



**FERTILITY**  
associates

| *a better understanding*  
TE RAUHANGA O TE WHARETANGATA

# Timing is everything - how fertility is impacted by age, stage ...and wage

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Leaders in Fertility

# About me

- Obstetrician & Gynaecologist CCDHB
- Gynaecologist Southern Cross Hospital, Wellington
- Fertility Specialist, Fertility Associates
  - Wellington and Palmerston North
- Senior Lecturer University of Otago
- Subspecialist Reproductive Endocrinology and Infertility (CREI)
- Mother of 2 boys



# The challenge

- Balancing desire for family with training goals/requirements
- Peak years of fertility span over training time for doctors
- No “best time” for trying for family
- Relationships and training
- Desired family size

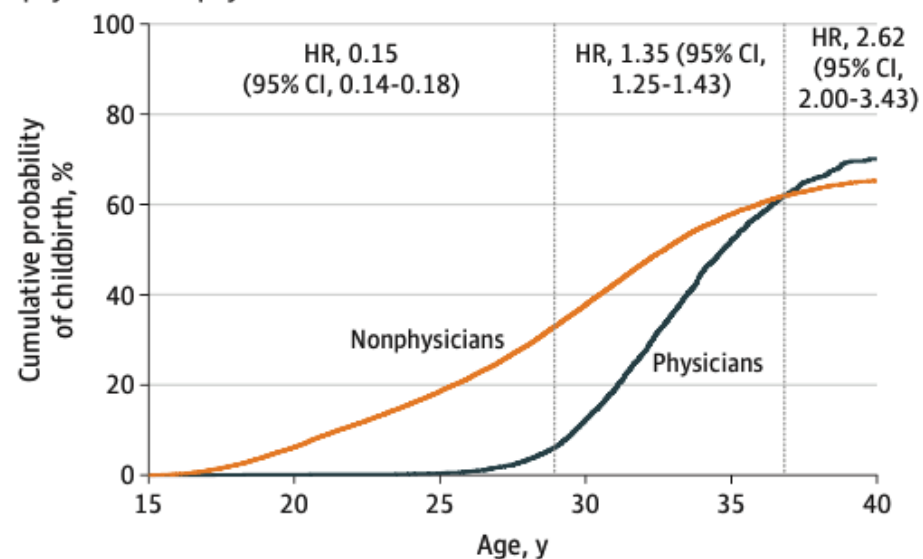


# What do we need to consider?

- 1 in 4 female physicians in US diagnosed with subfertility
  - Female academics higher risk involuntary childlessness
- 50-60% delay pregnancy until completed specialist training
- Survey – women may have gone into different specialty or consider cryopreservation
- 63% reported career influenced childbearing decisions
- Many overestimate chance of baby even with fertility treatment
- Age at initiation of childbearing later for physicians compared to non physicians
- Specialists had decreased rates childbirth until completed training.

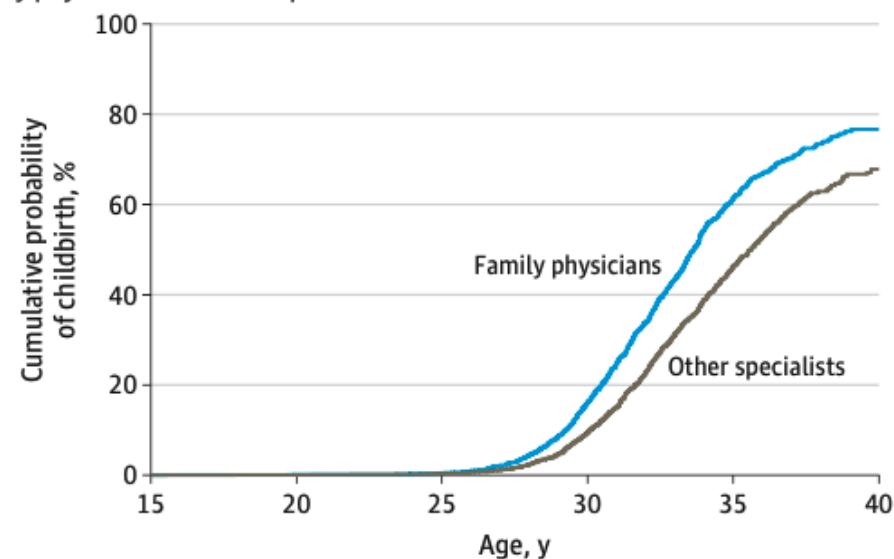
**Figure 2. Cumulative Probability Curves for Childbirth**

