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Home versus inpatient induction of labour for improving birth outcomes (Review)

Alfirevic Z, Gyte GML, Nogueira Pileggi V, Plachcinski R, Osoti AO, Finucane EM

Alfirevic Z, Gyte GML, Nogueira Pileggi V, Plachcinski R, Osoti AO, Finucane EM.
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[Intervention Review]

Home versus inpatient induction of labour for improving birth outcomes

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ABSTRACT

Background

The setting in which induction of labour takes place (home or inpatient) is likely to have implications for safety, women's experiences and costs.

Home induction may be started at home with the subsequent active phase of labour happening either at home or in a healthcare facility (hospital, birth centre, midwifery-led unit). More commonly, home induction starts in a healthcare facility, then the woman goes home to await the start of labour. Inpatient induction takes place in a healthcare facility where the woman stays while awaiting the start of labour.

Objectives

To assess the effects on neonatal and maternal outcomes of third trimester home induction of labour compared with inpatient induction using the same method of induction.

Search methods

For this update, we searched the Cochrane Pregnancy and Childbirth Group's Trials Register, [ClinicalTrials.gov](https://www.clinicaltrials.gov), the WHO International Clinical Trials Registry Platform (ICTRP) (31 January 2020)), and reference lists of retrieved studies.

Selection criteria

Published and unpublished randomised controlled trials (RCTs) in which home and inpatient settings for induction have been compared. We included conference abstracts but excluded quasi-randomised trials and cross-over studies.

Data collection and analysis

Two review authors independently assessed study reports for inclusion. Two review authors carried out data extraction and assessment of risk of bias independently. GRADE assessments were checked by a third review author.

Main results

We included seven RCTs, six of which provided data on 1610 women and their babies. Studies were undertaken between 1998 and 2015, and all were in high- or upper-middle income countries. Most women were induced for post dates. Three studies reported government funding, one reported no funding and three did not report on their funding source. Most GRADE assessments gave very low-certainty evidence, downgrading mostly for high risk of bias and serious imprecision.

1. Home compared to inpatient induction with vaginal prostaglandin E (PGE) (two RCTs, 1028 women and babies; 1022 providing data).

Although women's satisfaction may be slightly better in home settings, the evidence is very uncertain (mean difference (MD) 0.16, 95% confidence interval (CI) -0.02 to 0.34, 1 study, 399 women), very low-certainty evidence.

There may be little or no difference between home and inpatient induction for other primary outcomes, with all evidence being very low certainty:

- spontaneous vaginal birth (average risk ratio (RR) [aRR] 0.91, 95% CI 0.69 to 1.21, 2 studies, 1022 women, random-effects method);
- uterine hyperstimulation (RR 1.19, 95% CI 0.40 to 3.50, 1 study, 821 women);
- caesarean birth (RR 1.01, 95% CI 0.81 to 1.28, 2 studies, 1022 women);
- neonatal infection (RR 1.29, 95% CI 0.59 to 2.82, 1 study, 821 babies);
- admission to neonatal intensive care unit (NICU) (RR 1.20, 95% CI 0.50 to 2.90, 2 studies, 1022 babies).

Studies did not report serious neonatal morbidity or mortality.

2. Home compared to inpatient induction with controlled release PGE (one RCT, 299 women and babies providing data).

There was no information on whether the questionnaire on women's satisfaction with care used a validated instrument, but the findings presented showed no overall difference in scores.

We found little or no difference between the groups for other primary outcomes, all also being very low-certainty evidence:

- spontaneous vaginal birth (RR 0.94, 95% CI 0.77 to 1.14, 1 study, 299 women);
- uterine hyperstimulation (RR 1.01, 95% CI 0.51 to 1.98, 1 study, 299 women);
- caesarean births (RR 0.95, 95% CI 0.64 to 1.42, 1 study, 299 women);
- admission to NICU (RR 1.38, 0.57 to 3.34, 1 study, 299 babies).

The study did not report on neonatal infection nor serious neonatal morbidity or mortality.

3. Home compared to inpatient induction with balloon or Foley catheter (four RCTs; three studies, 289 women and babies providing data).

It was again unclear whether questionnaires reporting women's experiences/satisfaction with care were validated instruments, with one study (48 women, 69% response rate) finding women were similarly satisfied.

Home inductions may reduce the number of caesarean births, but the data are also compatible with a slight increase and are of very low-certainty (RR 0.64, 95% CI 0.41 to 1.01, 2 studies, 159 women).

There was little or no difference between the groups for other primary outcomes with all being very low-certainty evidence:

- spontaneous vaginal birth (RR 1.04, 95% CI 0.54 to 1.98, 1 study, 48 women);
- uterine hyperstimulation (RR 0.45, 95% CI 0.03 to 6.79, 1 study, 48 women);
- admission to NICU (RR 0.37, 95% CI 0.07 to 1.86, 2 studies, 159 babies).

There were no serious neonatal infections nor serious neonatal morbidity or mortality in the one study (involving 48 babies) assessing these outcomes.

Authors' conclusions

Data on the effectiveness, safety and women's experiences of home versus inpatient induction of labour are limited and of very low-certainty. Given that serious adverse events are likely to be extremely rare, the safety data are more likely to come from very large observational cohort studies rather than relatively small RCTs.

PLAIN LANGUAGE SUMMARY

Home versus inpatient induction of labour

What is the issue?

Home versus inpatient induction of labour for improving birth outcomes (Review)

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We wanted to find out from randomised controlled trials, (RCTs) whether, after induction of labour in a hospital or healthcare facility, women preferred to go home or stay in the facility to await the start of labour. Also, to know if there was any impact on clinical outcomes for either the women or their babies.

Why is this important?

Induction of labour towards the end of pregnancy involves artificially bringing on contractions to start labour. There are risks for mother and baby from induction, but sometimes these are outweighed by the risks of continuing the pregnancy.

However, induction can be a challenging experience for women as they may feel uncomfortable, unsupported and a lack of control. The use of home induction of labour may improve women's experiences, reduce the length of stay in hospital and lower overall costs. The safety of both the mother and baby are critical factors for consideration. Only certain forms of induction are considered suitable for home induction, for example, vaginal prostaglandins or balloon/Foley catheters.

What evidence did we find?

We searched for evidence on 31 January 2020 and found seven RCTs, six of which provided data on 1610 women and their babies. These studies were all undertaken in income-rich countries. The certainty of the evidence was mostly very low, mainly because of the limited number of studies, some of which were small, and there was lack of clarity in the study design.

The women all received the induction with initial monitoring in hospital. Women in the home induction group were then able to go home to wait for the start of active labour, or for a set period of time. Women in the inpatient group stayed in hospital.

With vaginal prostaglandin (PGE₂) for induction, we found two studies with 1022 women and their babies. There may be little or no difference in women's satisfaction between waiting for labour to become active at home or in hospital, although women tended to be more satisfied with going home to wait. For women, there may be no clear differences in the number who had a spontaneous vaginal birth, overstimulation of the uterus or a caesarean birth. For the babies, there may be a similar incidence of infection and admission to neonatal intensive care unit (NICU). The costs may possibly be less in home settings.

For induction with controlled release prostaglandin (PGE₂) into the vagina, we found just one study of 299 women and their babies but the findings indicate probably little or no difference.

Using a balloon or Foley catheter for induction, we found three studies providing data on 289 women and their babies. Two studies reported on women's satisfaction, and showed a tendency to favour home settings, but the way data were collected was unclear. There may be little or no difference in the number of spontaneous vaginal births, overstimulation of uterine contractions and babies admitted to NICU. Home induction may possibly reduce the number of caesarean births but more data are needed.

What does this mean?

The studies did not include sufficient numbers of women and babies to show clear differences in outcomes between home and inpatient induction of labour, and the certainty of the evidence was generally very low. More studies are needed, and further studies are already underway. We need more data on women's experiences and views on their care, as well as on safety and cost.

SUMMARY OF FINDINGS

Summary of findings 1. Home compared to inpatient induction with vaginal PGE for improving birth outcomes

Home compared to inpatient induction with vaginal PGE for improving birth outcomes

Patient or population: women having induction of labour at term

Setting: high-income countries

Intervention: home induction with vaginal PGE

Comparison: inpatient induction with vaginal PGE

Outcomes	Relative effect (95% CI)	Anticipated absolute effects* (95% CI)			Certainty of the evidence (GRADE)	Comments
		Without outpa- tient	With outpa- tient	Difference		
Spontaneous vaginal birth Nº of participants: 1022 (2 RCTs)	RR 0.91 (0.69 to 1.21)	Study population 56.9%	51.8% (39.3 to 68.9)	5.1% fewer (17.6 fewer to 12 more)	⊕⊕⊕⊕ VERY LOW ^{1 2 3}	
Uterine hyperstimulation Nº of participants: 821 (1 RCT)	RR 1.19 (0.40 to 3.50)	Study population 1.4%	1.7% (0.6 to 5.1)	0.3% more (0.9 fewer to 3.6 more)	⊕⊕⊕⊕ VERY LOW ^{4 5 6}	
Caesarean birth Nº of participants: 1022 (2 RCTs)	RR 1.01 (0.81 to 1.28)	Study population 21.7%	21.9% (17.6 to 27.8)	0.2% more (4.1 fewer to 6.1 more)	⊕⊕⊕⊕ VERY LOW ^{7 8}	
Neonatal infection (up to 28 days) Nº of participants: 821 (1 RCT)	RR 1.29 (0.59 to 2.82)	Study population 2.7%	3.4% (1.6 to 7.5)	0.8% more (1.1 fewer to 4.8 more)	⊕⊕⊕⊕ VERY LOW ^{4 5 6}	
Admission to NICU Nº of participants: 1022 (2 RCTs)	RR 1.2 (0.5 to 2.90)	Study population 1.7%	2.1% (0.9 to 5)	0.3% more (0.9 fewer to 3.3 more)	⊕⊕⊕⊕ VERY LOW ^{5 9}	
Serious neonatal morbidity or mortality (up to 28 days) Nº of participants: (0 RCTs)	not pooled	Study population				

	not pooled	not pooled	not pooled	
Women's experiences (satisfaction with care) (up to 8 weeks) Nº of participants: 399 (1 RCT)	- The mean women's experiences (satisfaction with care) without outpatient was 0	-	MD 0.16 higher (0.02 lower to 0.34 higher)	⊕⊕⊕⊕ VERY LOW ^{4 10 11}

***The risk in the intervention group** (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI).

CI: Confidence interval; **NICU:** neonatal intensive care unit; **PGE:** prostaglandin E; **RCT:** randomised controlled trial; **RR:** Risk ratio.

GRADE Working Group grades of evidence

High certainty: we are very confident that the true effect lies close to that of the estimate of the effect.

Moderate certainty: we are moderately confident in the effect estimate; the true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different.

Low certainty: our confidence in the effect estimate is limited; the true effect may be substantially different from the estimate of the effect.

Very low certainty: we have very little confidence in the effect estimate; the true effect is likely to be substantially different from the estimate of effect.

¹ Downgraded one level for serious limitations in risk of bias: high risk of blinding bias and selective reporting bias. Downgraded one level for serious indirectness: 1 study providing 57% of data involving 48% of women not receiving the intervention. .

² Downgraded one level for serious heterogeneity: $I^2 = 77\%$.

³ No downgrade: although a wide CI and not a large number of participants, there are a large number of events - borderline decision.

⁴ Downgraded two levels for very serious limitations in risk of bias: high risk of blinding bias, selective reporting bias and 100% of data involved 48% of women not receiving the intervention.

⁵ Downgraded two levels for very serious imprecision: very few events and wide confidence interval. .

⁶ No downgrade for lack of generalisability: data from only one study but of reasonable size.

⁷ Downgraded two levels for very serious limitations in risk of bias: high risk of blinding bias, selective reporting bias and 85% of data from study with 48% of participants not receiving the intervention.

⁸ Downgraded one level for serious imprecision: low number of participants and events, but reasonable confidence interval - borderline decision

⁹ Downgraded two levels for very serious risk of bias: high risk of blinding bias (100%). 66% of data from study with unclear selection bias. 34% of data from study with high risk of selective reporting bias and 48% of participants not receiving the intervention.

¹⁰ Downgraded one level for serious imprecision: insufficient number of participants.

¹¹ Downgraded one level for lack of generalisability: data from 1 study so lack of generalisability. Borderline decision.

Summary of findings 2. Home compared to inpatient induction with controlled release PGE for improving birth outcomes

Home compared to inpatient induction with controlled release PGE for improving birth outcomes

Patient or population: women having induction of labour at term

Setting: one high-income country

Intervention: home induction with controlled release PGE
Comparison: inpatient induction with controlled release PGE

Outcomes	Relative effect (95% CI)	Anticipated absolute effects* (95% CI)			Certainty of the evidence (GRADE)	Comments
		Without outpa-tient	With outpa-tient	Difference		
Spontaneous vaginal birth Nº of participants: 299 (1 RCT)	RR 0.94 (0.77 to 1.14)	Study population			⊕⊕⊕⊕ VERY LOW ^{1 2 3}	
		59.3%	55.8% (45.7 to 67.6)	3.6% fewer (13.6 fewer to 8.3 more)		
Uterine hyperstimulation Nº of participants: 299 (1 RCT)	RR 1.01 (0.51 to 1.98)	Study population			⊕⊕⊕⊕ VERY LOW ^{1 2 4}	
		10.0%	10.1% (5.1 to 19.8)	0.1% more (4.9 fewer to 9.8 more)		
Caesarean birth Nº of participants: 299 (1 RCT)	RR 0.95 (0.64 to 1.42)	Study population			⊕⊕⊕⊕ VERY LOW ^{1 2 4}	
		24.7%	23.4% (15.8 to 35)	1.2% fewer (8.9 fewer to 10.4 more)		
Neonatal infection (up to 28 days) Nº of participants: (0 RCTs)	not pooled	Study population				
		not pooled	not pooled	not pooled		
Admission to NICU Nº of participants: 299 (1 RCT)	RR 1.38 (0.57 to 3.34)	Study population			⊕⊕⊕⊕ VERY LOW ^{1 2 4}	
		5.3%	7.4% (3 to 17.8)	2.0% more (2.3 fewer to 12.5 more)		
Serious neonatal morbidity or mortality (up to 28 days) Nº of participants: (0 RCTs)	not pooled	Study population				
		not pooled	not pooled	not pooled		
Mothers' experiences (satisfaction with care) (up to 8 weeks) Nº of participants: (0 RCT)	-	The mean mothers' experiences (satisfaction with care) without outpatient was 0	-	see comment		

***The risk in the intervention group** (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI).

CI: Confidence interval; **NICU:** neonatal intensive care unit; **PGE:** prostaglandin E; **RCT:** randomised controlled trial; **RR:** Risk ratio.

GRADE Working Group grades of evidence

High certainty: we are very confident that the true effect lies close to that of the estimate of the effect.

Moderate certainty: we are moderately confident in the effect estimate; the true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different.

Low certainty: Our confidence in the effect estimate is limited; the true effect may be substantially different from the estimate of the effect.

Very low certainty: We have very little confidence in the effect estimate; the true effect is likely to be substantially different from the estimate of effect.

- 1 Downgraded one level for risk of bias: high risk of blinding bias.
- 2 Downgraded one level for lack of generalisability: only 1 study of 299 women .
- 3 Downgraded one level for serious imprecision: low number of participants and events.
- 4 Downgraded two levels for very serious imprecision: low number of participants, very low events and wide confidence interval.
- 5 Downgraded one level for serious imprecision: low number of participants..

Summary of findings 3. Home compared to inpatient induction with balloon or Foley catheter for improving birth outcomes

Home compared to inpatient induction with balloon or Foley catheter for improving birth outcomes

Patient or population: women having induction of labour at term

Setting: high-income countries

Intervention: home induction with balloon or Foley catheter

Comparison: inpatient induction with balloon or Foley catheter

Outcomes	Relative effect (95% CI)	Anticipated absolute effects* (95% CI)			Certainty of the evidence (GRADE)	Comments
		Without outpa- tient	With outpa- tient	Difference		
Spontaneous vaginal birth Nº of participants: 48 (1 RCT)	RR 1.04 (0.54 to 1.98)	Study population			⊕⊕⊕⊕ VERY LOW ^{1 2 3}	
		46.7%	48.5% (25.2 to 92.4)	1.9% more (21.5 fewer to 45.7 more)		
Uterine hyperstimulation Nº of participants: 48 (1 RCT)	RR 0.45 (0.03 to 6.79)	Study population			⊕⊕⊕⊕ VERY LOW ^{1 2 3}	
		6.7%	3.0% (0.2 to 45.3)	3.7% fewer (6.5 fewer to 38.6 more)		

Caesarean birth Nº of participants: 159 (2 RCTs)	RR 0.64 (0.41 to 1.01)	Study population			⊕⊕⊕⊕ VERY LOW ^{3 4}
		41.5%	26.6% (17 to 42)	15.0% fewer (24.5 fewer to 0.4 more)	
Neonatal infection (up to 28 days) Nº of participants: 48 (1 RCT)	not estimable	Study population			-
		0.0%	0.0% (0 to 0)	0.0% fewer (0 fewer to 0 fewer)	
Admission to NICU Nº of participants: 159 (2 RCTs)	RR 0.37 (0.07 to 1.86)	Study population			⊕⊕⊕⊕ VERY LOW ^{3 5}
		6.2%	2.3% (0.4 to 11.4)	3.9% fewer (5.7 fewer to 5.3 more)	
Serious neonatal morbidity or mortality (up to 28 days) Nº of participants: 48 (1 RCT)	not estimable	Study population			-
		0.0%	0.0% (0 to 0)	0.0% fewer (0 fewer to 0 fewer)	
Mothers' experiences (satisfaction with care) (up to 8 weeks) Nº of participants: (0 RCTs)	-	The mean mothers' experiences (satisfaction with care) without outpatient was 0	-	see comment	-

***The risk in the intervention group** (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI).

CI: Confidence interval; **NICU:** neonatal intensive care unit; **PGE:** prostaglandin E; **RCT:** randomised controlled trial; **RR:** Risk ratio.

GRADE Working Group grades of evidence

High certainty: we are very confident that the true effect lies close to that of the estimate of the effect.

Moderate certainty: we are moderately confident in the effect estimate: the true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different.

Low certainty: our confidence in the effect estimate is limited: the true effect may be substantially different from the estimate of the effect.

Very low certainty: we have very little confidence in the effect estimate: the true effect is likely to be substantially different from the estimate of effect.

¹ Downgraded one level for serious risk of bias: high risk of blinding bias.

² Downgraded one level for serious lack of generalisability: only 1 small study of 48 women

³ Downgraded two levels for very serious imprecision: very few participants, very few events and wide confidence interval.

⁴ Downgraded one level for serious risk of bias: high risk of blinding bias and 1 study contributing 78% of data unclear on allocation concealment.

⁵ Downgraded one level for serious risk of bias: high risk of blinding bias and 86% of data from study with unclear allocation concealment.

BACKGROUND

For most women, the onset of labour and childbirth is spontaneous. However, induction of labour is a relatively common occurrence, with approximately one in four pregnancies worldwide ending with an induction of labour (WHO 2011). With recent studies reporting that induction of labour for post-term pregnancy results in a lower risk of caesarean section than expectant management, this trend in induction is set to continue (Grobman 2018; Middleton 2018). While the indications and methods of induction of labour have been the subject of randomised controlled trials, systematic reviews and clinical guidelines, there is an absence of evidence on the setting (home versus hospital/healthcare facility) in which induction takes place, a factor that may have significant implications for women's satisfaction and for cost (Kelly 2013).

The optimal method of induction of labour would lead to cervical ripening and a 'spontaneous' onset of labour, without increasing the risk of maternal or fetal complications (Calder 1998). Currently, labour may be induced, at term, using pharmacological (e.g. prostaglandins, oxytocin, misoprostol), mechanical and physical methods (e.g. rupture of membranes) or complementary/alternative methods (e.g. breast stimulation) (Alfirevic 2016; Hofmeyr 2009).

Pharmacological methods are the most common methods of induction of labour. However, pharmacological methods are not suitable for all women and can lead to increased risk of hyperstimulation, and very rarely uterine rupture (NICE 2008; WHO 2011). Traditionally, pharmacological methods of induction of labour were thought to require intermittent or continuous fetal monitoring in an inpatient setting, and so were not suitable for home induction. However, some forms of induction, both pharmacological (e.g. vaginal prostaglandins) and mechanical (e.g. Foley catheter) can be considered appropriate for the woman to return home once induction is started but labour is yet to begin (Vogel 2017). Membrane sweep is generally not considered a formal method of induction of labour but is an intervention sometimes used at home or in an outpatient setting. Membrane sweeping would not normally be used on its own as a method of induction of labour in an inpatient setting (Finucane 2020).

The use of home induction of labour potentially supports maternal satisfaction and autonomy, convenience, reduced length of stay in hospital and significant cost savings (NICE 2008; Oster 2011 - part of Wilkinson 2015 - OPRA; Wong 2002). Induction of labour is reported as being a challenging experience for women where they may feel a lack of control, unsupported and uncomfortable in their environment (Coates 2019). Women often find hospital a noisy busy place with a lack of privacy and rules imposed, hence the possibility of spending time at home after initiation of induction may be appealing to some women (Coates 2019). Benefits which must be balanced with maintaining maternal and fetal safety.

Description of the condition

Induction of labour should only be performed when there are clear indications that continuing with a pregnancy is of greater risk to the mother or baby than the risk of induction of labour (ACOG 2009; WHO 2011). Induction of labour is performed for a number of reasons towards the end of pregnancy, with induction of labour for post-term (mainly after 41 weeks) the most common of these (Kelly 2013; Nippita 2015; SOGC 2013; Sue-A-Quan 1999). A pregnancy is

deemed full term at 37 completed weeks' gestation, however, up to 10% of pregnancies will continue past 42 weeks' gestation and are then considered "post-term" (Finucane 2020; Middleton 2018).

Description of the intervention

Induction of labour involves artificially stimulating uterine contractions to initiate the onset of labour (Hofmeyr 2009; WHO 2011). Induction of labour is usually performed in hospital/facility settings using a range of interventions (Kelly 2013). Often involving the use of vaginal prostaglandin agents (Kelly 2013). There has been an increased interest in the use of home induction of labour in recent times. In this scenario, women are either induced at home or more commonly attend the hospital/clinic/healthcare facility to receive the induction agent and initial assessment of fetal well-being then return home afterwards. They return to the hospital or healthcare facility when they start to contract regularly or at a given time point (unless the woman wishes a home birth). If they experience any adverse reactions, including hyperstimulation, they return to the hospital/healthcare facility straight away.

For the purpose of this review, home induction is defined as induction at home, or more commonly, after the induction process has been started in a hospital/healthcare facility the woman spends time at home. Inpatient inductions are defined as induction in healthcare facilities (hospitals or birth centres, or midwifery-led units), where the woman remains there following induction and awaiting the start of labour.

How the intervention might work

Home induction of labour potentially offers improved maternal satisfaction, autonomy and choice when compared to hospital/facility-based policies. Home induction of labour is a potentially an efficient, low-cost method of induction of labour.

Why it is important to do this review

Approximately twenty-five per cent or more of all pregnancies will end in an induction of labour. Home induction of labour potentially offers a low-cost alternative to hospital-based induction of labour for low-risk pregnancies, while potentially supporting choice and autonomy for women. This systematic review evaluates the available evidence to assess the efficacy and women's experiences of outpatient induction of labour compared to inpatient settings.

OBJECTIVES

To assess the effects on neonatal and maternal outcomes of third trimester home induction of labour compared with inpatient induction using the same method of induction.

METHODS

Criteria for considering studies for this review

Types of studies

All published and unpublished randomised controlled trials (RCTs), which compare home versus inpatient/hospital/healthcare facility settings for induction of labour. We planned to include cluster-randomised trials (but did not identify any), but we excluded quasi-randomised trials and cross-over studies. We included conference abstracts.

Types of participants

Pregnant women at term (equal to or greater than 37 weeks' gestation) carrying a live baby where the woman was considered suitable for induction of labour at home, or she was able to go home after the induction to await labour.

Types of interventions

Pharmacological agents or mechanical methods of induction of labour suitable for home inductions, for example, prostaglandins, or balloon or Foley catheters. We excluded membrane sweep as this is not considered a formal method of induction and we believe there are no circumstances where membrane sweep would be carried out in an inpatient/hospital/healthcare facility setting as this would involve the woman staying overnight in the inpatient setting until labour starts ([Finucane 2020](#)).

We chose to pool data from different prostaglandins ([Thomas 2014](#)). We have kept induction with controlled-release prostaglandin E (CR-PGE) separate from prostaglandin induction with gel or suppository because with CR-PGE, the PGE can be removed if complications arise ([Lyrenas 2001](#)). We have chosen to keep induction with single (generally Foley catheter) and double balloon catheters together as recent evidence indicates both kinds of balloon catheter have similar efficacy and women's satisfaction ([Liu 2019](#)).

Home induction is defined as: induction at home or where induction is carried out in healthcare facility (hospital, birth centre, midwifery-led unit, clinic) then the woman goes home to await the start of labour.

Inpatient settings are defined as: healthcare facilities, hospitals, birth centres or midwifery-led units where the woman remains there following induction and awaiting the start of labour.

We only included studies where the same intervention for induction of labour is used in both settings.

This review does not attempt to compare the relative effects of different methods of induction of labour on maternal and neonatal outcomes within an outpatient setting. This is the topic of a separate review ([Vogel 2017](#)).

Types of outcome measures

For this update, we have chosen outcomes from the core outcome set (COS) from a recent publication ([Dos Santos 2018](#)). We separated the mode of birth into spontaneous vaginal birth, caesarean birth and instrumental vaginal birth. We have added assessments of women's experiences/satisfaction, pain, her sense of control and any cost-effectiveness as defined by trialists.

Previous versions of this review used clinically relevant outcomes from the induction of labour generic protocol ([Hofmeyr 2009](#)), and the review assessing methods of outpatient induction of labour ([Vogel 2017](#)).

Primary outcomes

1. Spontaneous vaginal birth (noting data for within 24 hours or within 48 to 72 hours if reported) (COS)

2. Uterine hyperstimulation (with or without fetal heart (FHR) changes - noting data for with or without FHR changes if reported) (COS)
3. Caesarean birth (COS)
4. Neonatal infection (COS) (up to 28 days after the birth)
5. Admission to neonatal intensive care unit (NICU) (COS)
6. Serious neonatal morbidity or mortality (e.g. seizures, birth asphyxia defined by trialists, birth trauma, neonatal encephalopathy, need for therapeutic hypothermia, disability in childhood) (COS) up to 28 days after the birth
7. Women's experiences/satisfaction with care (using only validated instruments) (COS) up to eight weeks after the birth

Secondary outcomes

Measures of effectiveness and satisfaction

1. Oxytocin administration (COS)
2. Pain - self-assessment
3. Spinal analgesia
4. Opioid analgesia
5. No pharmacological analgesia
6. Woman's sense of control
7. Need for more than one induction agent
8. Time from induction to birth (COS)
9. Length of hospital stay
10. Use of emergency services

Complications for the baby

1. Apgar score less than seven at five minutes
2. Meconium aspiration (COS)
3. Need for respiratory support (COS)
4. Perinatal mortality (COS)

Complications for the mother

1. Instrumental vaginal birth (COS)
2. Uterine scar dehiscence/rupture (COS)
3. Postpartum haemorrhage (PPH) (≥ 500 mL or as defined by trialists) (COS)
4. Hysterectomy (COS)
5. Maternal infection (COS)
6. Serious maternal morbidity or mortality (e.g. uterine rupture, admission to intensive care, pulmonary embolus, septicaemia, cardiorespiratory arrest) (COS) up to 28 days after the birth
7. Postnatal depression (COS) up to a year after the birth
8. Long-term operative pelvic floor repair (COS) up to a year after the birth

Additional outcomes

1. Economic aspects as defined by trialists

Where formal economic evaluation was lacking, we attempted to describe potential cost savings and the impact of interventions used within an outpatient setting. Where possible, these estimates involved using some measures of effectiveness and complications in combination with estimates of healthcare provision.

Detailed definitions for outcomes

- Perinatal and maternal morbidity and mortality are composite outcomes. This is not an ideal solution because some components are clearly less severe than others. It is possible for one intervention to cause more deaths but less severe morbidity. However, in the context of labour induction at term, this is unlikely. All these events will be rare, and a modest change in their incidence will be easier to detect if composite outcomes are presented. Incidence of individual components were explored as secondary outcomes (see above).
- 'Uterine rupture' includes all clinically significant ruptures of unscarred or scarred uteri. Trivial scar dehiscence noted incidentally at the time of surgery is excluded.
- The terminology of uterine hyperstimulation is problematic (Curtis 1987). In the review, the term 'uterine hyperstimulation' is defined as uterine tachysystole (more than five contractions per 10 minutes for at least 20 minutes) and uterine hypersystole/hypertonus (a contraction lasting at least two minutes).
- 'Uterine hyperstimulation with FHR changes' is usually defined as uterine hyperstimulation syndrome (tachysystole or hypersystole with FHR changes such as persistent decelerations, tachycardia or decreased short-term variability). However, due to varied reporting, there is the possibility of subjective bias in the interpretation of these outcomes. Also, it is not always clear from the trials if these outcomes are reported in a mutually exclusive manner. More importantly, continuous monitoring is not available in a home setting. Therefore, there is a risk of biased reporting of uterine hyperstimulation (with or without FHR changes). It is possible that bias will favour the home setting (i.e. by failure to recognise mild forms of hyperstimulation without continuous monitoring). On the other hand, clinicians who favour inpatient induction may, in the absence of continuous monitoring, label any maternal description of painful, frequent uterine contractions as hyperstimulation. Therefore, in the absence of blinding, hyperstimulation and other 'soft' outcomes should be interpreted with extreme caution.
- If there are multiple time points for an outcome, we chose the latest time unless there was a clinical reason to use a specific time.
- For outcomes using questionnaires, we used data in the data and analysis only if validated instruments were used (Nilvér 2017).

Search methods for identification of studies

The following methods section of this review is based on a standard template used by Cochrane Pregnancy and Childbirth.

Electronic searches

For this update, we searched Cochrane Pregnancy and Childbirth's Trials Register by contacting their Information Specialist (31 January 2020).

The Register is a database containing over 25,000 reports of controlled trials in the field of pregnancy and childbirth. It represents over 30 years of searching. For full current search methods used to populate Pregnancy and Childbirth's Trials Register including the detailed search strategies for CENTRAL, MEDLINE, Embase and CINAHL; the list of handsearched journals

and conference proceedings, and the list of journals reviewed via the current awareness service, please follow this [link](#).

Briefly, Cochrane Pregnancy and Childbirth's Trials Register is maintained by their Information Specialist and contains trials identified from:

1. monthly searches of the Cochrane Central Register of Controlled Trials (CENTRAL);
2. weekly searches of MEDLINE (Ovid);
3. weekly searches of Embase (Ovid);
4. monthly searches of CINAHL (EBSCO);
5. handsearches of 30 journals and the proceedings of major conferences;
6. weekly current awareness alerts for a further 44 journals plus monthly BioMed; Central email alerts.

Search results are screened by two people and the full text of all relevant trial reports identified through the searching activities described above is reviewed. Based on the intervention described, each trial report is assigned a number that corresponds to a specific Pregnancy and Childbirth review topic (or topics), and is then added to the Register. The Information Specialist searches the Register for each review using this topic number rather than keywords. This results in a more specific search set that has been fully accounted for in the relevant review sections ([Included studies](#); [Excluded studies](#); [Studies awaiting classification](#); [Ongoing studies](#)).

In addition, we searched [ClinicalTrials.gov](#) and the WHO International Clinical Trials Registry Platform (ICTRP) for unpublished, planned and ongoing trial reports (31 January 2020) using the search methods detailed in [Appendix 1](#).

Searching other resources

We searched the reference lists of retrieved studies.

We did not apply any language or date restrictions.

Data collection and analysis

For methods used in the previous version of this review, see [Kelly 2013](#).

For this update, the following methods were used for assessing the 37 reports (covering 21 studies) that were identified as a result of the updated search.

The following methods section of this review is based on a standard template used by Cochrane Pregnancy and Childbirth.

Selection of studies

Two review authors independently assessed for inclusion all the potential studies identified as a result of the search strategy. We resolved any disagreement through discussion or, if required, we consulted the third review author.

Data extraction and management

We designed a form to extract data. For eligible studies, two review authors extracted the data using the agreed form. We resolved discrepancies through discussion or, if required, we consulted

the third review author. Data were entered into Review Manager software ([RevMan 2014](#)) and checked for accuracy.

When information regarding any of the above was unclear, we planned to contact authors of the original reports to provide further details.

Assessment of risk of bias in included studies

Two review authors independently assessed risk of bias for each study using the criteria outlined in the *Cochrane Handbook for Systematic Reviews of Interventions* ([Higgins 2011](#)). Any disagreement was resolved by discussion or by involving a third assessor.

(1) Random sequence generation (checking for possible selection bias)

We described for each included study the method used to generate the allocation sequence in sufficient detail to allow an assessment of whether it should produce comparable groups.

We assessed the method as:

- low risk of bias (any truly random process, e.g. random number table; computer random number generator);
- high risk of bias (any non-random process, e.g. odd or even date of birth; hospital or clinic record number);
- unclear risk of bias.

(2) Allocation concealment (checking for possible selection bias)

We described for each included study the method used to conceal allocation to interventions prior to assignment and assessed whether intervention allocation could have been foreseen in advance of, or during recruitment, or changed after assignment.

We assessed the methods as:

- low risk of bias (e.g. telephone or central randomisation; consecutively numbered sealed opaque envelopes);
- high risk of bias (open random allocation; unsealed or non-opaque envelopes, alternation; date of birth);
- unclear risk of bias.

(3.1) Blinding of participants and personnel (checking for possible performance bias)

We described for each included study the methods used, if any, to blind study participants and personnel from knowledge of which intervention a participant received. We considered that studies were at low risk of bias if they were blinded, or if we judged that the lack of blinding unlikely to affect results. We assessed blinding separately for different outcomes or classes of outcomes.

We assessed the methods as:

- low, high or unclear risk of bias for participants;
- low, high or unclear risk of bias for personnel.

(3.2) Blinding of outcome assessment (checking for possible detection bias)

We described for each included study the methods used, if any, to blind outcome assessors from knowledge of which intervention a

participant received. We assessed blinding separately for different outcomes or classes of outcomes.

We assessed methods used to blind outcome assessment as:

- low, high or unclear risk of bias.

(4) Incomplete outcome data (checking for possible attrition bias due to the amount, nature and handling of incomplete outcome data)

We described for each included study, and for each outcome or class of outcomes, the completeness of data including attrition and exclusions from the analysis. We stated whether attrition and exclusions were reported and the numbers included in the analysis at each stage (compared with the total randomised participants), reasons for attrition or exclusion where reported, and whether missing data were balanced across groups or were related to outcomes. Where sufficient information was reported, or could be supplied by the trial authors, we planned to re-include missing data in the analyses which we undertook.

We assessed methods as:

- low risk of bias (e.g. no missing outcome data; missing outcome data balanced across groups);
- high risk of bias (e.g. numbers or reasons for missing data imbalanced across groups; 'as treated' analysis done with substantial departure of intervention received from that assigned at randomisation);
- unclear risk of bias.

(5) Selective reporting (checking for reporting bias)

We described for each included study how we investigated the possibility of selective outcome reporting bias and what we found.

We assessed the methods as:

- low risk of bias (where it is clear that all of the study's pre-specified outcomes and all expected outcomes of interest to the review have been reported);
- high risk of bias (where not all the study's pre-specified outcomes have been reported; one or more reported primary outcomes were not pre-specified; outcomes of interest are reported incompletely and so cannot be used; study fails to include results of a key outcome that would have been expected to have been reported);
- unclear risk of bias.

(6) Other bias (checking for bias due to problems not covered by (1) to (5) above)

We described for each included study any important concerns we had about other possible sources of bias.

