

# THE CARE AND MENTAL HEALTH OF WOMEN AFTER CHILDBIRTH

MPhil to PhD upgrade presentation

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# Outline

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- PhD background & rationale
- PhD overview and studies
- Findings from Study I
- Preliminary findings from Study II
- Ongoing and future work

# Background & rationale

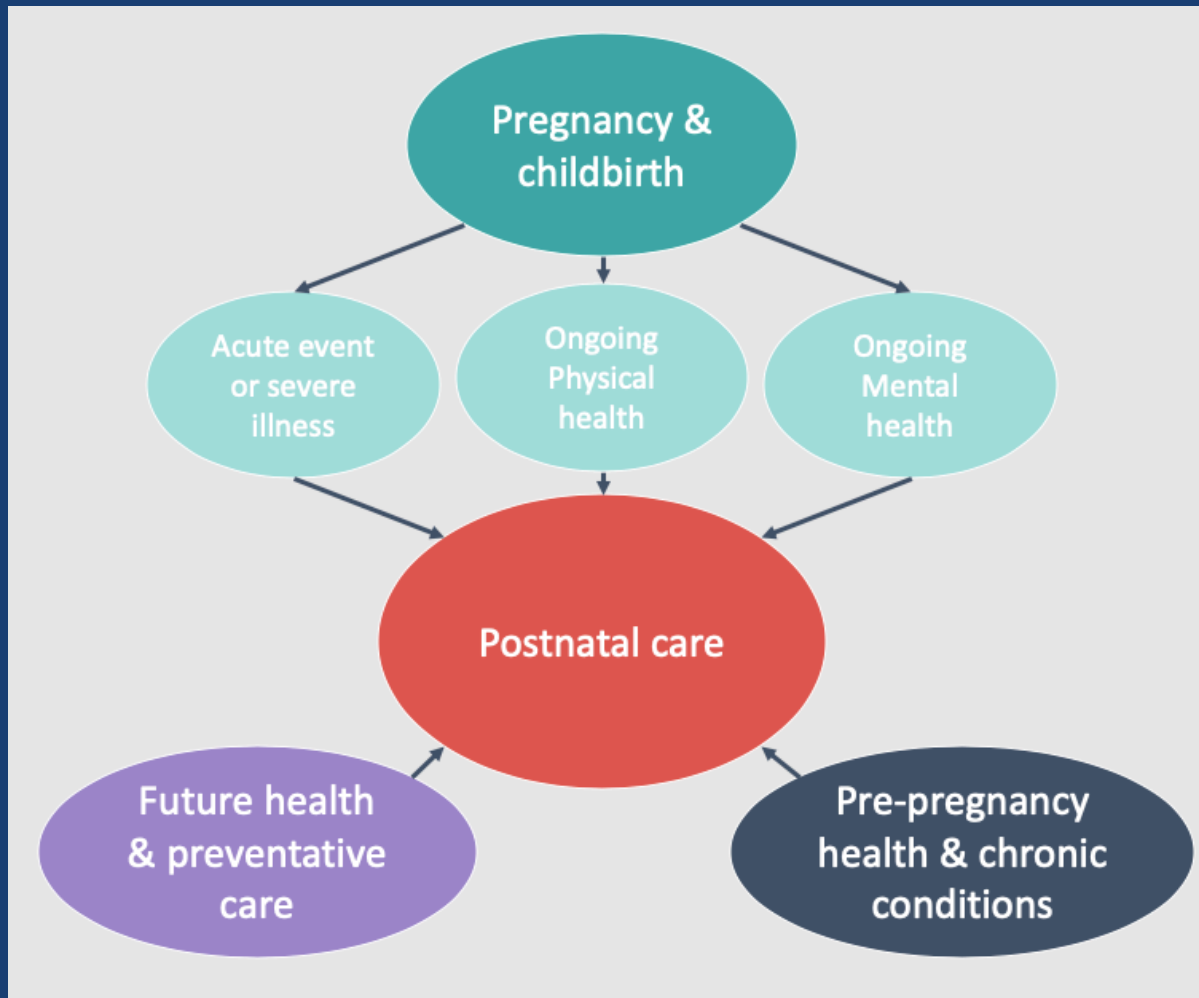
# Background

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- Childbirth is a common life event
- Vast improvements in women's survival and health during pregnancy and delivery
- Generally accepted that postnatal care has received less focus
- Despite 47%-83% women having at least one health problem 8 weeks
- On average 2 to 6 conditions in the postnatal period
- Women also report lower satisfaction with postnatal support and feel unprepared for postnatal health