**A** Cumulative probability curve for childbirth in nonphysicians and physicians



No. at risk						
Nonphysicians	26 640	24 991	21 645	12 812	3 892	774
Physicians	5 328	5 321	5 300	3 813	985	141

**B** Cumulative probability curve for childbirth in family physicians and other specialists



No. at risk					
Family physicians	2 442	2 430	1 720	389	61
Other specialists	1 878	1 871	1 632	519	70

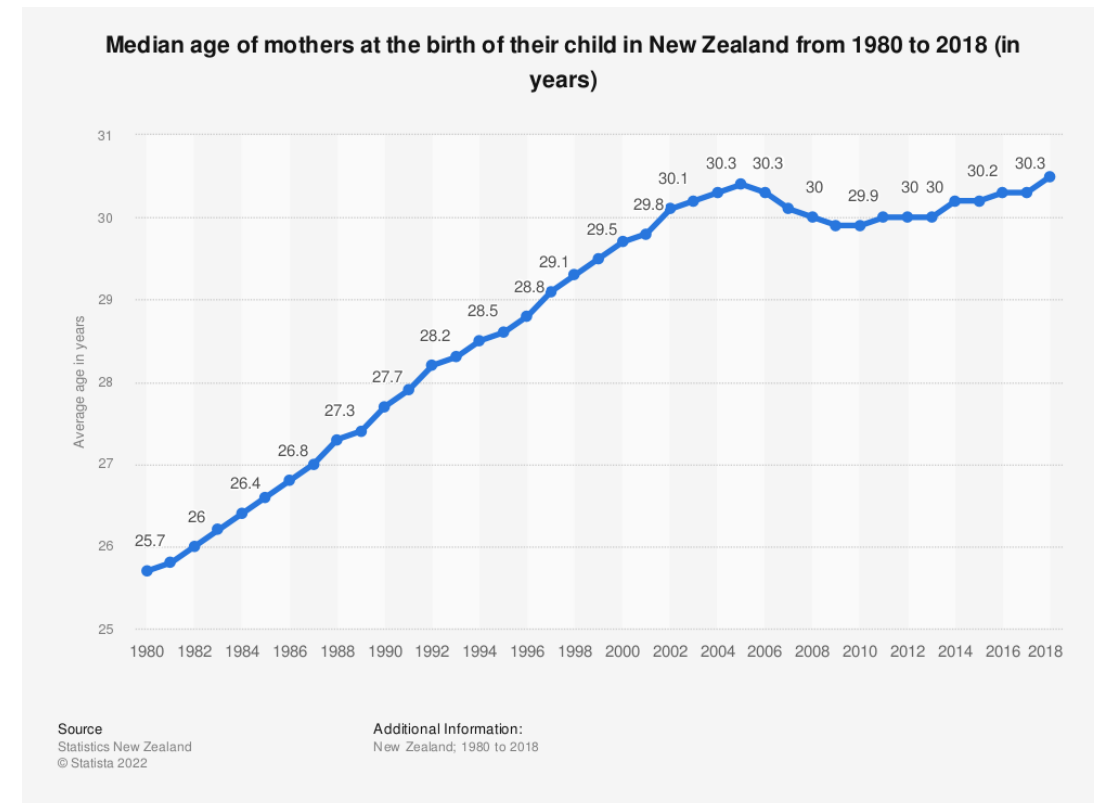
A, Probability among nonphysicians (n = 26 640) and physicians (n = 5 328). B, Probability among family physicians (n = 2 442) and other specialists (n = 1 878). Age in years serves as the time scale; HR indicates hazard ratio of physicians having children within the indicated age range, with nonphysicians serving as reference [1].