(7) Overall risk of bias

We made explicit judgements about whether studies were at high risk of bias, according to the criteria given in the *Handbook* ([Higgins 2011](#)). With reference to (1) to (6) above, we planned to assess the likely magnitude and direction of the bias and whether we considered it is likely to impact on the findings. In future updates, we will explore the impact of the level of bias through undertaking sensitivity analyses - see [Sensitivity analysis](#).

Assessment of the certainty of the evidence using the GRADE approach

For this update the certainty of the evidence was assessed using the GRADE approach as outlined in the [GRADE handbook](#) in order to assess the certainty of the body of evidence relating to the following outcomes for the main comparisons.

1. Spontaneous vaginal birth
2. Uterine hyperstimulation
3. Caesarean birth
4. Neonatal infection
5. Admission to NICU
6. Serious neonatal morbidity or mortality
7. Women's experiences (satisfaction with care)

We used [GRADEpro](#) Guideline Development Tool to import data from Review Manager 5.3 ([RevMan 2014](#)) in order to create 'Summary of findings' tables. A summary of the intervention effect and a measure of certainty for each of the above outcomes was produced using the GRADE approach. The GRADE approach uses five considerations (study limitations, consistency of effect, imprecision, indirectness and publication bias) to assess the certainty of the body of evidence for each outcome. The evidence can be downgraded from 'high certainty' by one level for serious (or by two levels for very serious) limitations, depending on assessments for risk of bias, indirectness of evidence, serious inconsistency, imprecision of effect estimates or potential publication bias. The findings were reported according to the GRADE guidance ([Santesso 2020](#)).

Measures of treatment effect

Dichotomous data

For dichotomous data, we presented results as summary risk ratio with 95% confidence intervals.

Continuous data

We used the mean difference if outcomes were measured in the same way between trials. We planned to use the standardised mean difference to combine trials that measured the same outcome, but used different methods.

Unit of analysis issues

Cluster-randomised trials

We did not identify any cluster-randomised trials for inclusion in this review, but we may include trials of this type in future updates. If we do, we plan to include cluster-randomised trials in the analyses along with individually-randomised trials. Their sample sizes will be adjusted using the methods described in [Gates 2005](#) using an estimate of the intracluster correlation coefficient (ICC) derived from the trial (if possible), or from another source. If ICCs from other sources are used, we will report this and conduct sensitivity analyses to investigate the effect of variation in the ICC. If we identify both cluster-randomised trials and individually-randomised trials, we plan to synthesise the relevant information. We will consider it reasonable to combine the results from both if there is little heterogeneity between the study designs and the interaction between the effect of intervention and the choice of randomisation unit is considered to be unlikely. We will also acknowledge heterogeneity in the randomisation unit

and perform a sensitivity analysis to investigate the effects of the randomisation unit.

Cross-over trials

Cross-over trials were not eligible for inclusion in this review.

Dealing with missing data

For included studies, we noted levels of attrition. In future updates, if more eligible studies are included, the impact of including studies with high levels of missing data in the overall assessment of treatment effect will be explored by using sensitivity analysis.

For all outcomes, analyses were carried out, as far as possible, on an intention-to-treat basis, i.e. we attempted to include all participants randomised to each group in the analyses. The denominator for each outcome in each trial was the number randomised minus any participants whose outcomes were known to be missing.

We changed the reporting of [Wilkinson 2015 - OPRA](#) (Wilkinson 2012 in previous version of review, [Kelly 2013](#)) from 'per protocol' to 'intention-to-treat analysis'.

Assessment of heterogeneity

We assessed statistical heterogeneity in each meta-analysis using the τ^2 , I^2 and χ^2 statistics. We regarded heterogeneity as substantial if I^2 was greater than 50% and either τ^2 was greater than zero, or there was a low P value (less than 0.10) in the χ^2 test for heterogeneity. Had we identified substantial heterogeneity (above 50%), we planned to explore it by pre-specified subgroup analysis.

Assessment of reporting biases

In future updates, if there are 10 or more studies in the meta-analysis, we will investigate reporting biases (such as publication bias) using funnel plots. We will assess funnel plot asymmetry visually. If asymmetry is suggested by a visual assessment, we will perform exploratory analyses to investigate it.

Data synthesis

We carried out statistical analysis using the Review Manager software ([RevMan 2014](#)). We used fixed-effect meta-analysis for combining data where it was reasonable to assume that studies were estimating the same underlying treatment effect: i.e. where trials were examining the same intervention, and the trials' populations and methods were judged sufficiently similar.

If there was clinical heterogeneity sufficient to expect that the underlying treatment effects differed between trials, or if substantial statistical heterogeneity was detected, we used random-effects meta-analysis to produce an overall summary if an average treatment effect across trials was considered clinically meaningful. The random-effects summary was treated as the average range of possible treatment effects and we will consider the clinical implications of treatment effects differing between trials. If the average treatment effect was not clinically meaningful, we did not combine trials. Where we used random-effects analyses, the results were presented as the average treatment effect with 95% confidence intervals, and the estimates of τ^2 and I^2 .

Subgroup analysis and investigation of heterogeneity

In future updates, if we identify substantial heterogeneity, we will investigate it using subgroup analyses and sensitivity analyses. We will consider whether an overall summary is meaningful, and if it is, use random-effects analysis to produce it.

We planned to carry out the following subgroup analyses:

- nulliparous women versus multiparous women;
- membrane status (intact versus ruptured);
- cervical status (unfavourable versus favourable or undefined);
- induction indication, i.e. post-dates (41 weeks or greater).

Subgroup analyses would have been restricted to the review's primary outcomes.

We planned to assess subgroup differences by interaction tests available within RevMan ([RevMan 2014](#)). We would have reported the results of subgroup analyses quoting the χ^2 statistic and P

value, and the interaction test I^2 value, but we had insufficient numbers of studies in each comparison to be able to undertake subgroup analyses.

Sensitivity analysis

We planned to carry out sensitivity analyses to explore the effects of the following: 1) trial quality (high quality being low risk of selection and attrition bias); 2) the effect of including of conference abstracts in order to assess whether these make any difference to the overall result. This was in addition to the sensitivity analyses for units of analyses and missing data. However, there were insufficient data to undertake sensitivity analyses.

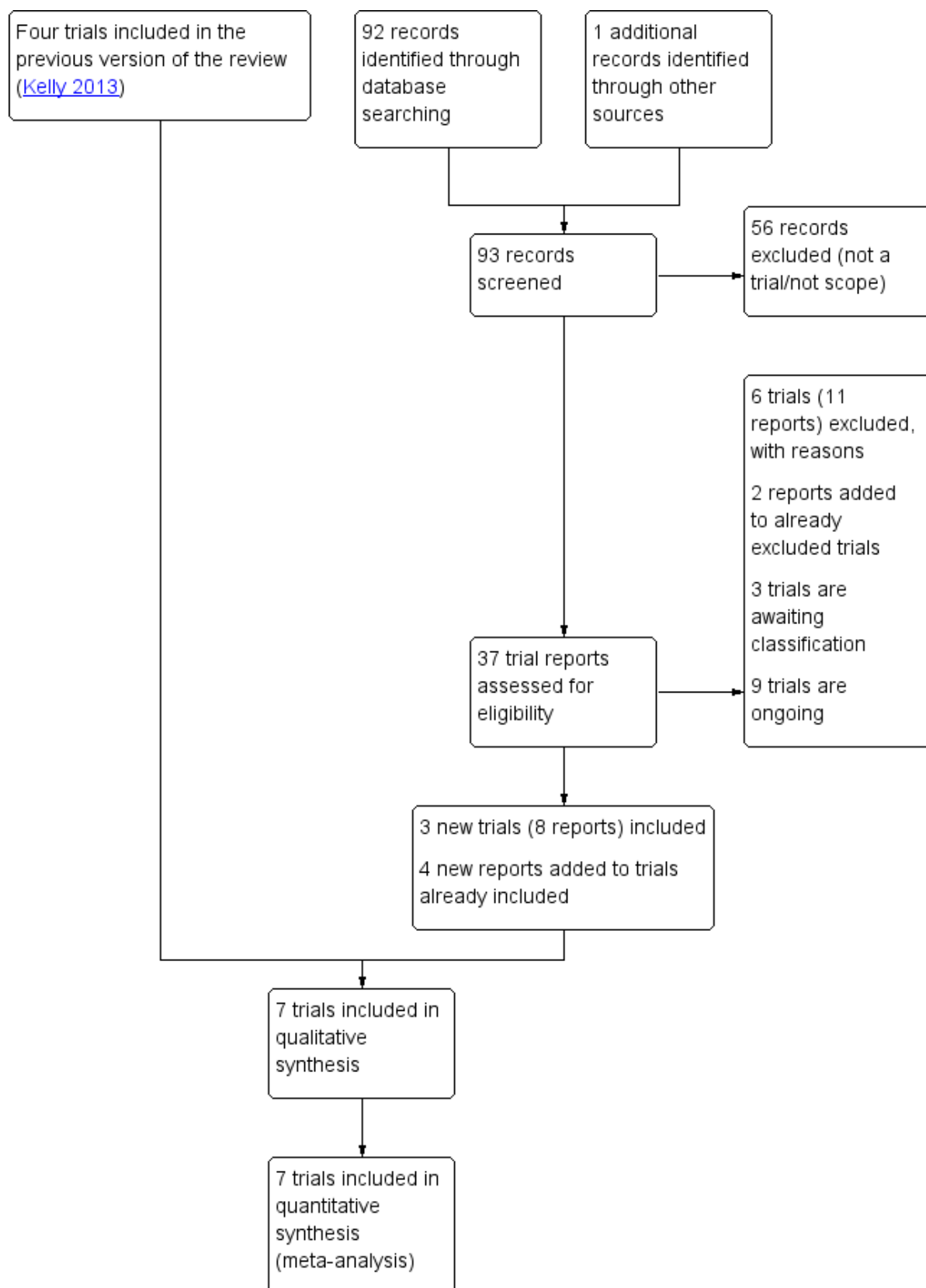
RESULTS

Description of studies

Results of the search

See: [Figure 1](#)

Figure 1. Study flow diagram.



We retrieved 37 new reports. We included three new studies (eight reports). Three were additional reports of already included studies. One of these was the full publication so the study date was changed (Wilkinson 2015 - OPRA). We excluded six new studies (11 reports). A further two reports were part of two studies already excluded in the 2013 publication of this review (Kelly 2013).

There are, therefore, three new included studies, making seven studies in total (Included studies); six newly excluded studies making eight excluded studies in total (Excluded studies); three studies in awaiting classification (Studies awaiting classification), and nine studies are trial registrations for ongoing studies (Ongoing studies).

Included studies

The review now includes seven studies, although one study provided no usable data (Mohamad 2018), leaving six studies providing data on 1610 women and their babies (Biem 2003; Policiano 2017; Ryan 1998; Sciscione 2001; Wilkinson 2015 - OPRA; Wilkinson 2015a - COPRA). Two studies were published as a conference abstracts only (Mohamad 2018; Ryan 1998).

Two studies used vaginal prostaglandin (PGE2) induction (Ryan 1998; Wilkinson 2015 - OPRA), one study used controlled-release vaginal prostaglandin (Biem 2003), and four studies used balloon or Foley catheters for induction (Mohamad 2018; Policiano 2017; Sciscione 2001; Wilkinson 2015a - COPRA).

Two studies were undertaken in Canada (Biem 2003; Ryan 1998); two in Australia (Wilkinson 2015 - OPRA; Wilkinson 2015a - COPRA); and one study each in the USA (Sciscione 2001), Malaysia (Mohamad 2018), and Portugal (Policiano 2017). See Characteristics of included studies.

Six of the seven studies reported studies taking place between 1998 and 2015 and the duration was about 12 to 18 months. One

study did not report on the dates of the study (Ryan 1998). See Characteristics of included studies.

Three studies reported the source of their funding (Biem 2003; Wilkinson 2015 - OPRA; Wilkinson 2015a - COPRA), and all three studies were funded through grants from funding bodies and none reported commercial funding. One study reported having no funding (Policiano 2017); three studies did not report on funding sources (Mohamad 2018; Ryan 1998; Sciscione 2001).

Three studies reported no conflict of interest (Policiano 2017; Wilkinson 2015 - OPRA; Wilkinson 2015a - COPRA). Four studies did not mention conflict of interest (Biem 2003; Mohamad 2018; Ryan 1998; Sciscione 2001).

The interventions examined in the seven studies all involved induction and initial monitoring in hospital, with subsequent discharge home to await the start of labour or for a fixed period of time for women in the home induction group. The comparators were all with induction, labour and birth in hospital.

Excluded studies

Eight studies were excluded from the review. Seven studies were excluded because they compared two different methods of induction of labour between home and inpatient settings (Austin 2015; Beckmann 2020; Henry 2011; Kuper 2018; Rijnders 2011; Torbenson 2015; Wise 2020). One study was excluded because it compared vaginal misoprostol versus placebo and all women went home after the induction (PonMalar 2017).

Risk of bias in included studies

See Figure 2 and Figure 3 for a summary of 'Risk of bias' assessments.

Figure 2. 'Risk of bias' graph: review authors' judgements about each risk of bias item presented as percentages across all included studies.

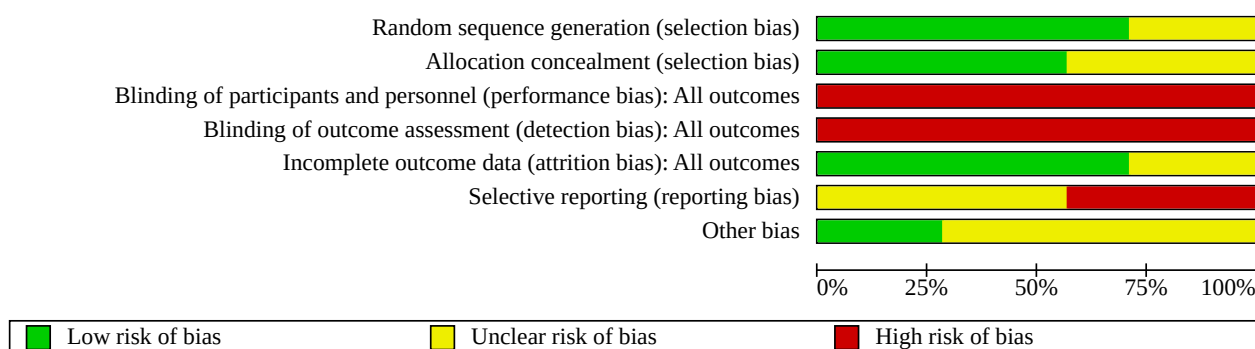


Figure 3. 'Risk of bias' summary: review authors' judgements about each risk of bias item for each included study.

	Random sequence generation (selection bias)	Allocation concealment (selection bias)	Blinding of participants and personnel (performance bias): All outcomes	Blinding of outcome assessment (detection bias): All outcomes	Incomplete outcome data (attrition bias): All outcomes	Selective reporting (reporting bias)	Other bias
Biem 2003							
Mohamad 2018							
Policiano 2017							
Ryan 1998							
Sciscione 2001							
Wilkinson 2015a - COPRA							
Wilkinson 2015 - OPRA							

Allocation

Four studies were low risk of bias for both sequence generation and allocation concealment (Biem 2003; Policiano 2017; Wilkinson 2015 - OPRA; Wilkinson 2015a - COPRA). One study was low risk of bias for sequence generation but unclear for allocation concealment (Sciscione 2001). Two studies were unclear risk of bias for both sequence generation and allocation concealment (Mohamad 2018; Ryan 1998). See [Characteristics of included studies](#).

Blinding

With interventions where management in different settings are compared, it is not feasible to blind study participants to group allocation, and in the seven included studies blinding of the outcome assessors was not reported and as this would take considerable effort. We have taken this to mean these studies were also high risk of bias in outcome assessments. The lack of blinding introduces the potential for bias in the subjective outcomes in these trials and this should be kept in mind when interpreting the results. See [Characteristics of included studies](#).

Incomplete outcome data

Five studies were low risk of attrition bias (Biem 2003; Policiano 2017; Sciscione 2001; Wilkinson 2015 - OPRA; Wilkinson 2015a - COPRA). Two studies were unclear on this assessment (Mohamad 2018; Ryan 1998). See [Characteristics of included studies](#).

Selective reporting

We judged none of the studies to be low risk of selective reporting bias. We assessed four studies to be of unclear risk (Biem 2003; Mohamad 2018; Ryan 1998; Sciscione 2001), and three studies to be high risk of selective reporting bias as there were outcomes reported which were not listed in the methods and also incomplete reporting of some outcomes (Policiano 2017; Wilkinson 2015 - OPRA; Wilkinson 2015a - COPRA). See [Characteristics of included studies](#).

Other potential sources of bias

We assessed two studies as low risk of other biases (Biem 2003; Wilkinson 2015a - COPRA), and five studies as unclear (Mohamad 2018; Policiano 2017; Ryan 1998; Sciscione 2001; Wilkinson 2015 - OPRA).

Effects of interventions

See: [Summary of findings 1](#) Home compared to inpatient induction with vaginal PGE for improving birth outcomes; [Summary of findings 2](#) Home compared to inpatient induction with controlled release PGE for improving birth outcomes; [Summary of findings 3](#) Home compared to inpatient induction with balloon or Foley catheter for improving birth outcomes

We have kept the data on home induction compared with inpatient induction separate for the different methods of induction of labour, including keeping separate prostaglandin E (PGE) and controlled-release prostaglandin E (CR-PGE) as CR-PGE can be removed in case of complications where standard PGE cannot be removed once inserted (Lyrenas 2001).

1. Home versus inpatient induction with vaginal PGE (two studies 1028 women and their babies)

Two studies involving 1028 women and babies (1022 providing data) addressed this question (Ryan 1998; Wilkinson 2015 - OPRA). The studies were undertaken in Canada (Ryan 1998) and Australia (Wilkinson 2015 - OPRA).

Both studies used prostaglandin E2 (PGE2) for induction in the two settings. In one study, women allocated to home induction were able to go home after a satisfactory 40-minute electronic fetal monitoring (EFM) trace. They were to return for reassessment in the morning or earlier if labour commenced, or if they had concerns. If a second dose of prostaglandins was required in the morning, these women were given the option of going home again. Women allocated to inpatient induction were admitted to the labour ward in the evening for induction, had EFM and were encouraged to rest overnight and reassessment was planned for the morning unless labour commenced beforehand. Nulliparous women received 2 mg of PGE2, and parous women 1 mg of PGE2 in accordance with South Australia Perinatal Guidelines (Wilkinson 2015 - OPRA). The other study was a conference abstract and gave no detail of the intervention (Ryan 1998). See [Characteristics of included studies](#).

Both studies were assessed as high risk of bias for blinding. One study was low risk for selection bias and incomplete outcome data (Wilkinson 2015 - OPRA), while the other study was unclear on both these aspects (Ryan 1998). One study was assessed as high risk for selective reporting bias and also 48% of women did not receive induction of labour as most went into spontaneous labour (Wilkinson 2015 - OPRA). See [Figure 3](#); [Characteristics of included studies](#).

Primary outcomes

Overall, we assessed the evidence to be of very low-certainty.

Compared with induction in inpatient settings, we found home induction with vaginal PGE2 may lead to slightly better satisfaction with care for women, but the data are also compatible with no difference or slightly less satisfaction (mean difference (MD) 0.16, 95% confidence interval (CI) -0.02 to 0.34, 1 study, 399 women, [Analysis 1.7](#)). The certainty of the evidence was very low, downgraded for high risk of blinding bias, high protocol deviation, serious imprecision and lack of generalisability ([Summary of findings 1](#)).

We found evidence of little or no difference between home induction and inpatient induction of labour with vaginal PGE2 for the following primary outcomes:

- spontaneous vaginal birth: average risk ratio (RR) [aRR] 0.91, 95% (CI) 0.69 to 1.21, 2 studies, 1022 women, random effects ([Analysis 1.1](#)). There was evidence of considerable heterogeneity ($\text{Tau}^2 = 0.03$; $\text{Chi}^2 = 4.31$, $\text{df} = 1$ ($P = 0.04$); I^2 77%). The certainty of the evidence was very low, downgraded for high risk of blinding bias, high protocol deviation and considerable heterogeneity ([Summary of findings 1](#)).
- uterine hyperstimulation: RR 1.19, 95% CI 0.40 to 3.50, 1 study, 821 women ([Analysis 1.2](#)). The certainty of the evidence was very low, downgraded for high risk of blinding bias, high protocol deviation and very serious imprecision ([Summary of findings 1](#)).
- caesarean birth: RR 1.01, 95% CI 0.81 to 1.28, 2 studies, 1022 women ([Analysis 1.3](#)). Certainty of the evidence was very

low, downgraded for high risk of blinding bias, high protocol deviation and serious imprecision ([Summary of findings 1](#)).

- neonatal infection: RR 1.29, 95% CI 0.59 to 2.82, 1 study, 821 babies ([Analysis 1.4](#)). Certainty of the evidence was very low, downgraded for high risk of blinding bias, high protocol deviation and very serious imprecision ([Summary of findings 1](#)).
- admission to neonatal intensive care unit (NICU): RR 1.20, 95% CI 0.50 to 2.90, 2 studies, 1022 babies ([Analysis 1.5](#)). Certainty of the evidence was very low, downgraded for high risk of blinding bias, unclear selection bias, high protocol deviation and very serious imprecision ([Summary of findings 1](#)).
- serious neonatal morbidity or perinatal mortality: neither study assessed this outcome.

Subgroup analyses: it was not possible to undertake subgroup analyses for parity and indication for induction as neither study reported on these. For membrane status and cervical status, [Wilkinson 2015 - OPRA](#) included only women with intact membranes and an unfavourable cervix, whilst [Ryan 1998](#) did not report on either of these aspects, hence the data are not mutually exclusive (Comparison 4; Comparison 5).

Sensitivity analyses: there were insufficient data to undertake sensitivity analyses.

Secondary outcomes

The certainty of the evidence for the secondary outcomes varied from low to very low.

Measures of effectiveness and satisfaction

Compared with inpatient induction, home induction with vaginal PGE2 may slightly improve a woman's sense of control, but the data are also compatible with no difference (MD 0.13, 95% CI 0.00 to 0.26, 1 study, 615 women, low-certainty evidence, [Analysis 1.13](#)).

Compared with inpatient setting, the home setting may make little or no difference to:

- the number of women receiving oxytocin administration: RR 1.01, 95% CI 0.90 to 1.15, 2 studies, 1022 women, low-certainty evidence ([Analysis 1.8](#));
- number of women having spinal analgesia: RR 1.01, 95% CI 0.93 to 1.10, 2 studies, 1022 women, low-certainty evidence ([Analysis 1.10](#)).

We found the evidence was very uncertain for the following outcomes:

- opioid analgesia: RR 1.50, 95% CI 1.22 to 1.85, 1 study, 821 women, very low-certainty evidence ([Analysis 1.11](#));
- no pharmacological analgesia: RR 1.07, 95% CI 0.71 to 1.61, 1 study, 821 babies, very low-certainty evidence ([Analysis 1.12](#));
- length of hospital stay (in days): MD 0.00, 95% CI -0.18 to 0.19, 2 studies, 1022 women, low-certainty evidence ([Analysis 1.16](#)).

Neither study assessed the following effectiveness outcomes: pain (self-assessment); need for more than one induction agent; time from induction to birth; use of emergency services.

Complications for the baby

We found no clear difference between home induction and inpatient induction of labour with PGE for the following complications for the baby:

- Apgar score less than seven at five minutes: RR 1.34, 95% CI 0.59 to 3.02, 2 studies, 1022 infants, very low-certainty evidence ([Analysis 1.18](#));
- for perinatal mortality, there was one event (in the home group) reported in the 821 babies in one of the studies ([Wilkinson 2015 - OPRA](#), [Analysis 1.21](#)).

Neither study assessed the following complications for the baby: meconium aspiration; need for respiratory support.

Complications for the mother

We found no clear difference between home induction and inpatient induction of labour with vaginal PGE2 for the following maternal complications:

- instrumental vaginal birth: aRR 1.22, 95% CI 0.67 to 2.22, 2 studies, 1022 women, random-effects analysis, very low-certainty evidence ([Analysis 1.22](#));
- postpartum haemorrhage (PPH) (≥ 500 mL or as defined by trialists): RR 1.10, 95% CI 0.76 to 1.58, 1 study, 821 women, very low-certainty evidence ([Analysis 1.24](#)).

Neither study assessed the following maternal complication outcomes: uterine scar dehiscence/rupture: hysterectomy: maternal infection: serious maternal morbidity or mortality: postnatal depression: long-term operative pelvic floor repair.

Additional outcomes

Economic aspects as defined by trialists

One study undertook a cost-analysis looking at the key drivers of length of time in hospital and professional care provided as the trial demonstrated comparable clinical outcomes between home and inpatient induction of labour ([Adelson 2013](#) part of [Wilkinson 2015 - OPRA](#)). They identified a cost saving for women randomised to home induction of \$319 per woman (95% CI \$104 to \$742) compared with women randomised to inpatient induction, and for women actually receiving the intervention the cost saving was \$433 per woman (95% CI \$282 to \$1148). In addition, the savings were partly offset by the cost of an outpatient priming clinic, then showing a saving of \$156 per woman.

The authors of the other study reported a cost saving for outpatients were \$585 per women, however there is no information in the conference abstract on the methodology of this calculation ([Ryan 1998](#)).

Qualitative study on women's experiences

One study undertook qualitative research on women's experiences during the study ([Wilkinson 2015 - OPRA](#)). They undertook a seven-week postnatal questionnaire with a 76% response rate in both groups. The questionnaire on satisfaction and experiences was adapted from a validated seven-week postnatal questionnaire ([Turnbull 1996](#)), and a thematic analysis of interviews of women who had experience of induction ([Oster 2011](#) part of [Wilkinson 2015 - OPRA](#)). There were small differences between the two groups for seven of the nine subscales with more favourable scores for women

allocated to home settings than for those allocated to inpatient settings. They reported no real difference between the two groups for postpartum depression or infant feeding. There was no increase in anxiety in the outpatient group (Turnbull 2013 part of [Wilkinson 2015 - OPRA](#)).

The authors of the other study reported that outpatients were more satisfied with their childbirth experience - but again, no information in this conference abstract on the methodology used to assess this ([Ryan 1998](#)).

2. Home versus inpatient induction with controlled release PGE (one study, 300 women and their babies)

One study, undertaken in Canada, involving 300 women and their babies (299 providing data) addressed this issue ([Biem 2003](#)). Women received 10 mg controlled-release PGE2 (CR-PGE2), and were monitored in the antenatal ward for one hour prior to discharge home for the women in the home induction group. These women returned when in labour or within 12 hours. After 24 hours, if they were not in labour, they returned to hospital for induction of labour as an inpatient. Women were in telephone contact with a nurse every four hours and were given detailed instructions on seeking help if required. They were asked to remain within easy travelling distance of the hospital.

The study was low risk for selection bias, incomplete outcome data and other biases, high risk for blinding and unclear on selective reporting ([Figure 3](#)).

Primary outcomes

Overall, we assessed the evidence to be of very low-certainty.

We found little or no difference between home induction and inpatient induction of labour with CR-PGE2 for the following primary outcomes:

- spontaneous vaginal births: RR 0.94, 95% CI 0.77 to 1.14, 1 study, 299 women ([Analysis 2.1](#)). Certainty of the evidence was very low, downgraded for high risk of blinding bias, very serious imprecision and lack of generalisability ([Summary of findings 2](#)).
- uterine hyperstimulation: RR 1.01, 95% CI 0.51 to 1.98, 1 study, 299 women, ([Analysis 2.2](#)). Certainty of the evidence was very low, downgraded for high risk of blinding bias, very serious imprecision and lack of generalisability ([Summary of findings 2](#)).
- caesarean birth: RR 0.95, 95% CI 0.64 to 1.42, 1 study, 299 women ([Analysis 2.3](#)). Certainty of the evidence was very low, downgraded for high risk of blinding bias, very serious imprecision and lack of generalisability ([Summary of findings 2](#)).
- neonatal infection. The study did not assess this outcome.
- admission to NICU: RR 1.38, 95% CI 0.57 to 3.34, 1 study, 299 babies ([Analysis 2.5](#)). Certainty of the evidence was very low, downgraded for high risk of blinding bias, very serious imprecision and lack of generalisability ([Summary of findings 2](#)).
- serious neonatal morbidity or mortality. The study did not assess this outcome.

For women's experiences/satisfaction with care, it is unclear if the questionnaire was validated

Subgroup analyses: these were not feasible as there was only one study in this comparison.

Sensitivity analyses: there were insufficient data to undertake sensitivity analyses.

Secondary outcomes

The certainty of the evidence for the secondary outcomes varied from low to very low.

Measures of effectiveness and satisfaction

We found little or no difference between home induction and inpatient induction of labour with controlled-release PGE for the following measures of effectiveness:

- oxytocin administration: RR 0.76, 95% CI 0.46 to 1.27, 1 study, 299 women, very low-certainty evidence ([Analysis 2.8](#));
- pain - self-assessment: MD -0.10, 95% CI -0.42 to 0.22, 1 study, 299 women, very low-certainty evidence ([Analysis 2.9](#));
- spinal analgesia: RR 1.02, 95% CI 0.91 to 1.16, 1 study, 299 women, very low-certainty evidence ([Analysis 2.10](#)).

The study did not assess: opioid analgesia; no pharmacological analgesia; woman's sense of control; need for more than one induction agent; time from induction to birth; length of hospital stay; use of emergency services.

Complications for the baby

The study did not assess any of our outcomes on complications for the baby, namely: Apgar score less than seven at five minutes; meconium aspiration; need for respiratory support; perinatal mortality.

Complications for the mother

We found little or no difference between home induction and inpatient induction of labour with controlled-release PGE for the following maternal complications:

- instrumental vaginal birth: RR 1.34, 95% CI 0.83 to 2.17, 1 study, 299 women, very low-certainty evidence ([Analysis 2.22](#)).

The study did not assess: uterine scar dehiscence/rupture; PPH (≥ 500 mL or as defined by trialists); hysterectomy; maternal infection; serious maternal morbidity or mortality; postnatal depression; long-term operative pelvic floor repair.

Additional outcomes

Economic aspects as defined by trialists

The study did not assess economic aspects.

Qualitative study on women's experiences

The study did undertake qualitative assessment of women's experiences and satisfaction with care, but it seems their questionnaire was not a validated instrument. They found no difference in the overall mean score of women's satisfaction although more women in the home induction group rated their satisfaction as high. Pain in the initial 12 hours and anxiety were similar ([Biem 2003](#)).

3. Home versus inpatient induction with balloon or Foley catheter (four studies; three studies, 289 women and their babies provided data)

We identified four studies involving 349 women and their babies addressing this issue, although one study provided no data (Mohamad 2018), hence three studies involving 289 women and their babies provided data (Policiano 2017; Sciscione 2001; Wilkinson 2015a - COPRA). Three of the studies used a single balloon Foley catheter (Mohamad 2018; Policiano 2017; Sciscione 2001), and one study used a double balloon catheter (Wilkinson 2015a - COPRA).

In all three studies, women in the home induction group only went home following the insertion of the catheter after a reassuring cardiotocogram (CTG) trace. They were given written instructions on when to return to hospital. In Wilkinson 2015a - COPRA; women who had not started in labour by the following morning were given further induction of labour with amniotomy and oxytocin infusion on returning to hospital.

All four studies were high risk of blinding bias. Two studies were low risk of selection bias (Policiano 2017; Wilkinson 2015a - COPRA), one was low risk for sequence generation and unclear for allocation concealment (Sciscione 2001), and the other study (which provided no data) was unclear for both (Mohamad 2018). Three studies were low risk on incomplete outcome data (Policiano 2017; Sciscione 2001; Wilkinson 2015a - COPRA), and one was unclear (Mohamad 2018). Two studies were high risk for selective reporting bias (Policiano 2017; Wilkinson 2015a - COPRA), and two were unclear (Mohamad 2018; Sciscione 2001). One study was low risk for other biases (Wilkinson 2015a - COPRA), and the others were unclear (Policiano 2017; Mohamad 2018; Sciscione 2001). See Figure 3.

Primary outcomes

Overall, we assessed the evidence to be of very low certainty.

One study reported on women's satisfaction with their care comparing home induction or inpatient induction but the questionnaire seemed to be not a validated instrument (Wilkinson 2015a - COPRA).

Compared with inpatient induction, home inductions with balloon or Foley catheter may:

- reduce the number of caesarean births but the evidence is very uncertain and the data are also compatible with a slight increase (RR 0.64, 95% CI 0.41 to 1.01, 2 studies, 159 women, Analysis 3.3). Certainty of the evidence was very low, downgraded for high risk of blinding bias, unclear allocation concealment for 86% of data and serious imprecision (Summary of findings 3).

Compared with inpatient induction, the evidence is very uncertain regarding the effect of home inductions with balloon or Foley catheter on the following primary outcomes:

- spontaneous vaginal birth: RR 1.04, 95% CI 0.54 to 1.98, 1 study, 48 women (Analysis 3.1). Certainty of the evidence was very low, downgraded for high risk of blinding bias, very serious imprecision and lack of generalisability (Summary of findings 3).
- uterine hyperstimulation: RR 0.45, 95% CI 0.03 to 6.79, 1 study, 48 women (Analysis 3.2). Certainty of the evidence was very

low, downgraded for high risk of blinding bias, very serious imprecision and lack of generalisability (Summary of findings 3).

- neonatal infection: one study assessed this outcome but found no infections (Analysis 3.4).
- admission to NICU: RR 0.37, 95% CI 0.07 to 1.86, 2 studies, 159 babies (Analysis 3.5). Certainty of the evidence was very low, downgraded for high risk of blinding bias, unclear allocation concealment for 86% of data and very serious imprecision (Summary of findings 3).
- serious neonatal morbidity or mortality, one study assessed this outcome but found no serious neonatal morbidity nor mortality (Analysis 3.6).

Subgroup analyses: it was not possible to undertake any subgroup analyses as all the studies fell into the same subgroup. For parity, the studies included mixed parity; for membrane status all the studies included only women with intact membranes; for cervical status all studies only included women with an unfavourable cervix; and for indication for induction none of the studies reported on this.

Sensitivity analyses: there were insufficient data to undertake sensitivity analyses.

Secondary outcomes

The certainty of the evidence for the secondary outcomes varied from low to very low.

Measures of effectiveness and satisfaction

Compared with inpatient induction, home induction of labour with balloon or Foley catheter may:

- reduce oxytocin administration: RR 0.75, 95% CI 0.57 to 0.97, 1 study, 48 women, very low-certainty evidence (Analysis 3.8).
- increase pain as assessed by women (MD 0.90, 95% CI 0.02 to 1.78, 1 study, 111 women, very low-certainty evidence, Analysis 3.9).
- reduce the time from induction to birth (in hours) (MD -3.51, 95% CI -6.32 to -0.69, 3 studies, 289 women, low-certainty evidence, Analysis 3.15).
- slightly reduce the length of hospital stay (in days) (MD -0.50, 95% CI -0.71 to -0.30), 2 studies, 178 women, low-certainty evidence (Analysis 3.16).

Compared with inpatient induction, home induction of labour with Foley catheter may make little or no difference to the following measures of effectiveness:

- spinal analgesia: RR 0.99, 95% CI 0.91 to 1.09, 2 studies, 159 women, low-certainty evidence (Analysis 3.10).
- need for more than one induction agent: RR 1.08, 95% CI 0.82 to 1.41, 1 study, 130 women, very low-certainty evidence (Analysis 3.14).

None of the studies assessed: opioid analgesia; no pharmacological analgesia; woman's sense of control; use of emergency services.

Complications for the baby

Compared with inpatient induction, home induction with balloon or Foley catheter may make little or no difference to the following measures of complications for the baby:

- Apgar score less than seven at five minutes: RR 2.35, 95% CI 0.12 to 46.22, 1 study, 48 babies, very low certainty evidence ([Analysis 3.18](#));
- meconium aspiration: RR 1.41, 95% CI 0.06 to 32.78, 1 study, 48 babies, very low certainty evidence ([Analysis 3.19](#));
- need for respiratory support: RR 1.41, 95% CI 0.06 to 32.78, 1 study, 48 babies, very low certainty evidence ([Analysis 3.20](#));
- perinatal mortality: 2 studies reported this outcome and neither had any perinatal mortality ([Analysis 3.21](#)).

