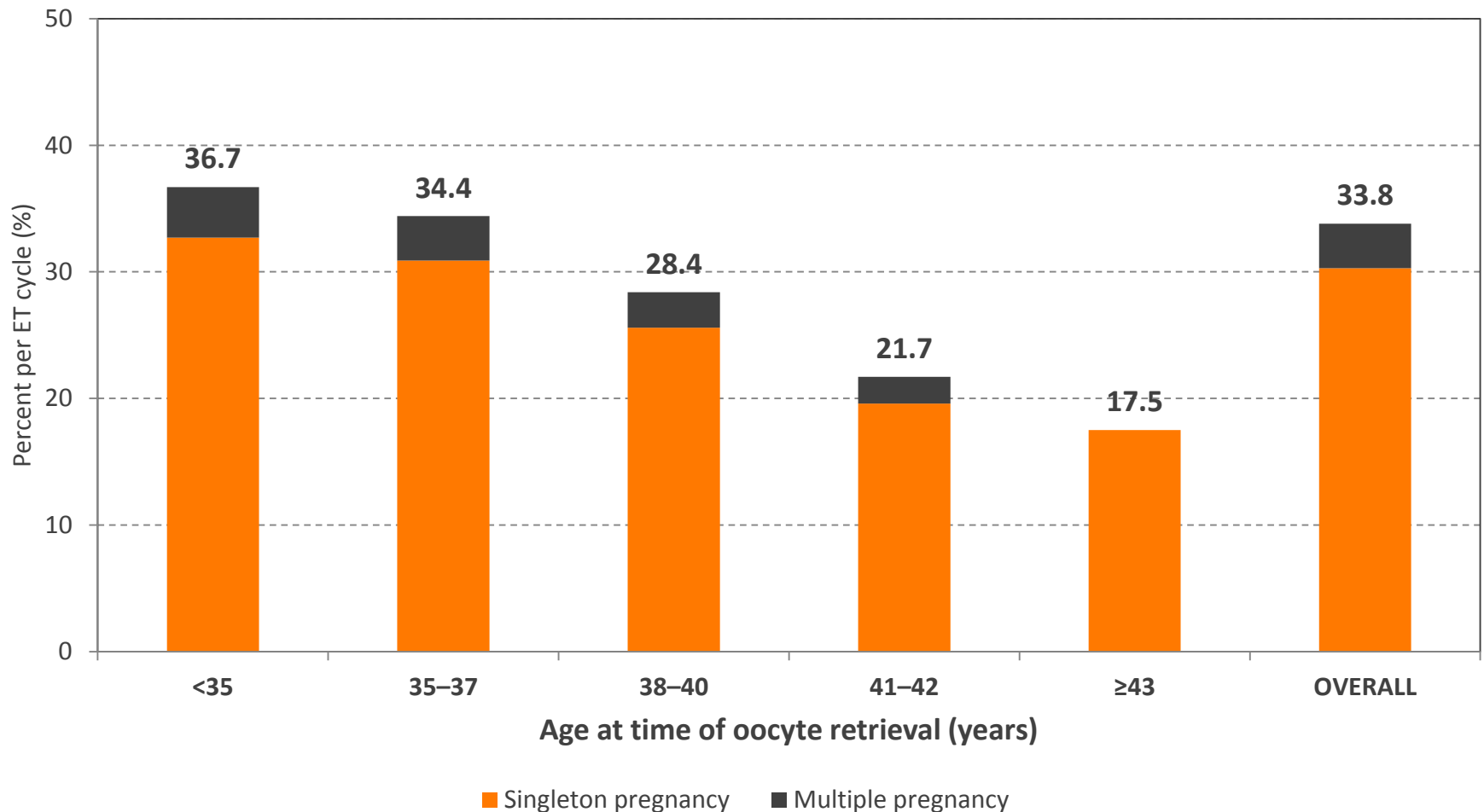
NOTE: In rare cases, a single embryo may divide and produce twins or triplets. For this reason, a small percentage of multiple pregnancies can result from a single embryo transfer

* Clinical pregnancy: clinical intrauterine, heterotopic, or ectopic pregnancy

† Implantation rate: number of gestational sacs observed on ultrasound, divided by the total number of embryos transferred

Proportion of cycles resulting in an ongoing clinical pregnancy

ART cycles using FET – own oocytes, 2015

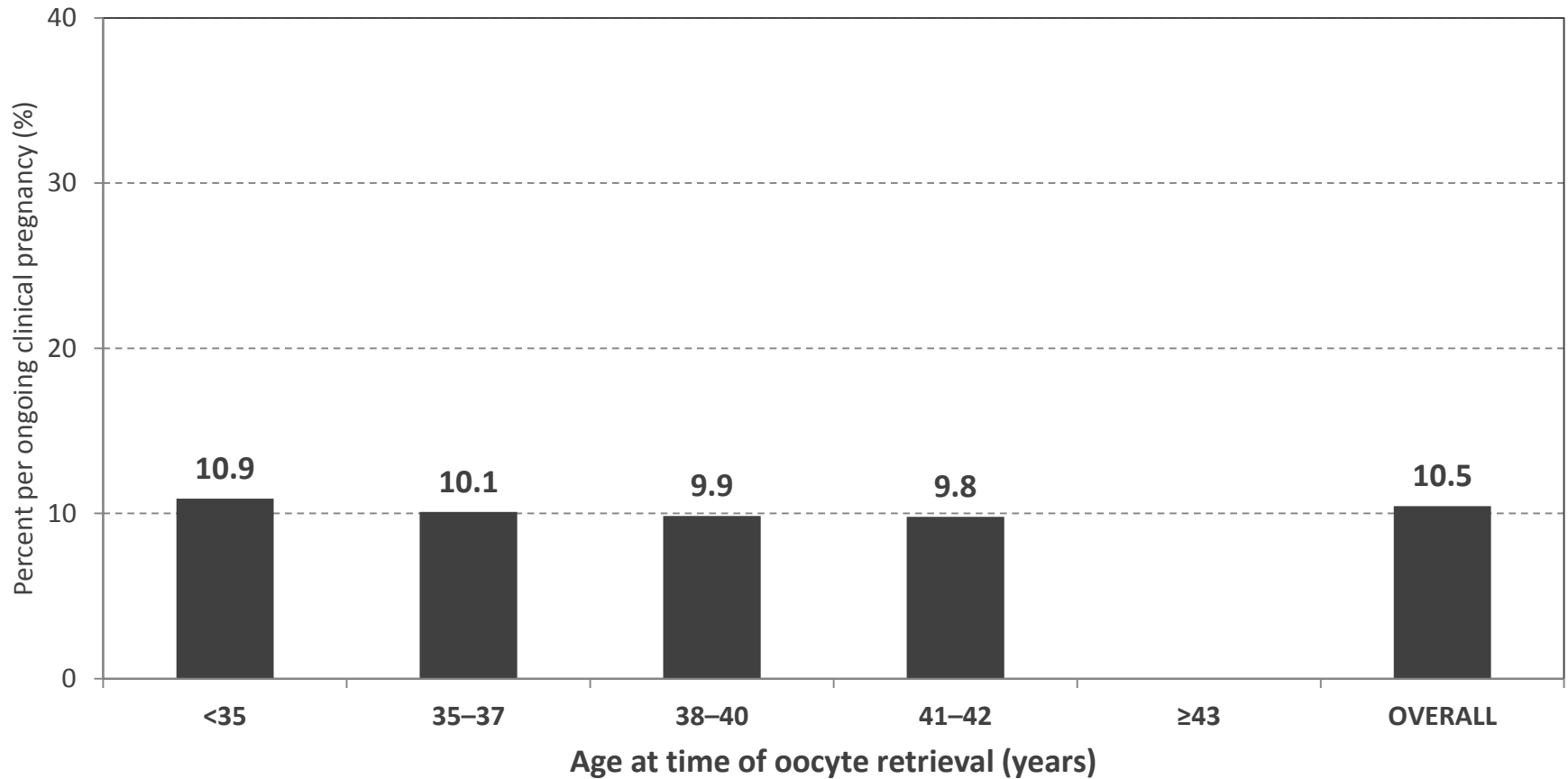


* Ongoing clinical pregnancy: clinical pregnancy with ≥ 1 fetal heart beat on ultrasound

† Singleton pregnancy: ongoing clinical pregnancy with only one fetal heart beat on ultrasound; multiple pregnancy: ongoing clinical pregnancy with >1 fetal heart beat

Percentage of multiple pregnancies

ART cycles using FET – own oocytes, 2015



Multiple pregnancies

202

76

39

10

0

327

* Ongoing clinical pregnancy: clinical pregnancy with ≥ 1 fetal heart beat on ultrasound

† Multiple pregnancy: ongoing clinical pregnancy with > 1 fetal heart beat on ultrasound