# Background



*Figure 1: Overview of women's postnatal health needs*

# Background

Fatigue  
Pain  
Sex-related concerns

Haemorrhoids  
Constipation  
Breast problems  
Incontinence

**Rare but serious:**  
Thrombosis  
Haemorrhage  
Sepsis  
Pre-eclampsia

Depression  
Anxiety  
Serious mental illness (SMI)

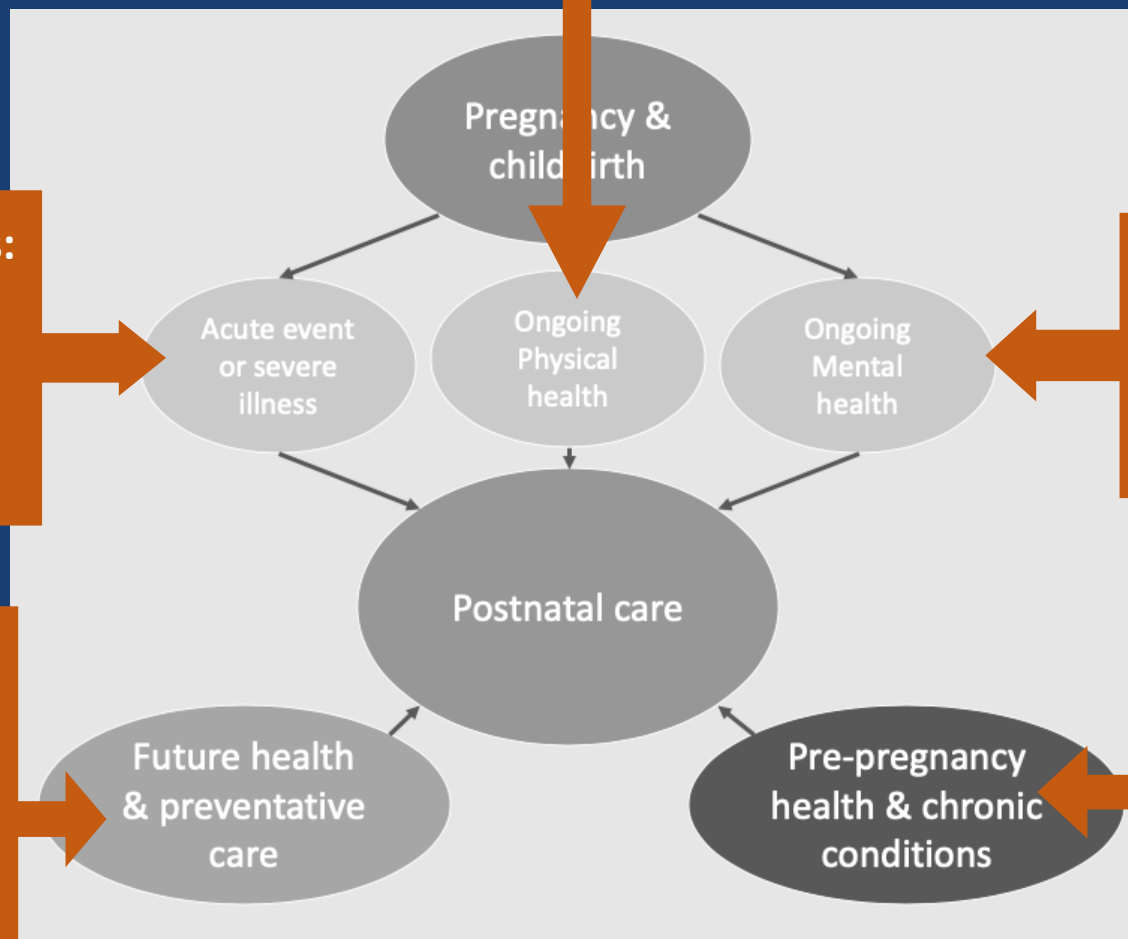
Smoking,  
alcohol/drugs  
Diet/exercise