Complications for the mother

The evidence is very uncertain about the effect of home induction with a catheter the following maternal complications:

- instrumental vaginal birth: RR 1.67, 95% CI 0.54 to 5.11, 1 study, 48 women, very low-certainty evidence ([Analysis 3.22](#));
- maternal infection: one study assessed this outcome but found no maternal infection ([Analysis 3.26](#));
- serious maternal morbidity or mortality: one study assessed this outcome but found no events ([Analysis 3.27](#)).

None of the studies assessed the following: uterine scar dehiscence/rupture; PPH (≥ 500 mL or as defined by trialists); hysterectomy; postnatal depression; long-term operative pelvic floor repair

Additional outcomes

Economic aspects as defined by trialists

None of the studies assessed economic aspects as defined by trialists.

Qualitative study on women's experiences

One study used a four-week postnatal questionnaire similar to, but not the same as, the validated instrument used in the OPRA trial ([Wilkinson 2015 - OPRA](#)) and found more women in the home induction group reported being physically uncomfortable while waiting for labour after balloon insertion (68% versus 36%), although 91% both groups reported being satisfied with care. They also found women in the home induction group were less likely to report feeling isolated and reported a higher sense of privacy (Turnbull 2014 part of [Wilkinson 2015a - COPRA](#)).

A conference abstract reported women in the home induction group fewer felt emotionally alone, more were able to rest and relax compared to the inpatient group although no mention is made of whether they used a validated measure ([Mohamad 2018](#)).

DISCUSSION

Summary of main results

There are limited data currently available to compare the efficacy and safety of home versus inpatient induction of labour. Of the seven studies identified, we found six providing data on 1610 women and babies. Two studies used vaginal PGE2 preparation for induction ([Ryan 1998](#); [Wilkinson 2015 - OPRA](#)). One study used controlled-release PGE2 ([Biem 2003](#)). Four studies used a catheter for induction, with three of these studies providing data, two of the studies using the Foley catheter ([Policiano 2017](#); [Sciscione 2001](#)) and one using the double balloon catheter ([Wilkinson 2015a](#)).

- [COPRA](#))). Overall, the certainty of the evidence was generally very low with all studies at high risk of blinding bias.

1) Home versus inpatient induction with vaginal PGE

Two studies provided data on 1022 women and their babies. Women may have rated their satisfaction with care slightly higher in the home induction group in the one study assessing this outcome ([Wilkinson 2015 - OPRA](#)), but the findings were also compatible with no difference or women slightly less satisfied (very low-certainty evidence). Again, in this one study ([Wilkinson 2015 - OPRA](#)) more women probably felt a better sense of control in the outpatient group, but the finding was also compatible with no difference (very-low certainty of evidence). There may be more women in the home group using opioid analgesia, but the true effect may be substantially different (very low-certainty evidence).

On the other outcomes assessed, there was little or no difference between home induction and inpatient induction of labour, but we have little confidence in these effect estimates, all of which are very low-certainty evidence.

2) Home versus inpatient induction with controlled-release PGE

The one study (providing data on 299 women and their babies) compared home versus inpatient induction with controlled-release PGE ([Biem 2003](#)). This study may have identified more women with high satisfaction, but their questionnaire was not reported as a validated instrument. All other outcomes assessed showed little or no difference between the two settings, but again the true effect may be substantially different as all outcome assessments were of very low certainty of evidence.

3) Home versus inpatient induction with Foley catheter

We found four studies addressing this question, with only three providing data (involving 289 women and their babies) ([Policiano 2017](#); [Sciscione 2001](#); [Wilkinson 2015a - COPRA](#)). The certainty of the evidence was generally very low. The qualitative evidence may suggest that women in the outpatient group may be less likely to feel isolated but more may feel uncomfortable whilst awaiting labour, however, it is not clear if the questionnaire was a validated instrument. For other outcomes, we found that compared with inpatient induction, home induction of labour may reduce the time from induction to birth and may slightly reduce the length of hospital stay (low-certainty evidence). The home birth may also slightly increase the pain as assessed by women (very low-certainty evidence),

Over the three comparisons, only two studies reported information on cost, both studies using vaginal prostaglandins for induction. One study reported a detailed cost-analysis and concluded there was not a meaningful difference in cost between the settings although there was a trend in favour of home induction providing some cost saving (Adelson 2013 - part of [Wilkinson 2015 - OPRA](#)). The other study (a conference abstract) provided no methodology on how the assessment was made but reported cost savings for home induction ([Ryan 1998](#)).

Overall completeness and applicability of evidence

The outcomes chosen for the review update now include 20 outcomes recommended as core outcomes for assessment in studies on induction of labour ([Dos Santos 2018](#)). Other outcomes

chosen reflect the evidence from the systematic review on women's experiences of induction of labour (Coates 2019).

The studies included in the review did not have enough power to detect clinically important differences between the randomised groups for most outcomes, and more information is required to assess the effectiveness and safety of methods of induction of labour comparing home and inpatient settings. In one of the included trials, three women experienced serious labour complications, and the author of this study calls for larger studies in different settings "to compare the frequency of uncommon adverse events in labour and delivery" (Biem 2003).

Interpreting some of the results from the included studies was not simple. Outcome data using time intervals when examining induction of labour are often complicated. There are a variety of start and end points used which makes comparing findings from studies difficult.

As women's convenience and labour experience is often cited as a reason for home inductions, it is surprising that there is so little information on this. Two studies collected information on maternal satisfaction from women in both arms of the trial (Biem 2003; Wilkinson 2015 - OPRA). One study looked at maternal anxiety, and this may be useful additional outcome for future updates (Biem 2003). One study states that the women's preference and satisfaction were assessed but the results were not reported or published (Mohamad 2018). Wilkinson 2015a - COPRA undertook a four-week questionnaire on various aspects of women's views and reported on women's feeling of isolation, noisy surroundings, getting a good nights sleep, however, it appeared the questionnaire may not have been a validated instrument, so their overall assessment of satisfaction did not provide a score to include in this review, but they found women equally satisfied in both groups.

Cost savings are also frequently mentioned as a reason for providing less inpatient care. Again, although three studies provided some information on length of hospital stay, this did not easily translate into cost data. Without a full breakdown of health service utilisation, it is not possible to impute costs.

The included studies had strict eligibility criteria and it is likely that home induction is only suitable for selected groups of women. The criteria cited within these studies reflect suitable 'low-risk' groups.

There are nine ongoing studies assessing induction of labour in the two settings. We will aim to update this review when further data are available.

Quality of the evidence

The included trials were of very low or low quality/certainty of the evidence, with all the outcomes chosen for GRADE assessment being of very low certainty. There was limited information regarding randomisation and/or concealment in three of the seven included studies, and ideally, these processes should be explicit to avoid the introduction of bias. When comparing the same intervention within two settings, it is not possible to blind women to the actual method of induction of labour, but where possible, researchers assessing outcomes should be blinded to the setting and the authors of the included studies did not provide any information on this.

Grade assessments show generally very low certainty of evidence, with downgrading mostly for high risk of bias and serious or very serious imprecision.

All of the studies were underpowered for the outcomes assessed. One trial recruited a significant number of women at the point of randomisation, however, only about half of the total number who entered the study received the intervention; most women going into spontaneous labour following randomisation and not requiring induction (Wilkinson 2015 - OPRA). It is unclear how this may have affected the overall quality of this study and the results of this study should, therefore, be interpreted with caution. In their next study on this topic (Wilkinson 2015a - COPRA), these authors randomised women after the induction catheter was inserted, so inevitably all women had induction of labour.

Potential biases in the review process

We are aware of potential biases in the review process which we have tried to minimise. Our methodology included having two people who identified the studies to include or exclude, and to do data extraction, including the assessments of risk of bias. For the GRADE assessments of certainty of the evidence, assessments were checked by another author. These are inevitably subjective assessments and so at risk of bias. There were insufficient data to enable us to undertake sensitivity analyses but with a number of ongoing studies this may be possible in a future update. It was not possible to blind clinicians nor women in any of these studies, and none of the studies reported attempting to blind outcome assessors, this inevitably reduces the certainty of the evidence.

Agreements and disagreements with other studies or reviews

A systematic review and meta-analysis published in June 2020 asked a similar question as this review, but chose some differing aspects of methodology (Dong 2020). Both reviews included only randomised controlled trials and women ≥ 37 weeks gestation. However, in order to answer the question of whether outcomes are different in two settings, we included only studies that used same method of induction of labour in both settings. Dong 2020 chose to include studies even if both setting and induction methods were different, and chose to exclude conference abstracts. In addition, we assessed the different methods of induction in separate comparisons, whilst Dong 2020 pooled all the studies then undertook, where possible, subgroup analyses by the method of induction. Overall, both reviews had similar findings, with no notable differences in outcomes between the groups, although we are more cautious regarding the robustness of safety data.

AUTHORS' CONCLUSIONS

Implications for practice

This review highlights the small volume of available evidence relating to home induction versus inpatient induction of labour. Conclusions regarding the efficacy, safety and cost-effectiveness of home inductions cannot be drawn from the available evidence.

Implications for research

Further studies are required to assess both efficacy and the potential hazards of initiating labour in and away from a hospital setting, and researchers are guided to consider the use of outcomes

similar to those developed within this review. We acknowledge that the data on safety, given the rarity of serious adverse events like intrapartum death, serious brain injury and uterine rupture, are unlikely to come from randomised evidence. For this, large prospective cohort, studies will be needed. It is very important for future research to include more evidence on women's experiences and satisfaction both through qualitative studies using validated instruments alongside the trials as well as including more outcomes important to women.

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* Indicates the major publication for the study

CHARACTERISTICS OF STUDIES

Characteristics of included studies [ordered by study ID]

Biem 2003

Study characteristics

Methods	RCT
Participants	<p>Inclusion criteria.</p> <ul style="list-style-type: none"> • Singleton, term pregnancy (> 37 weeks), cephalic presentation, intact membranes, Bishop's score 6 or less, parity 5 or less, unscarred uterus, normal nonstress test, reliable transportation from home • 300 women randomised (1 woman withdrew), so analysis on 299 women. <p>Exclusion criteria</p> <ul style="list-style-type: none"> • Congenital anomaly, dead fetus, IUGR, hypertension, abnormal placenta, poly- or oligohydramnios.
Interventions	<p>Intervention: home IOL with vaginally controlled release PGE2</p> <ul style="list-style-type: none"> • 10 mg CR-PGE2 then monitored in the antenatal ward for 1 hour • After initial monitoring women were discharged home to return when in labour or were reviewed after 12 hours (nonstress test) • If they were not in labour 24 hours later they returned to hospital for IOL as an inpatient. Women were in telephone contact with a nurse every 4 hours and were given detailed instructions on when to seek help. They were asked to remain within easy travelling distance of the hospital • Total number randomised to this group: N = 150 <p>Comparator: inpatient IOL with vaginally controlled release PGE2</p> <ul style="list-style-type: none"> • 10 mg CR-PGE2 then monitored in the antenatal ward for 1 hour • Women remained on the antenatal ward throughout and managed in a similar way to the outpatient group • Total number randomised to this group: N = 150 <p>Comparison and subgroups</p> <ul style="list-style-type: none"> • Comparison 2: IOL with CR-PGE2 • Subgroup by parity: S3 mixed • Subgroup by membrane status: S1 intact • Subgroup by cervical status: S1 unfavourable • Subgroup by indication for induction: S3 mixed
Outcomes	Satisfaction with care, length of hospital stay, length of labour, mode of delivery, labour interventions, maternal, fetal and neonatal complications.
Notes	<p>Trial setting: Royal University Hospital, a tertiary care obstetrical centre in Saskatoon, Saskatchewan, Canada.</p> <p>Trial dates: July 1999 to September 2001</p>

Biem 2003 (Continued)

Sources of trial funding: the study was supported by a Clinical Teaching and Research Grant from University of Saskatchewan, and an unrestricted research grant from Ferring Inc. Toronto, Canada. Dr R Tuffnell was supported by the 2000-2001 Medical Education Fellowship of the Royal College of Physicians and Surgeons of Canada, and Dr J Biem was supported by a Canadian Institutes of Health Research regional partnership award.

Trial authors' declarations of interest: not mentioned in trial report

Additional information

- Reported on women's satisfaction, pain and anxiety.

Risk of bias

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	Quote: "...computer-generated table of random numbers..."
Allocation concealment (selection bias)	Low risk	Quote: "...sequential sealed opaque envelopes...opened immediately after the insertion of the CR-PGE2."
Blinding of participants and personnel (performance bias) All outcomes	High risk	It is not possible to blind clinicians nor women to the location, and this may have influenced subjective outcomes although not objective outcomes.
Blinding of outcome assessment (detection bias) All outcomes	High risk	Not reported but outcome assessors/clinicians most probably not blinded
Incomplete outcome data (attrition bias) All outcomes	Low risk	Only 1 woman withdrew from the study after randomisation.
Selective reporting (reporting bias)	Unclear risk	Outcomes listed in methods section are reported on in the results. However, we have not assessed the trial protocol.
Other bias	Low risk	None apparent. No baseline imbalance apparent.

Mohamad 2018

Study characteristics

Methods	RCT
Participants	<p>Inclusion criteria</p> <ul style="list-style-type: none"> Women with low-risk pregnancies. 60 women randomised but no data for inclusion. <p>Exclusion criteria</p> <ul style="list-style-type: none"> Not reported.
Interventions	Intervention: home IOL with transcervical Foley catheter

Mohamad 2018 (Continued)

- Women discharged after Foley catheter. Reassuring CT and written information on when to return to hospital.
- Total number randomised to this group: N = not reported

Comparator: inpatient IOL with transcervical Foley catheter

- Women admitted to ward after Foley catheter and left toll morning
- Total number randomised to this group: N = not reported

Comparison and subgroups

- Comparison 3, IOL with balloon or Foley catheter, but no data for inclusion
- Subgroup by parity: S3 - not reported
- Subgroup by membrane status: S3 - not reported
- Subgroup by cervical status: S3 - not reported
- Subgroup by indication for induction: S3 - not reported

Outcomes	As reported in Results: oxytocin use, duration from amniotomy to birth, mode of birth, birth within 24 hours of induction, maternal and neonatal outcomes. The labour, maternal and fetal outcomes with women's satisfaction survey were analysed after birth
Notes	<p>Setting: no information but authors from Universiti Kebangsaan, Malaysia Medical Centre, Malaysia</p> <p>Trial dates: August 2017 – May 2018</p> <p>Sources of trial funding: not mentioned in the conference abstract</p> <p>Trial authors' declarations of interest: not mentioned in the conference abstract</p> <p>Additional information</p> <ul style="list-style-type: none"> • Conference abstract only. • included women's satisfaction.

Risk of bias

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	No information
Allocation concealment (selection bias)	Unclear risk	No information
Blinding of participants and personnel (performance bias) All outcomes	High risk	It is not possible to blind clinicians nor women to the location, and this may have influenced subjective outcomes although not objective outcomes.
Blinding of outcome assessment (detection bias) All outcomes	High risk	No information provided, but the clinical outcomes are assessed in labour ward so cannot be blinded, the qualitative data on women's views could be blinded but we do not know.
Incomplete outcome data (attrition bias) All outcomes	Unclear risk	No information, only that 60 women were randomised – no data on the number of women in the outcome assessments.
Selective reporting (reporting bias)	Unclear risk	No information in Methods on what outcomes are to be measures, only reports findings on outcomes.

Mohamad 2018 (Continued)

Other bias	Unclear risk	This is a conference abstract with no information on which to judge the methodology used.
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Policiano 2017

Study characteristics

Methods	RCT – blocked randomisation in 10s.
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Participants	<p>Inclusion criteria</p> <ul style="list-style-type: none"> • Women with a single fetus in cephalic presentation, Bishop score < 6. • Gestational age ≥ 41 weeks or medical indication for IOL (high-risk pregnancy group). • Number of women randomised and analysed: N = 130. <p>Exclusion criteria</p> <ul style="list-style-type: none"> • Women with a fetus in non-cephalic presentation, an indication for elective caesarean delivery, spontaneous labour, hydramnios (amniotic fluid index ≥ 25), non reassuring cardiotocogram, multiple pregnancy, rupture of membranes, active vaginal bleeding, indication for prophylaxis of Streptococcus group B infection, HIV infection, cervical injury or previous caesarean section with recurrent indication.
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Interventions	<p>Intervention: home IOL with Foley catheter</p> <ul style="list-style-type: none"> • Women were only discharged after a reassuring cardiotocogram following the introduction of Foley catheter. • When discharged, women were instructed to apply manual traction to the catheter every 6 hours and were given a written document with all the information that should bring them back to the hospital, such as: spontaneous catheter expulsion; loss of amniotic fluid or blood; pain or severe discomfort; decreased fetal movements; painful contractility (> 1 contraction/10 minutes) and fever (T > 38°C). If the catheter was not extruded until after 24 hours, women should return to the hospital for re-evaluation and hospitalisation. • Total number randomised to this group: N = 65
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Comparator: inpatient IOL with Foley catheter

- Women were monitored and oriented in accordance to the Department's protocol.
- Total number randomised to this group: N = 65

Comparison and subgroups

- Comparison 3: IOL with balloon or Foley catheter
- Subgroup by parity: S3 - not reported
- Subgroup by membrane status: S1 intact
- Subgroup by cervical status: S1 unfavourable
- Subgroup by indication for induction: S3 - mixed

Outcomes	<p>Primary: change of Bishop score (difference between BS before and after application of FC). To detect a difference of at least 1 point change in BS between groups maintaining a power of 80% with an a level of 0.05 we calculated a sample of 60 patients in each group.</p> <p>Secondary: induction-to-delivery time, inpatient time, mode of delivery, cervix length change (difference between cervix length measured by transvaginal ultrasound before and after application of FC), failed induction rate, tachysystole with fetal decelerations, intrapartum and postpartum fever 38°C, maternal pain, maternal and neonatal morbidity and mortality</p>
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Notes	Setting: tertiary hospital (from trial registration form). Authors from Lisbon, Portugal
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Policiano 2017 (Continued)

Trial dates: January 2014 to December 2015

Sources of trial funding: the authors report no financial support (sponsors were Hospital de Santa Maria, Lisbon, Portugal)

Trial authors' declarations of interest: the authors report no conflict of interest.

Additional information

- Quote: "Our protocol for mechanical cervix priming uses a single balloon (Covidian™ Dover™ Silicon Coated Latex Foley catheter 16Fr/Ch 5.3 mm) in an inpatient setting. A deflated catheter is introduced through the outer cervix orifice under direct visualisation using a sterile speculum and after iodine disinfection of the cervix. The intracervical catheter is distended with 40 mL of a saline solution. The end of the catheter is taped to the medial portion of the thigh and manual traction is applied to the catheter every 6 hours. If no spontaneous extrusion it is removed after 24 h. The induction of labor is carried out in accordance with BS."
- Quote: "In our Department, we use prostaglandins if BS < 6 or oxytocin if BS ≥ 6. Our standard regimen of misoprostol is vaginal administration of 25mcg every 4 h for a total of 5 administrations. In case of BS < 6 after 24 h of misoprostol, the woman rests for 24 h and then restarts a new cycle of misoprostol administrations. Prostaglandins are not used in case of previous uterine scar. Before or during priming with Foley catheter no antibiotic prophylaxis is performed."
- Authors report caesarean births for failed induction (2/65 vs 11/65) but not total caesarean births, and although they also report vaginal births (47/65 vs 40/65), we are writing to authors for data on spontaneous vaginal births, instrumental vaginal births and overall caesarean births.

Risk of bias

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	Quote: "...computer-generated random numbers."
Allocation concealment (selection bias)	Low risk	Quote: "Allocation was initially concealed. An envelope was opened for all consecutive participants to reveal their group assignment at the time when they were recruited into the study."
Blinding of participants and personnel (performance bias) All outcomes	High risk	Blinding of location was not possible for this comparison, and this may have influenced subjective outcomes although not objective outcomes.
Blinding of outcome assessment (detection bias) All outcomes	High risk	No information provided so it is very likely the clinician giving care knew the allocation, particularly for the assessment of change in Bishop score and many clinical outcomes.
Incomplete outcome data (attrition bias) All outcomes	Low risk	All data collections appear complete.
Selective reporting (reporting bias)	High risk	Appears not to report fully on mode of birth – gave vaginal births but no differentiation between spontaneous and instrumental. Only gave caesarean section for failed induction, not overall. Do not appear to report 'failed induction' though maybe can use PG induction data for this. We did not assess the trial protocol.
Other bias	Unclear risk	Baseline characteristics were similar. Block randomisation of 10 may possibly have introduced some bias. No other biases were identified.

Ryan 1998

Study characteristics

Methods	RCT
Participants	<p>Inclusion criteria</p> <ul style="list-style-type: none"> Not clear. Women at quote: "term... who met the eligibility criteria to receive PGE2 as an outpatient". 201 women randomised and analysed. <p>Exclusion criteria</p> <ul style="list-style-type: none"> Not reported.
Interventions	<p>Intervention: home IOL with PGE2</p> <ul style="list-style-type: none"> Dose of PGE2 gel not given Management not described Total number randomised to this group: N = 95 <p>Comparator: inpatient IOL with PGE2</p> <ul style="list-style-type: none"> Dose of PGE2 gel not given Management not described Total number randomised to this group: N = 106 <p>Comparison and subgroups</p> <ul style="list-style-type: none"> Comparison 1: IOL with PGE2 Subgroup by parity: S3 - not reported Subgroup by membrane status: S3 - not reported Subgroup by cervical status: - S3 not reported Subgroup by indication for induction: S3 - not reported
Outcomes	Need for oxytocin; spontaneous vaginal birth; instrumental vaginal birth; caesarean birth; epidural anaesthesia; fetal distress; admission to NICU; Apgar < 7 at 5 minutes; time L&D (hours); time antepartum+L&D; time AP+L&D+ODU; time postpartum; time total hospitalised.
Notes	<p>Setting: not reported but authors are from University of Toronto, Canada</p> <p>Trial dates: not mentioned in trial report</p> <p>Sources of trial funding: not mentioned in trial report</p> <p>Trial authors' declarations of interest: not mentioned in trial report</p> <p>Additional information</p> <ul style="list-style-type: none"> Conference abstract only available. We have attempted to contact the author for more information but to date (November 2008) we have had no response. Report 'Time from admission to birth' but unclear if this is the same as 'Time from induction to birth' so not reported but will write to authors.
Risk of bias	
Bias	Authors' judgement Support for judgement

Ryan 1998 (Continued)

Random sequence generation (selection bias)	Unclear risk	Described as "randomised".
Allocation concealment (selection bias)	Unclear risk	No information provided.
Blinding of participants and personnel (performance bias) All outcomes	High risk	It is not really possible to blind participants and personnel to the location and this may have influenced subjective outcomes although not objective outcomes.
Blinding of outcome assessment (detection bias) All outcomes	High risk	Not reported so unlikely to have been attempted
Incomplete outcome data (attrition bias) All outcomes	Unclear risk	No loss to follow-up apparent but little information provided.
Selective reporting (reporting bias)	Unclear risk	Abstract only available.
Other bias	Unclear risk	Abstract only available.

Sciscione 2001

Study characteristics

Methods	RCT
Participants	<p>Inclusion criteria</p> <ul style="list-style-type: none"> • Singleton, term pregnancy, cephalic position, intact membranes with a BS < 6, with reactive non-stress test, quote: "...attending physician had requested pre-induction cervical ripening using the Foley catheter" • 111 women randomised and analysed. <p>Exclusion criteria</p> <ul style="list-style-type: none"> • Fetal anomaly or dead fetus, hypertension, vaginal bleeding, ruptured membranes, placenta praevia, IUGR, active herpes infection, without access to phone, without reliable transportation or living more than 30 minutes' distance from the hospital.
Interventions	<p>Intervention: home IOL with Foley catheter</p> <ul style="list-style-type: none"> • Number 16 Foley catheter inserted into the endocervical canal to or past the internal os; the balloon was filled with 30 mL of sterile water, the end of the catheter was taped to the thigh. After placement of the catheter if there was a reactive nonstress test and no signs of uterine hyperstimulation and the amniotic fluid index was > 5th percentile women were randomised. • Women received detailed oral and written guidelines on when to seek advice and then were discharged home. 24-hour phone access to a doctor was provided. • They were asked to return for review the next morning for IOL with oxytocin. • Total number randomised to this group: N = 61 <p>Comparator: inpatient IOL with Foley catheter</p>

Sciscione 2001 (Continued)

- Number 16 Foley catheter inserted into the endocervical canal to or past the internal os; the balloon was filled with 30 mL of sterile water, the end of the catheter was taped to the thigh. After placement of the catheter if there was a reactive nonstress test and no signs of uterine hyperstimulation and the amniotic fluid index was > 5th percentile women were randomised.
- Women were admitted to the labour ward.
- They were allowed to ambulate.
- The catheter was checked every 2 to 4 hours and the fetal heart rate was assessed hourly.
- Total number randomised to this group: N = 50

Comparison and subgroups

- Comparison: 3, IOL with Foley catheter
- Subgroup by parity: S3 - mixed
- Subgroup by membrane status: S1 - intact membranes
- Subgroup by cervical status: S1 - unfavourable
- Subgroup by indication for induction: S3 - mixed

Outcomes	Primary outcome: Bishop score.
Notes	<p>Trial setting: 2 tertiary hospitals, Christiana Hospital (Delaware) or Thomas Jefferson University Hospital (Pennsylvania), in USA.</p> <p>Trial dates: May 1998 to December 1999.</p> <p>Sources of trial funding: not mentioned in the trial report</p> <p>Trial authors' declarations of interest: not mentioned in the trial report</p> <p>Additional information:</p>

Risk of bias

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	<i>Quote: "...computer-generated random number table.."</i>
Allocation concealment (selection bias)	Unclear risk	Sequentially numbered envelopes, but not described as 'opaque'
Blinding of participants and personnel (performance bias) All outcomes	High risk	It is not possible to blind participants and personnel to the location, and this may have influenced subjective outcomes although not objective outcomes.
Blinding of outcome assessment (detection bias) All outcomes	High risk	No mention as to whether outcome assessor was blinded so most likely not as it takes considerable effort.
Incomplete outcome data (attrition bias) All outcomes	Low risk	Complete data for main outcomes. Only the outpatient group was followed up in the postnatal period and there was high attrition (40%) for this longer-term follow-up.
Selective reporting (reporting bias)	Unclear risk	Outcomes listed in methods seem to all be reported in results, but we did not assess the trial protocol.
Other bias	Unclear risk	Not clear how many of the women approached were eligible for this trial. Not clear how women were managed as regards oxytocin and this may have had an impact on results. Not clear how many women in the outpatient group were

Sciscione 2001 (Continued)

surveyed in the postnatal period; figures differ between the main study paper and an abstract reporting survey results.

Wilkinson 2015 - OPRA
Study characteristics

Methods	RCT; 2 centres; parallel; 1:1; stratified by site and parity
Participants	<p>Inclusion criteria</p> <ul style="list-style-type: none"> Women with uncomplicated term pregnancies; ≥ 18 years old; communication in English; singleton, cephalic, term pregnancy (37 to 42 weeks); no previous caesarean section; intact membranes; not < 10th percentile for gestational age; induction being done for reasons other than fetal or maternal compromise; no pre-eclampsia; living within 40 minutes of hospital with transport and having a telephone; women having a normal ultrasound scan for suspicion of small for gestational age fetus. Number of women randomised: 827 women. 4 women were excluded within 30 minutes of randomisation as they were medically ineligible and 2 withdrew leaving 821 women in the analysis (but only 425 (51.8%) of women received the PGE priming). <p>Exclusion criteria</p> <ul style="list-style-type: none"> Women with pre-eclampsia. Half way through the study the following exclusion criteria were added: women with diet-controlled diabetes; body mass index > 35; women with abnormal ultrasound scan for small for gestational age fetus. Maternal or fetal compromise, or in the opinion of the referring clinician, inpatient management and monitoring is clinically indicated.
Interventions	<p>Intervention: home IOL with vaginal PGE2</p> <ul style="list-style-type: none"> Nulliparous women received 2 mg of PGE2, and parous women 1 mg of PGE2 in accordance with South Australia Perinatal Guidelines. Women allocated to outpatient cervical ripening followed the same protocol as the women in the inpatient group except that, after receiving a final minimum satisfactory 40-minute EFM. They were discharged home with instructions to call the hospital with any concerns, and to return for reassessment in the morning or earlier if labour commenced, or if they experienced rupture of membranes, significant vaginal bleeding (more than a "show"), decreased fetal movements or anxiety. If a second dose of prostaglandins was required in the morning, these women were given the option of going home again. Total number randomised to this group: N = 411 but 4 excluded so 407 women in the analysis (only 215 women receiving PGE2) <p>Comparator: inpatient IOL with vaginal PGE2</p> <ul style="list-style-type: none"> Nulliparous women received 2 mg of PGE2, and parous women 1 mg of PGE2 in accordance with South Australia Perinatal Guidelines. Women allocated to inpatient cervical ripening received usual hospital care. This included admission to the labour ward the evening before induction, 20 minutes of EFM, vaginal examination, insertion of PGE2 gel and a further minimum of 20 minutes or more of EFM and monitoring for uterine activity. Women were encouraged to rest overnight and reassessment was planned for the morning unless labour commenced beforehand. Total number randomised to this group: N = 416 but 2 excluded so 414 (women in the analysis) (only 210 women receiving PGE2) <p>Comparison and subgroups</p> <ul style="list-style-type: none"> Comparison 1: IOL with PGE Subgroup by parity: S3 - mixed

Wilkinson 2015 - OPRA (Continued)

- Subgroup by membrane status: S1 - intact
- Subgroup by cervical status: S1 - unfavourable
- Subgroup by indication for induction: S3 - mixed

Outcomes	<p>Trial registration reports:</p> <p>Primary</p> <ul style="list-style-type: none"> • Syntocinon usage (review of labour records of timing, amount, duration) • Obstetric interventions (review of labour records of CS, instrumental delivery, analgesia used, etc) • Pregnancy complications, oxytocin use, length of labour, analgesia use, PND etc • Perinatal and neonatal outcomes • Infant feeding at 7 weeks after birth <p>Secondary</p> <ul style="list-style-type: none"> • Economic evaluation • Maternal satisfaction/psychosocial outcomes • Caregiver satisfaction
Notes	<p>Trial setting: 2 tertiary referral hospitals in South Australia. Accounting for 39% of all births in South Australia – around 20,000 annual births</p> <p>Trial dates: August 2008 to May 2011</p> <p>Sources of trial funding: quote: "The "Outpatient Priming for Induction of Labour Trial" was funded by the National Health and Medical Research Council of Australia, Project Grant 519236."</p> <p>Trial authors' declarations of interest: the authors report no conflict of interest.</p> <p>Additional information</p> <ul style="list-style-type: none"> • 48% women did not receive the PGE2 induction - mostly because they went into spontaneous labour before the induction could be undergone. We report using intention-to-treat so on women randomised. • 22% women receiving PGE2 as an intended outpatient did not go home. • Report PND scores 5.90 (\pm 4.53) N = 308 vs 5.81 (\pm 4.81) N = 314 but do not report on how many women had PND. • Authors interviewed 16 women between 7 weeks and 4 months and undertook a thematic analysis, identifying comfort and safety as two main themes (Oster 2011 - part of Wilkinson 2015 - OPRA). • Authors reported women's experiences in a separate publication (Turnbull 2013 part of Wilkinson 2015 - OPRA). Questionnaires at 7 weeks after birth to measure anxiety and depression at enrolment, and to examine satisfaction, experiences, depression, and infant feeding 7 weeks after giving birth. The questionnaire had been developed in 1996 (Turnbull 1996) when authors validated it several times. • Reported costs in separate publication (Adelson 2013 - part of Wilkinson 2015 - OPRA)

Risk of bias

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	Quote: "...computer generated..."
Allocation concealment (selection bias)	Low risk	Quote: "...allocation was permanently assigned to the woman by a web-based system..."

Wilkinson 2015 - OPRA (Continued)

Blinding of participants and personnel (performance bias) All outcomes	High risk	Quote: "Blinding of the intervention was not possible after randomisation." and this may have influenced subjective outcomes although not objective outcomes.
Blinding of outcome assessment (detection bias) All outcomes	High risk	Not specifically reported and the outcomes assessed (with the exception of cost) were probably not blinded.
Incomplete outcome data (attrition bias) All outcomes	Low risk	6/827 (< 1%) women were excluded after randomisation (but 52% did not receive the IOL). For postnatal questionnaire losses vary by outcome measure and are off the order 25% to 50%.
Selective reporting (reporting bias)	High risk	The trial publication includes more outcomes than are listed in the trial registration form. The methods section of the publication does not list the outcomes to be assessed.
Other bias	Unclear risk	48% of women did not receive their allocated intervention. Whilst there is a similar loss in each group, the size of the loss needs to be considered and it is unclear if this may have influenced the results. The authors did an intention-to-treat analysis and also a per protocol analysis and the findings were similar.

Wilkinson 2015a - COPRA

Study characteristics

Methods	RCT, 2:1 randomisation, stratified by parity, with randomly allocated block sizes.
Participants	<p>Inclusion criteria</p> <ul style="list-style-type: none"> Women at term (37–42 weeks), healthy pregnancy; intact membranes and bishop score of < 7; singleton, cephalic presentation and appropriately grown; cervical ripening being done for reasons other than fetal or maternal compromise (i.e. low risk, post dates and social inductions, excluding previous caesarean sections). Number of women randomised and in analysis = 48 <p>Exclusion criteria</p> <ul style="list-style-type: none"> Known IUGR (< 10th percentile for gestational age), suspected intra uterine growth restriction; gestational hypertension and pre-eclampsia. Conditions specific to catheter priming including: placenta previa, low placenta, unDx vaginal bleeding, known latex allergy, active vaginal infection, active genital herpes; previous caesarean section
Interventions	<p>Intervention: home IOL with double balloon catheter</p> <ul style="list-style-type: none"> Eligible participants presented to hospital in the afternoon for ripening and underwent 20 minutes of pre-catheter CTG monitoring. Following satisfactory monitoring, a clinician (doctor or midwife trained to insert the catheter) inserted a double balloon catheter (Cooks® Cervical Ripening Balloon) and inflated each balloon with 70 mL to 80 mL of sterile water in the Women's Assessment Service (the hospital's emergency department). Women were subsequently randomised to inpatient or outpatient care and CTG monitoring was maintained for a minimum of 20 minutes post insertion. Those randomised to outpatient care were discharged home following satisfactory CTG monitoring with written instructions and a direct telephone number to the senior midwife on duty in the Women's Assessment Department. The woman was requested to remain at home and to return to the labour ward at 08.00 the following morning or earlier in the event of onset of labour, rupture of membranes, vaginal bleeding or other

Home versus inpatient induction of labour for improving birth outcomes (Review)

Wilkinson 2015a - COPRA (Continued)

complications or concerns. Women remained at home until the following morning in the absence of labour onset or if the catheter fell out.