Proportion of cycles resulting in an ongoing clinical pregnancy

ART cycles using FET – own oocytes, 2015



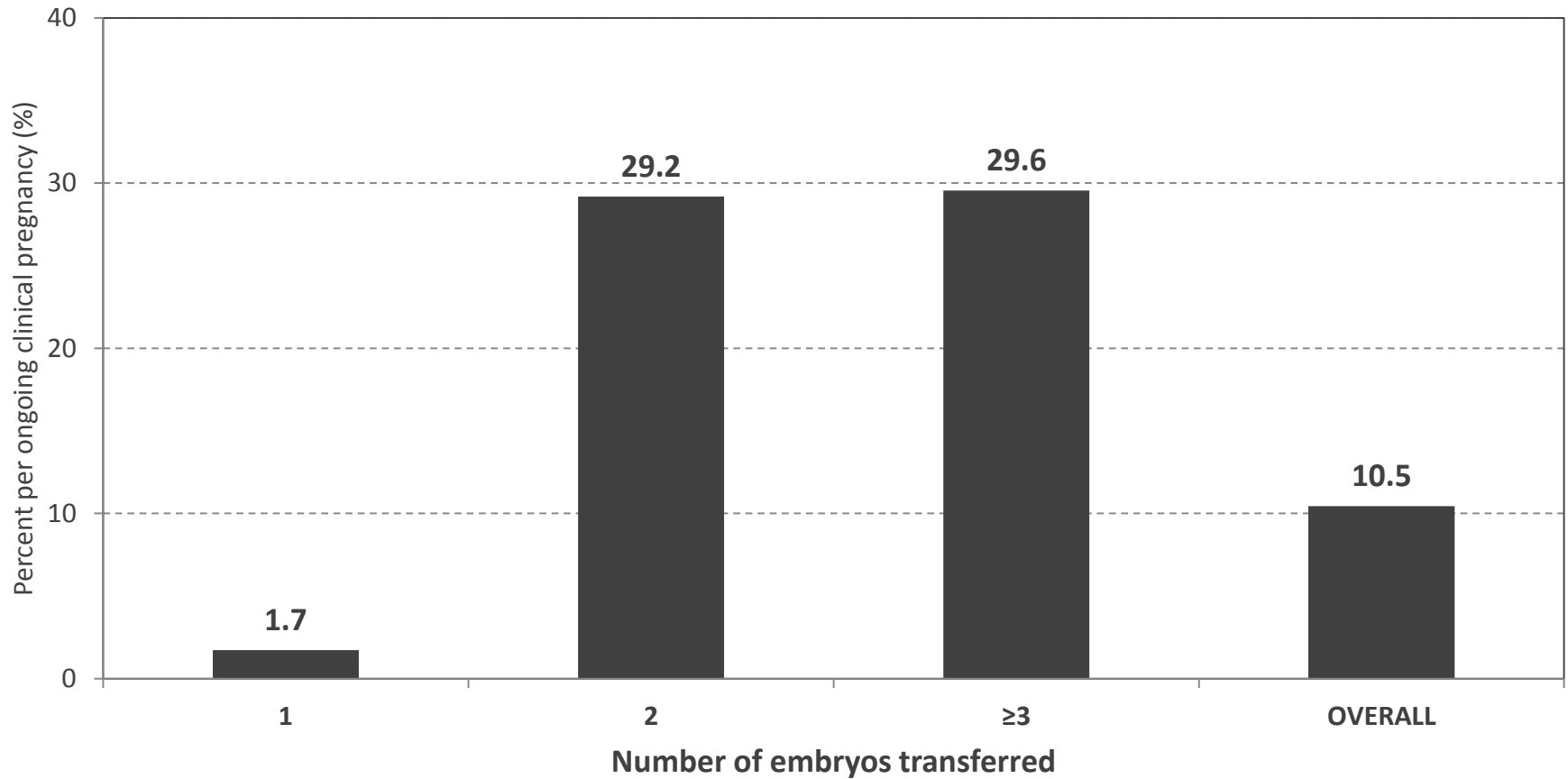
NOTE: In rare cases, a single embryo may divide and produce twins or triplets. For this reason, a small percentage of multiple pregnancies can result from a single embryo transfer

* Ongoing clinical pregnancy: clinical pregnancy with ≥ 1 fetal heart beat on ultrasound

† Singleton pregnancy: ongoing clinical pregnancy with only one fetal heart beat on ultrasound; multiple pregnancy: ongoing clinical pregnancy with >1 fetal heart beat

Percentage of multiple pregnancies

ART cycles using FET – own oocytes, 2015



Multiple pregnancies

37

277

13

327

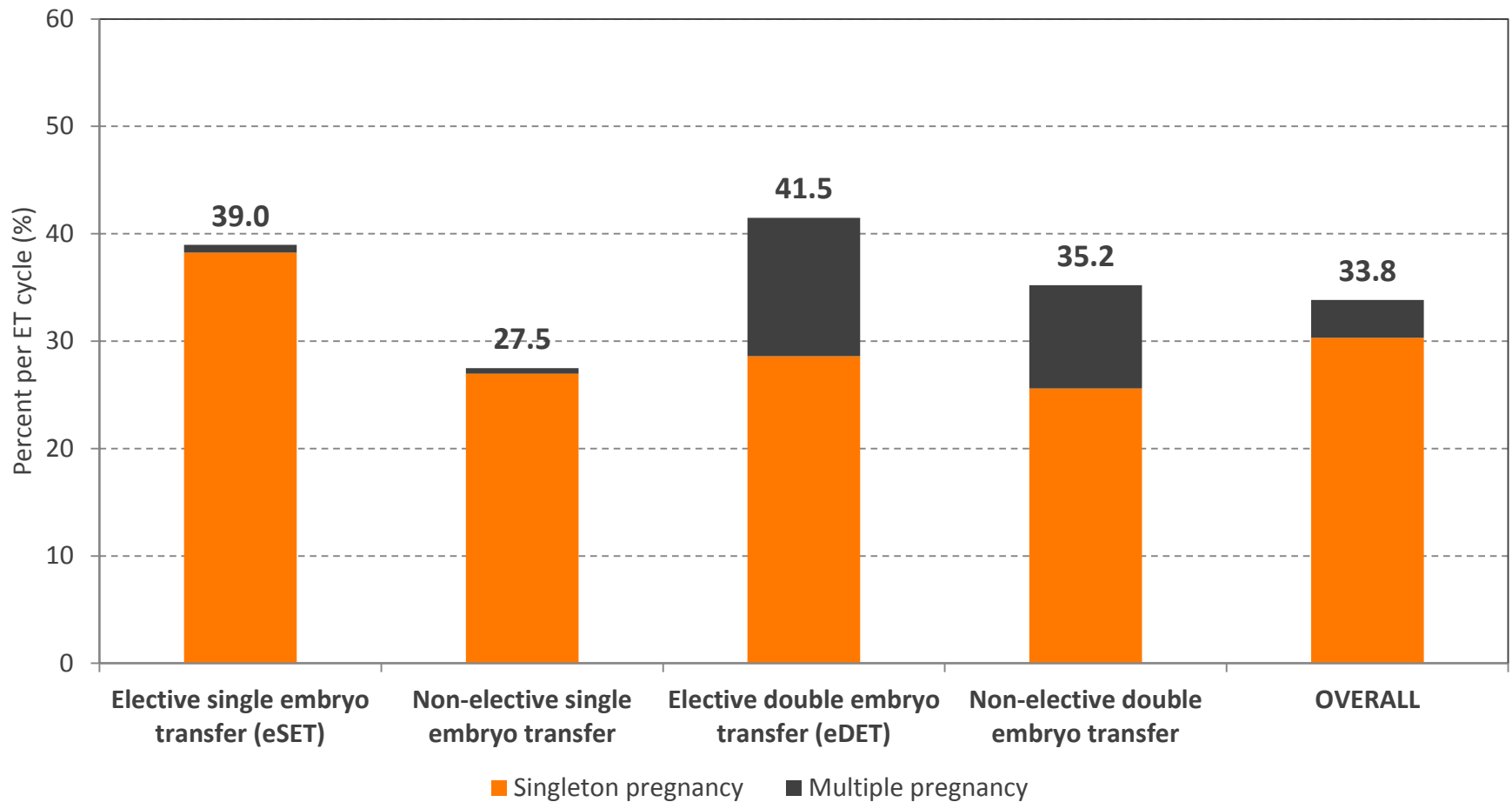
NOTE: In rare cases, a single embryo may divide and produce twins or triplets. For this reason, a small percentage of multiple pregnancies can result from a single embryo transfer

* Ongoing clinical pregnancy: clinical pregnancy with ≥ 1 fetal heart beat on ultrasound

† Multiple pregnancy: ongoing clinical pregnancy with >1 fetal heart beat on ultrasound

Proportion of cycles resulting in an ongoing clinical pregnancy by plurality and eSET/eDET

ART cycles using FET – own oocytes, 2015



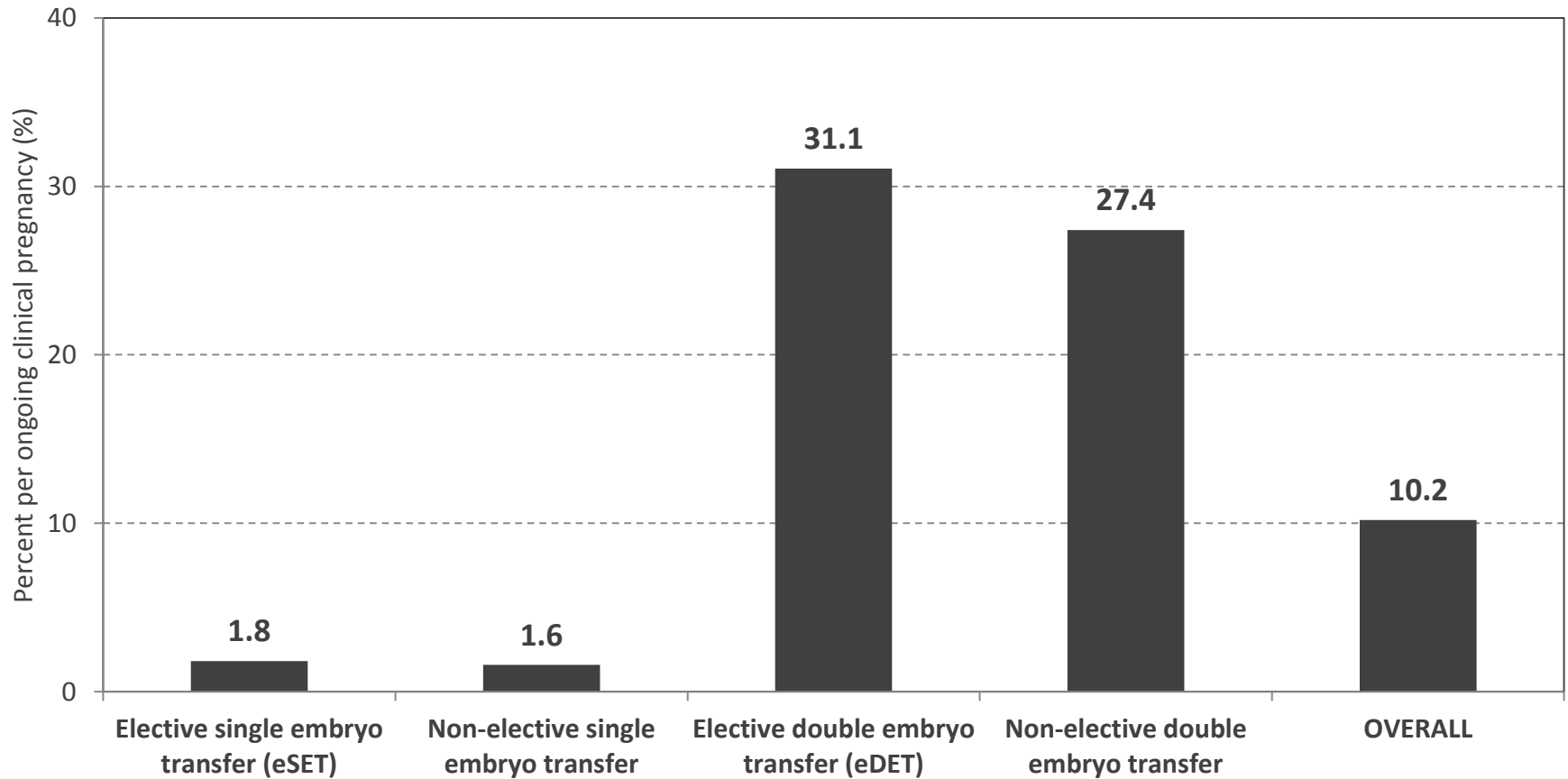
NOTE: In rare cases, a single embryo may divide and produce twins or triplets. For this reason, a small percentage of multiple pregnancies can result from a single embryo transfer

