

**Title:** A knowledge mobilisation study exploring the use of high quality research evidence in everyday decisions about induction of labour between pregnant women and maternity care professionals

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### **Declarations**

(1) *Conflict of interests*

The authors certify that they have no affiliations with, or involvement in, any organisation or entity with any financial interest, or non-financial interest, in the subject matter of this article. This paper presents independent research funded by the National Institute for Health Research (NIHR). The views expressed are those of the author(s) and not necessarily those of the NHS, the NIHR or the Department of Health and Social Care.

(2) *Ethical approval*

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## Abstract

**Objective** – To explore the use of high quality research evidence in women's and maternity care professionals' decisions about induction of labour (IOL).

**Methods** – a qualitative study underpinned by a social constructionist framework, using semi-structured interviews and generative thematic analysis.

**Setting** – a large tertiary referral maternity unit in northern England in 2013/14.

**Participants** – 22 randomly selected health care professionals involved in maternity care (midwives, obstetricians, maternity service managers), and 16 postnatal women, 3-8 weeks post-delivery, who were offered IOL in their most recent pregnancy.

**Findings** – Three themes were identified in the data; (1) the value of different forms of knowledge, (2) accessing and sharing knowledge, and (3) constrained pathways and default choices. Findings echo other evidence in suggesting that women do not feel informed about IOL or that they have choices about the procedure. This study illuminates potential explanatory factors by considering the complex context within which IOL is discussed and offered (e.g. presentation of IOL as routine rather than a choice, care pathways that make declining IOL appear undesirable, blanket use of clinical guidelines without consideration of individual circumstances and preferences).

**Key conclusions** – This study suggests that organisational, social, and professional factors conspire towards a culture where (a) IOL has become understood as a routine part of maternity care rather than an intervention to make an informed choice about, (b) several factors contribute to demotivate women and health care practitioners from seeking to understand the evidence base regarding induction, and (c) health care professionals can find themselves ill-equipped to discuss the relative risks and benefits of IOL and its alternatives.

**Implications for practice** – It is important that IOL is recognised as an optional intervention and is not presented to women as a routine part of maternity care. When IOL is offered it should be accompanied by an evidence informed discussion about the options available to support informed decision making. Health care professionals should be supported to understand the evidence base and our findings suggest that any attempt to facilitate this needs to acknowledge and tackle complex organisational, social and professional influences that contribute to current care practices.

**Keywords** - Induction of labour; Decision Making; Knowledge mobilisation; Social marketing; Maternity Care; Pregnancy

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## Title

How is high quality research evidence used in everyday decisions about induction of labour between pregnant women and maternity care professionals? An exploratory study.

## Introduction

Almost a third (32.6%) of births in England currently involve induction of labour (IOL), with rates increasing by more than 10% in the past decade (NHS Digital, 2018a). A substantial evidence-base regarding IOL has developed, mainly focused on methods of IOL (e.g. Mozurkewich et al., 2011) and the risks and benefits of IOL in specific circumstances (e.g. low risk post-term (Middleton et al., 2018)). National guidelines for IOL in England and Wales were published in 2008 (The National Institute for Health and Care Excellence, 2008) however significant, unexplained variations in IOL rates exist; for example, in 2017-18, the IOL rate varied between 26-35% in English regions (NHS Digital, 2018b). . Studies exploring women's experiences of IOL report perceptions of inadequate information provision, lack of choice, directive counselling, and limited involvement in decision-making about the procedure (Akuamoah-Boateng and Spencer, 2018; Coates et al., 2020; Coates et al., 2019; Dupont et al., 2020; Jay et al., 2018; Jou et al., 2015; Lou et al., 2019; Moore et al., 2014; Schwarz et al., 2016; Stevens and Miller, 2012). The few studies exploring clinician views highlight variations in practice based on factors such as risk perception and resource availability (Blanc-Petitjean et al., 2018; Klein et al., 2011; Nippita et al., 2017). Overall, these studies suggest that research evidence is not being consistently and effectively translated into everyday clinical care; either in terms of healthcare providers offering IOL in a consistent way, or communicating the evidence to support pregnant women's informed decisions about IOL.