- The pathway for both inpatient and outpatient women was the same the following morning; An amniotomy was performed, followed by an oxytocin infusion if labour did not begin within 4 h, in accordance with the South Australian Perinatal Practice Guidelines on induction of labour. (<http://www.sahealth.sa.gov.au/wps/wcm/connect/public+content/sa+health+internet/clinical+resources/clinical+topics/perinatal+practice+guidelines/perinatal+practice+guidelines>)
- Total number randomised to this group: N = 33

Comparator: inpatient IOL with double balloon catheter

- Eligible participants presented to hospital in the afternoon for ripening and underwent 20 minutes of pre-catheter CTG monitoring. Following satisfactory monitoring, a clinician (doctor or midwife trained to insert the catheter) inserted a double balloon catheter (Cooks® Cervical Ripening Balloon) and inflated each balloon with 70 mL to 80 mL of sterile water in the Women's Assessment Service (the hospital's emergency department). Women were subsequently randomised to inpatient or outpatient care and CTG monitoring was maintained for a minimum of 20 minutes post insertion.
- The pathway for both inpatient and outpatient women was the same the following morning; an amniotomy was performed, followed by an oxytocin infusion if labour did not begin within 4 hours, in accordance with the South Australian Perinatal Practice Guidelines on induction of labour. (<http://www.sahealth.sa.gov.au/wps/wcm/connect/public+content/sa+health+internet/clinical+resources/clinical+topics/perinatal+practice+guidelines/perinatal+practice+guidelines>).
- Total number randomised to this group: N = 15

Comparison and subgroups

- Comparison 3: IOL with Foley catheter
- Subgroup by parity
- Subgroup by membrane status
- Subgroup by cervical status
- Subgroup by indication for induction

Outcomes	Oxytocin use; length of active labour; uterine hyperstimulation; pain scores; anxiety scores; maternal satisfaction; feasibility measures; economic assessment
Notes	<p>Trial setting: Women's and Children's Hospital, Adelaide, the largest maternity teaching hospital in South Australia.</p> <p>Trial dates: October 2012 to July 2013</p> <p>Sources of trial funding: quote: "The study was funded by a Women's and Children's Foundation Research Project Grant for 2012. The funding body had no role in the design, conduct or analysis or the study, nor in the decision to submit the manuscript for publication."</p> <p>Trial authors' declarations of interest: quote: "The authors declare that they have no competing interests."</p> <p>Additional information</p> <ul style="list-style-type: none"> • Women were randomised just after the catheter was inserted, so that women were most likely to receive that intervention. • Reported on women's experiences using a de-identified questionnaire similar to the one used in the OPRA study (Wilkinson 2015 - OPRA). Findings were: <p>Quote: "Four weeks after the birth, a de-identified questionnaire similar to the validated instrument used in the OPRA trial was mailed to women, with a two week follow-up for non-responders. The questionnaire sought information on satisfaction with care, preparedness, the induction environment and specific items relating to the catheter ripening process. Responses were organized in a 5-point Likert scale response format. Two additional free text response questions asked women their feelings on having the catheter in place and positive and negative aspects of this method."..."More outpatient women reported being physically uncomfortable while waiting for ripening to work (68 %) than inpatient women (36 %). Women who</p>

Wilkinson 2015a - COPRA (Continued)

experienced outpatient ripening were less likely to report feeling isolated (9 % compared with 30 % of inpatients) or feeling emotionally alone (9 % vs.36 % inpatients) during the ripening process."..."Overall, women in both groups were equally satisfied with the care they received for their ripening and felt the baby was safe (91 % both groups)." We have not included this data in the forest plots as it is unclear whether the questionnaire was validated.

Risk of bias

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	Quote: "A computer generated list with randomly allocated block sizes was prepared and sequentially numbered."
Allocation concealment (selection bias)	Low risk	Quote: "Allocation assignments were placed and sealed in opaque envelopes by a person not otherwise involved in the conduct of the trial and were securely held in the area where randomization occurred. Envelopes were only opened after participant details were recorded"
Blinding of participants and personnel (performance bias) All outcomes	High risk	Reported as an open study and not possible to blind participants and personnel to the location, and this may have influenced subjective outcomes although not objective outcomes.
Blinding of outcome assessment (detection bias) All outcomes	High risk	Not specifically reported so most probably outcome assessment was not blinded.
Incomplete outcome data (attrition bias) All outcomes	Low risk	Data on all 48 women reported
Selective reporting (reporting bias)	High risk	No clinical outcomes for measurement were reported in the methods, only acceptability to women. Trial registration lists a number of outcomes yet many more reported. We did not assess the trial protocol.
Other bias	Low risk	Baseline characteristics similar. With the small number of women in this pilot study run in a single hospital. No apparent other biases.

BS: Bishop Score

CR-PGE2: controlled release PGE2

CS: caesarean section

CTG: cardiotocography

EFM: electronic fetal monitoring

FC: Foley catheter

IOL: induction of labour

IUGR: intrauterine growth restriction

L&D: labour and delivery

NICU: neonatal intensive care unit

PGE: prostaglandin E

RCT: randomised controlled trial

Characteristics of excluded studies [ordered by study ID]

Study	Reason for exclusion
Austin 2015	Different method of induction for the 2 arms: outpatient was Foley catheter and inpatient IOL was vaginal PGE2.

Study	Reason for exclusion
Beckmann 2020	Different method of induction for the 2 arms: outpatient IOL was balloon catheter and Inpatient IOL was vaginal prostaglandin.
Henry 2011	Different method of induction for the 2 arms: outpatient IOL was intracervical Foley catheter and Inpatient IOL was intravaginal PGE2 gel.
Kuper 2018	Different method of induction for the 2 arms: outpatient IOL was Foley catheter and inpatient IOL was Foley catheter + oxytocin infusion.
PonMalar 2017	This study compared vaginal misoprostol with placebo, both groups of women being sent home after induction and normal CTG. So not comparing the different settings.
Rijnders 2011	Different method of induction for the 2 arms: outpatient IOL was amniotomy and Inpatient IOL was at the clinician's discretion so could be: amniotomy, balloon catheter, vaginal prostaglandin.
Torbenson 2015	Different method of induction for the 2 arms: outpatient IOL was with Foley catheter and Inpatient IOL was with either Foley catheter or vaginal prostaglandin. Also this is a preference trial so some women randomised to groups and some chose.
Wise 2020	Different method of induction for the 2 arms: outpatient IOL was balloon catheter and Inpatient IOL was vaginal prostaglandin.

CTG: cardiotocograph
IOL: induction of labour
PGE2: prostaglandin E2

Characteristics of studies awaiting classification *[ordered by study ID]*

Denona 2018 TR

Methods	Prospective comparative pilot study
Participants	Pregnant women aged 18 to 40 years who have not given birth before,
Interventions	Outpatient induction with Cook Cervical Ripening Balloon versus inpatient induction with Cook Cervical Ripening Balloon
Outcomes	Primary: women's satisfaction.
Notes	Described as a 'prospective comparative pilot study' so it is unclear if it is randomised or not. We will write to enquire.

Hedriana 2019 TR

Methods	RCT
Participants	Nulliparous women having IOL with Foley catheter
Interventions	Women given IOL with intracervical balloon placed in the outpatient clinic and sent home versus women for IOL admitted to labour ward.
Outcomes	Primary: duration of time from admission for IOL to birth of baby.

Hedriana 2019 TR (Continued)

Notes	Not clear if both the inpatient group were given Foley catheter. We will write to enquire: Herman L Hedriana, MD 916-734-6219 hlhedriana@ucdavis.edu
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Mullin 2014 TR

Methods	RCT
Participants	Women \geq 37 weeks' gestation having IOL
Interventions	Women will undergo outpatient IOL and the catheter will be deflated and removed within 10 minutes of placement versus women will undergo IOL using the standard Foley bulb and Pitocin method.
Outcomes	Primary: time from hospital admission to discharge.
Notes	It is unclear if both groups are having the same method of IOL. We will write to enquire.

IOL: induction of labour

RCT: randomised controlled trial

Characteristics of ongoing studies [ordered by study ID]

Ausbeck 2018

Study name	Outpatient Foley for starting induction of labour at term in nulliparous women: a randomised-controlled study
Methods	RCT
Participants	Nulliparous women at term having IOL with Foley catheter
Interventions	Induction by transcervical Foley catheter in outpatient setting versus induction by transcervical Foley catheter in inpatient setting
Outcomes	Primary: total time from admission to birth.
Starting date	May 2018
Contact information	Elizabeth B Ausbeck, MD., University of Alabama at Birmingham, Birmingham, Alabama, United States, 35233
Notes	

Kohari 2018

Study name	Inpatient versus outpatient Foley cervical ripening study
Methods	RCT
Participants	Women > 37 weeks' gestation having IOL
Interventions	Outpatients with a transcervical Foley catheter versus inpatients with a transcervical Foley catheter

Home versus inpatient induction of labour for improving birth outcomes (Review)

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Kohari 2018 (Continued)

Outcomes	Primary: antepartum time of Foley catheter extrusion before woman being brought to labour
Starting date	January 2019
Contact information	Katherine Kohari, MD, Yale University. Olga Grechukhina, MD, olga.grechukhina@yale.edu
Notes	

Mishra 2007

Study name	A prospective RCT of outpatient versus inpatient labour induction with vaginal controlled-release prostaglandin-E2: effectiveness and satisfaction.
Methods	RCT
Participants	Primigravida at term with singleton baby
Interventions	Outpatient versus inpatient labour induction with vaginal controlled-release prostaglandin-E2
Outcomes	Primary: 1) Effectiveness defined in terms of proportion of women in labour or delivered within 24 hours; requirement for additional intervention, e.g. epidural 2) Satisfaction defined as proportion of women with high mean ratings after 12 hours insertion/after delivery
Starting date	August 2006
Contact information	Dr N Mishra, Royal Surrey County Hospital NHS Trust, Egerton Road, Guildford, GU2 7XX, United Kingdom
Notes	Trial completed 27 September 2009.

Nichols 2019

Study name	A trial of Cervidil (dinoprostone, prostaglandin E2 (PGE2), insert) for outpatient pre-induction of cervical ripening in women at 39.0-41.6 weeks' gestation
Methods	RCT
Participants	Women, 39 0/7 and 41 6/7 weeks' gestation, undergoing IOL, living within 20 minutes of the facility
Interventions	Outpatient induction with dinoprostone (10 mg) vaginal insert versus inpatient induction with dinoprostone (10 mg) vaginal insert
Outcomes	Primary: time of admission to completion of dilation and total cost of Induction.
Starting date	August 2019
Contact information	John Nichols, DO, Intermountain Health Care, Inc. Dixie Regional Medical Center, Saint George, Utah, United States, 84790. jnicholsdo@gmail.com . Briana Crook, CRC, bri.crook@imail.org
Notes	

Pierce-Williams 2018

Study name	Inpatient versus outpatient transcervical Foley catheter use for cervical ripening: a randomised controlled trial
Methods	RCT
Participants	Women at least 37 weeks' gestation, undergoing IOL, with an unfavourable cervix, defined as a Bishop score ≤ 6
Interventions	Outpatient Foley catheter versus inpatient Foley catheter
Outcomes	Primary: difference in time on labour and delivery and difference in cost.
Starting date	January 2017
Contact information	Rebecca Pierce-Williams, LifeBridge Health, Sinai Hospital of Baltimore, Baltimore, Maryland, United States, 21224. bmokhiber@gmail.com
Notes	

Pin 2018

Study name	Outpatient versus inpatient Foley catheter induction of labour in multiparous women: a randomised trial
Methods	RCT
Participants	Women aged over 18 years at term with previous successful vaginal delivery beyond 28 weeks with unripe cervix who need IOL.
Interventions	Outpatient IOL with Foley catheter versus inpatient IOL with Foley catheter
Outcomes	Primary: women's satisfaction with care; percentage of women delivering during "working hours" (8am to 5pm).
Starting date	February 2019
Contact information	Dr. Tan Yi Pin, University of Malaya Medical Centre, Lembah Pantai, Kuala Lumpur 59100, Malaysia. (Mobile number): + 60 175398075. Also Dr Shuhaina Binti Shuib, shuhainashuib@yahoo.com
Notes	

Rinne 2016

Study name	Outpatient versus inpatient double balloon catheter for induction of labour: a randomised trial
Methods	RCT

Rinne 2016 (Continued)

Participants	Women with uncomplicated singleton pregnancies, > 37 and < 41 + 5 gestation, living within half an hour of the hospital
Interventions	Outpatient induction with double balloon catheter versus inpatient induction with double balloon catheter
Outcomes	Primary: pain measured by visual analogue scale after double balloon catheter
Starting date	June 2016
Contact information	Kirsi M Rinne, Turku University Hospital, University of Turku, Turku, Finland, 20520 kirsi.rinne@tyks.fi . Also Päivi ML Polo, paivi.polo@tyks.fi .
Notes	

Saad 2018

Study name	Induction of labour in women with unfavourable cervix: randomised controlled trial comparing outpatient to inpatient cervical ripening using Dilapan-S® (HOMECARE)
Methods	RCT
Participants	Pregnant woman whose plan of care is IOL
Interventions	Outpatient induction with Dilapan-S versus inpatient induction with Dilapan-S
Outcomes	Primary: hospital stay and healthcare cost.
Starting date	November 2018
Contact information	Antonio Saad, MD, University of Texas Medical Branch, Galveston, US, afsaad@utmb.edu . Also Ashley Salazar, assalaza@utmb.edu
Notes	

Shrivastava 2016

Study name	Patient satisfaction during outpatient versus inpatient Foley catheter induction of labour
Methods	RCT
Participants	Women with singleton pregnancies, ≥ 39 weeks' gestation
Interventions	Outpatient IOL with Foley catheter versus inpatient IOL with Foley catheter
Outcomes	Primary: women's satisfaction
Starting date	November 2016
Contact information	Vineet Shrivastava, MD. Also, Deysi Caballero, LVN, CRC, Miller Women's and Children's Hospital Long Beach, Long Beach, California, United States, 90806, dcaballero@memorialcare.org ,

Shrivastava 2016 (Continued)

Notes

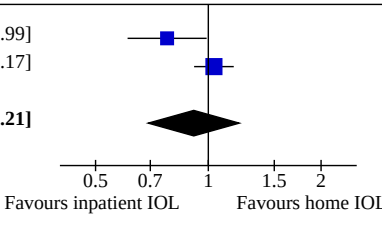
IOL: induction of labour
RCT: randomised controlled trial

DATA AND ANALYSES
Comparison 1. Home versus inpatient induction with vaginal PGE

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
1.1 Spontaneous vaginal birth	2	1022	Risk Ratio (M-H, Random, 95% CI)	0.91 [0.69, 1.21]
1.2 Uterine hyperstimulation	1	821	Risk Ratio (M-H, Fixed, 95% CI)	1.19 [0.40, 3.50]
1.3 Caesarean birth	2	1022	Risk Ratio (M-H, Fixed, 95% CI)	1.01 [0.81, 1.28]
1.4 Neonatal infection	1	821	Risk Ratio (M-H, Fixed, 95% CI)	1.29 [0.59, 2.82]
1.5 Admission to NICU	2	1022	Risk Ratio (M-H, Fixed, 95% CI)	1.20 [0.50, 2.90]
1.6 Serious neonatal morbidity or mortality	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable
1.7 Women's experiences (satisfaction with care) up to 8 weeks	1	399	Mean Difference (IV, Fixed, 95% CI)	0.16 [-0.02, 0.34]
1.8 Oxytocin administration	2	1022	Risk Ratio (M-H, Fixed, 95% CI)	1.01 [0.90, 1.15]
1.9 Pain - self assessment	0	0	Mean Difference (IV, Fixed, 95% CI)	Not estimable
1.10 Spinal analgesia	2	1022	Risk Ratio (M-H, Fixed, 95% CI)	1.01 [0.93, 1.10]
1.11 Opioid analgesia	1	821	Risk Ratio (M-H, Fixed, 95% CI)	1.50 [1.22, 1.85]
1.12 No pharmacological analgesia	1	821	Risk Ratio (M-H, Fixed, 95% CI)	1.07 [0.71, 1.61]
1.13 Woman's sense of control	1	615	Mean Difference (IV, Fixed, 95% CI)	0.13 [0.00, 0.26]
1.14 Need for more than one induction agent	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable
1.15 Time from induction to birth (in hours)	0	0	Mean Difference (IV, Fixed, 95% CI)	Not estimable
1.16 Length of hospital stay (in days)	2	1022	Mean Difference (IV, Fixed, 95% CI)	0.00 [-0.18, 0.19]
1.17 Use of emergency services	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
1.18 Apgar score < 7 at 5 minutes	2	1022	Risk Ratio (M-H, Fixed, 95% CI)	1.34 [0.59, 3.02]
1.19 Meconium aspiration	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable
1.20 Need for respiratory support	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable
1.21 Perinatal mortality	1	821	Risk Ratio (M-H, Fixed, 95% CI)	3.05 [0.12, 74.69]
1.22 Instrumental vaginal birth	2	1022	Risk Ratio (M-H, Random, 95% CI)	1.22 [0.67, 2.22]
1.23 Uterine scar dehiscence/rupture	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable
1.24 PPH (≥ 500 mL or as defined by trialists)	1	821	Risk Ratio (M-H, Fixed, 95% CI)	1.10 [0.76, 1.58]
1.25 Hysterectomy	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable
1.26 Maternal infection	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable
1.27 Serious maternal morbidity or mortality	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable
1.28 Postnatal depression	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable
1.29 Long-term operative pelvic floor repair	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable
1.30 Economic assessments as defined by trialists	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable

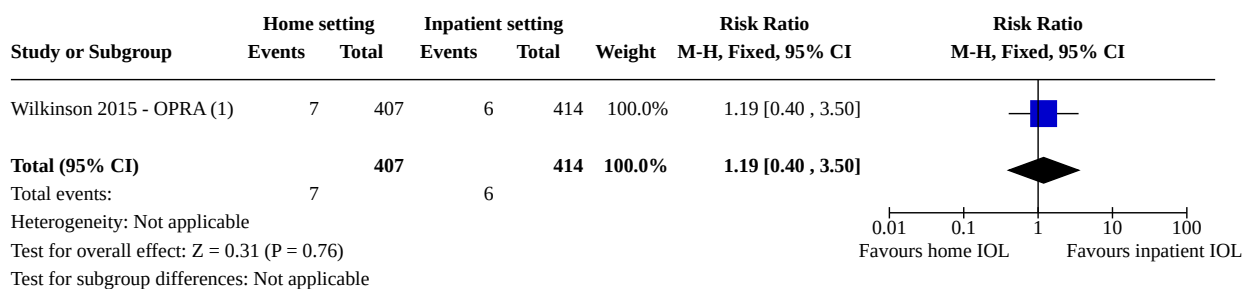
Analysis 1.1. Comparison 1: Home versus inpatient induction with vaginal PGE, Outcome 1: Spontaneous vaginal birth

Study or Subgroup	Home setting		Inpatient setting		Weight	Risk Ratio M-H, Random, 95% CI	Risk Ratio M-H, Random, 95% CI
	Events	Total	Events	Total			
Ryan 1998	48	95	69	106	43.1%	0.78 [0.61, 0.99]	
Wilkinson 2015 - OPRA (1)	231	407	227	414	56.9%	1.04 [0.92, 1.17]	
Total (95% CI)		502		520	100.0%	0.91 [0.69, 1.21]	
Total events:	279		296				
Heterogeneity: Tau ² = 0.03; Chi ² = 4.31, df = 1 (P = 0.04); I ² = 77%							
Test for overall effect: Z = 0.63 (P = 0.53)							
Test for subgroup differences: Not applicable							

Footnotes

(1) 48% of women did not receive the PGE2 induction

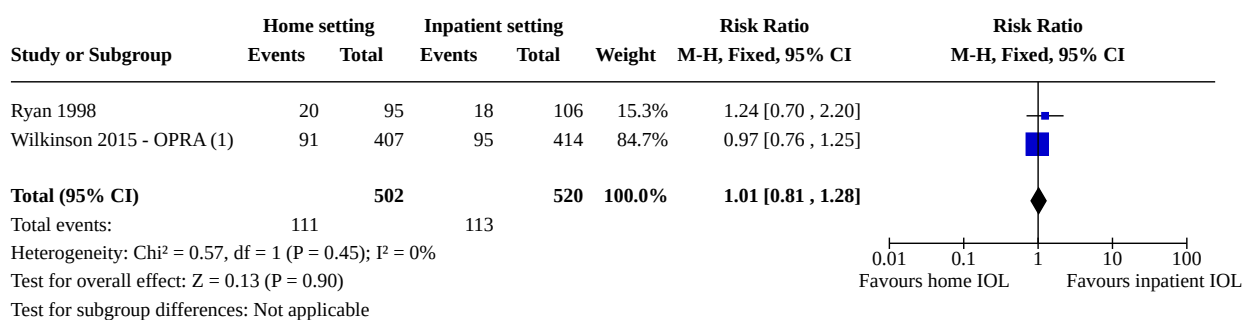
Analysis 1.2. Comparison 1: Home versus inpatient induction with vaginal PGE, Outcome 2: Uterine hyperstimulation



Footnotes

(1) 48% of women did not receive the PGE2 induction

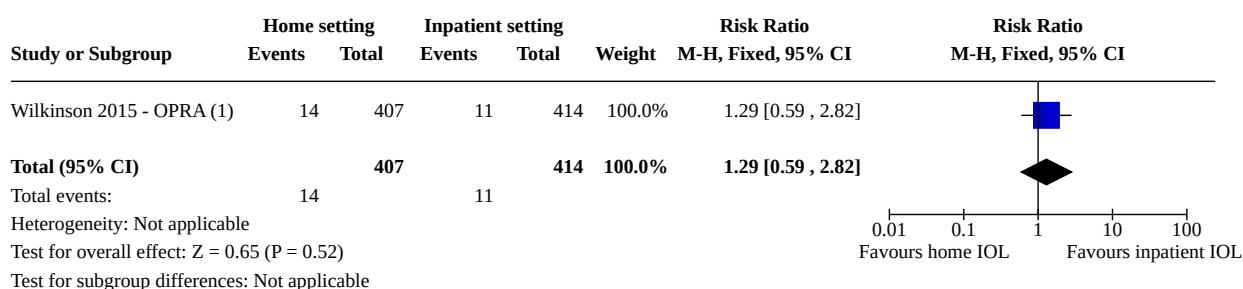
Analysis 1.3. Comparison 1: Home versus inpatient induction with vaginal PGE, Outcome 3: Caesarean birth



Footnotes

(1) 48% of women did not receive the PGE2 induction

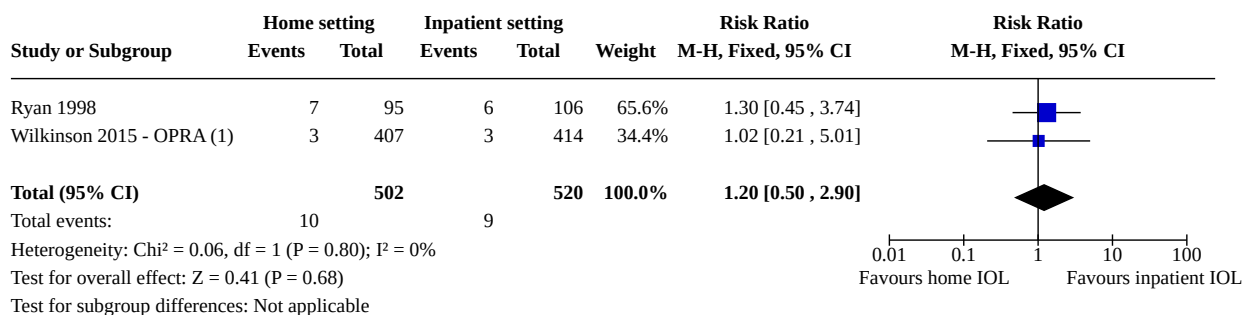
Analysis 1.4. Comparison 1: Home versus inpatient induction with vaginal PGE, Outcome 4: Neonatal infection



Footnotes

(1) 48% of women did not receive the PGE2 induction

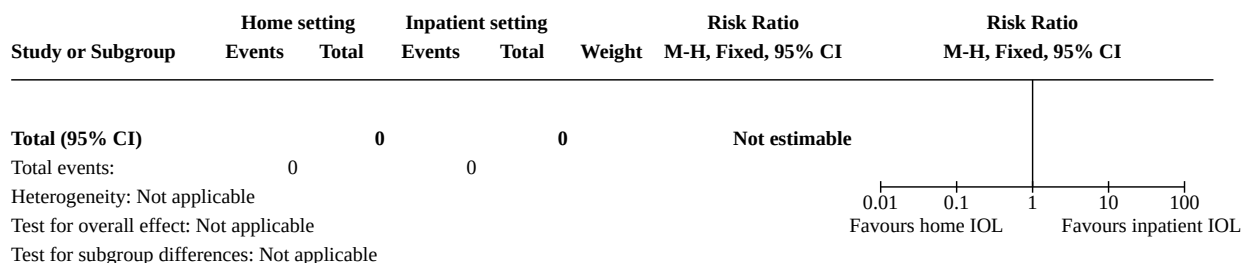
Analysis 1.5. Comparison 1: Home versus inpatient induction with vaginal PGE, Outcome 5: Admission to NICU



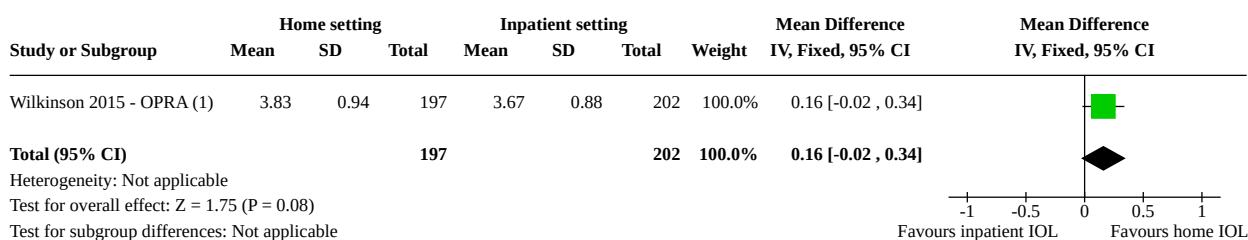
Footnotes

(1) 48% of women did not received the PGE2 induction

Analysis 1.6. Comparison 1: Home versus inpatient induction with vaginal PGE, Outcome 6: Serious neonatal morbidity or mortality



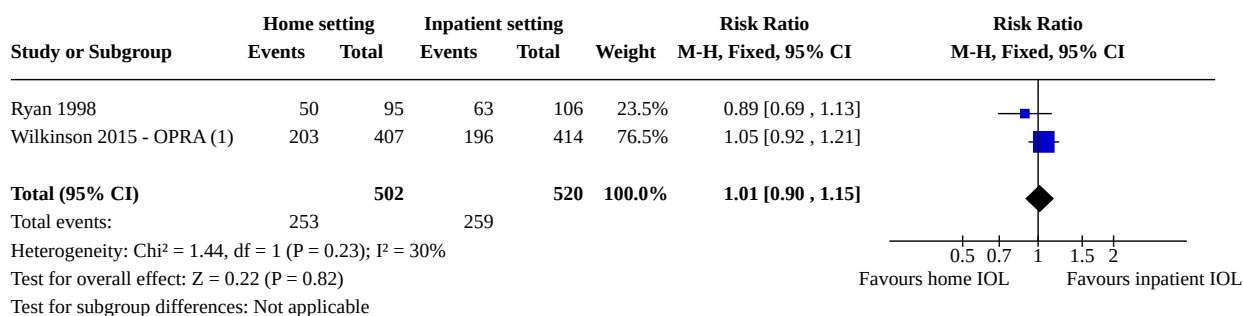
Analysis 1.7. Comparison 1: Home versus inpatient induction with vaginal PGE, Outcome 7: Women's experiences (satisfaction with care) up to 8 weeks



Footnotes

(1) Satisfaction with care in 7 week postpartum questionnaire. 51% loss to follow-up questionnaire and 48% of women did not receive the PGE2 induction

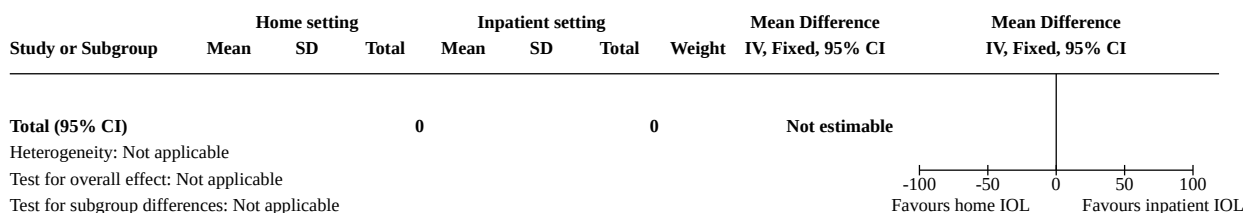
Analysis 1.8. Comparison 1: Home versus inpatient induction with vaginal PGE, Outcome 8: Oxytocin administration



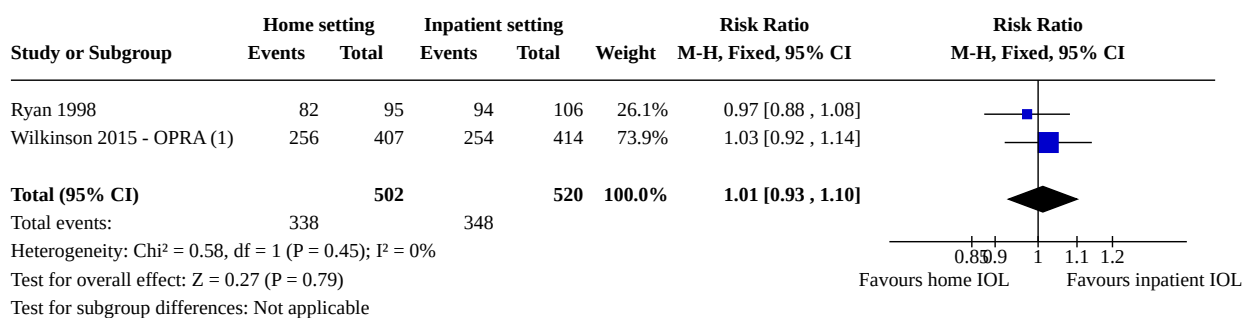
Footnotes

(1) 48% of women did not receive the PGE2 induction

Analysis 1.9. Comparison 1: Home versus inpatient induction with vaginal PGE, Outcome 9: Pain - self assessment



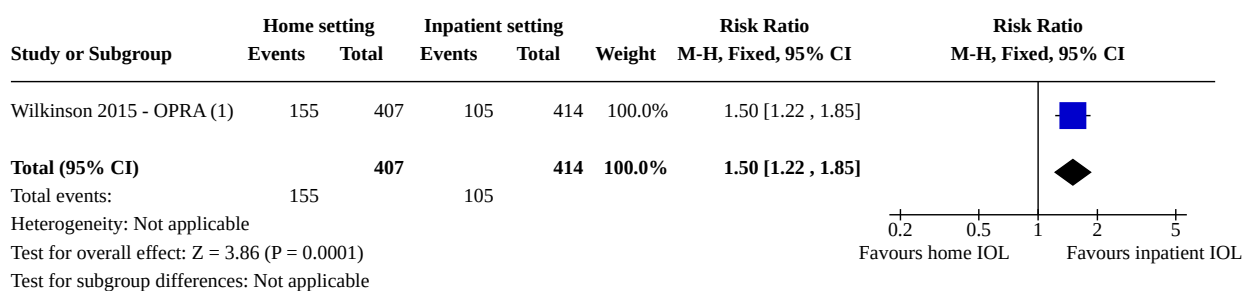
Analysis 1.10. Comparison 1: Home versus inpatient induction with vaginal PGE, Outcome 10: Spinal analgesia



Footnotes

(1) 48% of women did not receive the PGE2 induction

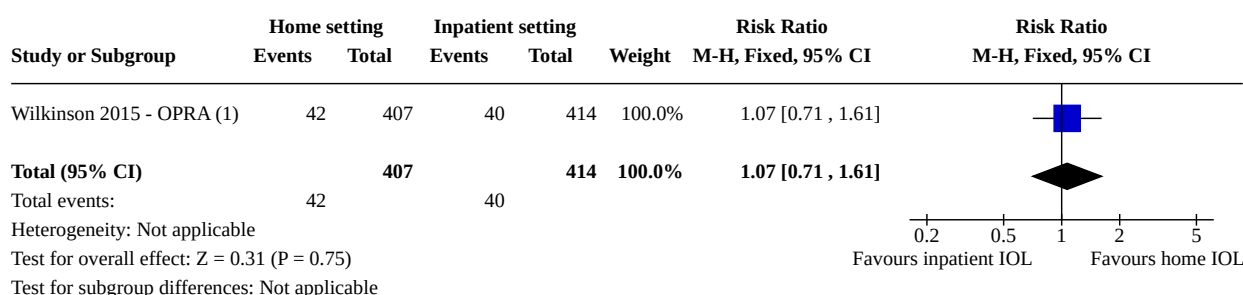
Analysis 1.11. Comparison 1: Home versus inpatient induction with vaginal PGE, Outcome 11: Opioid analgesia



Footnotes

(1) 48% of women did not receive PGE2 induction

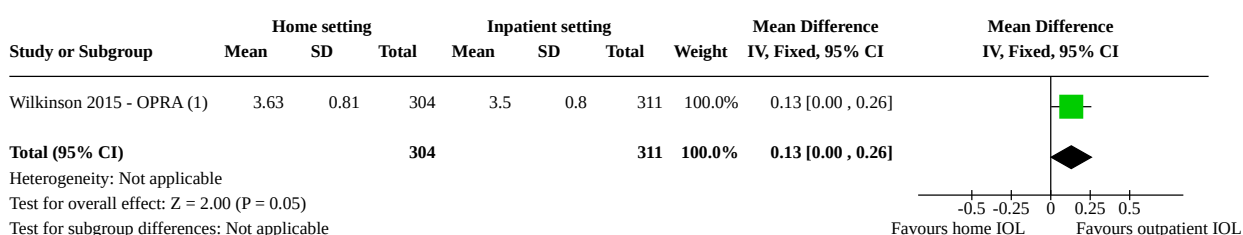
Analysis 1.12. Comparison 1: Home versus inpatient induction with vaginal PGE, Outcome 12: No pharmacological analgesia



Footnotes

(1) 48% of women did not receive PGE2 induction

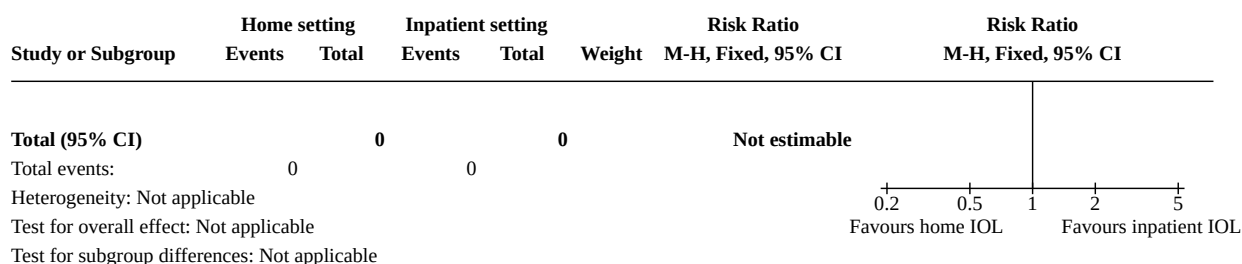
Analysis 1.13. Comparison 1: Home versus inpatient induction with vaginal PGE, Outcome 13: Woman's sense of control



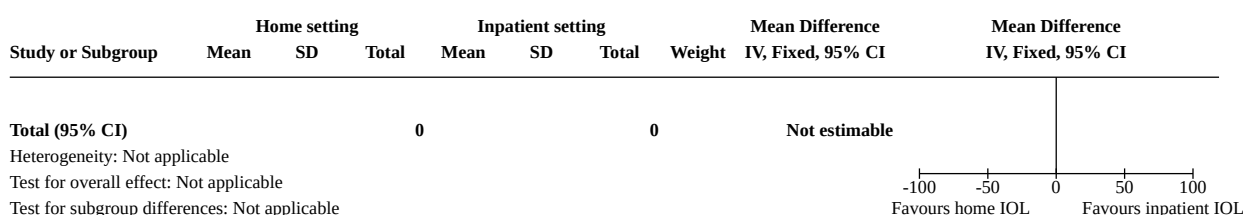
Footnotes

(1) Postnatal questionnaire. 25% loss to follow-up and 48% of women did not receive the PGE2 induction