Contraceptives

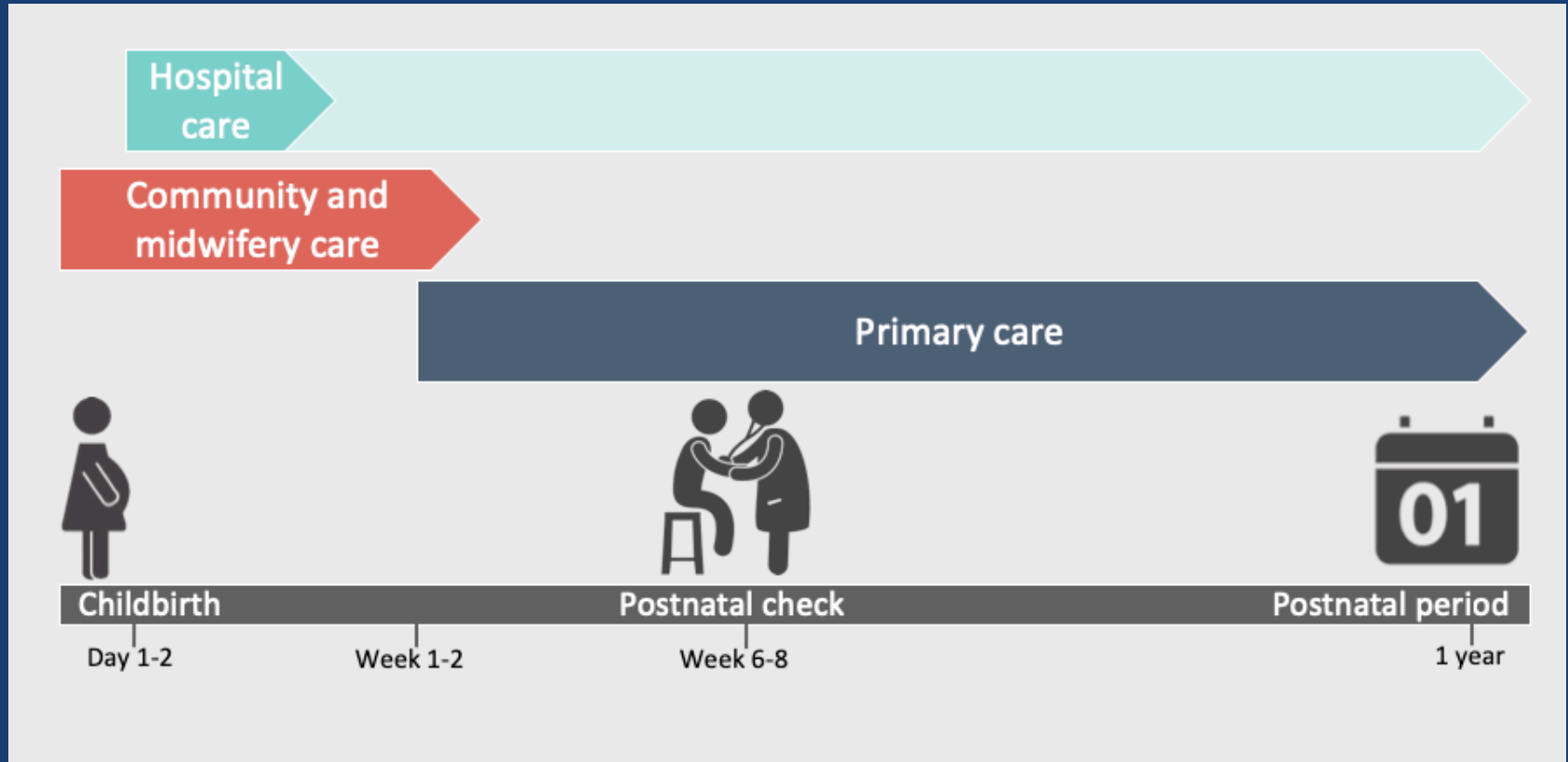
Safeguarding

Multiple chronic conditions

Gestational diabetes or hypertension



# Background



*Figure 2: Organisation of postnatal health services*

# Research gaps

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- Some understanding about health needs after childbirth, though **not exhaustive**
- Past studies are typically cross-sectional, self-report surveys: limited by **recall bias, selection bias**
- **Lack longitudinal information** as challenging to recruit pregnant women/new mothers to prospective studies
- Guidelines outline care but little is known about services used in reality or **long-term consequences** of postnatal health

# PhD overview

# PhD overview: Aims

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1. To understand primary care use of women in the UK in the postnatal period.
2. To determine the treatment trajectory and long-term adverse mental health outcomes for women with treated postnatal depression.

# PhD overview: Objectives

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**Study I:** Estimate prevalence of postnatal checks and primary care consultation rates for women in first year after childbirth

**Study II:** Determine most common health needs documented and treatments prescribed to women in the first year after childbirth

**Study III:** Investigate risk of long-term adverse mental health outcomes among women with treated postnatal depression.

**Study IV:** Examine, in women first prescribed antidepressant treatment in the postnatal period:

- a. duration of antidepressant treatment
- b. prevalence of long-term adverse mental health outcomes compared to no depression.

# PhD overview: Why Postnatal Depression

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- Study I and Study II will provide a broad overview of postnatal care