* Ongoing clinical pregnancy: clinical pregnancy with ≥ 1 fetal heart beat on ultrasound

† Singleton pregnancy: ongoing clinical pregnancy with only one fetal heart beat on ultrasound; multiple pregnancy: ongoing clinical pregnancy with >1 fetal heart beat

Percentage of multiple pregnancies by eSET/eDET

ART cycles using FET – own oocytes, 2015



Multiple pregnancies

20

17

146

131

327

NOTE: In rare cases, a single embryo may divide and produce twins or triplets. For this reason, a small percentage of multiple pregnancies can result from a single embryo transfer

* Ongoing clinical pregnancy: clinical pregnancy with ≥ 1 fetal heart beat on ultrasound

† Multiple pregnancy: ongoing clinical pregnancy with >1 fetal heart beat on ultrasound

Treatment outcomes

ART cycles using FET – own oocytes, 2015

Treatment outcome	Number	% per embryo thaw	% per ET	% per CP	% per OCP
Clinical pregnancy (CP)*	3,520	37.0	38.0		
Ongoing clinical pregnancy (OCP)†	3,129	32.8	33.8	88.9	
Singleton‡	2,802	29.4	30.3	79.6	89.5
Multiple‡	327	3.4	3.5	9.3	10.5
Multiple pregnancy‡	327	3.4	3.5	9.3	10.5
Twins	311	95% of multiple pregnancies were twin gestations			
Triplet or higher	16				

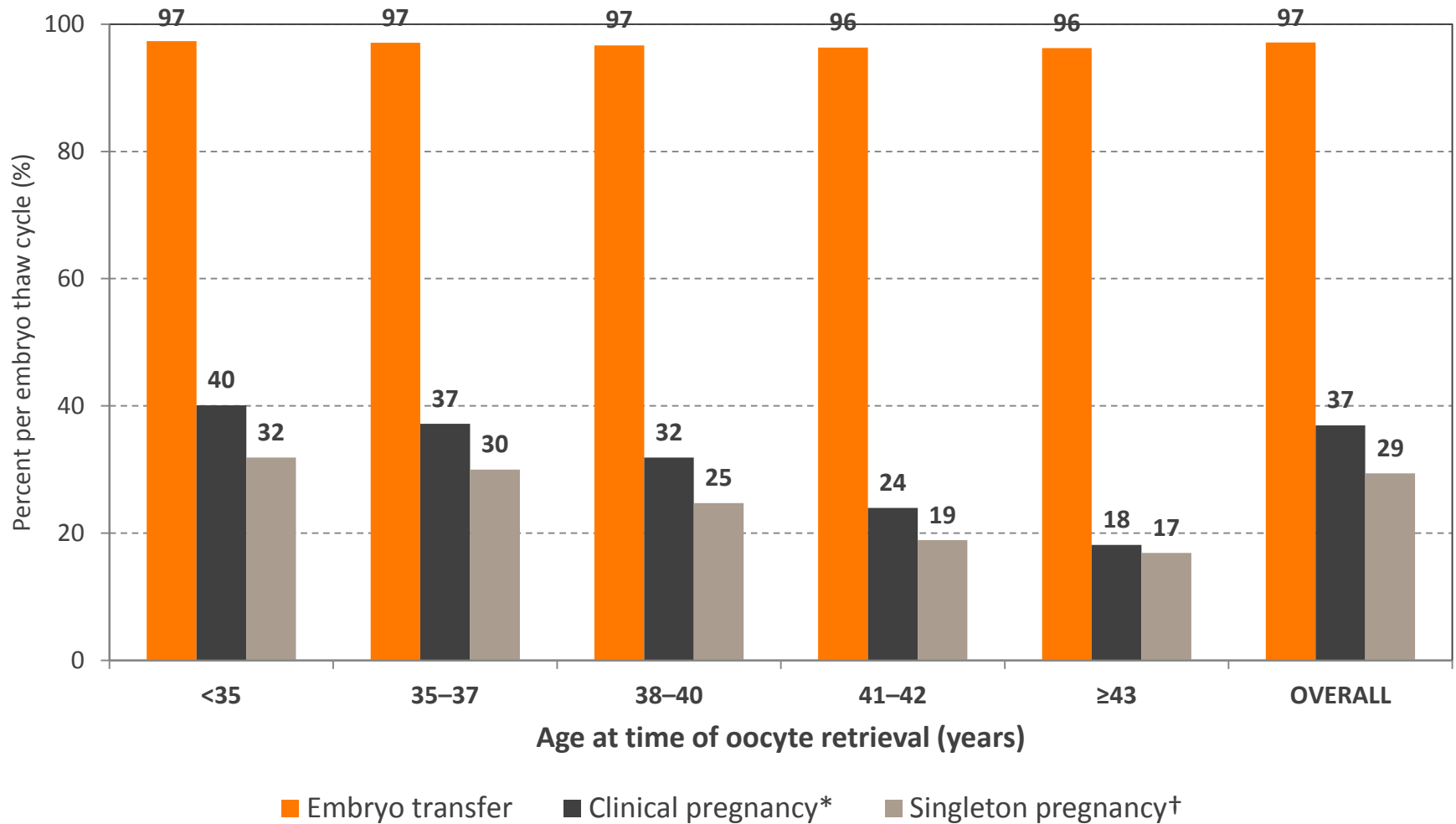
* Clinical pregnancy: clinical intrauterine, heterotopic, or ectopic pregnancy

† Ongoing clinical pregnancy: clinical pregnancy with ≥1 fetal heart beat on ultrasound

‡ Singleton pregnancy: ongoing clinical pregnancy with only one fetal heart beat on ultrasound; multiple pregnancy: ongoing clinical pregnancy with >1 fetal heart beat

Embryo transfer, clinical pregnancy and singleton clinical pregnancy

ART cycles using FET – own oocytes, 2015



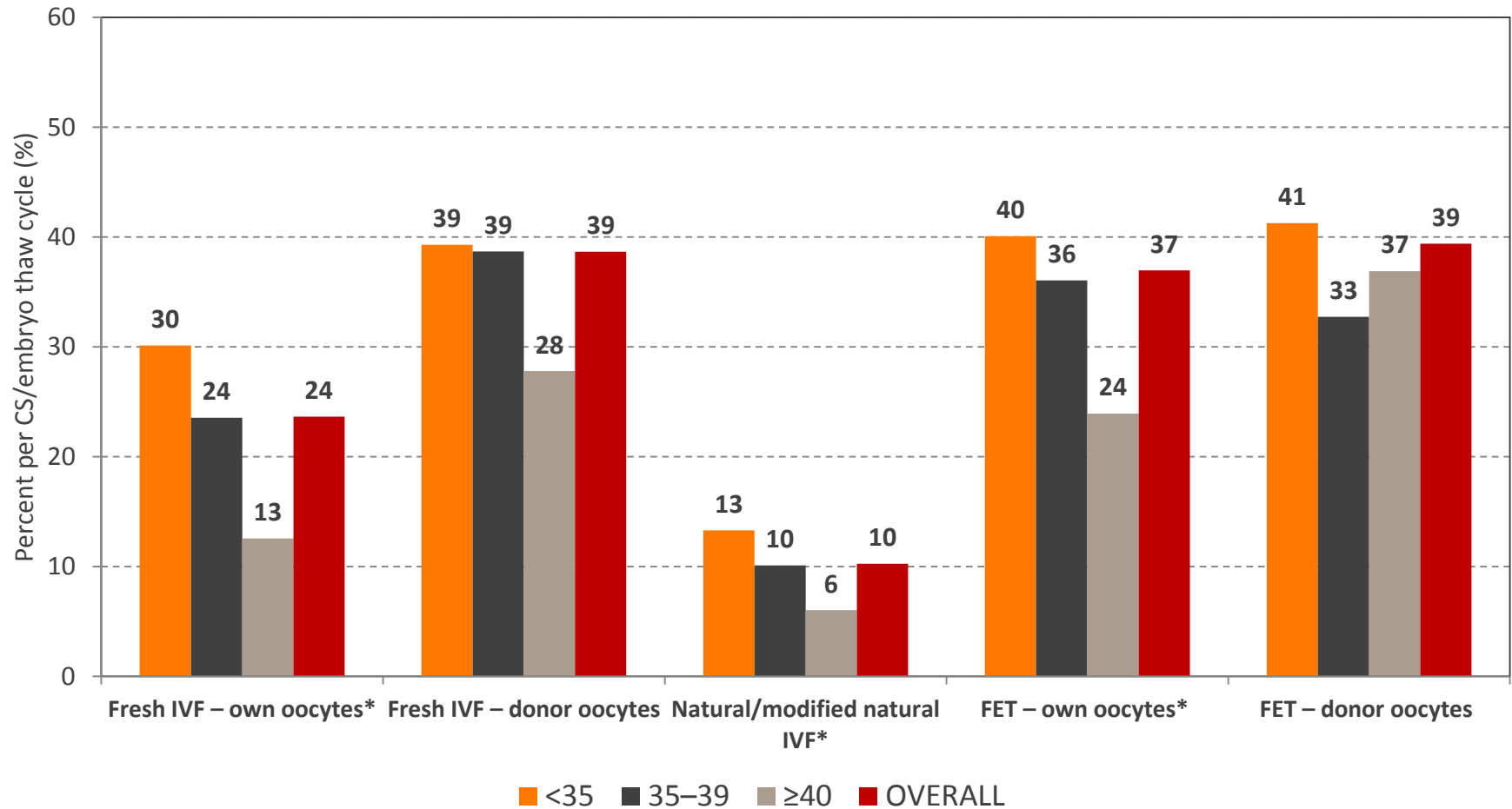
* Clinical pregnancy: clinical intrauterine, heterotopic, or ectopic pregnancy