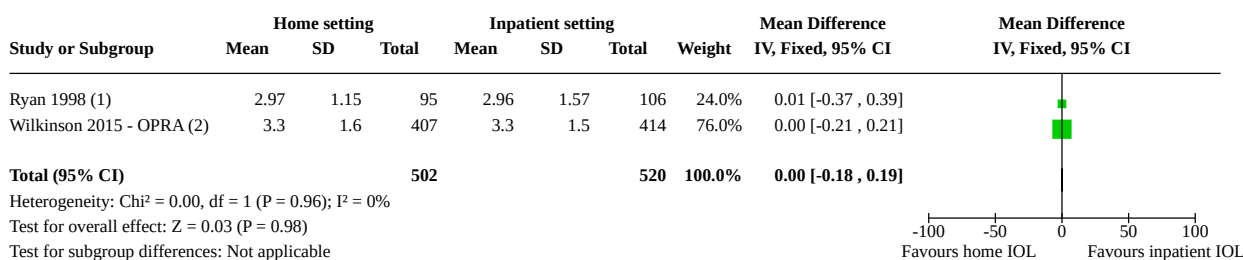
Analysis 1.14. Comparison 1: Home versus inpatient induction with vaginal PGE, Outcome 14: Need for more than one induction agent



Analysis 1.15. Comparison 1: Home versus inpatient induction with vaginal PGE, Outcome 15: Time from induction to birth (in hours)



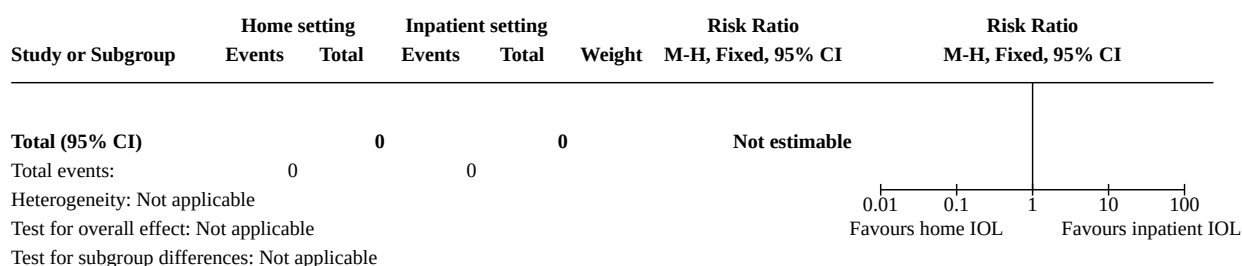
Analysis 1.16. Comparison 1: Home versus inpatient induction with vaginal PGE, Outcome 16: Length of hospital stay (in days)



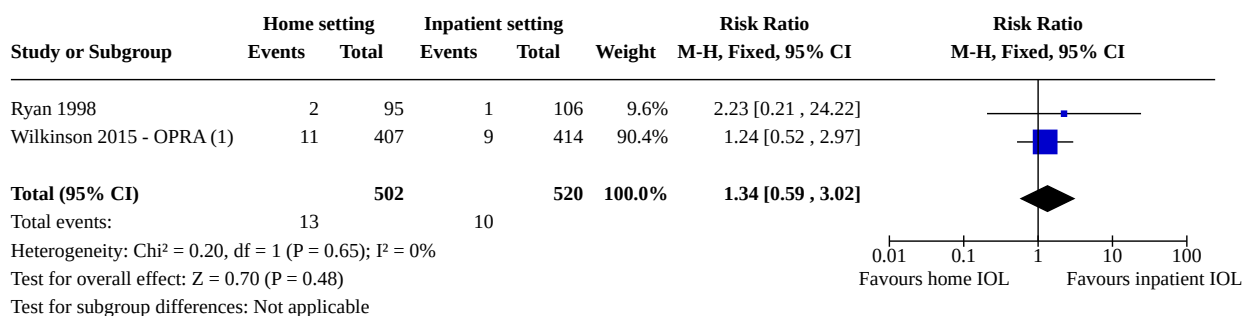
Footnotes

- (1) Data reported in what is presumed as hours - we converted to days
(2) Reports for infant. 48% of women did not receive the PGE2 induction

Analysis 1.17. Comparison 1: Home versus inpatient induction with vaginal PGE, Outcome 17: Use of emergency services



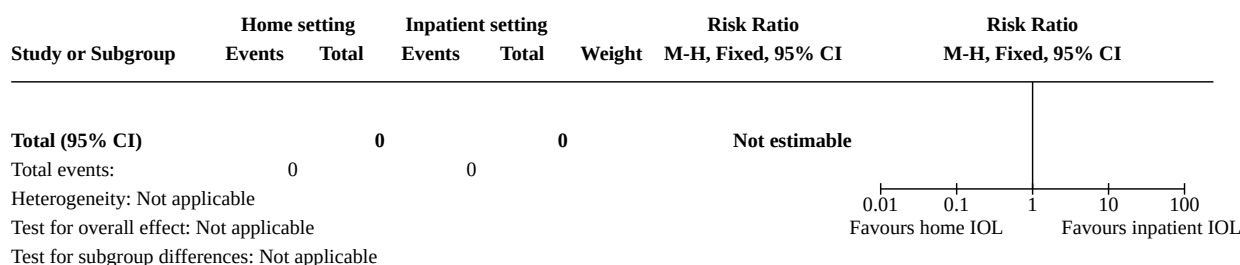
Analysis 1.18. Comparison 1: Home versus inpatient induction with vaginal PGE, Outcome 18: Apgar score < 7 at 5 minutes



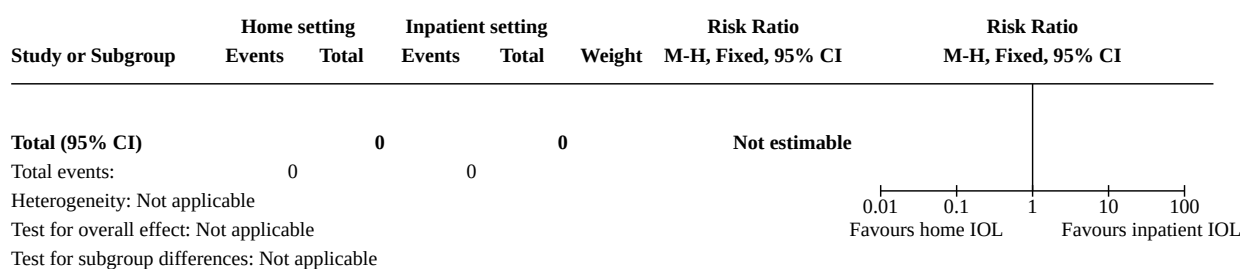
Footnotes

(1) 48% of women did not receive the PGE2 induction

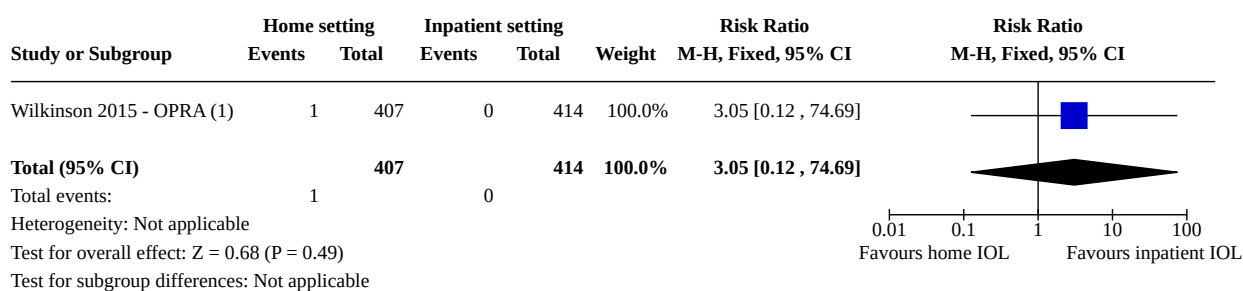
Analysis 1.19. Comparison 1: Home versus inpatient induction with vaginal PGE, Outcome 19: Meconium aspiration



Analysis 1.20. Comparison 1: Home versus inpatient induction with vaginal PGE, Outcome 20: Need for respiratory support



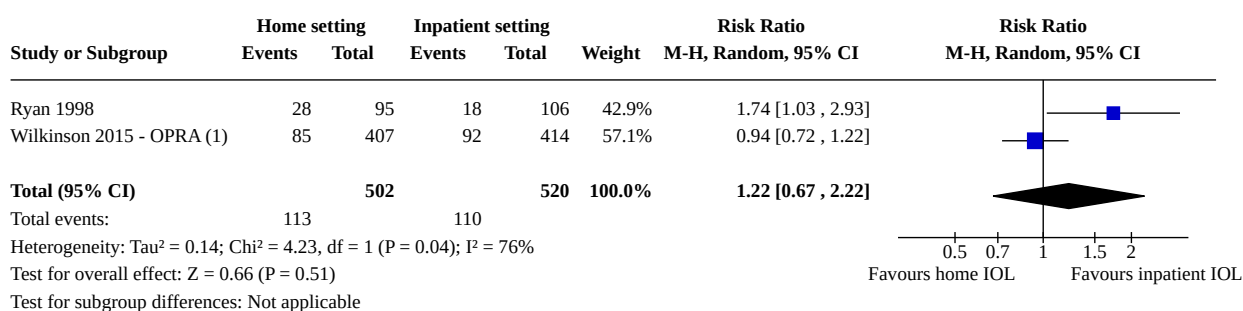
Analysis 1.21. Comparison 1: Home versus inpatient induction with vaginal PGE, Outcome 21: Perinatal mortality



Footnotes

(1) 48% of women did not receive the PGE2 induction

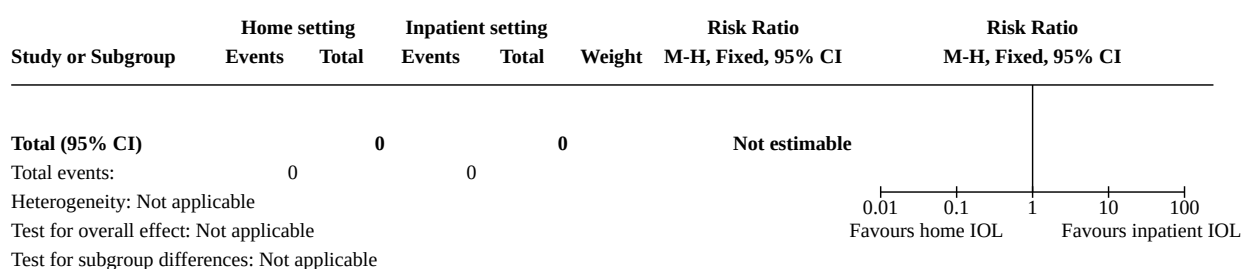
Analysis 1.22. Comparison 1: Home versus inpatient induction with vaginal PGE, Outcome 22: Instrumental vaginal birth



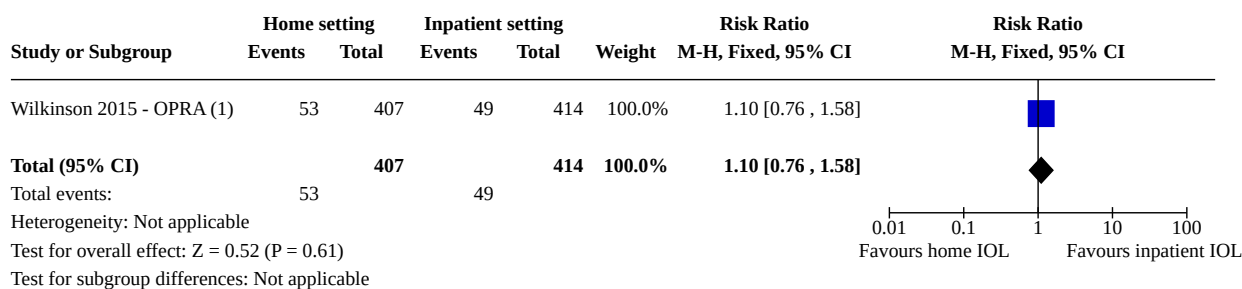
Footnotes

(1) 48% of women did not receive the PGE2 induction

Analysis 1.23. Comparison 1: Home versus inpatient induction with vaginal PGE, Outcome 23: Uterine scar dehiscence/rupture



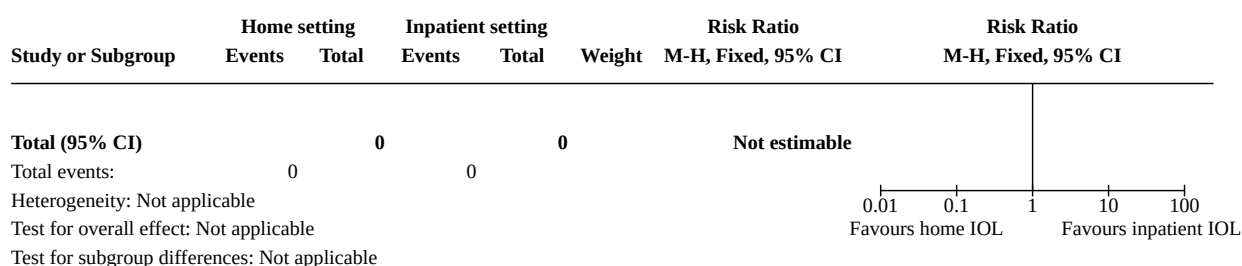
Analysis 1.24. Comparison 1: Home versus inpatient induction with vaginal PGE, Outcome 24: PPH (≥ 500 mL or as defined by trialists)



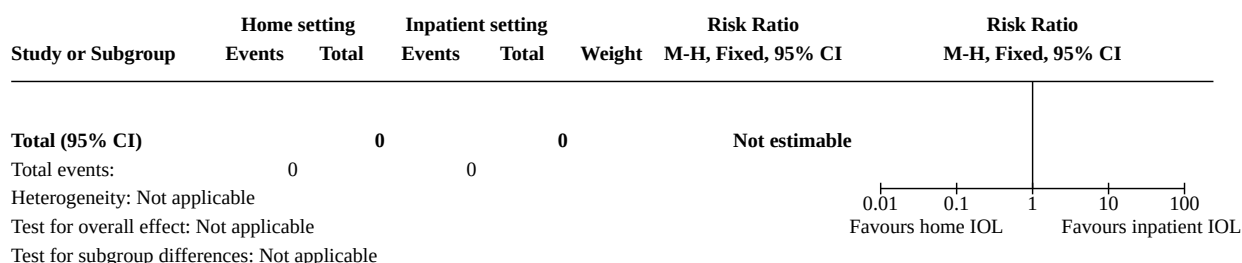
Footnotes

(1) 48% of women did not receive the PGE2 induction

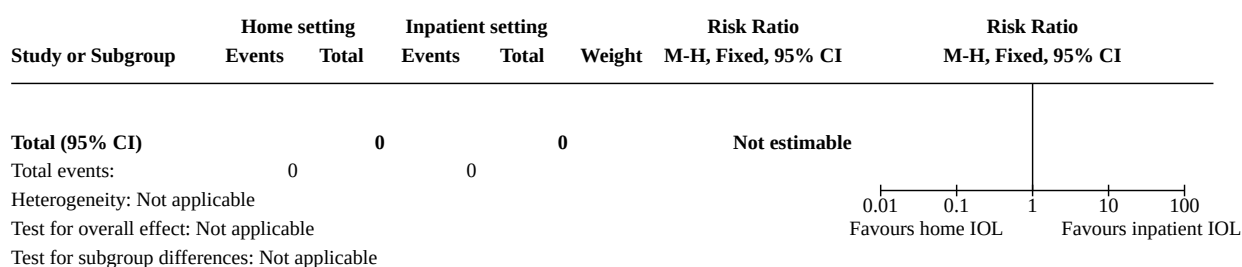
Analysis 1.25. Comparison 1: Home versus inpatient induction with vaginal PGE, Outcome 25: Hysterectomy



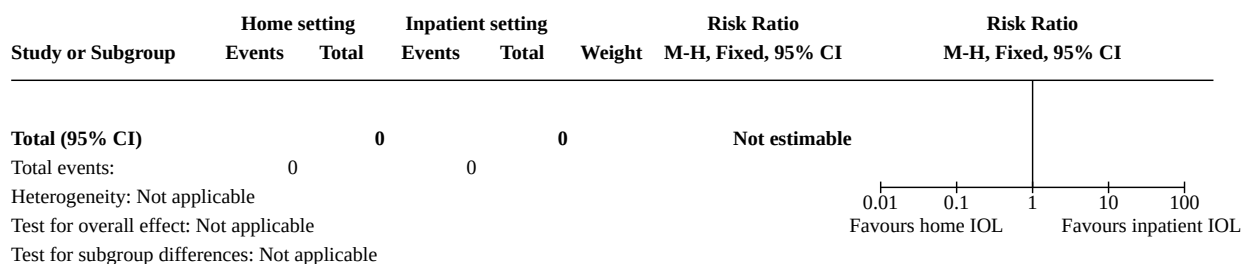
Analysis 1.26. Comparison 1: Home versus inpatient induction with vaginal PGE, Outcome 26: Maternal infection



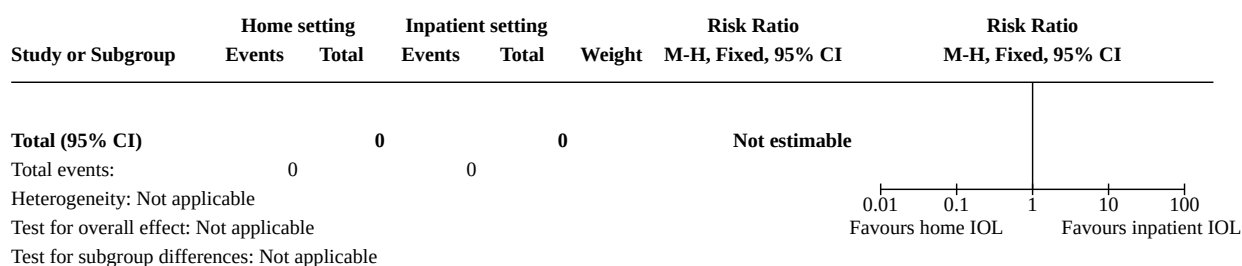
Analysis 1.27. Comparison 1: Home versus inpatient induction with vaginal PGE, Outcome 27: Serious maternal morbidity or mortality



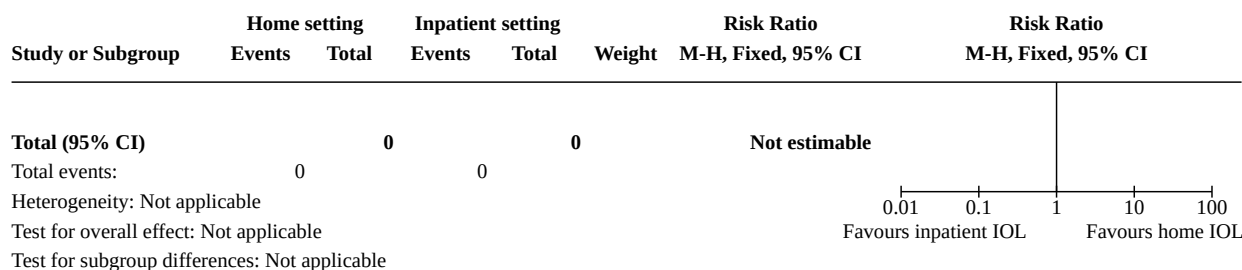
Analysis 1.28. Comparison 1: Home versus inpatient induction with vaginal PGE, Outcome 28: Postnatal depression



Analysis 1.29. Comparison 1: Home versus inpatient induction with vaginal PGE, Outcome 29: Long-term operative pelvic floor repair



Analysis 1.30. Comparison 1: Home versus inpatient induction with vaginal PGE, Outcome 30: Economic assessments as defined by trialists



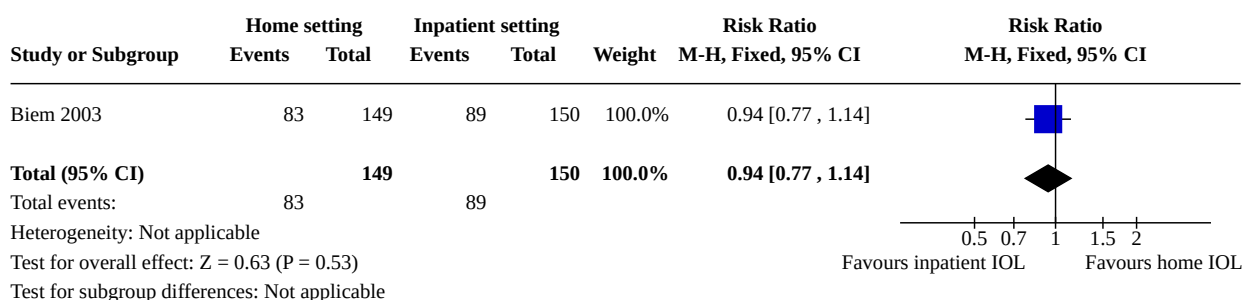
Comparison 2. Home versus inpatient induction with controlled release PGE

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
2.1 Spontaneous vaginal birth	1	299	Risk Ratio (M-H, Fixed, 95% CI)	0.94 [0.77, 1.14]
2.2 Uterine hyperstimulation	1	299	Risk Ratio (M-H, Fixed, 95% CI)	1.01 [0.51, 1.98]
2.3 Caesarean birth	1	299	Risk Ratio (M-H, Fixed, 95% CI)	0.95 [0.64, 1.42]
2.4 Neonatal infection	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable
2.5 Admission to NICU	1	299	Risk Ratio (M-H, Fixed, 95% CI)	1.38 [0.57, 3.34]

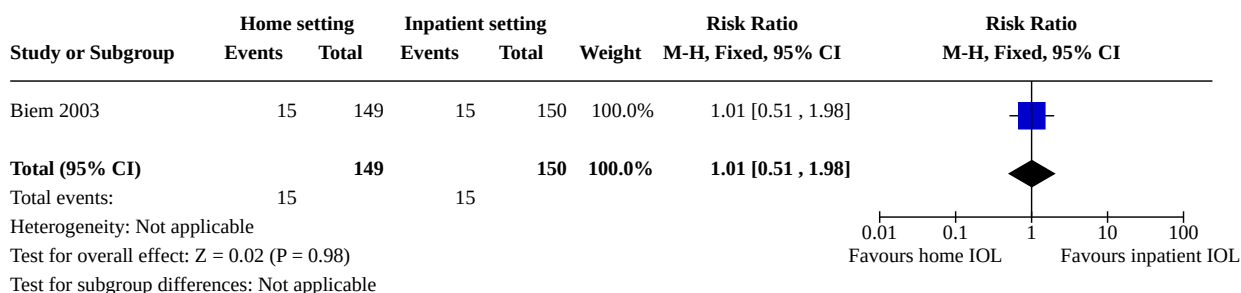
Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
2.6 Serious neonatal morbidity or mortality	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable
2.7 Women's experiences (satisfaction with care) up to 8 weeks	0	0	Mean Difference (IV, Fixed, 95% CI)	Not estimable
2.8 Oxytocin administration	1	299	Risk Ratio (M-H, Fixed, 95% CI)	0.76 [0.46, 1.27]
2.9 Pain - self assessment	1	299	Mean Difference (IV, Fixed, 95% CI)	-0.10 [-0.42, 0.22]
2.10 Spinal analgesia	1	299	Risk Ratio (M-H, Fixed, 95% CI)	1.02 [0.91, 1.16]
2.11 Opioid analgesia	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable
2.12 No pharmacological analgesia	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable
2.13 Woman's sense of control	0	0	Mean Difference (IV, Fixed, 95% CI)	Not estimable
2.14 Need for more than one induction agent	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable
2.15 Time from induction to birth (in hours)	0	0	Mean Difference (IV, Fixed, 95% CI)	Not estimable
2.16 Length of hospital stay (in days)	0	0	Mean Difference (IV, Fixed, 95% CI)	Not estimable
2.17 Use of emergency services	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable
2.18 Apgar score < 7 at 5 minutes	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable
2.19 Meconium aspiration	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable
2.20 Need for respiratory support	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable
2.21 Perinatal mortality	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable
2.22 Instrumental vaginal birth	1	299	Risk Ratio (M-H, Fixed, 95% CI)	1.34 [0.83, 2.17]
2.23 Uterine scar dehiscence/rupture	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable
2.24 PPH (\geq 500 mL or as defined by trialists)	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable
2.25 Hysterectomy	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable
2.26 Maternal infection	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable
2.27 Serious maternal morbidity or mortality	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
2.28 Postnatal depression	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable
2.29 Long-term operative pelvic floor repair	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable
2.30 Economic assessments as defined by trialists	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable

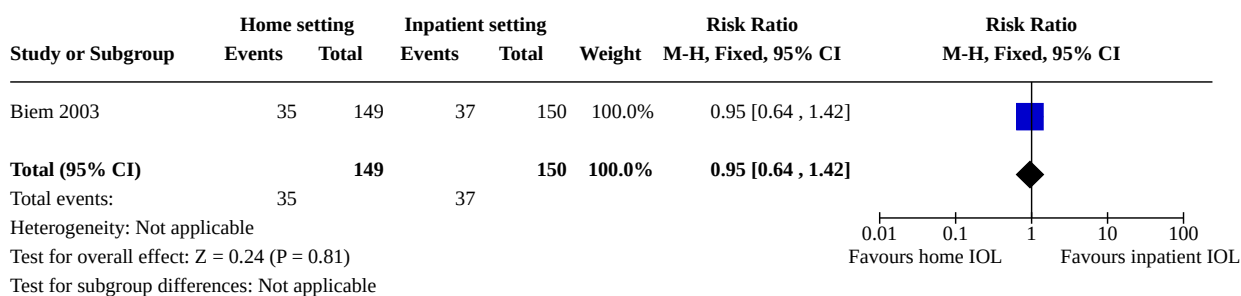
Analysis 2.1. Comparison 2: Home versus inpatient induction with controlled release PGE, Outcome 1: Spontaneous vaginal birth



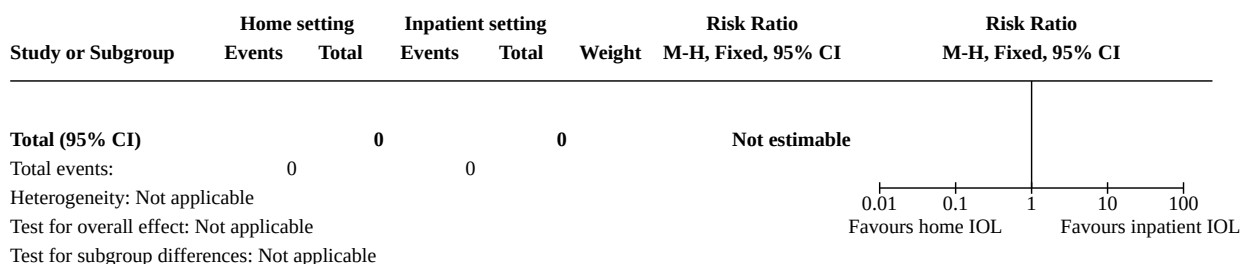
Analysis 2.2. Comparison 2: Home versus inpatient induction with controlled release PGE, Outcome 2: Uterine hyperstimulation



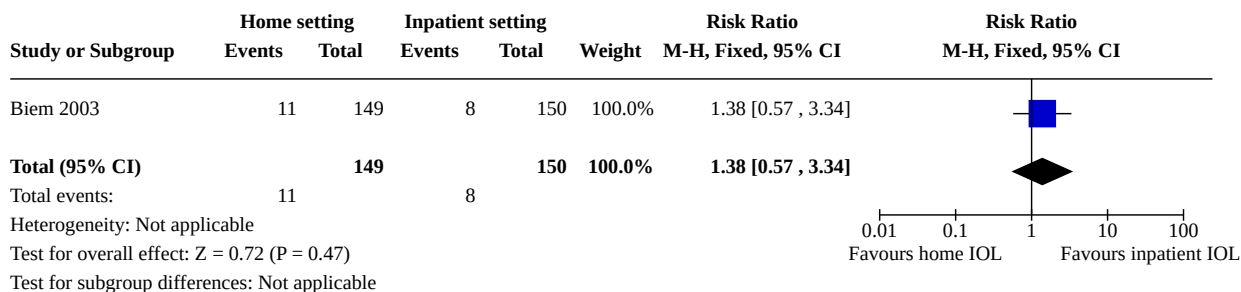
Analysis 2.3. Comparison 2: Home versus inpatient induction with controlled release PGE, Outcome 3: Caesarean birth



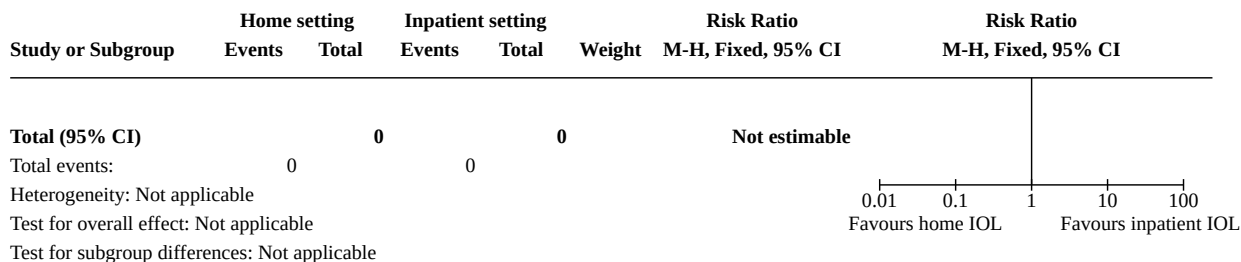
Analysis 2.4. Comparison 2: Home versus inpatient induction with controlled release PGE, Outcome 4: Neonatal infection



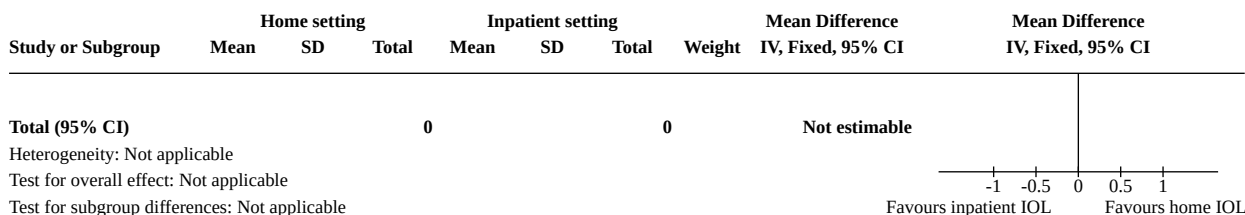
Analysis 2.5. Comparison 2: Home versus inpatient induction with controlled release PGE, Outcome 5: Admission to NICU



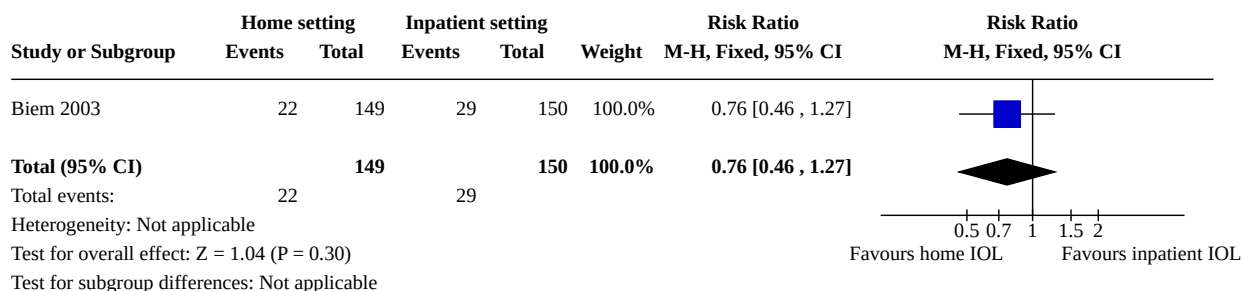
Analysis 2.6. Comparison 2: Home versus inpatient induction with controlled release PGE, Outcome 6: Serious neonatal morbidity or mortality



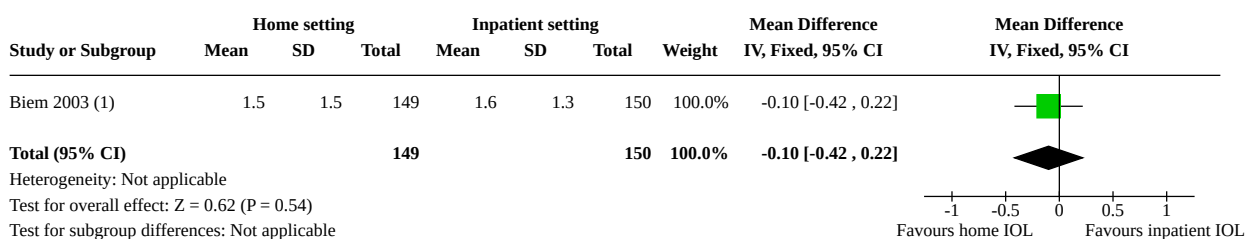
Analysis 2.7. Comparison 2: Home versus inpatient induction with controlled release PGE, Outcome 7: Women's experiences (satisfaction with care) up to 8 weeks



Analysis 2.8. Comparison 2: Home versus inpatient induction with controlled release PGE, Outcome 8: Oxytocin administration



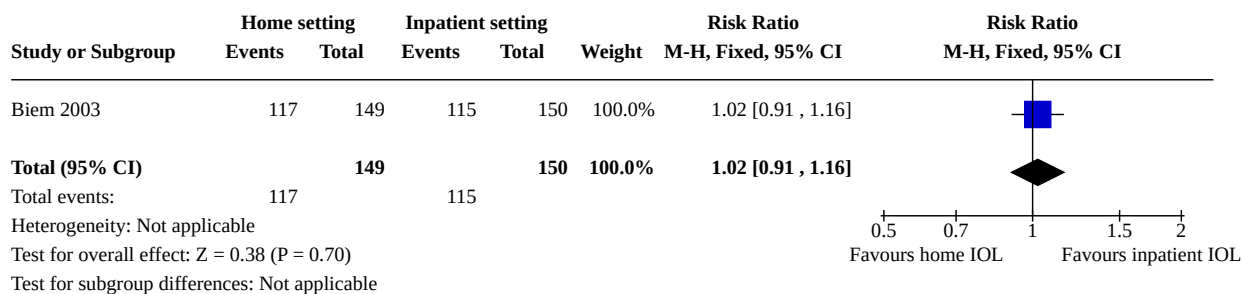
Analysis 2.9. Comparison 2: Home versus inpatient induction with controlled release PGE, Outcome 9: Pain - self assessment



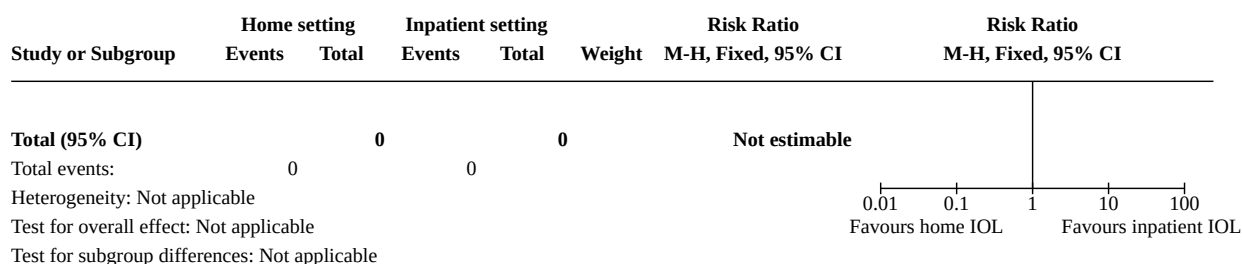
Footnotes

(1) In initial 12 hours after CR-PGE insertion

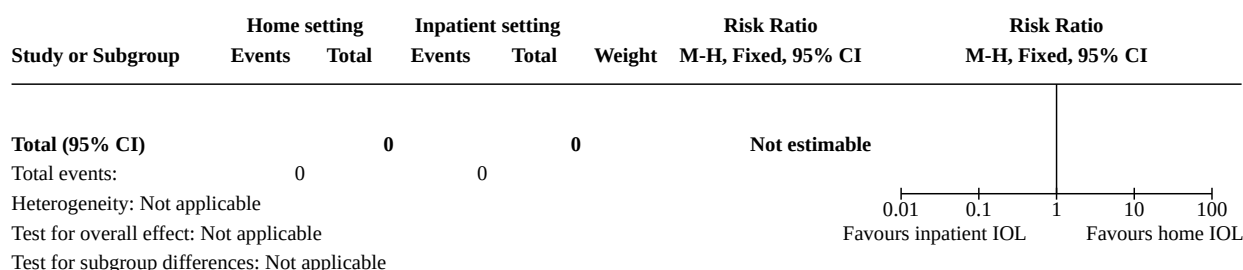
Analysis 2.10. Comparison 2: Home versus inpatient induction with controlled release PGE, Outcome 10: Spinal analgesia