- Pregnancy during specialist training (US) associated with
  - Negative workplace attitude
  - Lack of support
  - Lower peer evaluation scores after return to work
- Physical and emotional consequences of infertility may have profound impact on burnout and overall well-being
- Recommendations for fertility awareness beginning in undergraduate and specialist training



# General trends

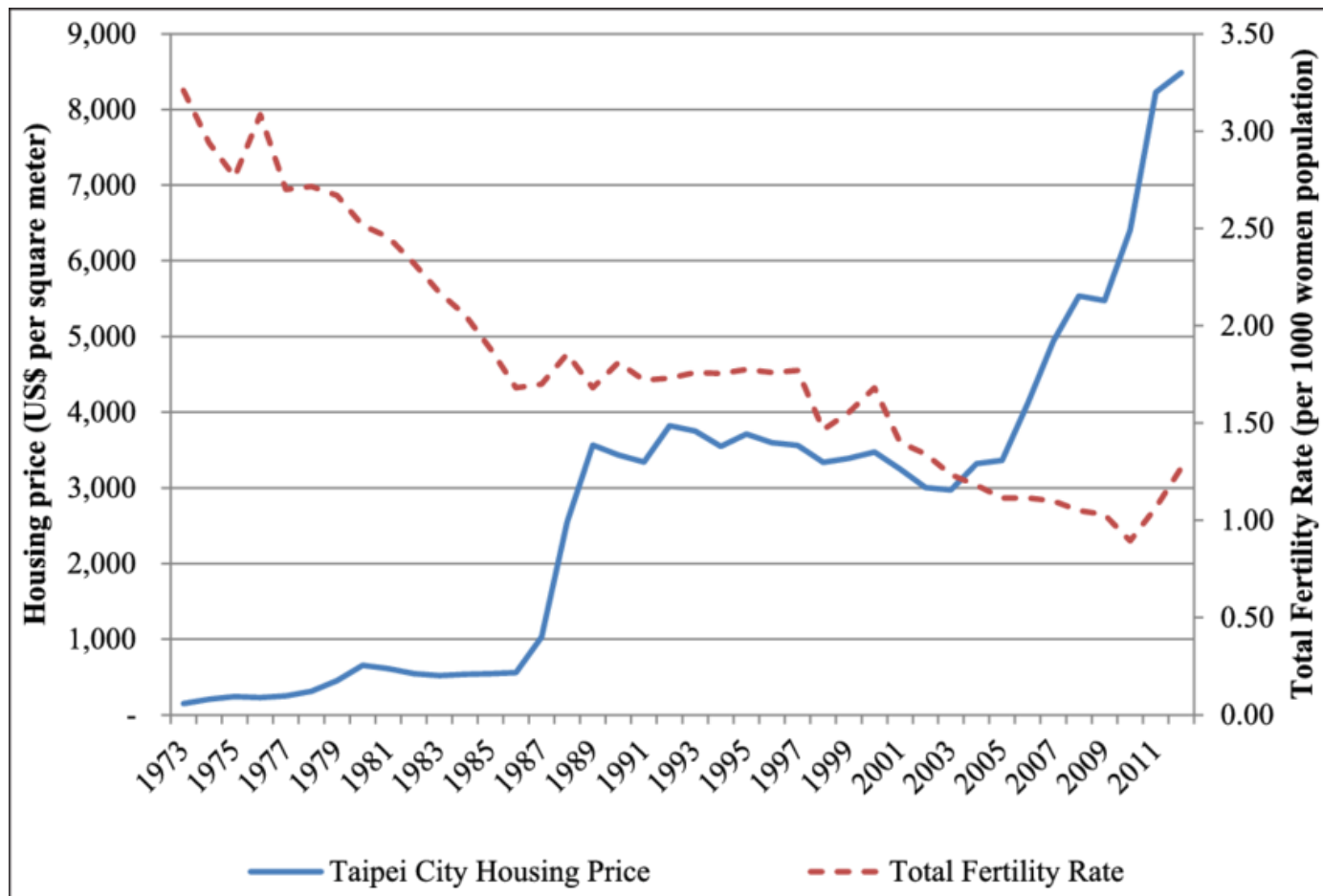
- 2018 median age first birth in NZ 30.3
- Higher education level higher age first birth
- Increased incidence infertility with delayed childbearing
- Increasing costs of living
- Increasing secondary infertility