† Singleton pregnancy: ongoing clinical pregnancy with only one fetal heart beat on ultrasound

OVERALL SUMMARY

Clinical pregnancy by age at time of oocyte retrieval and type of treatment cycle

2015

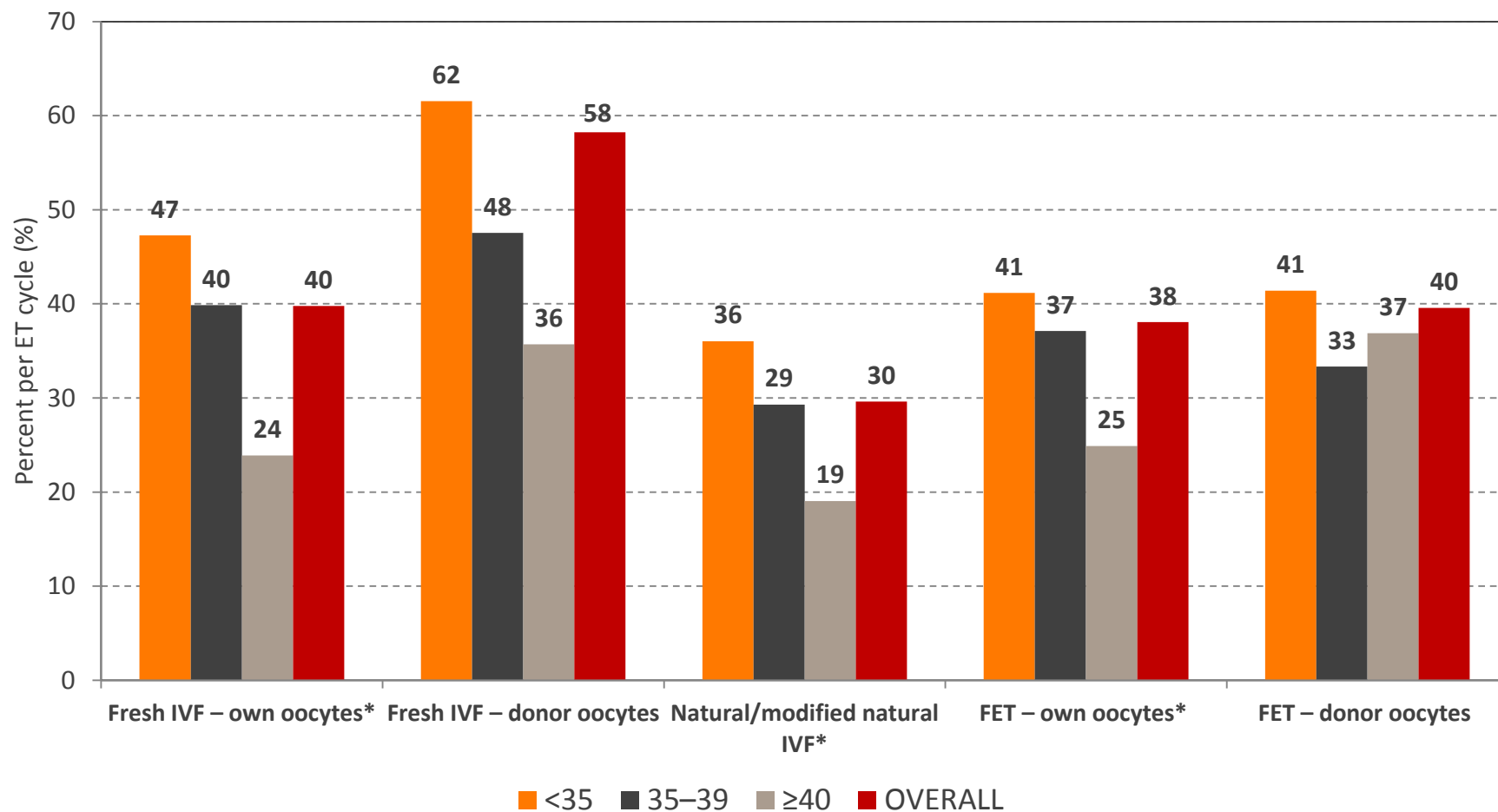


* Own oocytes exclusively

† Clinical pregnancy: clinical intrauterine, heterotopic, or ectopic pregnancy

Clinical pregnancy by age at time of oocyte retrieval and type of treatment cycle