- Then focus on one condition in-depth as an example of postnatal health
- Important topic to patients and public
- Depression most common postnatal mental health need
- Preliminary findings from Study II suggest one of the most common postnatal prescriptions



# Study I

# PhD overview: Data source

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- The Health Improvement Network (THIN) database
- Large UK primary care electronic health record database (16 million patients, 730 practices)
- Broadly representative of UK population
- Primarily used for clinical care but widely used for research
- Patient-level info on: demographics, prescribing, symptoms, procedures, prevention, lifestyle factors and diagnostics
- Minimise impact of recall & selection bias, can carry out prospective research

# Study I: Methods

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*Data source:* THIN

*Participants:* Women aged 15-49 years with a single live birth between 2006 and 2016

*Exclusions:* Poor data quality, Multiple deliveries (twins etc.), Known miscarriage, termination or stillbirth

*Outcomes:* Postnatal check – consultation in week 5-10 with code. All direct primary care consultations in first year

*Characteristics:* Maternal age, parity, Townsend score (social deprivation), smoking status, year, mode of delivery

*Analysis:* Women's characteristics, Crude consultation rate (stratified by characteristic & day), Crude proportion with check, Poisson regression models

# Study I: Findings - Characteristics

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- 309,573 childbirths relating to 241,662 women included
- A third were aged 30-34 years (31.7%)
- There were 21.1% in the least deprived Townsend quintile compared
- Three quarters of women had a vaginal delivery
- Nearly half were a first birth (48%) and 22% were a second birth
- Half were non-smokers (46.3%), compared to 11.2% being current smoker