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New mothers aged  
**thirty  
and over**



**15%** in 1981



**23%** in 1991

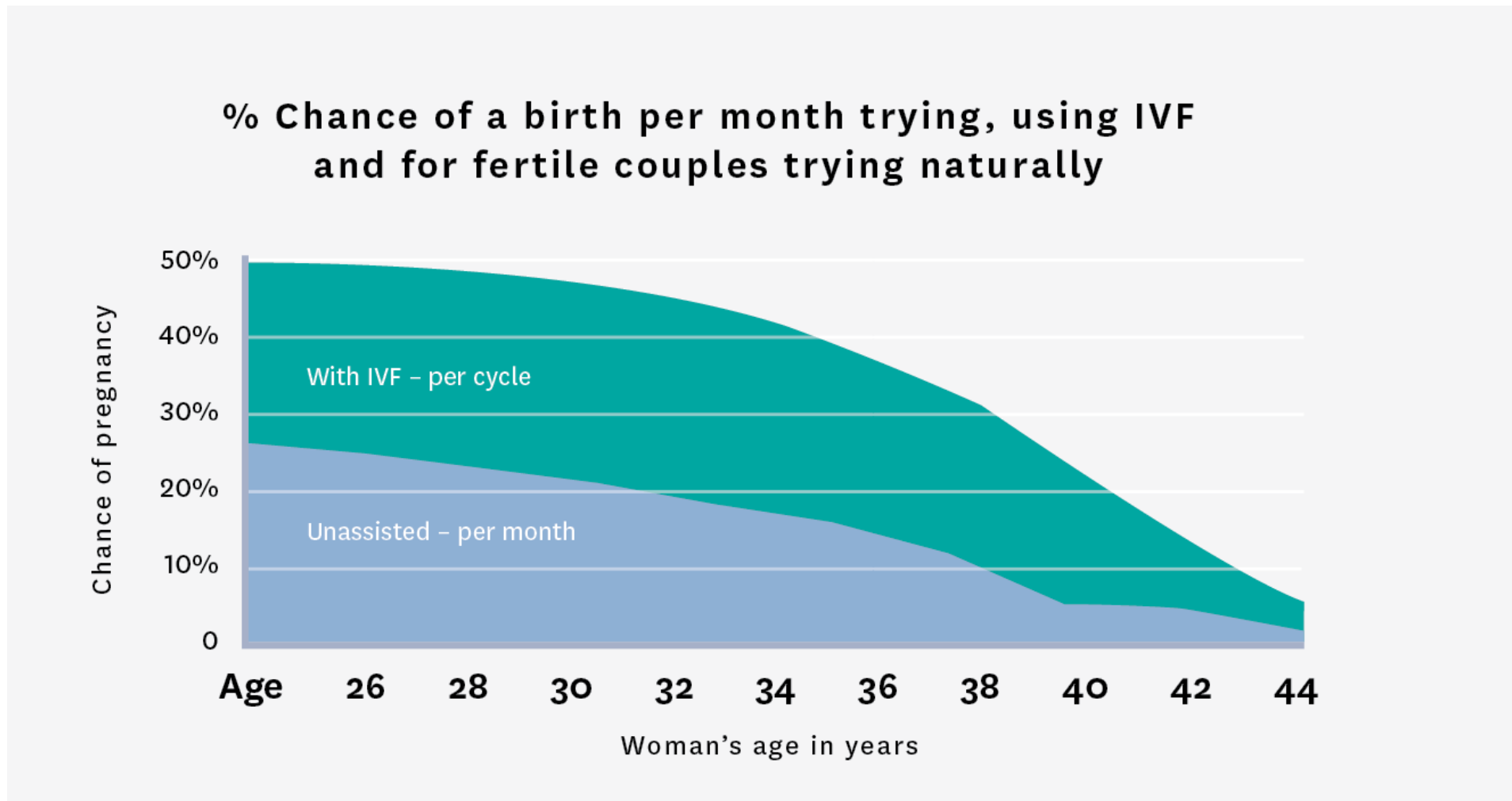


**49%** in 2017

Leaders in Fertility



# What are the chances of a baby?



# Factors influencing

- Egg quality declining with age
- Declining egg numbers
- Overestimate of success with and without treatment
- Donor wait times



# What can I do?

- If not conceiving seek help early
  - After 12 months if <35
  - After 6 months 35-40
  - After 3-6 months >40
  - If known condition affecting fertility
- If know donor needed see fertility specialist early for clinic wait list if required
- Consider oocyte cryopreservation



# Oocyte cryopreservation

- Treatment with IVF medications to stimulate a number of eggs to grow and mature
- Mature oocytes vitrified
- May be thawed at a later date to be fertilized with IVF techniques
- Improves duration of fertility potential
  - Egg number and quality decline with increasing age
- May mean less likely to need to consider donor egg treatment in future
- No guarantee of baby but gives chances when older



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# Oocyte cryopreservation process

- Medical review with fertility specialist
  - Discuss current status
  - Fertility goals
  - Blood tests and ultrasound
- 8-14 days fertility medications to stimulate egg development
- Ultrasound and blood tests to monitor
- Egg collection under sedation



# Target egg number

- Dependent on
  - Age at time of freezing
  - Desired family size
- May need >1 cycle to achieve target number eggs