2015

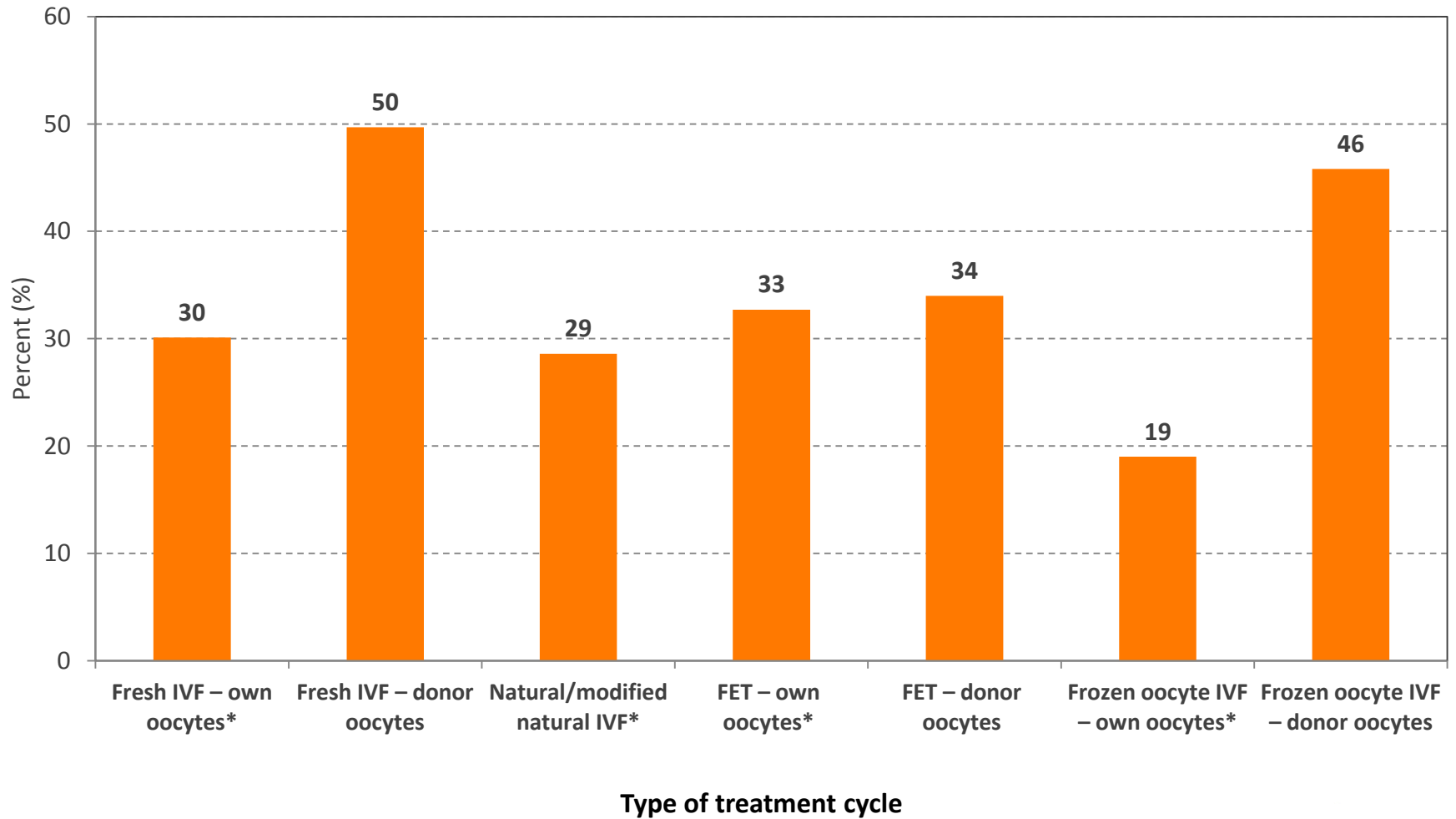


* Own oocytes exclusively

† Clinical pregnancy: clinical intrauterine, heterotopic, or ectopic pregnancy

Implantation rate

2015

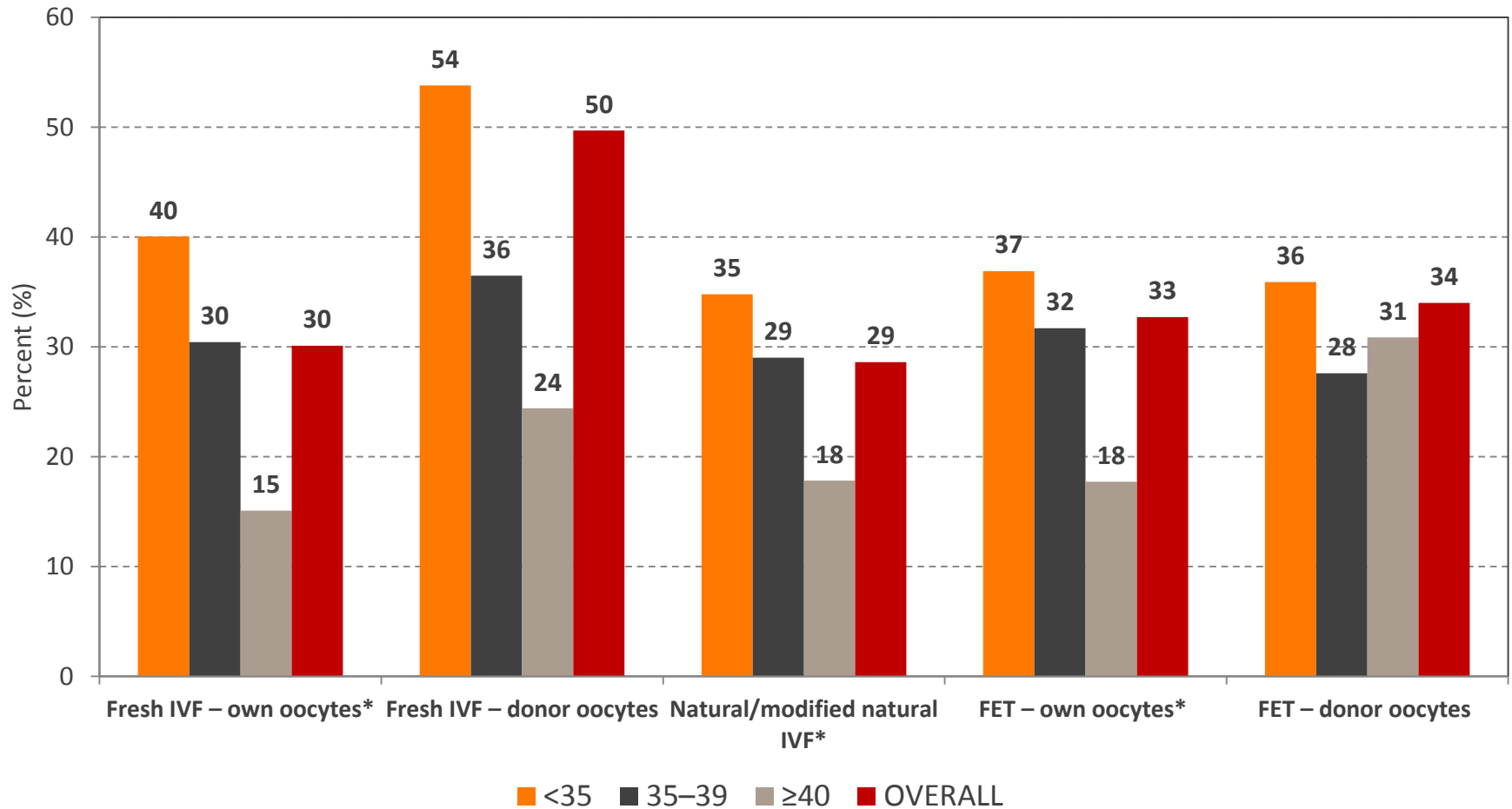


* Own oocytes exclusively

† Implantation rate: number of gestational sacs observed on ultrasound, divided by the total number of embryos transferred

Implantation rate by age at time of oocyte retrieval and type of treatment cycle

2015

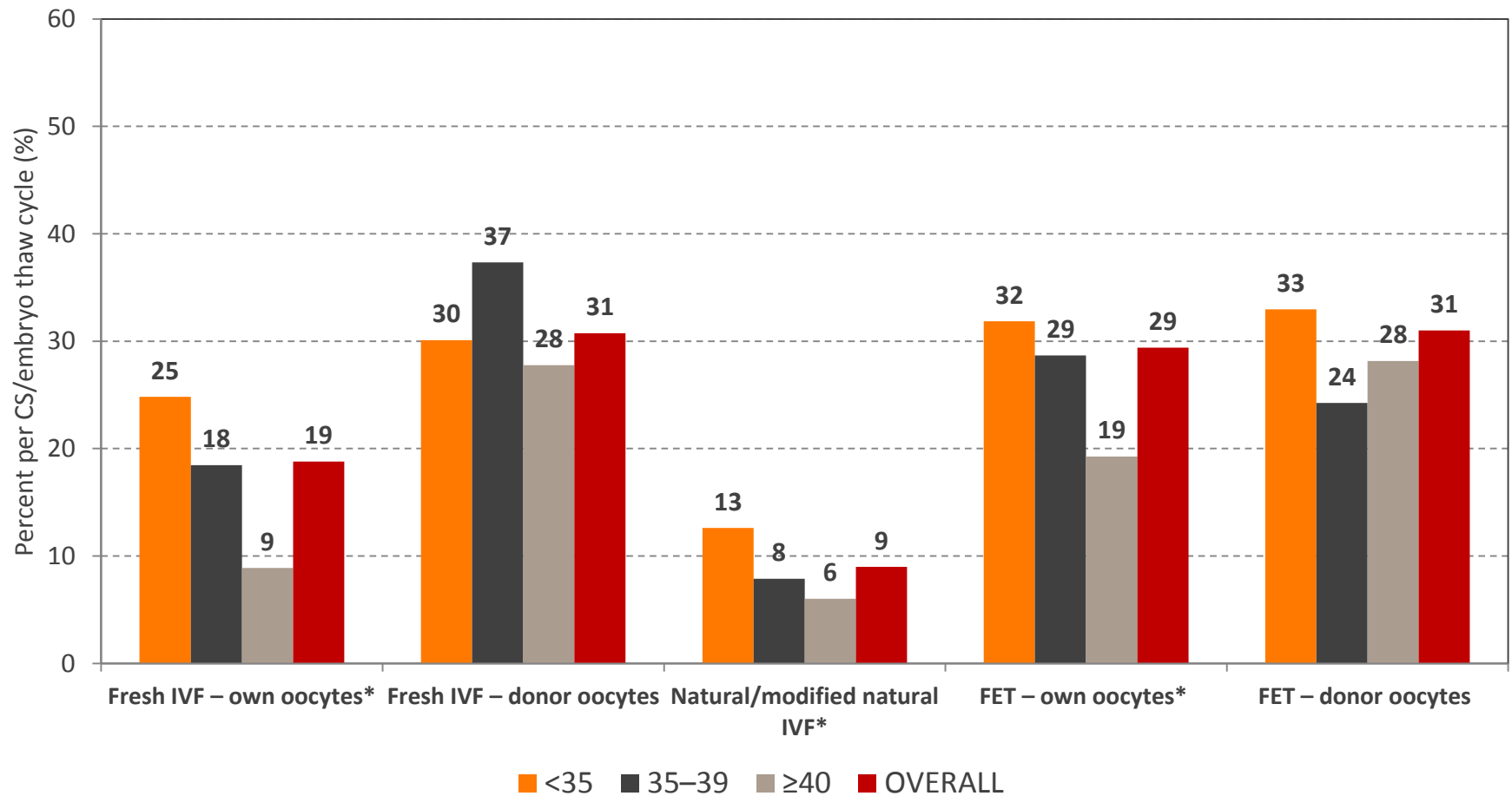


* Own oocytes exclusively

† Implantation rate: number of gestational sacs observed on ultrasound, divided by the total number of embryos transferred

Singleton ongoing clinical pregnancy by age at time of oocyte retrieval and type of treatment cycle

2015

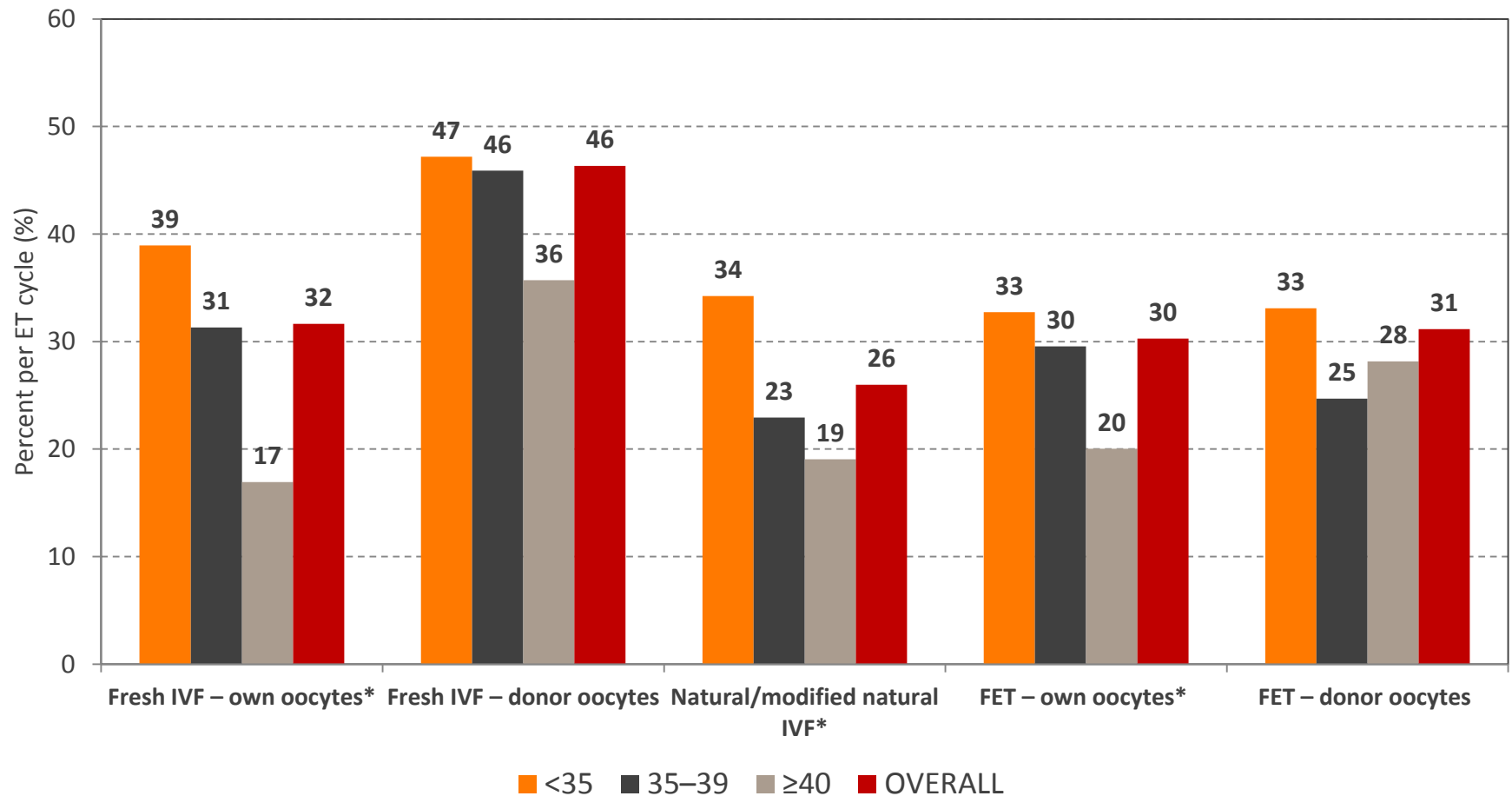


* Own oocytes exclusively

† Singleton pregnancy: ongoing clinical pregnancy with only one fetal heart beat on ultrasound