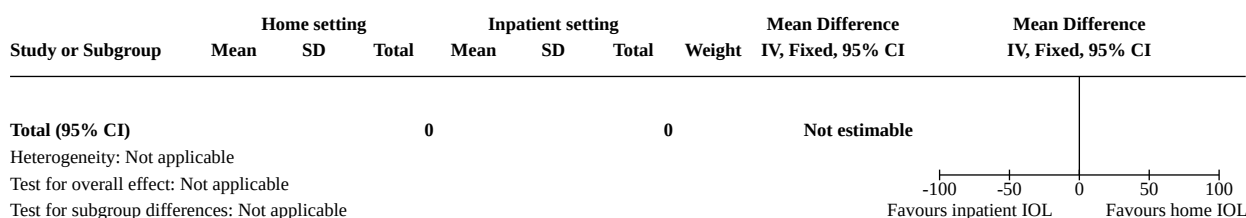
Analysis 2.11. Comparison 2: Home versus inpatient induction with controlled release PGE, Outcome 11: Opioid analgesia



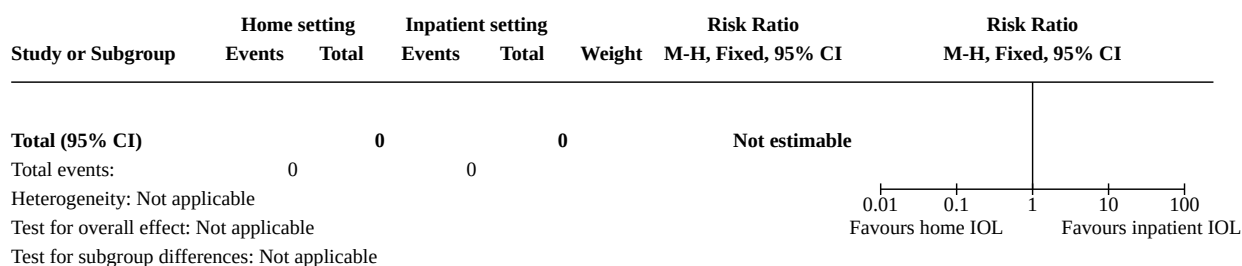
Analysis 2.12. Comparison 2: Home versus inpatient induction with controlled release PGE, Outcome 12: No pharmacological analgesia



Analysis 2.13. Comparison 2: Home versus inpatient induction with controlled release PGE, Outcome 13: Woman's sense of control



Analysis 2.14. Comparison 2: Home versus inpatient induction with controlled release PGE, Outcome 14: Need for more than one induction agent



Analysis 2.15. Comparison 2: Home versus inpatient induction with controlled release PGE, Outcome 15: Time from induction to birth (in hours)

Study or Subgroup	Home setting			Inpatient setting			Weight	Mean Difference IV, Fixed, 95% CI	Mean Difference IV, Fixed, 95% CI
	Mean	SD	Total	Mean	SD	Total			
Total (95% CI)			0			0		Not estimable	
Heterogeneity: Not applicable									
Test for overall effect: Not applicable									
Test for subgroup differences: Not applicable									

Analysis 2.16. Comparison 2: Home versus inpatient induction with controlled release PGE, Outcome 16: Length of hospital stay (in days)

Study or Subgroup	Home setting			Inpatient setting			Weight	Mean Difference IV, Fixed, 95% CI	Mean Difference IV, Fixed, 95% CI
	Mean	SD	Total	Mean	SD	Total			
Total (95% CI)			0			0		Not estimable	
Heterogeneity: Not applicable									
Test for overall effect: Not applicable									
Test for subgroup differences: Not applicable									

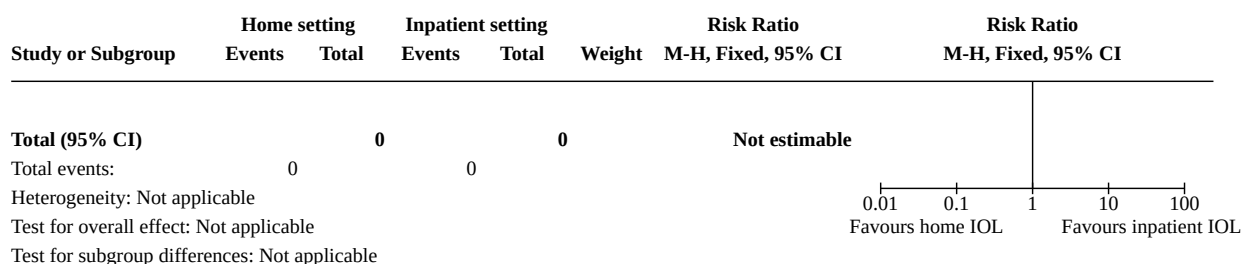
Analysis 2.17. Comparison 2: Home versus inpatient induction with controlled release PGE, Outcome 17: Use of emergency services

Study or Subgroup	Home setting			Inpatient setting			Weight	Risk Ratio M-H, Fixed, 95% CI	Risk Ratio M-H, Fixed, 95% CI
	Events	Total		Events	Total				
Total (95% CI)		0			0			Not estimable	
Total events: 0									
Heterogeneity: Not applicable									
Test for overall effect: Not applicable									
Test for subgroup differences: Not applicable									

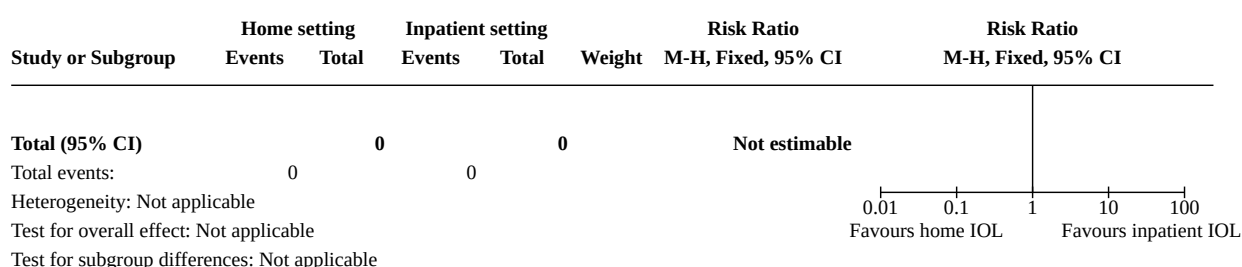
Analysis 2.18. Comparison 2: Home versus inpatient induction with controlled release PGE, Outcome 18: Apgar score < 7 at 5 minutes

Study or Subgroup	Home setting			Inpatient setting			Weight	Risk Ratio M-H, Fixed, 95% CI	Risk Ratio M-H, Fixed, 95% CI
	Events	Total		Events	Total				
Total (95% CI)		0			0			Not estimable	
Total events: 0									
Heterogeneity: Not applicable									
Test for overall effect: Not applicable									
Test for subgroup differences: Not applicable									

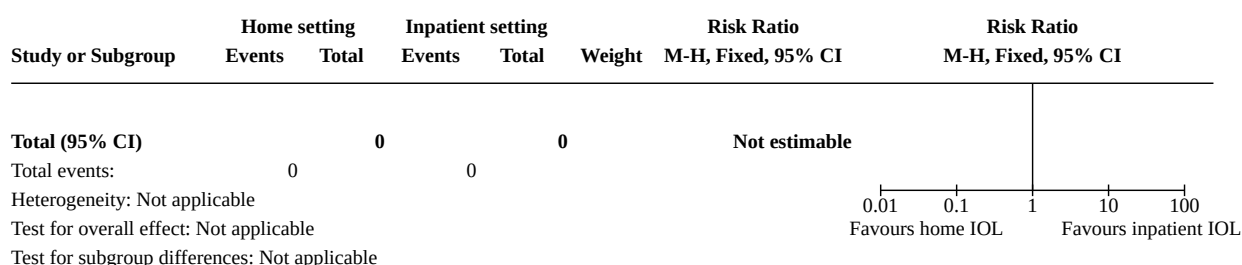
Analysis 2.19. Comparison 2: Home versus inpatient induction with controlled release PGE, Outcome 19: Meconium aspiration



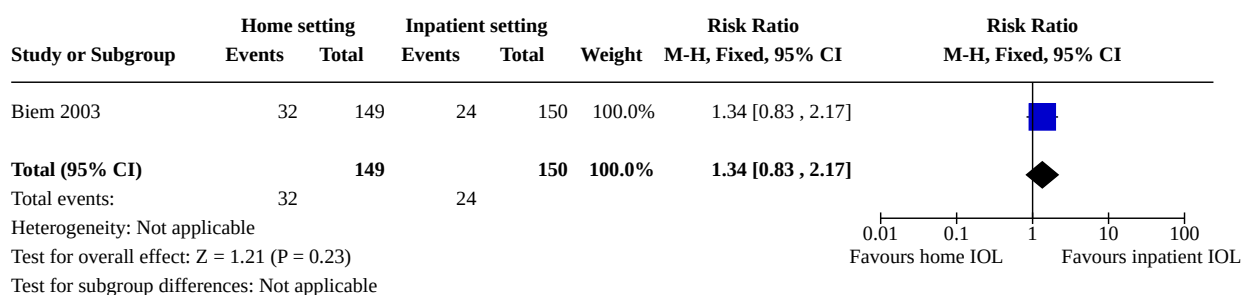
Analysis 2.20. Comparison 2: Home versus inpatient induction with controlled release PGE, Outcome 20: Need for respiratory support



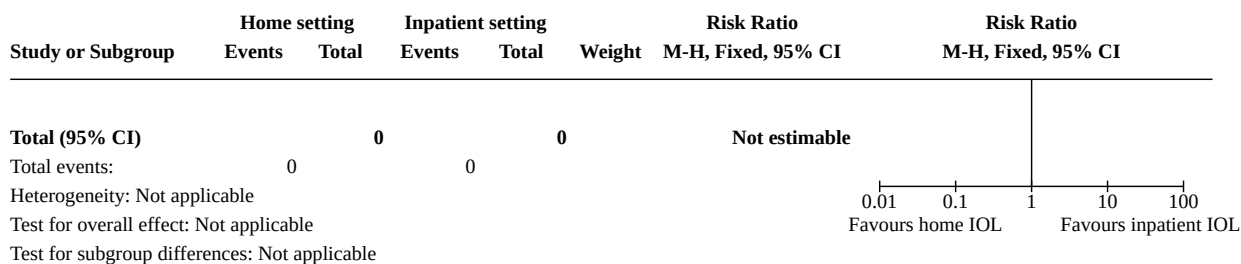
Analysis 2.21. Comparison 2: Home versus inpatient induction with controlled release PGE, Outcome 21: Perinatal mortality



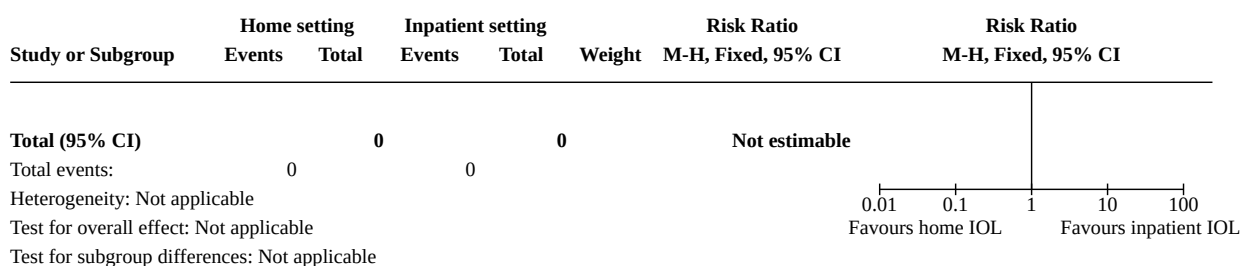
Analysis 2.22. Comparison 2: Home versus inpatient induction with controlled release PGE, Outcome 22: Instrumental vaginal birth



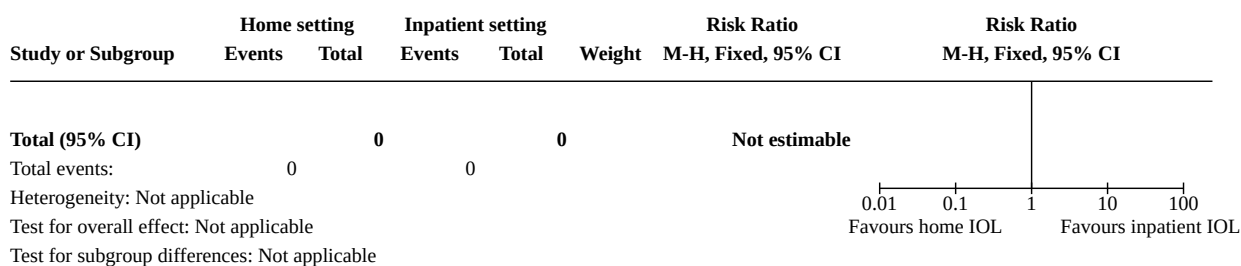
Analysis 2.23. Comparison 2: Home versus inpatient induction with controlled release PGE, Outcome 23: Uterine scar dehiscence/rupture



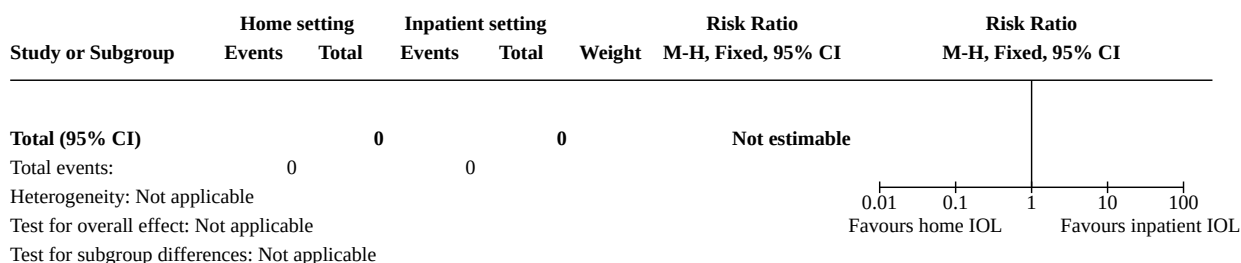
Analysis 2.24. Comparison 2: Home versus inpatient induction with controlled release PGE, Outcome 24: PPH (≥ 500 mL or as defined by trialists)



Analysis 2.25. Comparison 2: Home versus inpatient induction with controlled release PGE, Outcome 25: Hysterectomy



Analysis 2.26. Comparison 2: Home versus inpatient induction with controlled release PGE, Outcome 26: Maternal infection



Analysis 2.27. Comparison 2: Home versus inpatient induction with controlled release PGE, Outcome 27: Serious maternal morbidity or mortality

Study or Subgroup	Home setting Events	Home setting Total	Inpatient setting Events	Inpatient setting Total	Weight	Risk Ratio M-H, Fixed, 95% CI	Risk Ratio M-H, Fixed, 95% CI
Total (95% CI)		0		0		Not estimable	
Total events:	0		0				
Heterogeneity: Not applicable							
Test for overall effect: Not applicable							
Test for subgroup differences: Not applicable							

Analysis 2.28. Comparison 2: Home versus inpatient induction with controlled release PGE, Outcome 28: Postnatal depression

Study or Subgroup	Home setting Events	Home setting Total	Inpatient setting Events	Inpatient setting Total	Weight	Risk Ratio M-H, Fixed, 95% CI	Risk Ratio M-H, Fixed, 95% CI
Total (95% CI)		0		0		Not estimable	
Total events:	0		0				
Heterogeneity: Not applicable							
Test for overall effect: Not applicable							
Test for subgroup differences: Not applicable							

Analysis 2.29. Comparison 2: Home versus inpatient induction with controlled release PGE, Outcome 29: Long-term operative pelvic floor repair

Study or Subgroup	Home setting Events	Home setting Total	Inpatient setting Events	Inpatient setting Total	Weight	Risk Ratio M-H, Fixed, 95% CI	Risk Ratio M-H, Fixed, 95% CI
Total (95% CI)		0		0		Not estimable	
Total events:	0		0				
Heterogeneity: Not applicable							
Test for overall effect: Not applicable							
Test for subgroup differences: Not applicable							

Analysis 2.30. Comparison 2: Home versus inpatient induction with controlled release PGE, Outcome 30: Economic assessments as defined by trialists

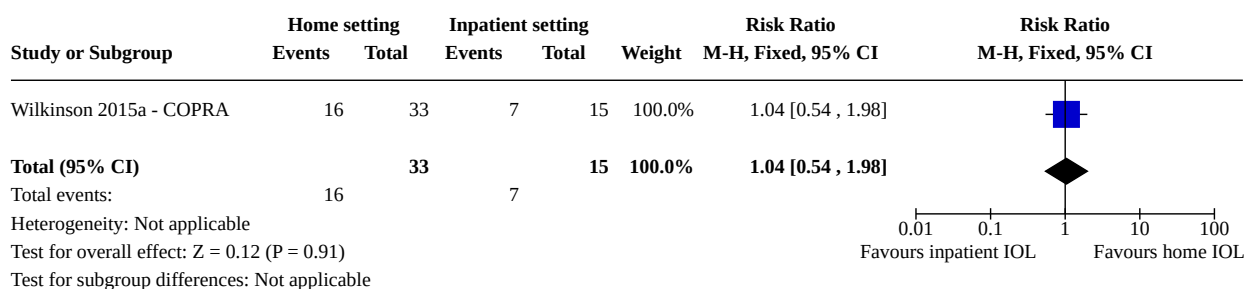
Study or Subgroup	Home setting Events	Home setting Total	Inpatient setting Events	Inpatient setting Total	Weight	Risk Ratio M-H, Fixed, 95% CI	Risk Ratio M-H, Fixed, 95% CI
Total (95% CI)		0		0		Not estimable	
Total events:	0		0				
Heterogeneity: Not applicable							
Test for overall effect: Not applicable							
Test for subgroup differences: Not applicable							

Comparison 3. Home versus inpatient induction with balloon or Foley catheter

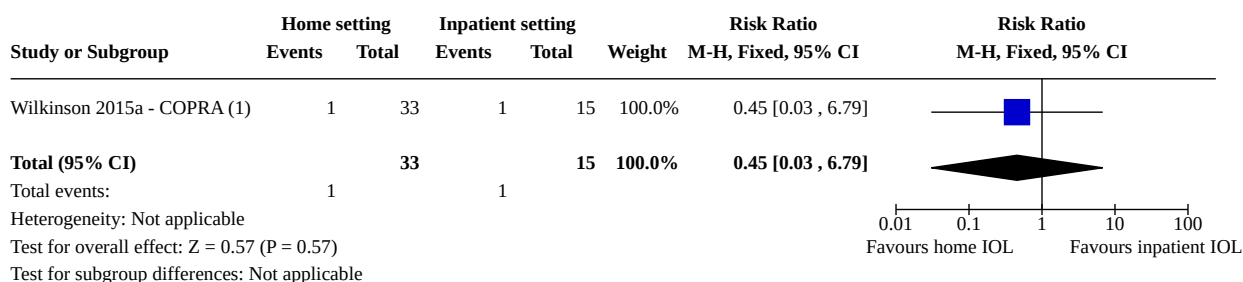
Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
3.1 Spontaneous vaginal birth	1	48	Risk Ratio (M-H, Fixed, 95% CI)	1.04 [0.54, 1.98]
3.2 Uterine hyperstimulation	1	48	Risk Ratio (M-H, Fixed, 95% CI)	0.45 [0.03, 6.79]
3.3 Caesarean birth	2	159	Risk Ratio (M-H, Fixed, 95% CI)	0.64 [0.41, 1.01]
3.4 Neonatal infection	1	48	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable
3.5 Admission to NICU	2	159	Risk Ratio (M-H, Fixed, 95% CI)	0.37 [0.07, 1.86]
3.6 Serious neonatal morbidity or mortality	1	48	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable
3.7 Women's experiences (satisfaction with care) up to 8 weeks	0	0	Mean Difference (IV, Fixed, 95% CI)	Not estimable
3.8 Oxytocin administration	1	48	Risk Ratio (M-H, Fixed, 95% CI)	0.75 [0.57, 0.97]
3.9 Pain - self assessment	1	111	Mean Difference (IV, Fixed, 95% CI)	0.90 [0.02, 1.78]
3.10 Spinal analgesia	2	159	Risk Ratio (M-H, Fixed, 95% CI)	0.99 [0.91, 1.09]
3.11 Opioid analgesia	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable
3.12 No pharmacological analgesia	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable
3.13 Woman's sense of control	0	0	Mean Difference (IV, Fixed, 95% CI)	Not estimable
3.14 Need for more than one induction agent	1	130	Risk Ratio (M-H, Fixed, 95% CI)	1.08 [0.82, 1.41]
3.15 Time from induction to birth (in hours)	3	289	Mean Difference (IV, Fixed, 95% CI)	-3.51 [-6.32, -0.69]
3.16 Length of hospital stay (in days)	2	178	Mean Difference (IV, Fixed, 95% CI)	-0.50 [-0.71, -0.30]
3.17 Use of emergency services	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable
3.18 Apgar score < 7 at 5 minutes	1	48	Risk Ratio (M-H, Fixed, 95% CI)	2.35 [0.12, 46.22]
3.19 Meconium aspiration	1	48	Risk Ratio (M-H, Fixed, 95% CI)	1.41 [0.06, 32.78]
3.20 Need for respiratory support	1	48	Risk Ratio (M-H, Fixed, 95% CI)	1.41 [0.06, 32.78]
3.21 Perinatal mortality	2	178	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable
3.22 Instrumental vaginal birth	1	48	Risk Ratio (M-H, Fixed, 95% CI)	1.67 [0.54, 5.11]
3.23 Uterine scar dehiscence/rupture	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
3.24 PPH (≥ 500 mL or as defined by trialists)	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable
3.25 Hysterectomy	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable
3.26 Maternal infection	1	48	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable
3.27 Serious maternal morbidity or mortality	1	48	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable
3.28 Postnatal depression	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable
3.29 Long-term operative pelvic floor repair	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable
3.30 Economic assessments as defined by trialists	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable

Analysis 3.1. Comparison 3: Home versus inpatient induction with balloon or Foley catheter, Outcome 1: Spontaneous vaginal birth



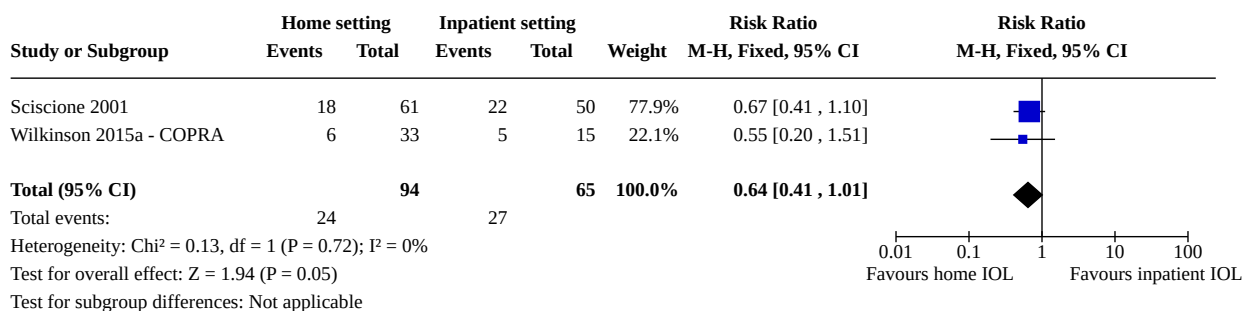
Analysis 3.2. Comparison 3: Home versus inpatient induction with balloon or Foley catheter, Outcome 2: Uterine hyperstimulation



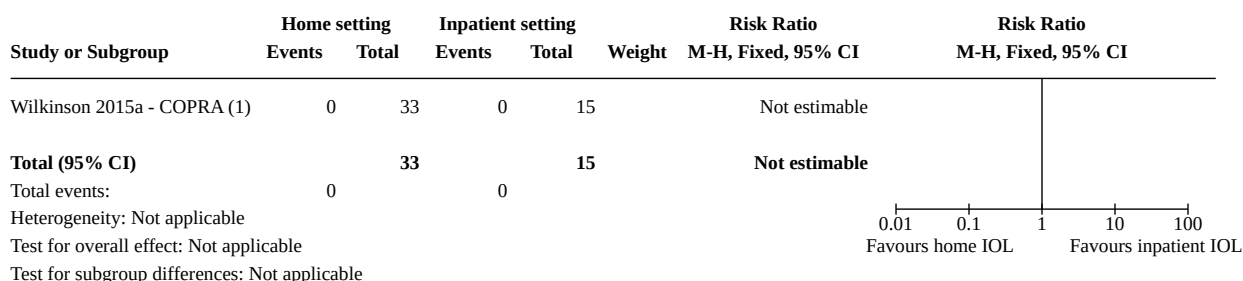
Footnotes

(1) Both hyperstimulations occurring with oxytocin administration

Analysis 3.3. Comparison 3: Home versus inpatient induction with balloon or Foley catheter, Outcome 3: Caesarean birth



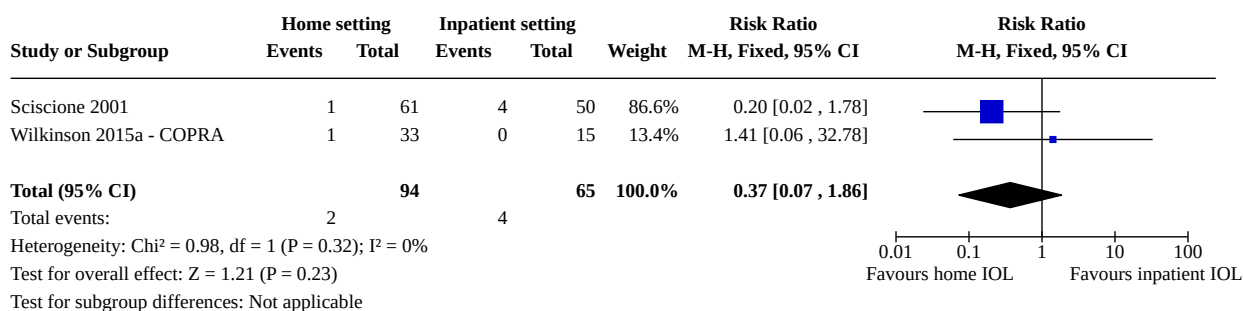
Analysis 3.4. Comparison 3: Home versus inpatient induction with balloon or Foley catheter, Outcome 4: Neonatal infection



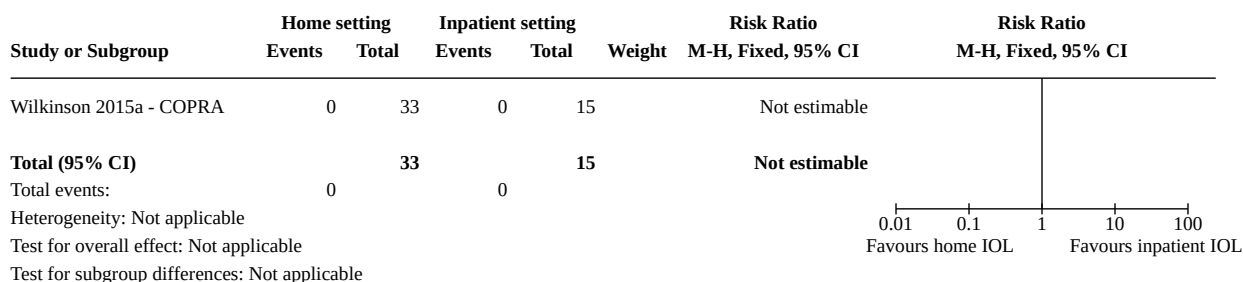
Footnotes

(1) Reported as no infection attributable to catheter

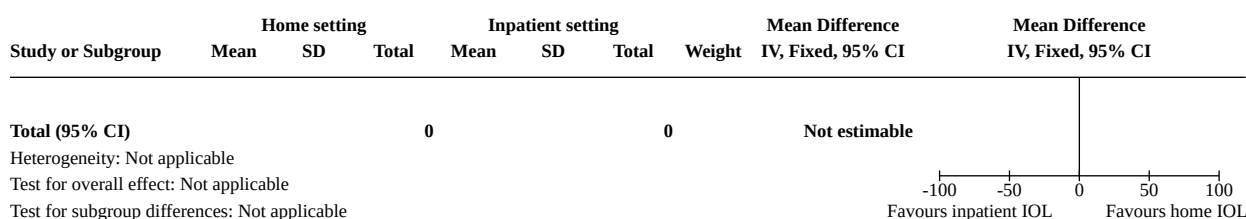
Analysis 3.5. Comparison 3: Home versus inpatient induction with balloon or Foley catheter, Outcome 5: Admission to NICU



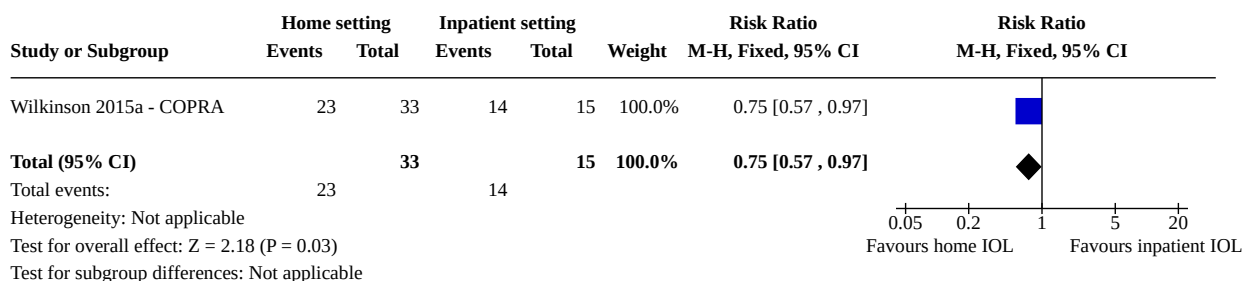
Analysis 3.6. Comparison 3: Home versus inpatient induction with balloon or Foley catheter, Outcome 6: Serious neonatal morbidity or mortality



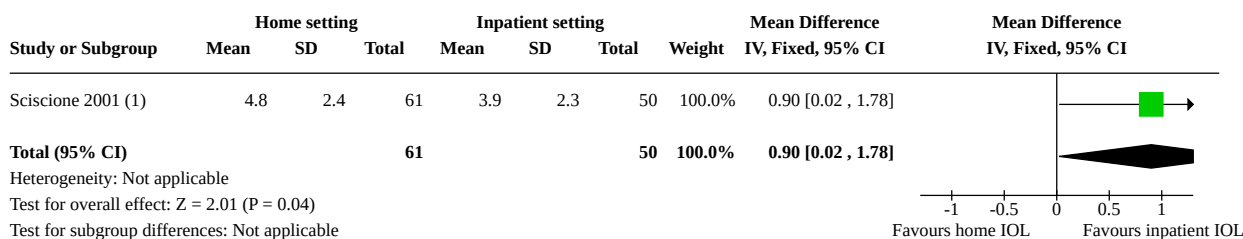
Analysis 3.7. Comparison 3: Home versus inpatient induction with balloon or Foley catheter, Outcome 7: Women's experiences (satisfaction with care) up to 8 weeks



Analysis 3.8. Comparison 3: Home versus inpatient induction with balloon or Foley catheter, Outcome 8: Oxytocin administration



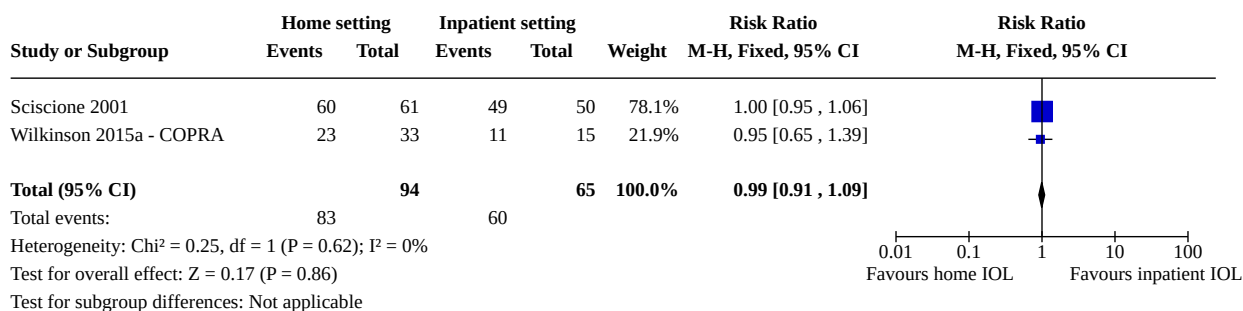
Analysis 3.9. Comparison 3: Home versus inpatient induction with balloon or Foley catheter, Outcome 9: Pain - self assessment



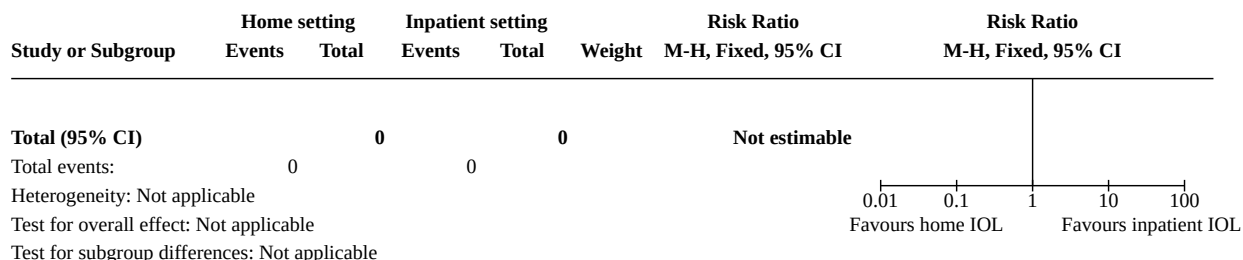
Footnotes

(1) Scale 1-10, with 1 = no discomfort and 10 = worst pain imaginable

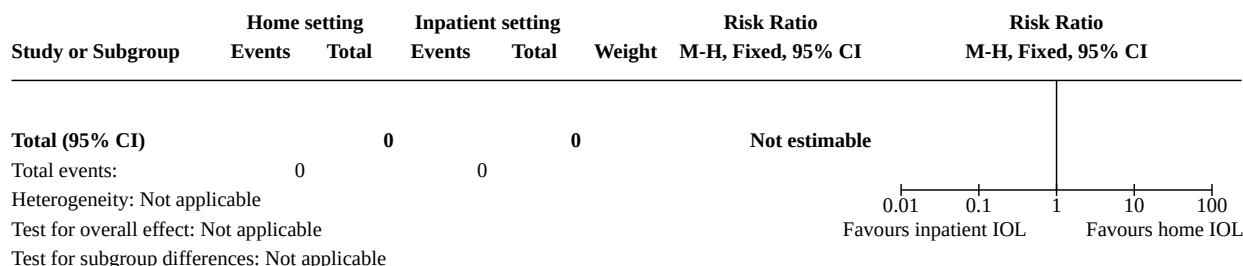
Analysis 3.10. Comparison 3: Home versus inpatient induction with balloon or Foley catheter, Outcome 10: Spinal analgesia