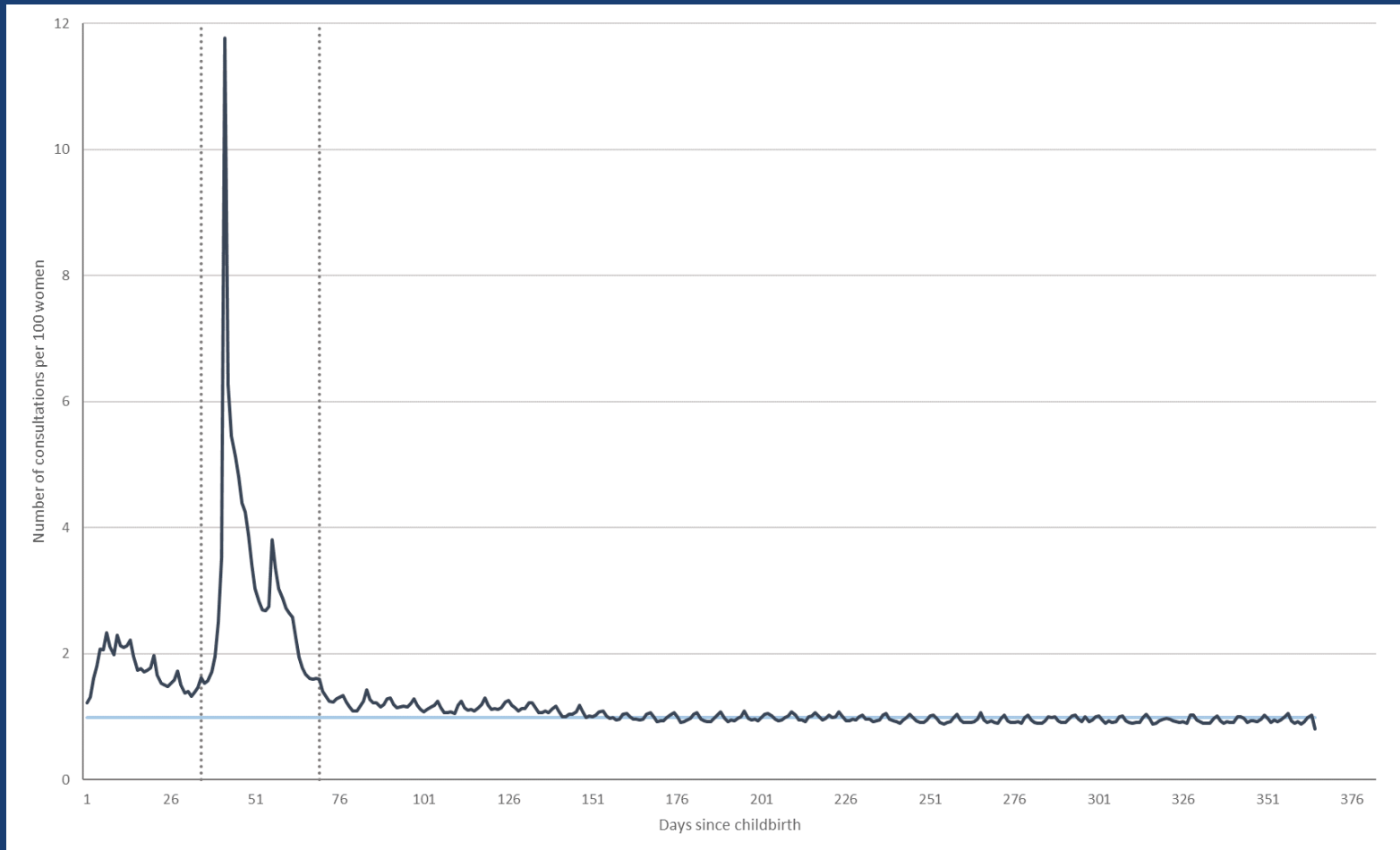
# Study I: Findings – Postnatal check

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- Overall, just over half of the women in my study (56%) had a postnatal check, i.e. 44% had no such record
- In adjusted analysis:
  - Those aged 15-19 years were 12% less likely (IRR=0.88, 95% CI:0.85-0.91) vs those aged 30-35
  - Women from most deprived areas were 10% less likely (IRR=0.90, 95% CI: 0.88-0.92) relative to least deprived areas.
- Sensitivity analysis showed same trend but with higher proportion of women with check (78.7%)

# Study I: Findings – Consultation rate

*Women's consultation rate on each day in the first year following childbirth*



*\*Dotted lines indicate weeks 5 and 10, horizontal line indicates consultation rate after week 10*