Singleton ongoing clinical pregnancy by age at time of oocyte retrieval and type of treatment cycle

2015



* Own oocytes exclusively

† Singleton pregnancy: ongoing clinical pregnancy with only one fetal heart beat on ultrasound

PRIMARY TRANSFER RATE

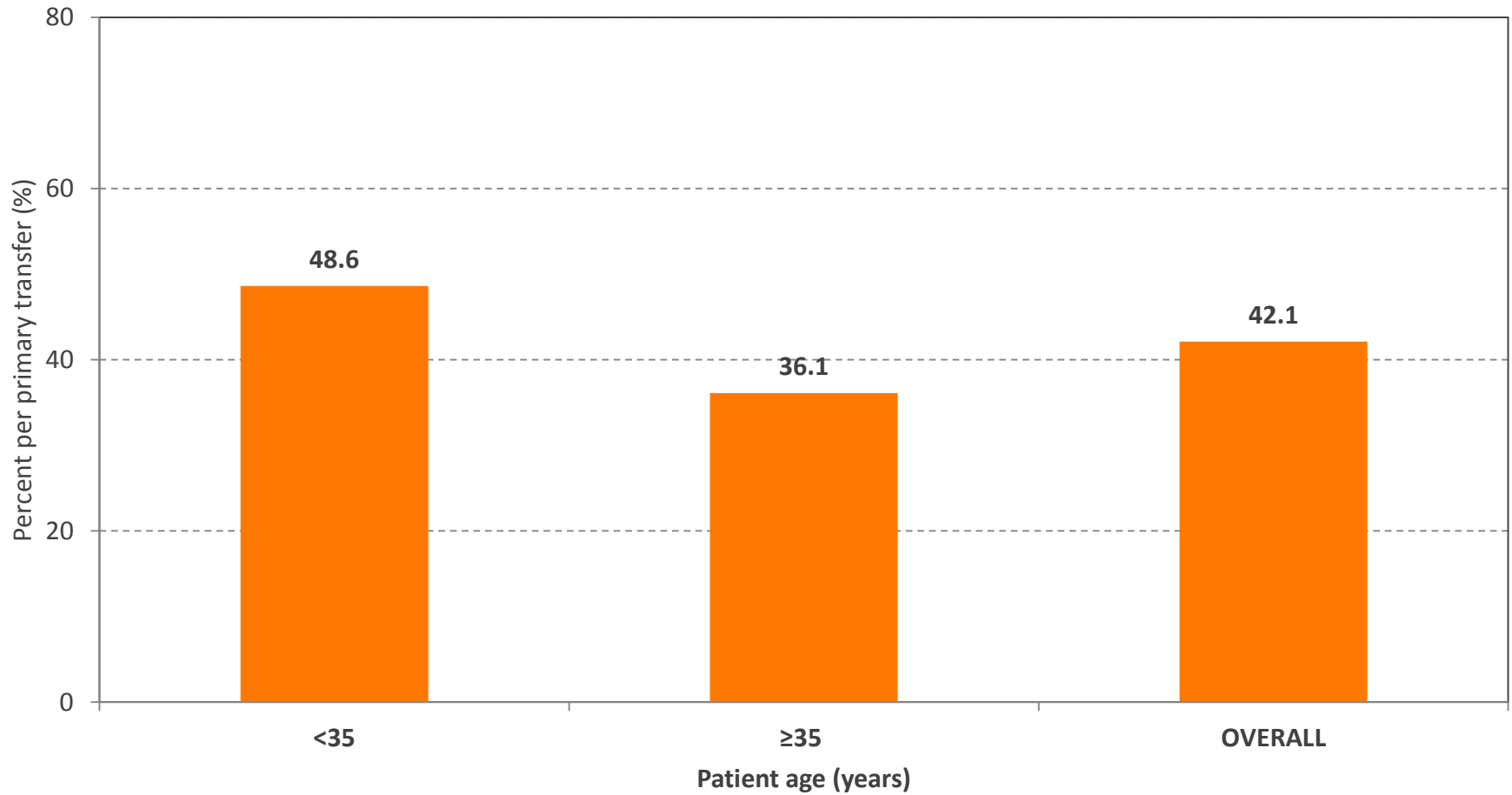
Primary transfer

- **Cohort:**

- Patients with first IVF cycle in CARTR Plus and no documented prior treatment cycle using own oocytes
- The first treatment cycle with an embryo transfer
 - IVF with own oocytes
 - FET with own oocytes

Primary transfer clinical pregnancy rate

IVF and FET – using own oocytes, 2013, 2014 and 2015



Clinical pregnancy

5,560

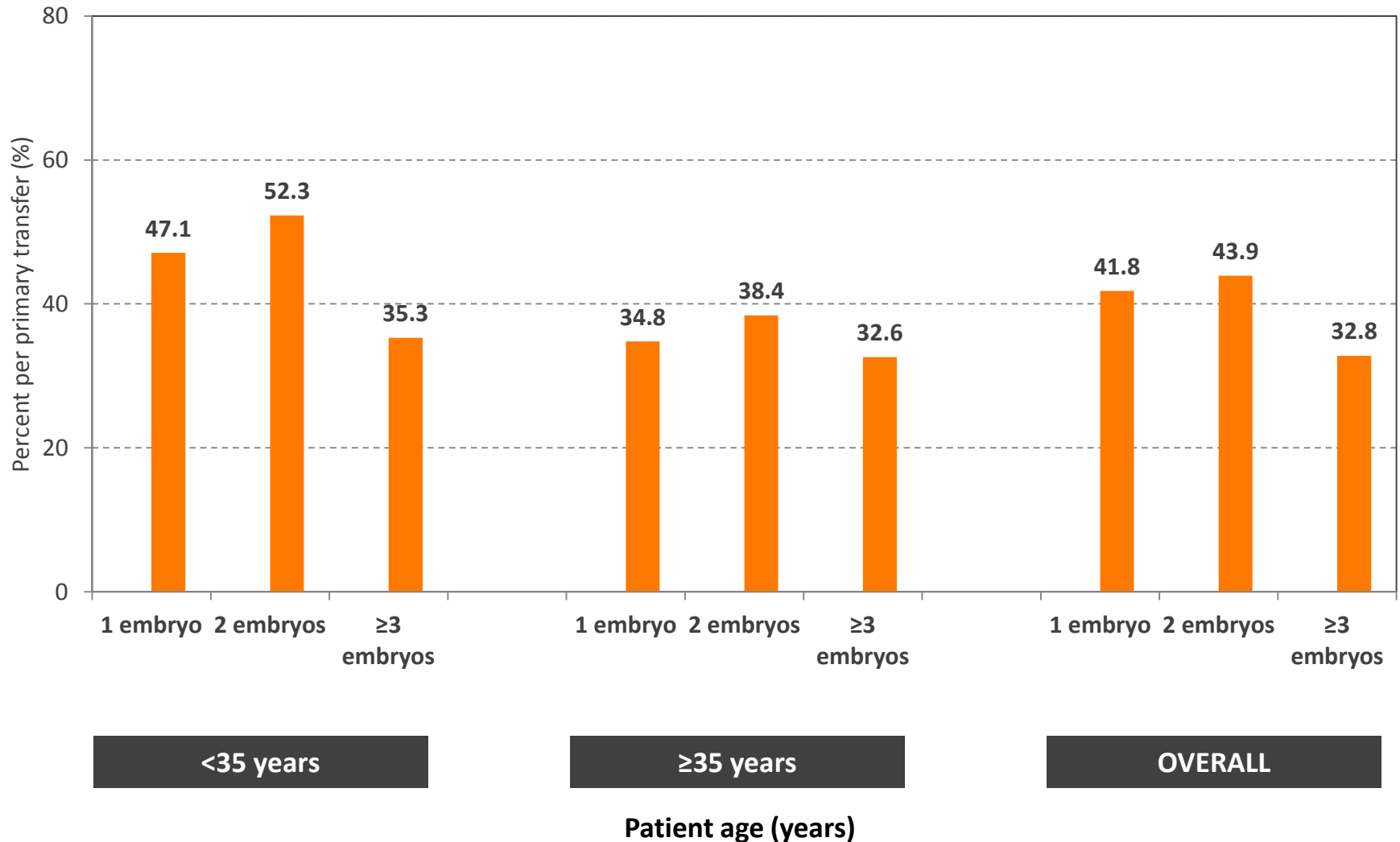
4,468

10,028

* Clinical pregnancy: clinical intrauterine, heterotopic, or ectopic pregnancy

Primary transfer clinical pregnancy rate

IVF and FET – using own oocytes, 2013, 2014 and 2015



* Clinical pregnancy: clinical intrauterine, heterotopic, or ectopic pregnancy

CUMULATIVE PREGNANCY RATE

Cumulative pregnancy rate

- **Definition:**

- The number of clinical pregnancies resulting from one or more ART cycles, including the cycle when fresh embryos are transferred and all related subsequent frozen/thawed embryo transfer cycles if the fresh embryo transfer did not result in a pregnancy

- **Rationale:**

- Estimates cumulative success with ongoing treatment, rather than success per individual stage of the treatment process

Cumulative pregnancy rate

- **Several options for calculation:**
 - **Per patient:** treatment cycle outcomes can be linked for a patient throughout the database
 - **Per batch of oocytes collected:** treatment cycles that used frozen oocytes or embryos can be linked to the IVF cycle where the oocytes were collected