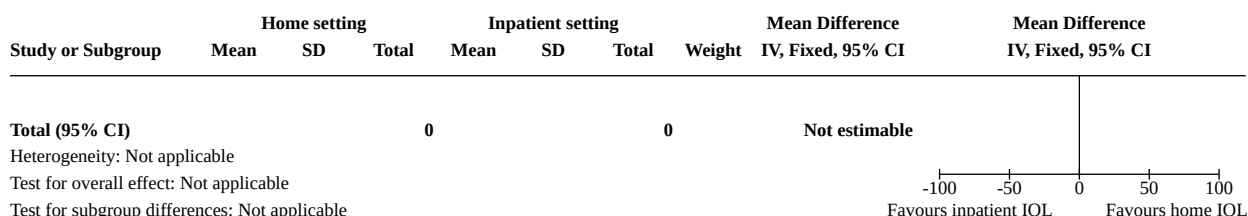
Analysis 3.11. Comparison 3: Home versus inpatient induction with balloon or Foley catheter, Outcome 11: Opioid analgesia



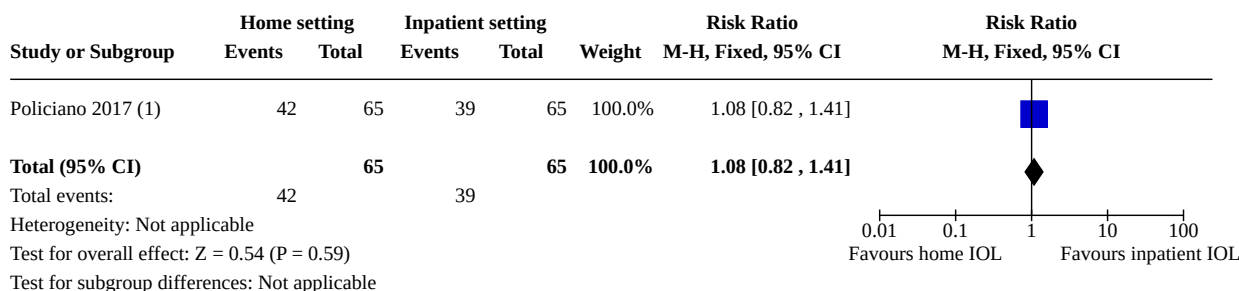
Analysis 3.12. Comparison 3: Home versus inpatient induction with balloon or Foley catheter, Outcome 12: No pharmacological analgesia



Analysis 3.13. Comparison 3: Home versus inpatient induction with balloon or Foley catheter, Outcome 13: Woman's sense of control



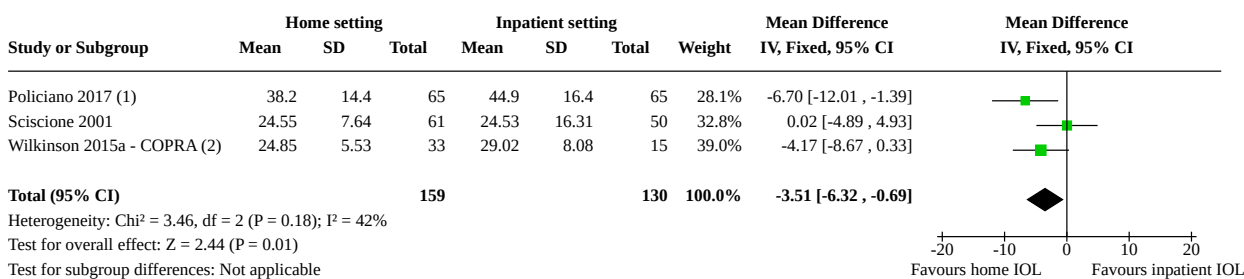
Analysis 3.14. Comparison 3: Home versus inpatient induction with balloon or Foley catheter, Outcome 14: Need for more than one induction agent



Footnotes

(1) Prostaglandin use after Foley catheter

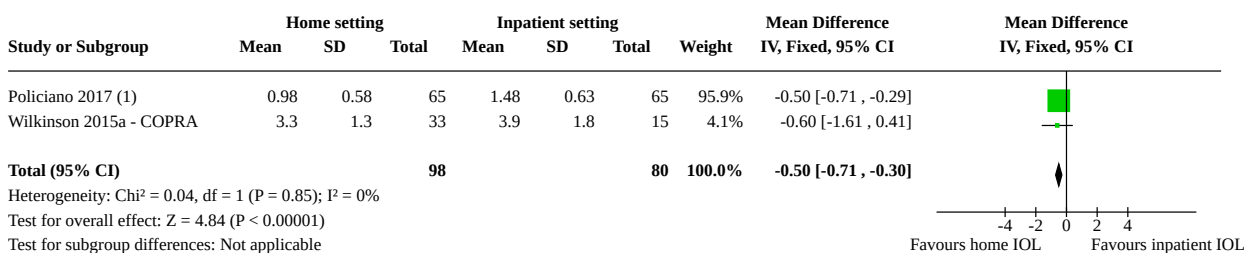
Analysis 3.15. Comparison 3: Home versus inpatient induction with balloon or Foley catheter, Outcome 15: Time from induction to birth (in hours)



Footnotes

(1) Data doesn't fit with length of hospital stay
(2) Need someone to check

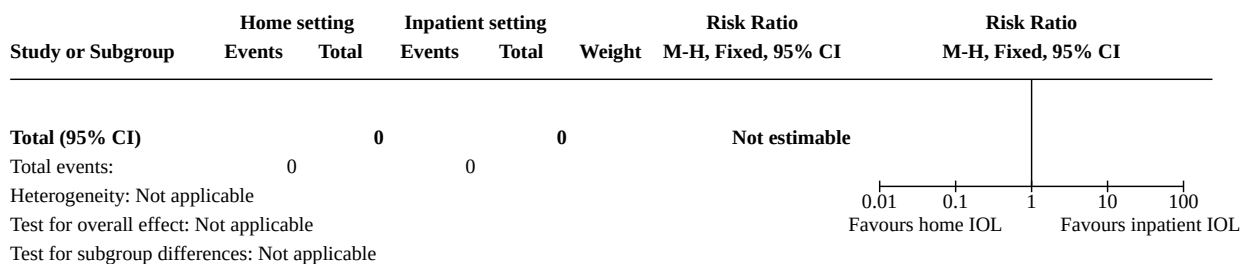
Analysis 3.16. Comparison 3: Home versus inpatient induction with balloon or Foley catheter, Outcome 16: Length of hospital stay (in days)



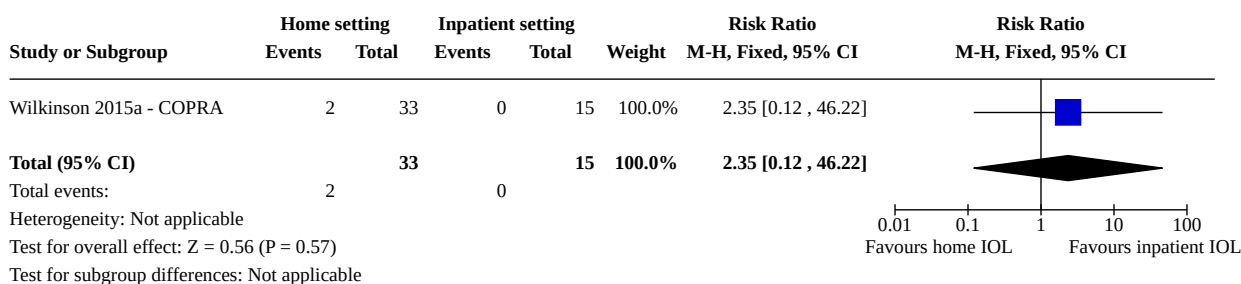
Footnotes

(1) Reported in hours - we converted to days. But length hospital stay less than induction to birth - check

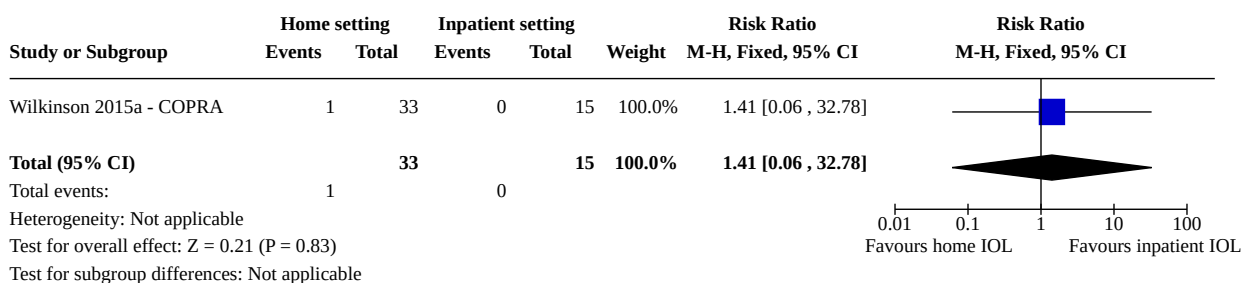
Analysis 3.17. Comparison 3: Home versus inpatient induction with balloon or Foley catheter, Outcome 17: Use of emergency services



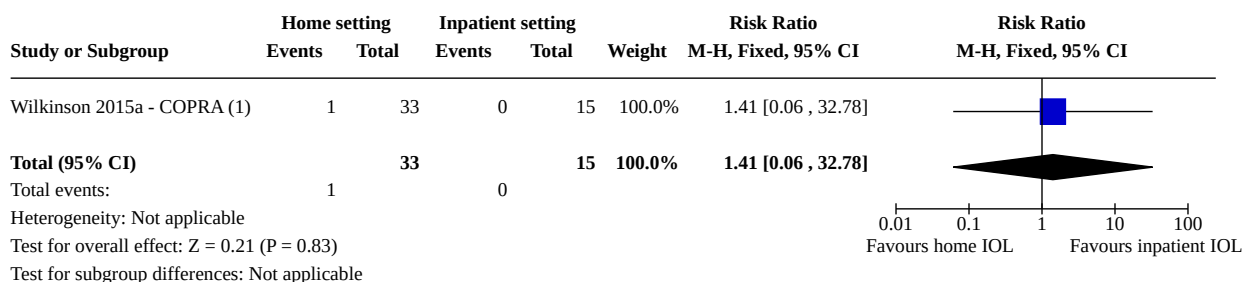
Analysis 3.18. Comparison 3: Home versus inpatient induction with balloon or Foley catheter, Outcome 18: Apgar score < 7 at 5 minutes



Analysis 3.19. Comparison 3: Home versus inpatient induction with balloon or Foley catheter, Outcome 19: Meconium aspiration



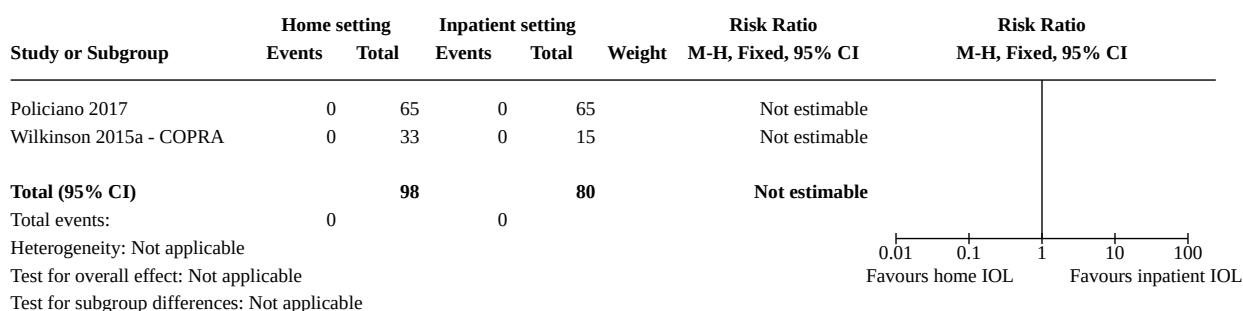
Analysis 3.20. Comparison 3: Home versus inpatient induction with balloon or Foley catheter, Outcome 20: Need for respiratory support



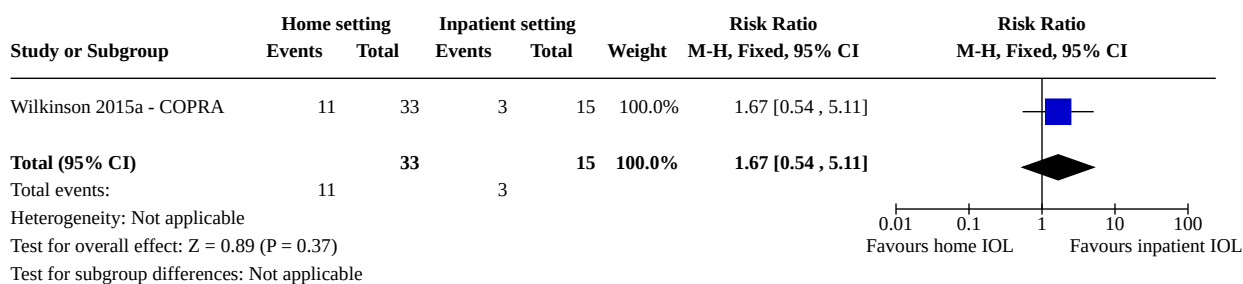
Footnotes

(1) Reports 'Respiratory problems' - not specifically needing support - check - maybe report in 'Characteristics of included studies' section.

Analysis 3.21. Comparison 3: Home versus inpatient induction with balloon or Foley catheter, Outcome 21: Perinatal mortality

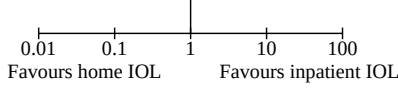


Analysis 3.22. Comparison 3: Home versus inpatient induction with balloon or Foley catheter, Outcome 22: Instrumental vaginal birth



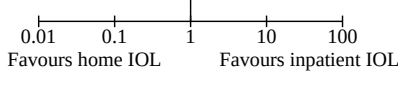
Analysis 3.23. Comparison 3: Home versus inpatient induction with balloon or Foley catheter, Outcome 23: Uterine scar dehiscence/rupture

Study or Subgroup	Home setting		Inpatient setting		Weight	Risk Ratio		Risk Ratio	
	Events	Total	Events	Total		M-H, Fixed, 95% CI		M-H, Fixed, 95% CI	
Total (95% CI)		0		0		Not estimable			
Total events:	0		0						
Heterogeneity: Not applicable									
Test for overall effect: Not applicable									
Test for subgroup differences: Not applicable									



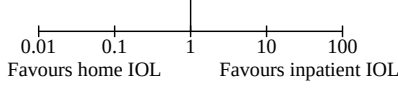
Analysis 3.24. Comparison 3: Home versus inpatient induction with balloon or Foley catheter, Outcome 24: PPH (≥ 500 mL or as defined by trialists)

Study or Subgroup	Home setting		Inpatient setting		Weight	Risk Ratio		Risk Ratio	
	Events	Total	Events	Total		M-H, Fixed, 95% CI		M-H, Fixed, 95% CI	
Total (95% CI)		0		0		Not estimable			
Total events:	0		0						
Heterogeneity: Not applicable									
Test for overall effect: Not applicable									
Test for subgroup differences: Not applicable									



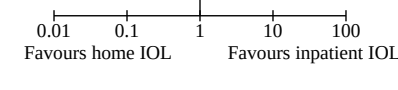
Analysis 3.25. Comparison 3: Home versus inpatient induction with balloon or Foley catheter, Outcome 25: Hysterectomy

Study or Subgroup	Home setting		Inpatient setting		Weight	Risk Ratio		Risk Ratio	
	Events	Total	Events	Total		M-H, Fixed, 95% CI		M-H, Fixed, 95% CI	
Total (95% CI)		0		0		Not estimable			
Total events:	0		0						
Heterogeneity: Not applicable									
Test for overall effect: Not applicable									
Test for subgroup differences: Not applicable									



Analysis 3.26. Comparison 3: Home versus inpatient induction with balloon or Foley catheter, Outcome 26: Maternal infection

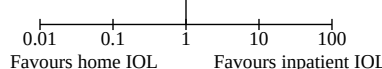
Study or Subgroup	Home setting		Inpatient setting		Weight	Risk Ratio		Risk Ratio	
	Events	Total	Events	Total		M-H, Fixed, 95% CI		M-H, Fixed, 95% CI	
Wilkinson 2015a - COPRA (1)	0	33	0	15	15	Not estimable			
Total (95% CI)		33		15		Not estimable			
Total events:	0		0						
Heterogeneity: Not applicable									
Test for overall effect: Not applicable									
Test for subgroup differences: Not applicable									



Footnotes

(1) Reported no infections attributable to catheter

Analysis 3.27. Comparison 3: Home versus inpatient induction with balloon or Foley catheter, Outcome 27: Serious maternal morbidity or mortality

Study or Subgroup	Home setting		Inpatient setting		Weight	Risk Ratio	Risk Ratio
	Events	Total	Events	Total		M-H, Fixed, 95% CI	M-H, Fixed, 95% CI
Wilkinson 2015a - COPRA	0	33	0	15		Not estimable	
Total (95% CI)		33		15		Not estimable	
Total events:	0		0				
Heterogeneity: Not applicable							
Test for overall effect: Not applicable							
Test for subgroup differences: Not applicable							

Analysis 3.28. Comparison 3: Home versus inpatient induction with balloon or Foley catheter, Outcome 28: Postnatal depression

Study or Subgroup	Home setting		Inpatient setting		Weight	Risk Ratio	Risk Ratio
	Events	Total	Events	Total		M-H, Fixed, 95% CI	M-H, Fixed, 95% CI
<hr/>							
Total (95% CI)		0		0		Not estimable	
Total events:	0		0				
Heterogeneity: Not applicable							
Test for overall effect: Not applicable							
Test for subgroup differences: Not applicable							

0.01

0.1

1

10

100

Favours home IOL

Favours inpatient IOL

Analysis 3.29. Comparison 3: Home versus inpatient induction with balloon or Foley catheter, Outcome 29: Long-term operative pelvic floor repair

Study or Subgroup	Home setting		Inpatient setting		Weight	Risk Ratio	Risk Ratio
	Events	Total	Events	Total		M-H, Fixed, 95% CI	M-H, Fixed, 95% CI
<hr/>							
Total (95% CI)		0		0		Not estimable	
Total events:	0		0				
Heterogeneity: Not applicable						<div><div></div><div>0.010.1110100</div></div>	
Test for overall effect: Not applicable						Favours home IOLFavours inpatient IOL	
Test for subgroup differences: Not applicable							

Analysis 3.30. Comparison 3: Home versus inpatient induction with balloon or Foley catheter, Outcome 30: Economic assessments as defined by trialists

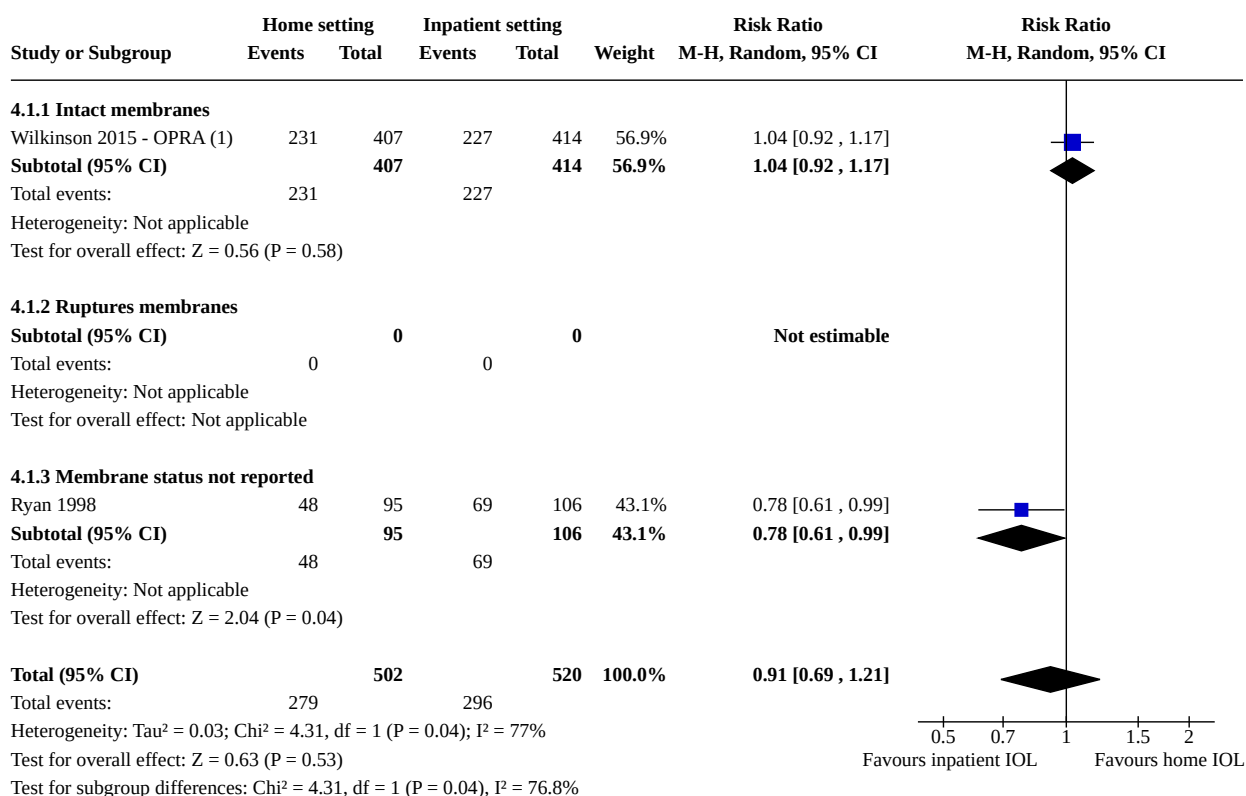
Study or Subgroup	Home setting		Inpatient setting		Weight	Risk Ratio	Risk Ratio
	Events	Total	Events	Total		M-H, Fixed, 95% CI	M-H, Fixed, 95% CI
<hr/>							
Total (95% CI)		0		0		Not estimable	
Total events:	0		0				
Heterogeneity: Not applicable							0.01 0.1 1 10 100
Test for overall effect: Not applicable							Favours inpatient IOL Favours home IOL
Test for subgroup differences: Not applicable							

Comparison 4. Home versus inpatient induction with vaginal PGE (subgroup by membrane status)

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
4.1 Spontaneous vaginal birth	2	1022	Risk Ratio (M-H, Random, 95% CI)	0.91 [0.69, 1.21]
4.1.1 Intact membranes	1	821	Risk Ratio (M-H, Random, 95% CI)	1.04 [0.92, 1.17]
4.1.2 Ruptures membranes	0	0	Risk Ratio (M-H, Random, 95% CI)	Not estimable
4.1.3 Membrane status not reported	1	201	Risk Ratio (M-H, Random, 95% CI)	0.78 [0.61, 0.99]
4.2 Uterine hyperstimulation	1	821	Risk Ratio (M-H, Fixed, 95% CI)	1.19 [0.40, 3.50]
4.2.1 Intact membranes	1	821	Risk Ratio (M-H, Fixed, 95% CI)	1.19 [0.40, 3.50]
4.2.2 Ruptures membranes	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable
4.2.3 Membrane status not reported	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable
4.3 Caesarean birth	2	1022	Risk Ratio (M-H, Fixed, 95% CI)	1.01 [0.81, 1.28]
4.3.1 Intact membranes	1	821	Risk Ratio (M-H, Fixed, 95% CI)	0.97 [0.76, 1.25]
4.3.2 Ruptures membranes	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable
4.3.3 Membrane status not reported	1	201	Risk Ratio (M-H, Fixed, 95% CI)	1.24 [0.70, 2.20]
4.4 Neonatal infection	1	821	Risk Ratio (M-H, Fixed, 95% CI)	1.29 [0.59, 2.82]
4.4.1 Intact membranes	1	821	Risk Ratio (M-H, Fixed, 95% CI)	1.29 [0.59, 2.82]
4.4.2 Ruptures membranes	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable
4.4.3 Membrane status not reported	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable
4.5 Admission to NICU	2	1022	Risk Ratio (M-H, Fixed, 95% CI)	1.20 [0.50, 2.90]
4.5.1 Intact membranes	1	821	Risk Ratio (M-H, Fixed, 95% CI)	1.02 [0.21, 5.01]
4.5.2 Ruptures membranes	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable
4.5.3 Membrane status not reported	1	201	Risk Ratio (M-H, Fixed, 95% CI)	1.30 [0.45, 3.74]
4.6 Serious neonatal morbidity or mortality	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable
4.6.1 Intact membranes	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable
4.6.2 Ruptures membranes	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
4.6.3 Membrane status not reported	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable
4.7 Women's experiences (satisfaction with care) up to 8 weeks	1	399	Mean Difference (IV, Fixed, 95% CI)	0.16 [-0.02, 0.34]
4.7.1 Intact membranes	1	399	Mean Difference (IV, Fixed, 95% CI)	0.16 [-0.02, 0.34]
4.7.2 Ruptured membranes	0	0	Mean Difference (IV, Fixed, 95% CI)	Not estimable
4.7.3 Membrane status not reported	0	0	Mean Difference (IV, Fixed, 95% CI)	Not estimable

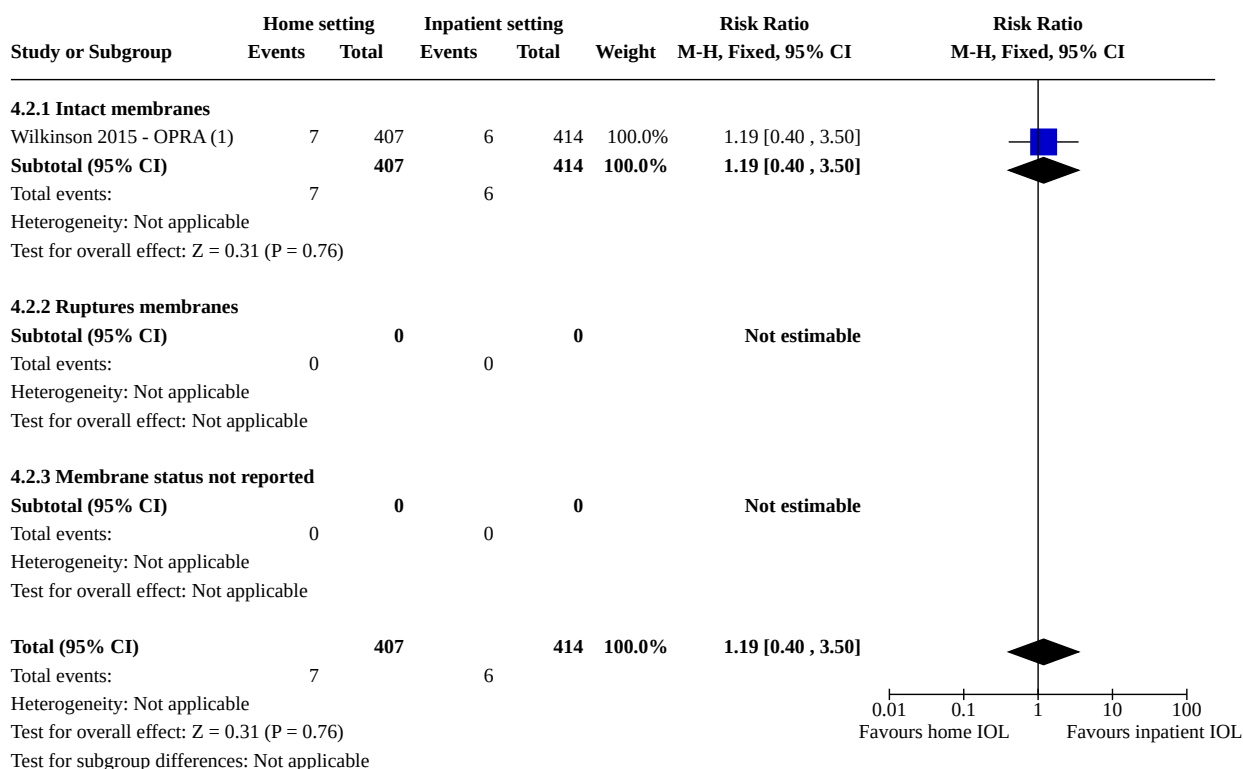
Analysis 4.1. Comparison 4: Home versus inpatient induction with vaginal PGE (subgroup by membrane status), Outcome 1: Spontaneous vaginal birth



Footnotes

(1) 48% of women did not receive the PGE2 induction

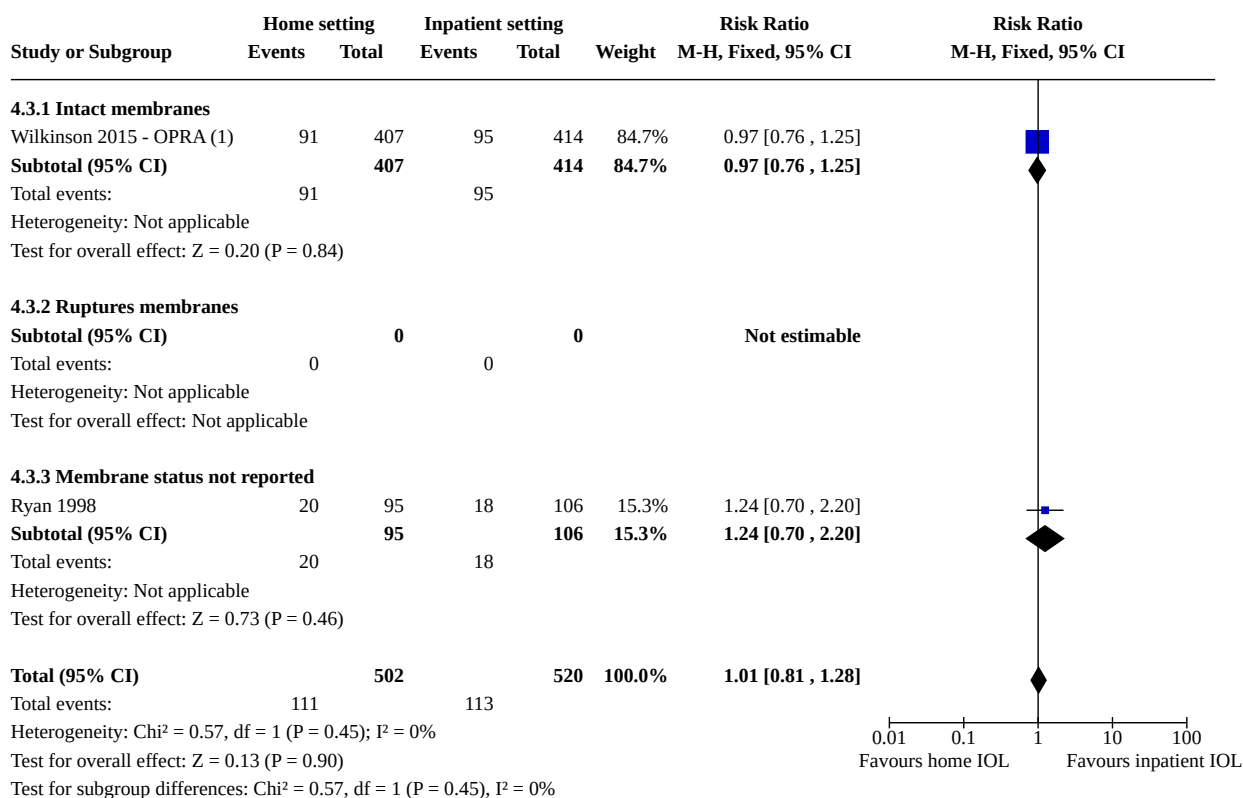
Analysis 4.2. Comparison 4: Home versus inpatient induction with vaginal PGE (subgroup by membrane status), Outcome 2: Uterine hyperstimulation



Footnotes

(1) 48% of women did not receive the PGE2 induction

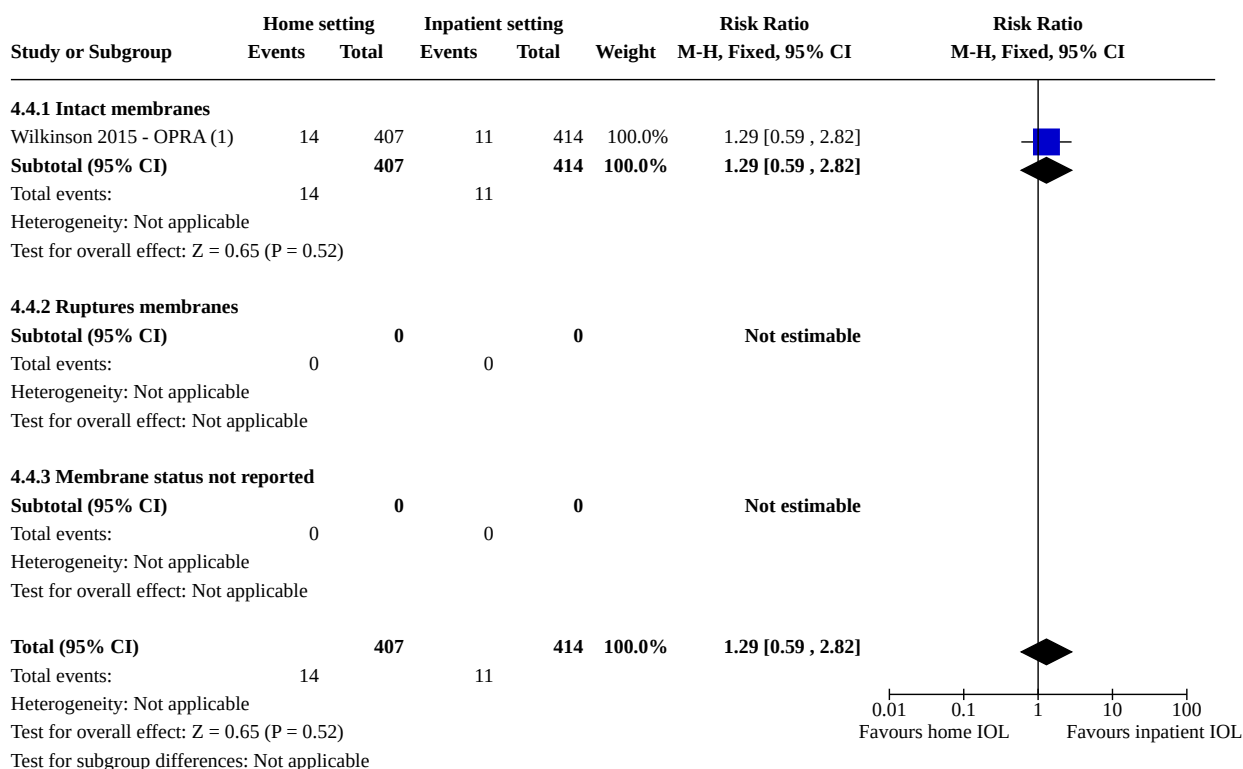
Analysis 4.3. Comparison 4: Home versus inpatient induction with vaginal PGE (subgroup by membrane status), Outcome 3: Caesarean birth