# Study I: Findings – Consultation rate

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- Majority (94.7%, n=293,049) of women had at least one direct consultation in the year after childbirth
- 1,427,710 direct consultations were identified, with women consulting on average 4.8 times/person-year
- Largest differences compared to the average is seen in those:
  - who had a caesarean delivery (7.7/ person-year, 95% CI: 7.7-7.8)
  - in current smokers (5.9/person-year, 95% CI: 5.9-5.9)

# Study I: Discussion

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- Among largest representative population-based studies to-date
- First to examine real-world clinical practice in broad population
- Limited by what is recorded
- Previous studies 85% to 91% have a postnatal check; however, only 56% in my study:
  - due to different data source
  - Sensitivity analysis shows more similar;
  - true figure may lie between the two estimates
- Low uptake: don't want to attend, difficulties with access, lack of recording
- Consultation rate similar to previous studies



# Study I: Discussion

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- Four in ten women have no record; despite majority returning to primary care
- Teenagers and most deprived are among least likely to have a check
- Need to understand why women don't attend
- No financial or quality based incentives to document postnatal primary care activity
- Many could be missing out on unique opportunities for timely health promotion and care

# Preliminary findings Study II

# Study II: Methods

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*Data source:* THIN

*Participants:* Women aged 15-49 years with a single live birth between 2006 and 2016

*Outcomes:* Antibiotic treatment in the first eight weeks after childbirth. All prescriptions issued at the time of the postnatal check (week 5-10).

*Characteristics:* Maternal age, parity, Townsend score (socio-economic deprivation), year, mode of delivery

*Analysis:* Estimate the prevalence rate ratio (PRR) of antibiotic use by characteristic. Frequency and proportion of each prescription group is given as a fraction of all prescriptions in weeks 5-10

# Study II: Findings – Antibiotic prescribing

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- Of 309,573 women, 68,485 (22.1%) had at least one antibiotic prescription in the first eight weeks
- Most were prescribed between 5 and 15 days
- 90,524 antibiotics issued in total
- 76% higher in caesarean vs vaginal delivery (PRR: 1.76, 95% CI: 1.72-1.80)
- 11% higher in aged 40-45 years vs 15-19 (PRR: 1.11, 95% CI: 1.06-1.17)
- 9% higher in the least deprived vs most (PRR: 1.09, 95% CI: 1.06-1.11);
- 7% higher in first time mothers to those who had their second child (PRR: 1.07, 95% CI: 1.05-1.09).

# Study II: Findings – Postnatal check prescriptions

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- Of 309,573 women, 180,059 (58.2%) had at least one prescription
- 346,975 prescriptions issued in total
- Most common prescriptions were:
  - contraceptives 116,458 (33.6%)
  - antibiotics 33,594 (9.7%)
  - antidepressants 18,987 (5.5%)
  - pain relief 12,844 (3.7%)
  - Local preparations for anal and rectal disorders 12,386 (3.6%)
  - topical corticosteroids 10,309 (3.0%)
  - laxatives 10,255 (3.0%)

# Study II: Summary

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- Preliminary analysis shows the first 8 weeks are a time of high antibiotic use
- Rates are particularly high for those with caesarean
- More than half of women receive at least one prescription during postnatal check
- Initial findings show prescriptions relate to NICE guidelines
- Categorising the health needs documented in women's records across the postnatal period
- Investigate how health needs recorded in the postnatal check reflect those outlined in NICE guidelines