NUMBER OF FROZEN EGGS NEEDED  
FOR A 50% CHANCE OF HAVING A CHILD



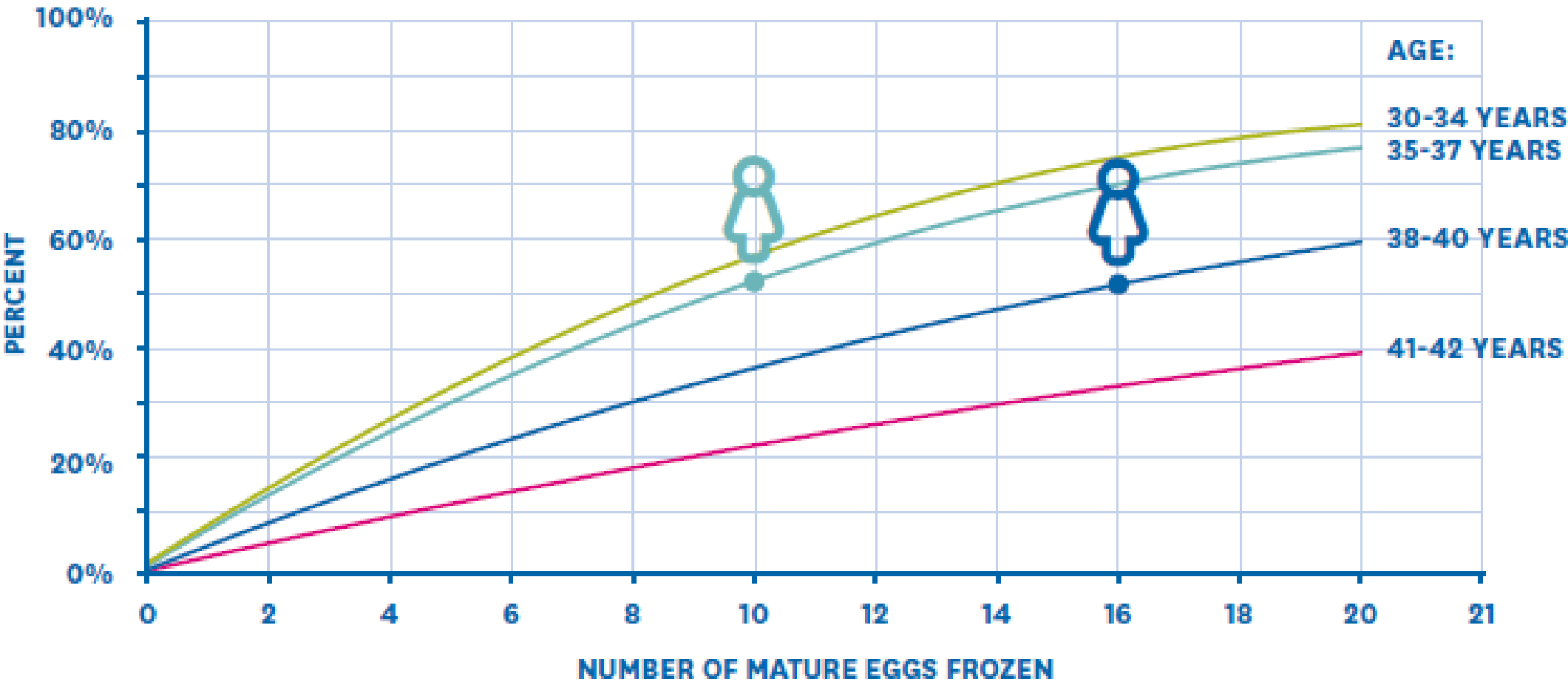
36 YEARS OF AGE



39 YEARS OF AGE



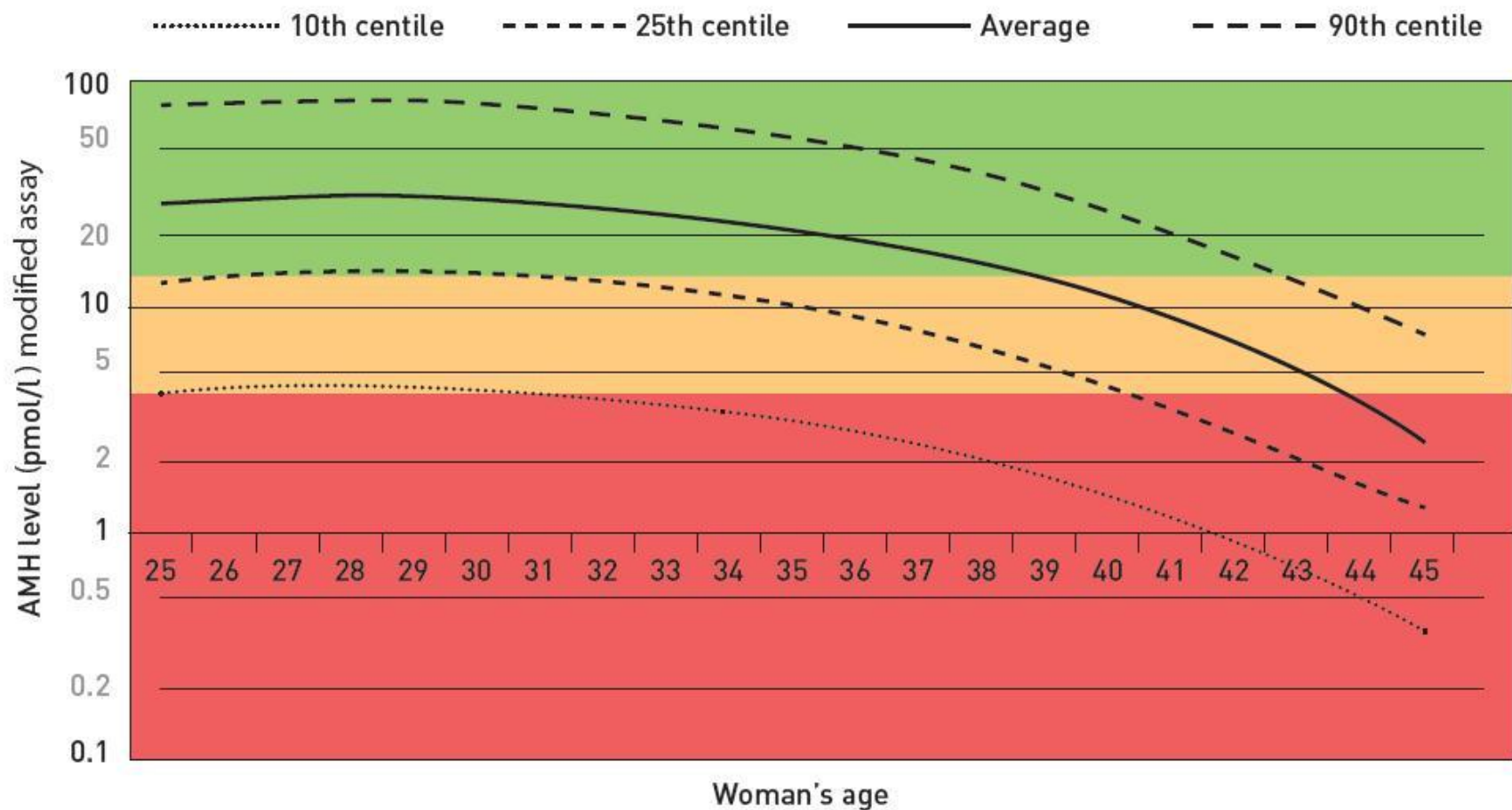
# Predicted Chance of a Child by Number of Eggs Frozen (from Doyle et al 2016)



# AMH testing

- Not a test of “fertility”
- Age still very important factor
- Only know fertility once tried to conceive
- Consider what would do with result?
  - Would you try to conceive earlier if lower result
  - Oocyte cryopreservation if wanting to delay childbearing
- Predicts number of egg expected during IVF/egg freeze
- Even if low result may still conceive spontaneously if ovulatory
- Gives an idea of reproductive window





Green zone	Above the 25th centile for younger, fertile women	Very likely normal ovarian reserve – age is the best predictor of your future fertility	80% chance of 6 or more eggs in IVF
Orange zone	Between the 25th and 10th centiles for younger, fertile women	Some women in this range will have reduced ovarian reserve	50% chance of 6 or more eggs in IVF
Red zone	Below the 10th centile for younger, fertile women	Very likely reduced ovarian reserve	20% chance of 6 or more eggs in IVF

# Take home messages

- Infertility more common in female medical professionals than non medical
- Seek help early
- Even with IVF chance of baby steadily declines with age
- If delaying childbearing consider fertility preservation option if desired
- Plan for your last baby



# Public funding for fertility treatment

- Must have infertility diagnosis and trying for at least 12 months
- OR 5 years trying with unexplained infertility
- Female age <40
- BMI <32
  - May lead to inequity in certain ethnic groups
- Same sex couples/single
  - Must have biologic cause of infertility
  - OR 12 months of treatment eg IUI
- Trans gender patients
  - Only eligible for funded fertility preservation if treatment results in permanent loss of fertility