The reasons behind this apparent 'research-to-practice' gap are unclear. There are also regulatory requirements for midwives and doctors to deliver evidence-based care (The General Medical Council, 2019; The Nursing and Midwifery Council, 2018), and legal imperatives to support informed decision-making (Chan et al., 2017). Barriers to information sharing have been suggested in the literature; they include pregnant women's perceptions that maternity care professionals are rushed and have little time to discuss IOL (Jay et al., 2018) and limitations in the ability of midwives and obstetricians to understand and communicate risks extrapolated from population level data (Cheyne et al., 2012). Perceptions of risk, clinician preferences, resource availability, care relationship with women, accountability for decision-making, and level of involvement of pregnant women in decision-

making have also been suggested to affect the behaviour of clinicians and those in their care (Akuamoah-Boateng and Spencer, 2018; Coates et al., 2020; Coates et al., 2019; Jou et al., 2015; Nippita et al., 2017; Stevens and Miller, 2012).

Addressing variations in IOL practice requires consideration of these issues and the concept of knowledge mobilisation (KM) offers a suitable lens for such exploration. KM is concerned with understanding the connections (or lack thereof) between research, policy and practice across a broad range of disciplines (Cooper and Levin, 2010). . KM research, as described by Kislov et al. (2014), “*seeks to strengthen connections between research, policy, and practice across sectors, disciplines and countries, attempting to harness the benefits of research for organisational and societal improvement*”. Key concepts within the KM literature include acknowledging different forms of knowledge, understanding KM as a social and relational process, recognising the importance of context, and understanding how all of this can shape whether, and how effectively, knowledge is translated into practice (Cooper and Levin, 2010; Crilly et al., 2010; Holmes et al., 2016; Kislov et al., 2014).

Reflection upon the KM literature and the evidence around IOL led us to ask the question ‘how is high quality research evidence about IOL used in everyday clinical practice and what contextual factors influence its use?’. We chose to explore this in a large teaching hospital in the North of England, from the perspective of both health care professionals and pregnant women. It formed part of a larger project that aimed to increase the use of such evidence in everyday practice around IOL using an established framework (social marketing [Kotler and Lee 2008]). The aim of the study was therefore to explore the use of high quality research evidence in everyday clinical practice from the perspectives of women who have been offered IOL and health care professionals involved in the care of such women.

## Methods

### Study Design

The exploratory nature of the research question led us to choose social constructionism (Berger and Luckmann, 1966; Bryman, 2012; White, 2017) as the underpinning theoretical framework for an interpretative qualitative interview study (Pope and Mays, 2020). This allowed consideration of the ways in which pregnant women and health care professionals conceptualise high quality research evidence and the social constructed beliefs, interactions and practices that guide the ways in which it is and is not used. This interpretative, qualitative study design, using face to face semi-structured interviews to collect data was

chosen as the most appropriate way in which to gain insights into the lived experiences of those providing, and receiving care in this context. Generative thematic analysis (Braun and Clarke, 2006; Braun and Clarke, 2019) of the transcribed interviews was used to identify and develop key themes that form the findings.

### Participants and recruitment

Participants were (a) health care professionals (HCPs) involved in the delivery or management of antenatal care, or (b) postnatal women who had been offered IOL in their most recent pregnancy. All participants worked in, or received care at, a large tertiary referral centre in the North of England. Usual procedure at this hospital was for pregnant women to be offered IOL by either their midwife (in the case of postdates pregnancy) or obstetrician (in the case of a medical indication). Women were given a leaflet about IOL that detailed practical information (e.g. what time to arrive at the hospital, whether partners could attend), alongside information about how and when the IOL medication would be administered). For ease, postnatal women are henceforth referred to in this paper as women (accepting that some of the HCPs were women also). Only women who spoke English were included in the study as resource limitations precluded access to translation resources during data collection and transcription.