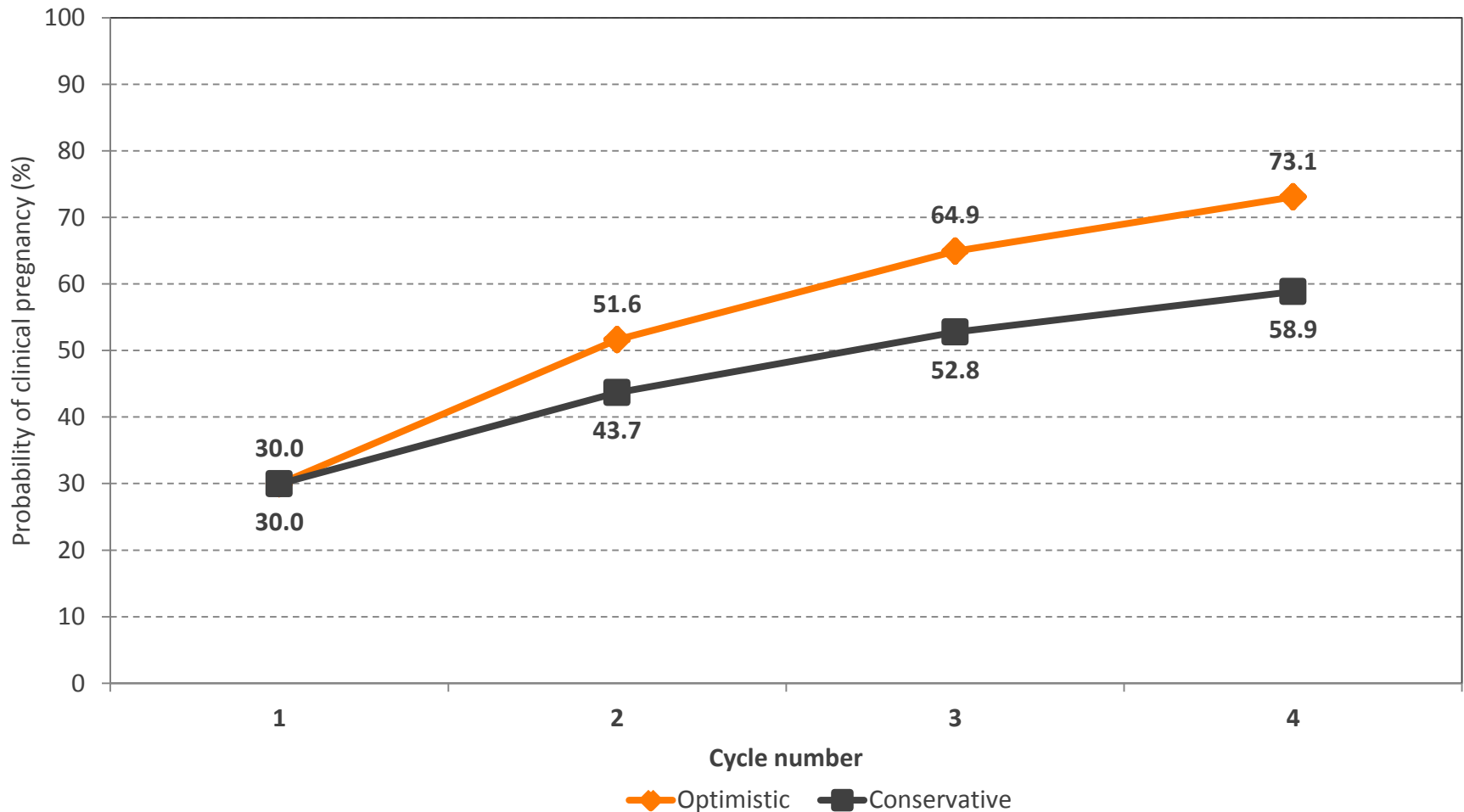
Cumulative pregnancy rate

- **Optimistic:**
 - Assumes that women who did not return for subsequent treatment cycles had the same chance of a clinical pregnancy as those who did return for treatment
- **Conservative:**
 - Assumes that women who did not return for subsequent treatment cycles did not have a clinical pregnancy

Malizia BA et al., NEJM 2009; 360: 236-243

Cumulative pregnancy rate, per cycle start

All ART treatment cycles types (fresh and frozen), 2013, 2014 and 2015



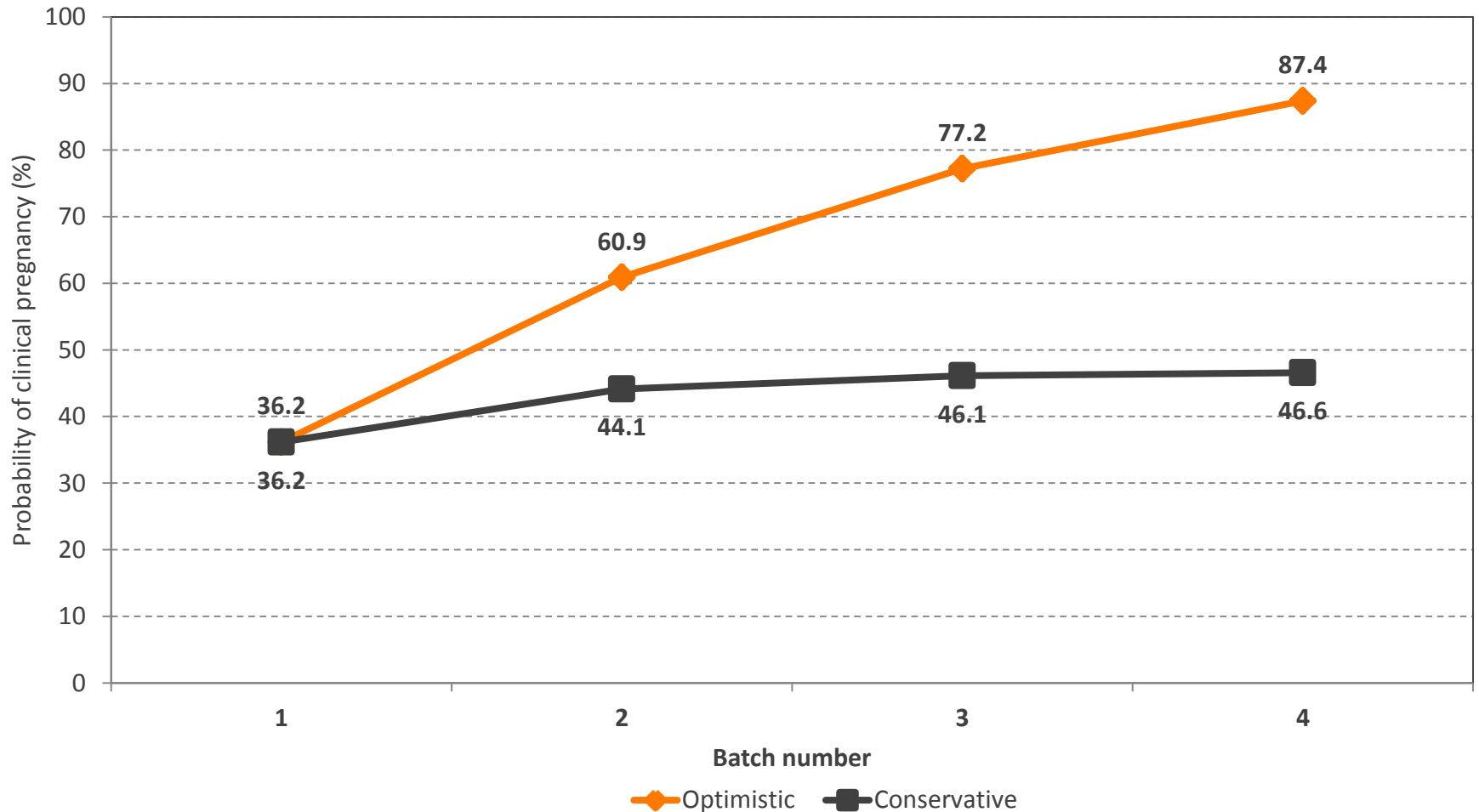
Clinical pregnancy: clinical intrauterine, heterotopic, or ectopic pregnancy

Optimistic: Assumes that women who did not return for subsequent treatment cycles had the same chance of a clinical pregnancy as those who did return for treatment.

Conservative: Assumes that women who did not return for subsequent treatment cycles did not have a clinical pregnancy.

Cumulative pregnancy rate, per batch of oocytes retrieved

IVF and FET – using own oocytes, 2013, 2014 and 2015



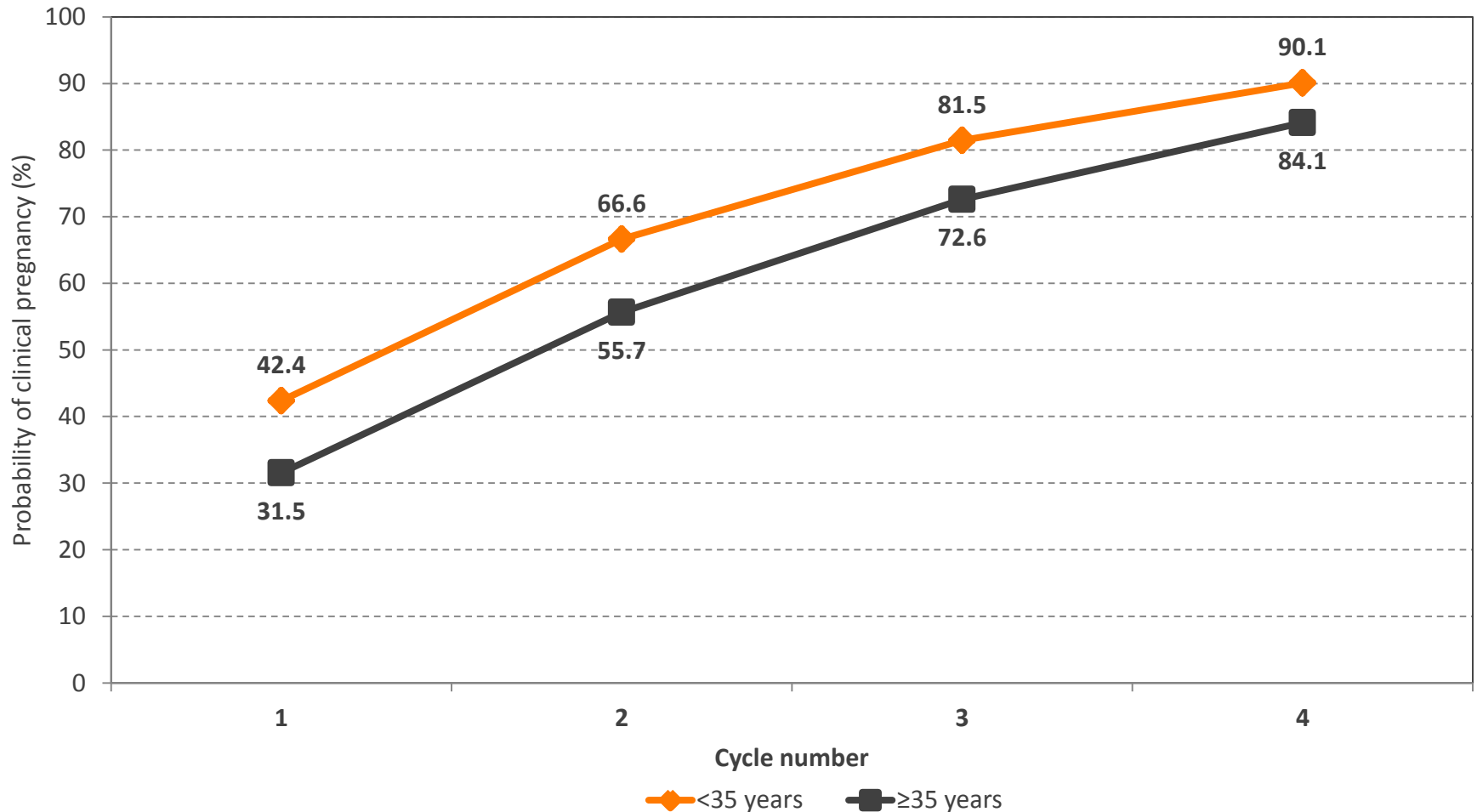
Clinical pregnancy: clinical intrauterine, heterotopic, or ectopic pregnancy

Optimistic: Assumes that women who did not return for subsequent treatment cycles had the same chance of a clinical pregnancy as those who did return for treatment.