Footnotes

(1) 48% of women did not receive the PGE2 induction

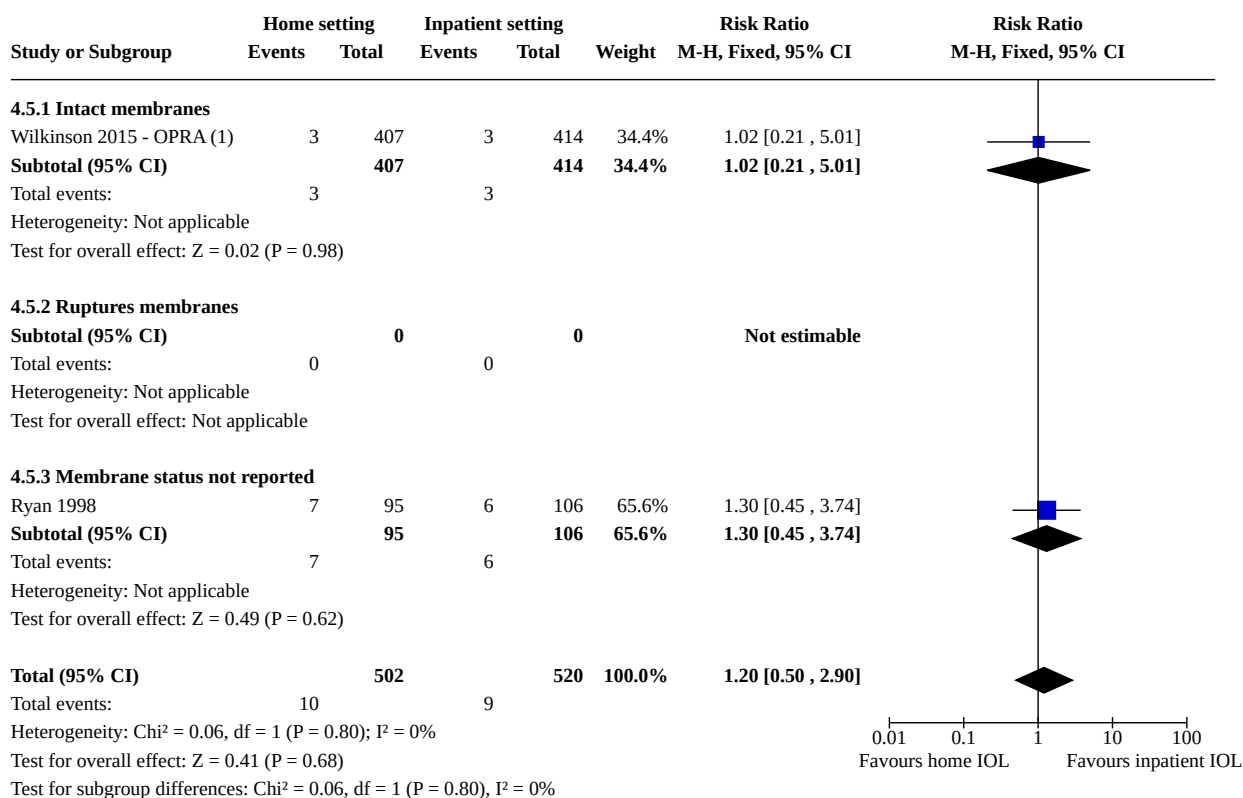
Analysis 4.4. Comparison 4: Home versus inpatient induction with vaginal PGE (subgroup by membrane status), Outcome 4: Neonatal infection



Footnotes

(1) 48% of women did not receive the PGE2 induction

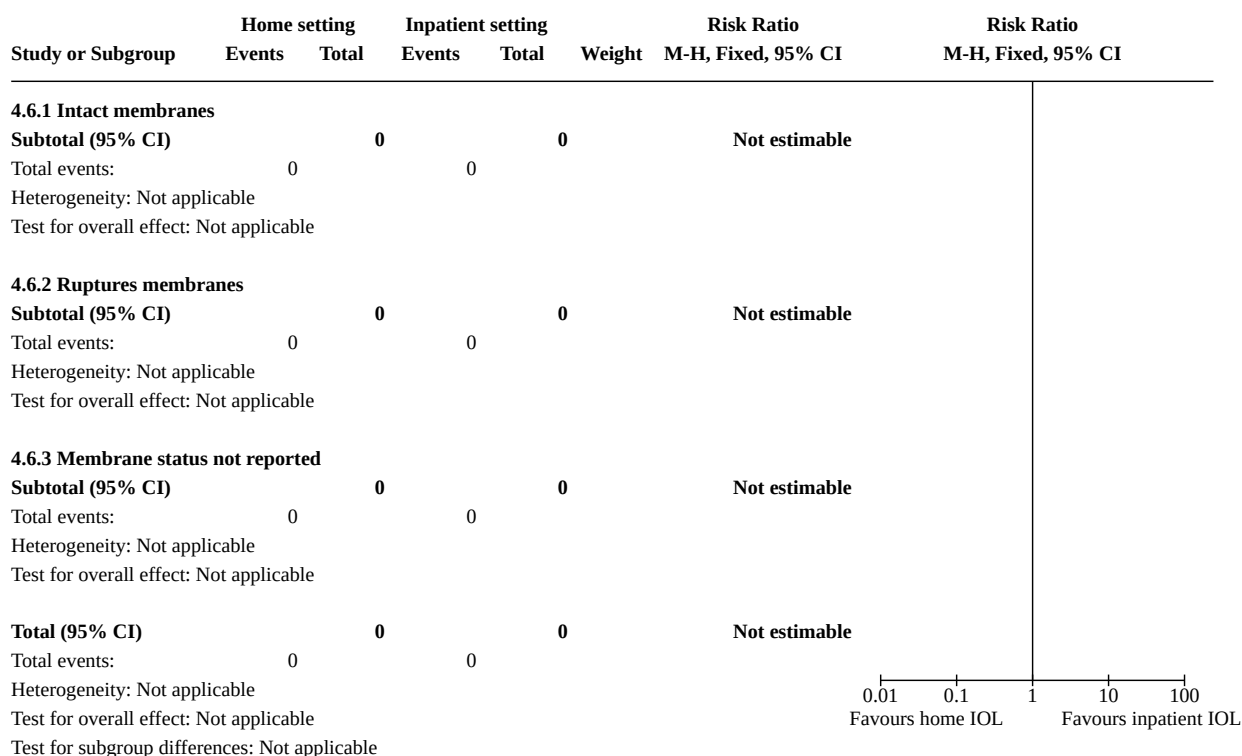
Analysis 4.5. Comparison 4: Home versus inpatient induction with vaginal PGE (subgroup by membrane status), Outcome 5: Admission to NICU



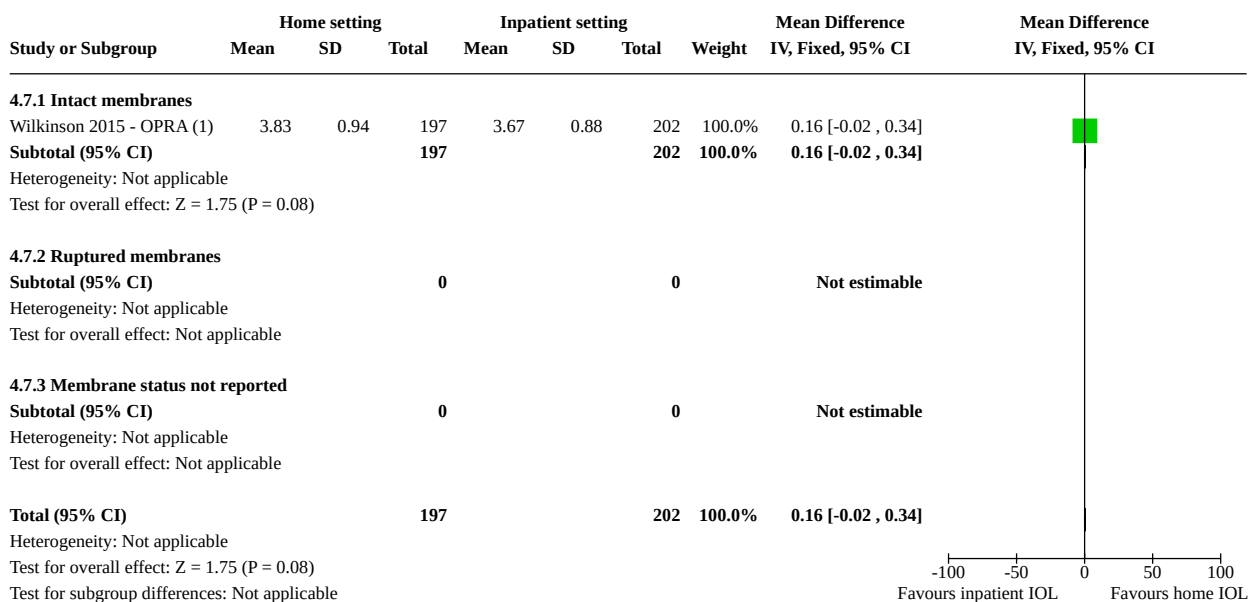
Footnotes

(1) 48% of women did not received the PGE2 induction

Analysis 4.6. Comparison 4: Home versus inpatient induction with vaginal PGE (subgroup by membrane status), Outcome 6: Serious neonatal morbidity or mortality



Analysis 4.7. Comparison 4: Home versus inpatient induction with vaginal PGE (subgroup by membrane status), Outcome 7: Women's experiences (satisfaction with care) up to 8 weeks



Footnotes

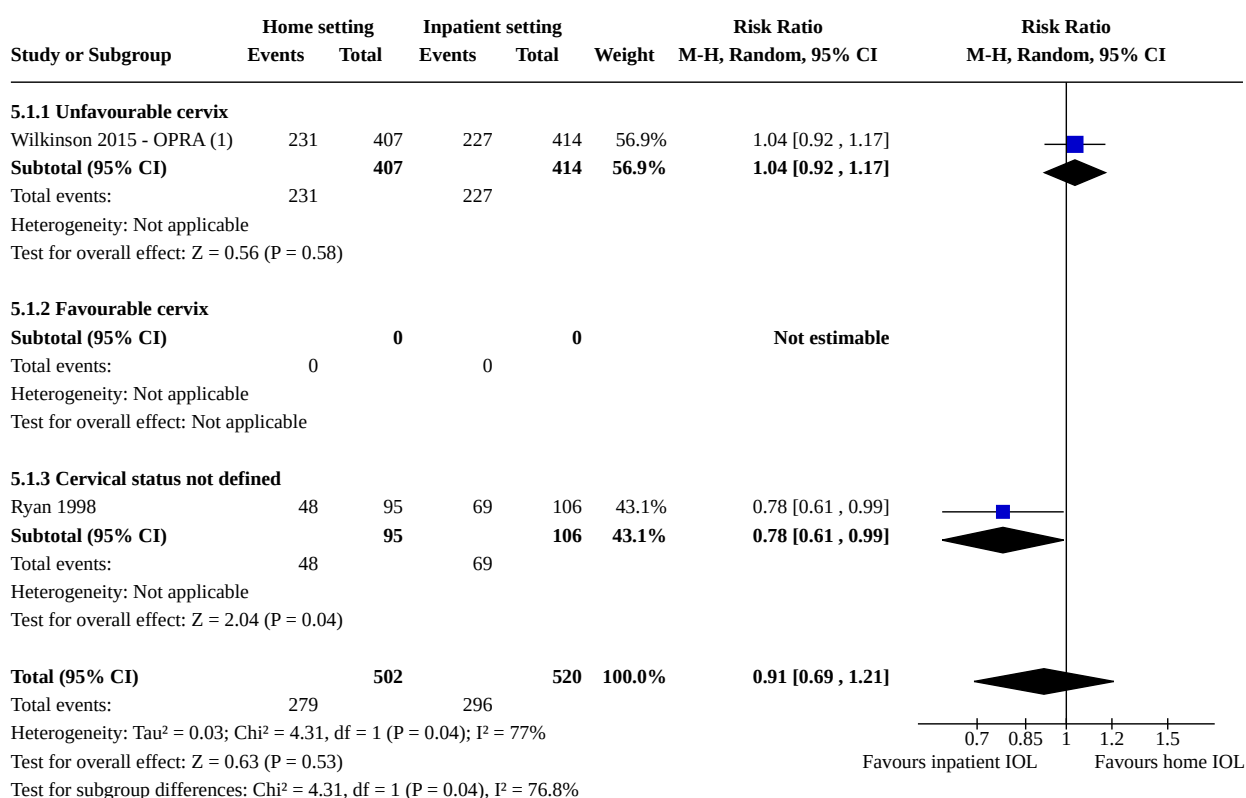
(1) Postpartum questionnaire. 51% loss to follow-up questionnaire and 48% of women did not receive the PGE2 induction

Comparison 5. Home versus inpatient induction with vaginal PGE (subgroup by cervical status)

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
5.1 Spontaneous vaginal birth	2	1022	Risk Ratio (M-H, Random, 95% CI)	0.91 [0.69, 1.21]
5.1.1 Unfavourable cervix	1	821	Risk Ratio (M-H, Random, 95% CI)	1.04 [0.92, 1.17]
5.1.2 Favourable cervix	0	0	Risk Ratio (M-H, Random, 95% CI)	Not estimable
5.1.3 Cervical status not defined	1	201	Risk Ratio (M-H, Random, 95% CI)	0.78 [0.61, 0.99]
5.2 Uterine hyperstimulation	1	821	Risk Ratio (M-H, Fixed, 95% CI)	1.19 [0.40, 3.50]
5.2.1 Unfavourable cervix	1	821	Risk Ratio (M-H, Fixed, 95% CI)	1.19 [0.40, 3.50]
5.2.2 Favourable cervix	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable
5.2.3 Cervical status not defined	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable
5.3 Caesarean birth	2	1022	Risk Ratio (M-H, Fixed, 95% CI)	1.01 [0.81, 1.28]
5.3.1 Unfavourable cervix	1	821	Risk Ratio (M-H, Fixed, 95% CI)	0.97 [0.76, 1.25]
5.3.2 Favourable cervix	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable
5.3.3 Cervical status not defined	1	201	Risk Ratio (M-H, Fixed, 95% CI)	1.24 [0.70, 2.20]
5.4 Neonatal infection	1	821	Risk Ratio (M-H, Fixed, 95% CI)	1.29 [0.59, 2.82]
5.4.1 Unfavourable cervix	1	821	Risk Ratio (M-H, Fixed, 95% CI)	1.29 [0.59, 2.82]
5.4.2 Favourable cervix	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable
5.4.3 Cervical status not defined	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable
5.5 Admission to NICU	2	1022	Risk Ratio (M-H, Fixed, 95% CI)	1.20 [0.50, 2.90]
5.5.1 Unfavourable cervix	1	821	Risk Ratio (M-H, Fixed, 95% CI)	1.02 [0.21, 5.01]
5.5.2 Favourable cervix	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable
5.5.3 Cervical status not defined	1	201	Risk Ratio (M-H, Fixed, 95% CI)	1.30 [0.45, 3.74]
5.6 Serious neonatal morbidity or mortality	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable
5.6.1 Unfavourable cervix	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable
5.6.2 Favourable cervix	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
5.6.3 Cervical status not defined	0	0	Risk Ratio (M-H, Fixed, 95% CI)	Not estimable
5.7 Women's experiences (satisfaction with care) up to 8 weeks	1	399	Mean Difference (IV, Fixed, 95% CI)	0.16 [-0.02, 0.34]
5.7.1 Unfavourable cervix	1	399	Mean Difference (IV, Fixed, 95% CI)	0.16 [-0.02, 0.34]
5.7.2 Favourable cervix	0	0	Mean Difference (IV, Fixed, 95% CI)	Not estimable
5.7.3 Cervical status not defined	0	0	Mean Difference (IV, Fixed, 95% CI)	Not estimable

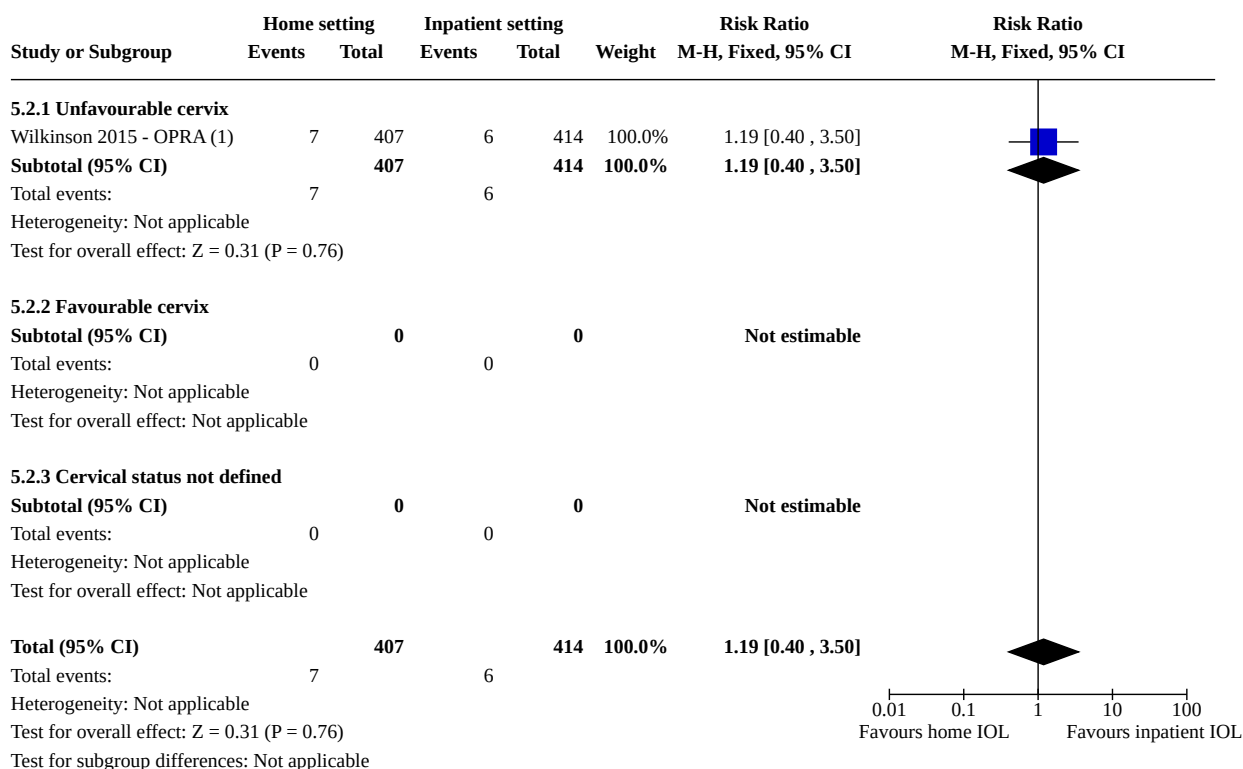
Analysis 5.1. Comparison 5: Home versus inpatient induction with vaginal PGE (subgroup by cervical status), Outcome 1: Spontaneous vaginal birth



Footnotes

(1) 48% of women did not receive the PGE2 induction

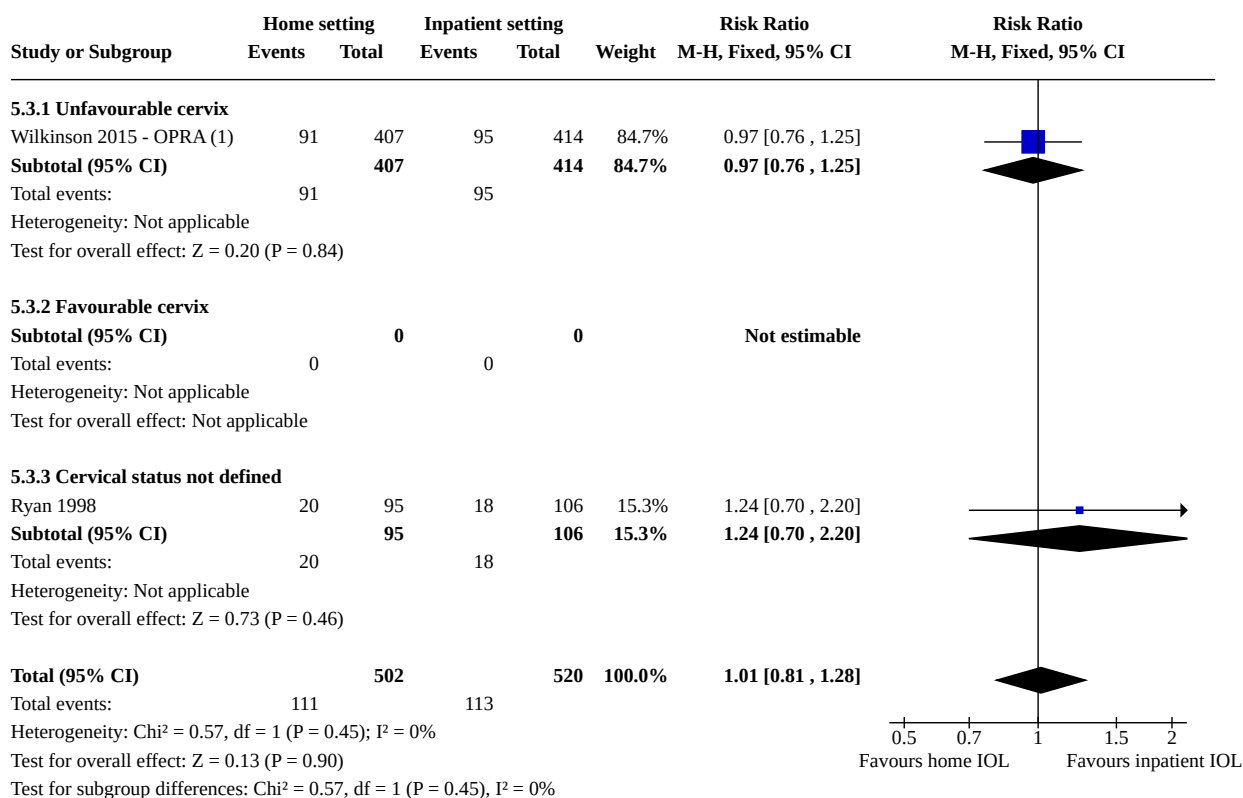
Analysis 5.2. Comparison 5: Home versus inpatient induction with vaginal PGE (subgroup by cervical status), Outcome 2: Uterine hyperstimulation



Footnotes

(1) 48% of women did not receive the PGE2 induction

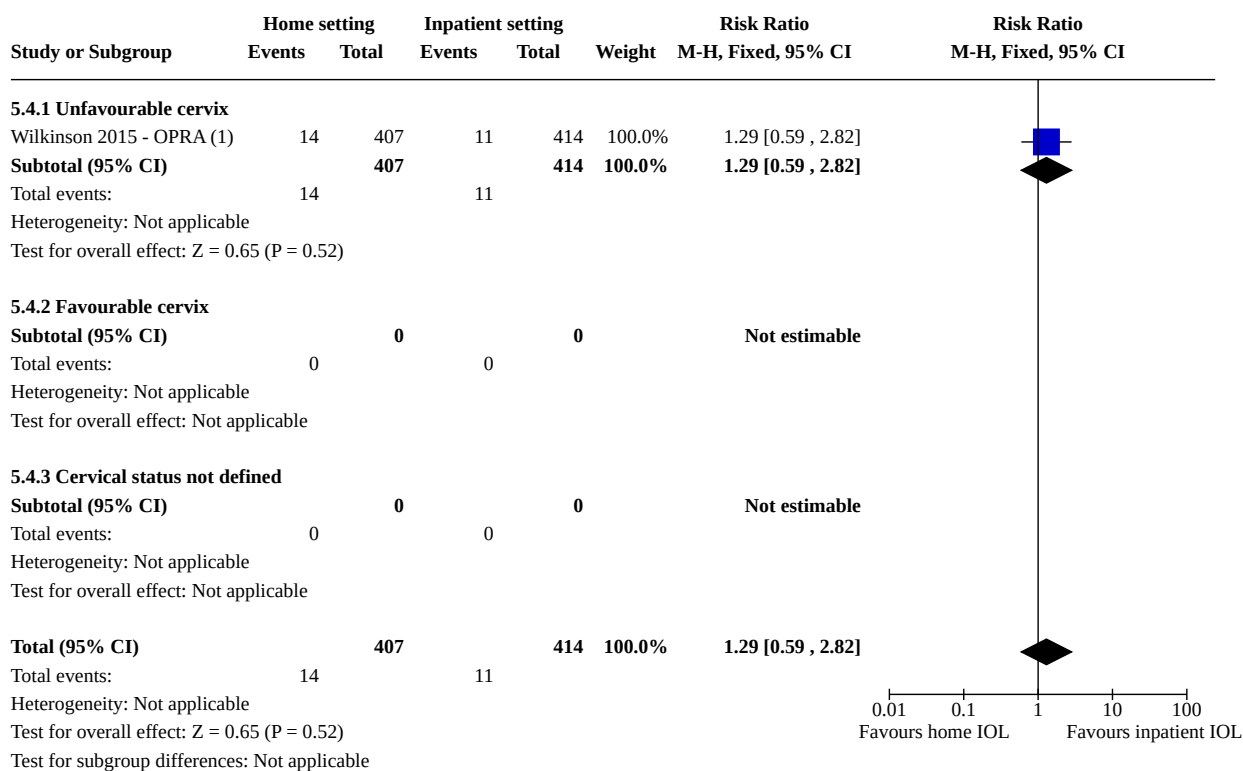
Analysis 5.3. Comparison 5: Home versus inpatient induction with vaginal PGE (subgroup by cervical status), Outcome 3: Caesarean birth



Footnotes

(1) 48% of women did not receive the PGE2 induction

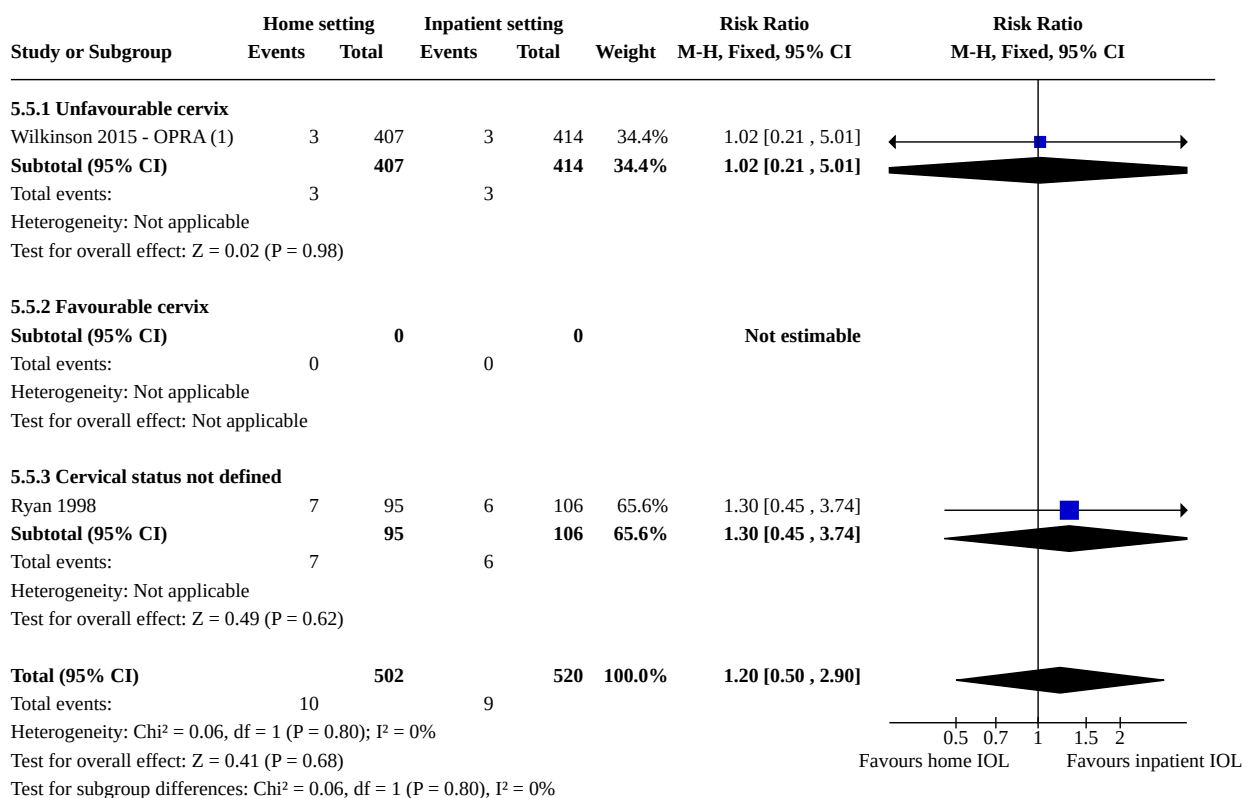
Analysis 5.4. Comparison 5: Home versus inpatient induction with vaginal PGE (subgroup by cervical status), Outcome 4: Neonatal infection



Footnotes

(1) 48% of women did not receive the PGE2 induction

Analysis 5.5. Comparison 5: Home versus inpatient induction with vaginal PGE (subgroup by cervical status), Outcome 5: Admission to NICU

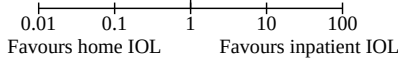


Footnotes

(1) 48% of women did not received the PGE2 induction

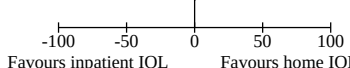
Analysis 5.6. Comparison 5: Home versus inpatient induction with vaginal PGE (subgroup by cervical status), Outcome 6: Serious neonatal morbidity or mortality

Study or Subgroup	Home setting		Inpatient setting		Weight	Risk Ratio	
	Events	Total	Events	Total		M-H, Fixed, 95% CI	M-H, Fixed, 95% CI
5.6.1 Unfavourable cervix							
Subtotal (95% CI)		0		0		Not estimable	
Total events:	0		0				
Heterogeneity: Not applicable							
Test for overall effect: Not applicable							
5.6.2 Favourable cervix							
Subtotal (95% CI)		0		0		Not estimable	
Total events:	0		0				
Heterogeneity: Not applicable							
Test for overall effect: Not applicable							
5.6.3 Cervical status not defined							
Subtotal (95% CI)		0		0		Not estimable	
Total events:	0		0				
Heterogeneity: Not applicable							
Test for overall effect: Not applicable							
Total (95% CI)		0		0		Not estimable	
Total events:	0		0				
Heterogeneity: Not applicable							
Test for overall effect: Not applicable							
Test for subgroup differences: Not applicable							



Analysis 5.7. Comparison 5: Home versus inpatient induction with vaginal PGE (subgroup by cervical status), Outcome 7: Women's experiences (satisfaction with care) up to 8 weeks

Study or Subgroup	Home setting			Inpatient setting			Weight	Mean Difference	
	Mean	SD	Total	Mean	SD	Total		IV, Fixed, 95% CI	IV, Fixed, 95% CI
5.7.1 Unfavourable cervix									
Wilkinson 2015 - OPRA (1)	3.83	0.94	197	3.67	0.88	202	100.0%	0.16 [-0.02, 0.34]	
Subtotal (95% CI)			197			202	100.0%	0.16 [-0.02, 0.34]	
Heterogeneity: Not applicable									
Test for overall effect: Z = 1.75 (P = 0.08)									
5.7.2 Favourable cervix									
Subtotal (95% CI)			0			0		Not estimable	
Heterogeneity: Not applicable									
Test for overall effect: Not applicable									
5.7.3 Cervical status not defined									
Subtotal (95% CI)			0			0		Not estimable	
Heterogeneity: Not applicable									
Test for overall effect: Not applicable									
Total (95% CI)			197			202	100.0%	0.16 [-0.02, 0.34]	
Heterogeneity: Not applicable									
Test for overall effect: Z = 1.75 (P = 0.08)									
Test for subgroup differences: Not applicable									



Footnotes

(1) Postpartum questionnaire. 51% loss to follow-up questionnaire and 48% of women did not receive the PGE2 induction

APPENDICES

Appendix 1. Search methods for ICTRP and ClinicalTrials.gov

ICTRP

outpatient AND induction AND labor

ClinicalTrials.gov

Advanced search

outpatient | Interventional Studies | Induced; Birth

outpatient | Interventional Studies | induction of labor

WHAT'S NEW

Date	Event	Description
31 January 2020	New citation required but conclusions have not changed	Three new studies included. Conclusions have not changed.
31 January 2020	New search has been performed	<p>Search updated and 33 new reports were identified and added, covering 21 new studies. Three are included, six excluded, three are awaiting classification and nine are trial registrations for on-going studies.</p> <p>We have changed 'outpatient induction' to 'home induction'.</p> <p>We modified the PICO and methodology by:</p> <ul style="list-style-type: none"> changing the gestational age for inclusion from > 35 weeks' gestation to ≥ 37 weeks' gestation; we now exclude quasi-RCTs; we changed the outcomes to include those recommended by the Core Outcome Sets (COS) publication (Dos Santos 2018); we have changed the outcome 'Neonatal morbidity and perinatal mortality' to 'Neonatal morbidity and mortality'. <p>We changed the reporting of Wilkinson 2015 (Wilkinson 2012 in previous 2013 version of review) from 'per protocol' to 'intention-to-treat analysis'.</p>

HISTORY

Protocol first published: Issue 4, 2008

Review first published: Issue 2, 2009

Date	Event	Description
14 August 2013	New citation required and conclusions have changed	With the addition of one new trial of vaginal PGE ₂ , there is now no evidence of a difference between the likelihood of women requiring instrumental delivery in either setting. In the previous version of this review, women in the outpatient group were more likely to have instrumental deliveries.

Date	Event	Description
30 June 2013	New search has been performed	Search updated. Eight new trial reports identified. One new trial (five reports) included (Wilkinson 2015 - OPRA) and one trial (three reports) excluded (Henry 2011). We have also excluded a trial previously awaiting classification (Rijnders 2011) and moved one previously ongoing study report - Turnbull 2009 - to the included section under Wilkinson 2015 - OPRA .

CONTRIBUTIONS OF AUTHORS

For the 2013 update, Anthony Kelly and Arpita Ghosh prepared the text and Zarko Alfirevic commented on drafts.

For the 2020 update, Zarko Alfirevic commented on changes to the protocol and drafts versions of the review. All other authors agreed the inclusion/exclusion decisions, undertook some data extraction and some assessment of risk of bias. G Gyte undertook GRADE assessments and entered the data into RevMan with other authors checking data entry and GRADE assessments. All authors contributed to drafting and checking the text of the review.

DECLARATIONS OF INTEREST

Alfirevic Z: is the Co-ordinating Editor of Cochrane Pregnancy and Childbirth and has not been involved in the editorial processing or any editorial decisions relating to this review.

Finucane E: none known.

Gyte G: I have received royalties from John Wiley & Son in respect of 'A Cochrane Pocket Handbook – Pregnancy and Childbirth' Hofmeyr GJ et al. 2008.

Osoti A: none known.

Pileggi V: none known.

Plachcinski R: Independent PPI member of the Trial Steering Committee for the SOLVE trial: A randomised controlled trial of a Synthetic Osmotic cervical dilator for induction of Labour in comparison to dinoprostone Vaginal insErt. Funded by Medicem International, Czech Republic (www.medicem.com)

SOURCES OF SUPPORT

Internal sources

- The University of Liverpool, UK

External sources

- World Health Organization (WHO) and the UNDP-UNFPA-UNICEF-WHO-World Bank Special Programme of Research, Development and Research Training in Human Reproduction (HRP), Switzerland

This review is supported by funding to Cochrane Pregnancy and Childbirth (University of Liverpool)

DIFFERENCES BETWEEN PROTOCOL AND REVIEW

Methods have been updated to the current standard methods for the Cochrane Pregnancy and Childbirth Group (2019).

We have changed 'outpatient induction' to 'home induction' and provided definitions for these.

We have made the following further modifications:

- we changed the gestational age for inclusion from > 35 weeks' gestation to ≥ 37 weeks' gestation;
- we now exclude quasi-randomised controlled trials;
- we changed the outcomes to include those recommended by the Core Outcome Sets (COS) publication ([Dos Santos 2018](#)) and include further outcomes to assess women's experiences;
- we removed the additional 'Risk of bias' assessments and used, the now standard, 'Performance bias' assessment;

- we have changed the outcome 'Neonatal morbidity and perinatal mortality' to 'Neonatal morbidity and mortality';
- we have clarified that we will only use qualitative data if they are gathered using a validated instrument.

We added an additional search of ClinicalTrials.gov and the WHO International Clinical Trials Registry Platform ([ICTRP](#)).

INDEX TERMS

Medical Subject Headings (MeSH)

Ambulatory Care [*methods]; Catheterization [methods]; *Cervical Ripening; Cesarean Section [statistics & numerical data]; Delayed-Action Preparations; Dinoprostone; *Hospitalization; Labor, Induced [*methods]; Length of Stay; Oxytocics; Patient Safety; Patient Satisfaction; Pregnancy Outcome; Randomized Controlled Trials as Topic

MeSH check words

Female; Humans; Infant, Newborn; Pregnancy