# Ongoing and future work

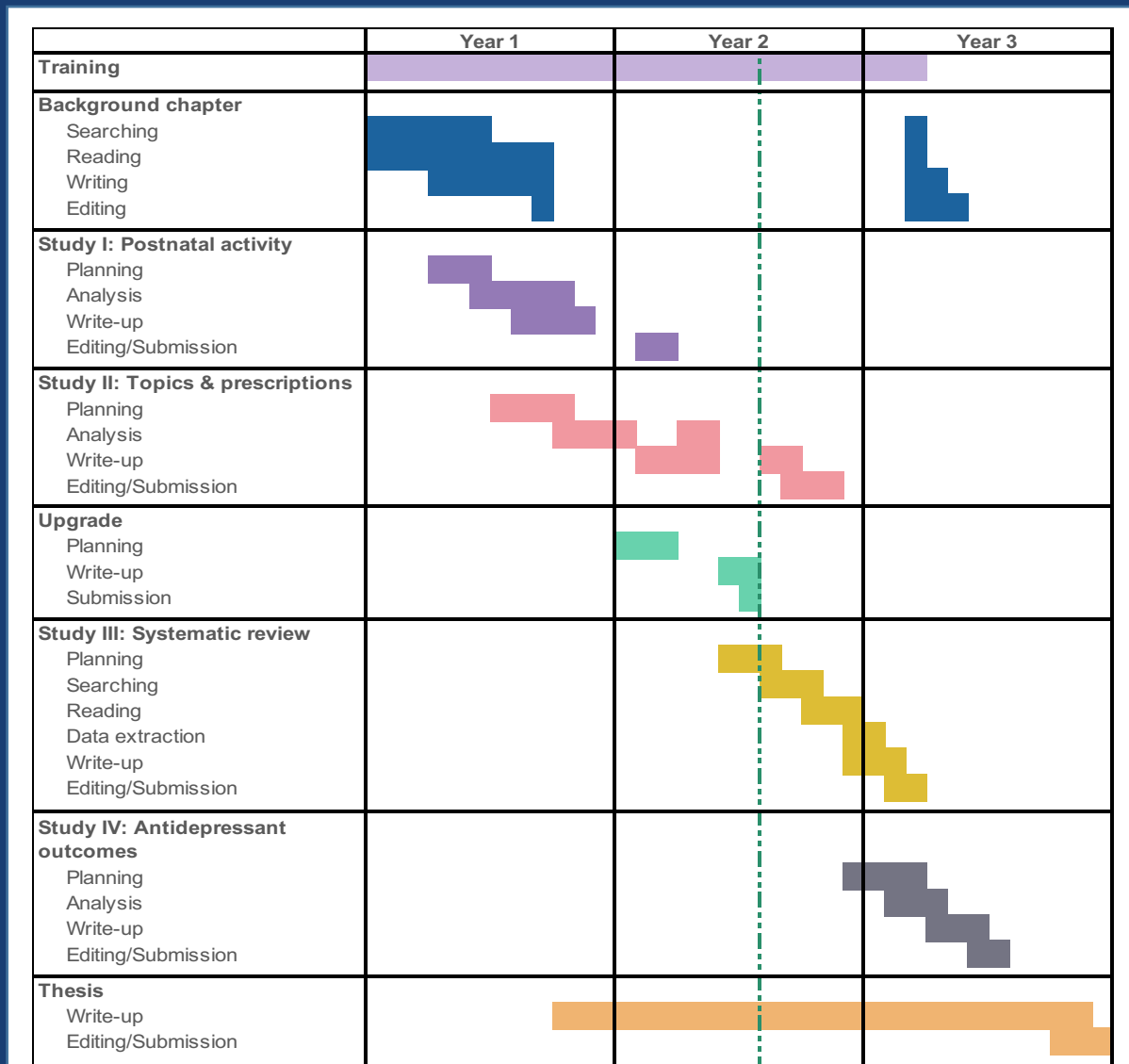
# Ongoing and future work

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- Study I was submitted for publication in January – still awaiting peer review comments
- Two abstracts from Study II were submitted for International Conference on Pharmacoepidemiology & Therapeutic Risk Management (Berlin, August 2020), final analysis and write-up remaining
- Study III and IV will begin following study II
- Successfully secured funding for two related projects:
  - PPE award – *Helping women access information and support for their mental wellbeing after childbirth.*
  - Grant - *Use of antidepressant treatment among fathers: a cohort study using UK primary care data*



# Timeline

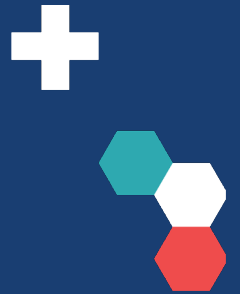


# Summary

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- PhD background & rationale
- PhD overview and studies
- Findings from Study I
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Thank you for listening