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Optimistic cumulative pregnancy rate, per batch of oocytes retrieved

IVF and FET – using own oocytes, 2013, 2014 and 2015

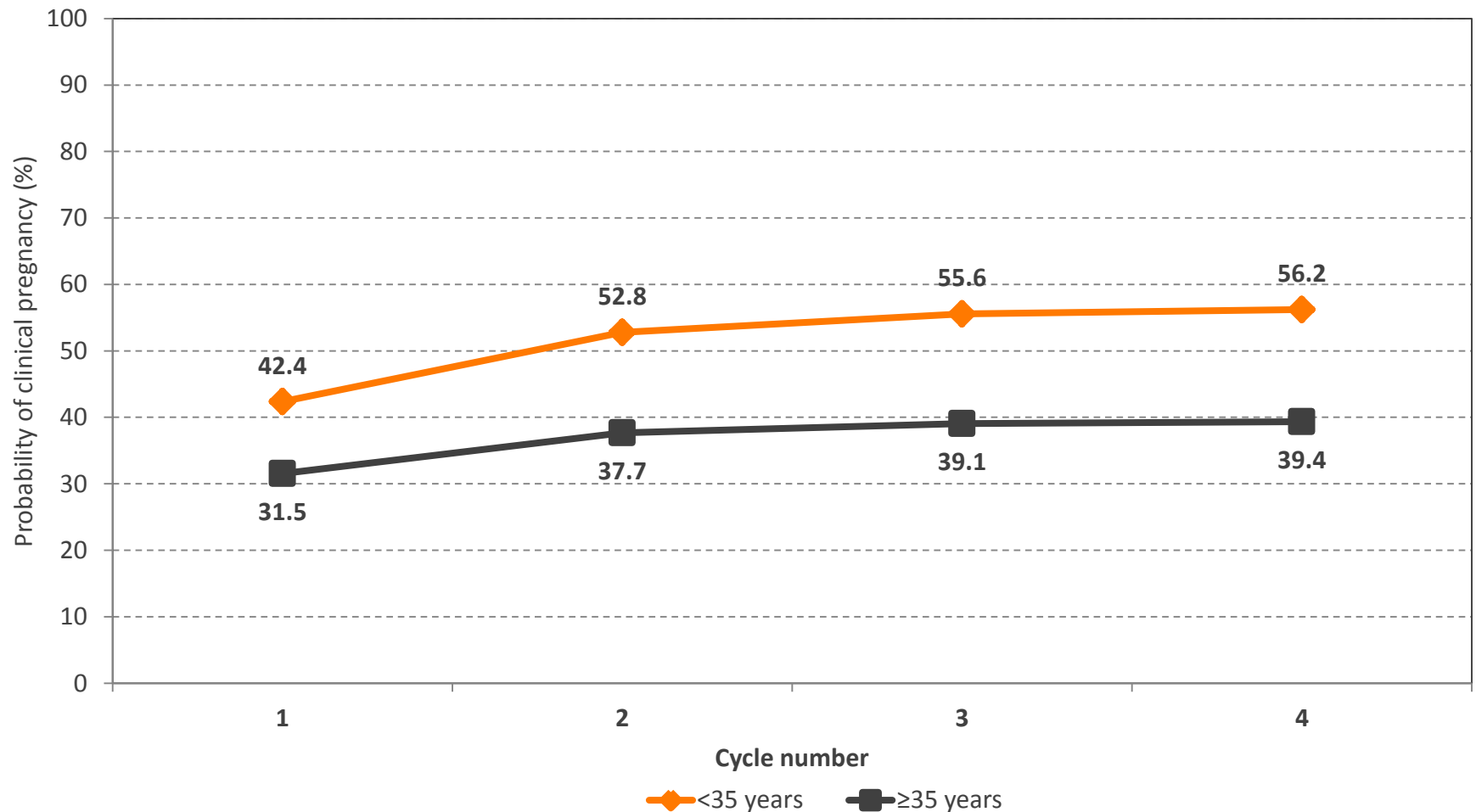


Clinical pregnancy: clinical intrauterine, heterotopic, or ectopic pregnancy

Optimistic: Assumes that women who did not return for subsequent treatment cycles had the same chance of a clinical pregnancy as those who did return for treatment.

Conservative cumulative pregnancy rate, per batch of oocytes retrieved

IVF and FET – using own oocytes, 2013, 2014 and 2015

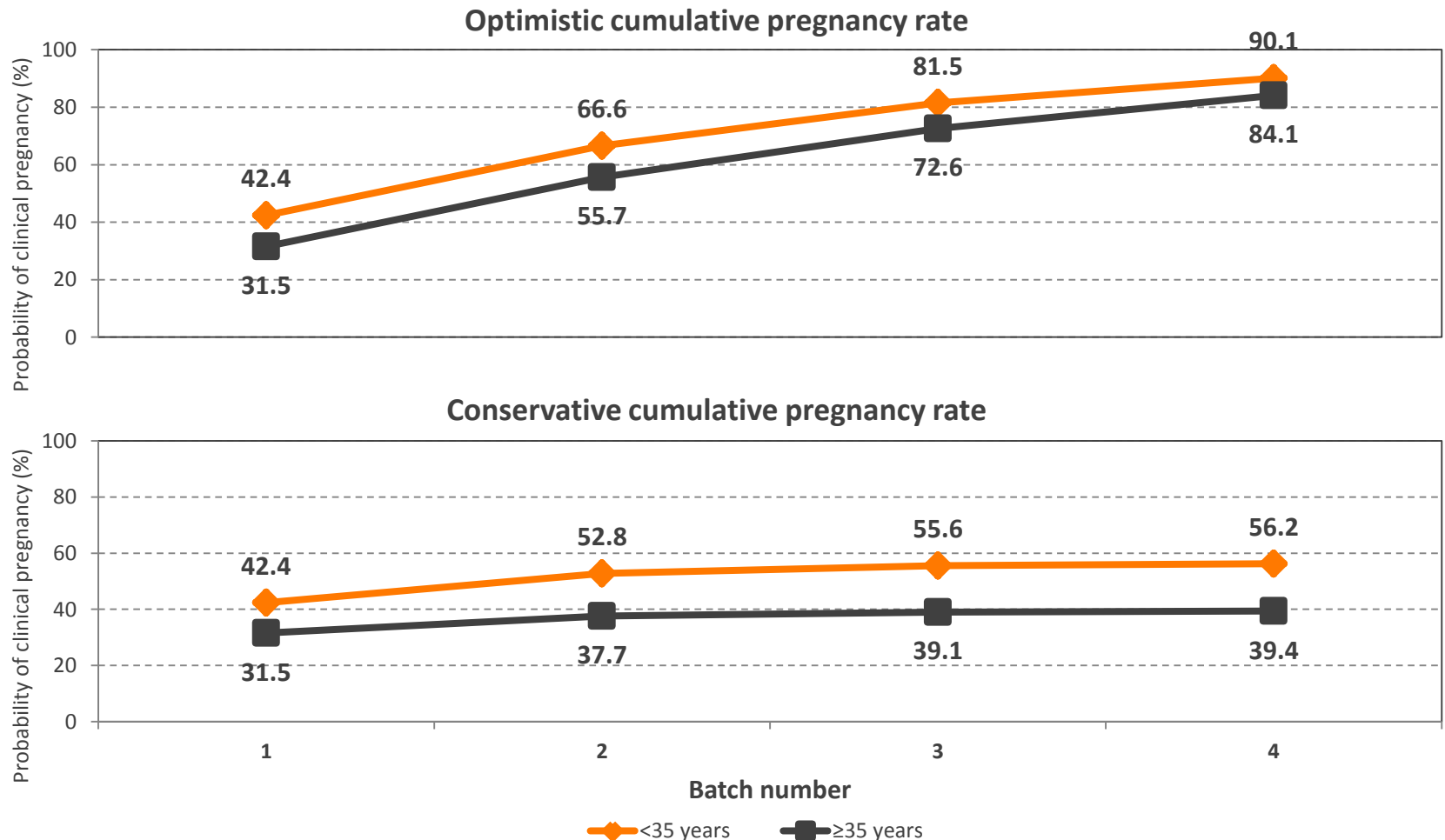


Clinical pregnancy: clinical intrauterine, heterotopic, or ectopic pregnancy

Conservative: Assumes that women who did not return for subsequent treatment cycles did not have a clinical pregnancy.

Cumulative pregnancy rate, per batch of oocytes retrieved

IVF and FET – using own oocytes, 2013, 2014 and 2015



Clinical pregnancy: clinical intrauterine, heterotopic, or ectopic pregnancy

Optimistic: Assumes that women who did not return for subsequent treatment cycles had the same chance of a clinical pregnancy as those who did return for treatment.

Conservative: Assumes that women who did not return for subsequent treatment cycles did not have a clinical pregnancy.

CLOSING REMARKS

Key messages

Ontario (linked birth registry)

- 96.3% capture of birth outcomes per ongoing clinical pregnancy

Rest of Canada

- 96.0% capture of birth outcomes per ongoing clinical pregnancy

Key messages

- Increased proportion:
 - freeze all cycles
 - PGS/PGD
- Decreased multiple pregnancy rate
 - Increase in the proportion of single embryo transfers

THANK YOU!



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