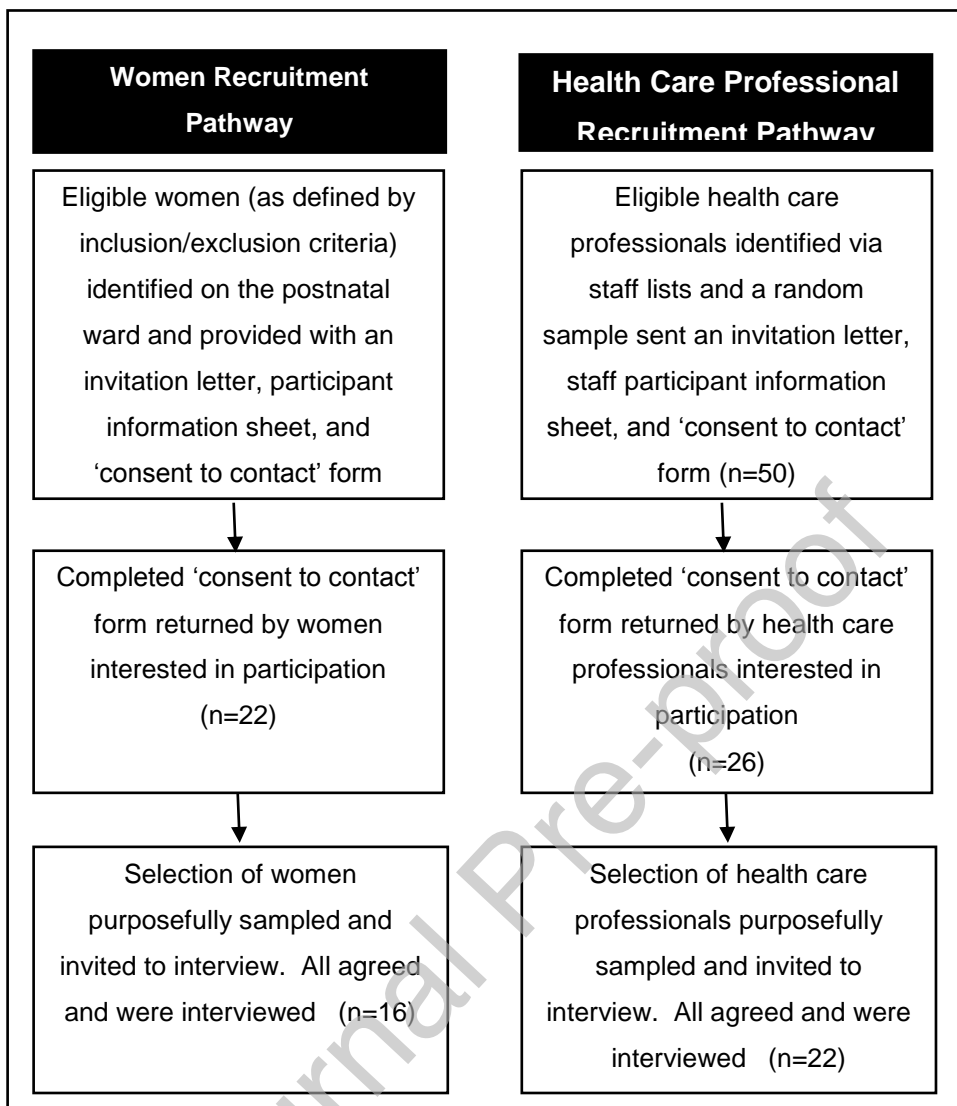
Eligible women were identified within 1-2 days of birth via the postnatal ward and provided with a study invitation letter and service user/participant information sheet by a research midwife (XX) (see **Error! Reference source not found.**). Women interested in participating completed a 'consent-to-contact' form which could be returned to XX immediately or by post after discharge from hospital. Women returning consent-to-contact forms were contacted by telephone 2-3 weeks later, to ascertain if they still wished to take part. HCPs were identified randomly from a staff list provided by the participating Trust using a random number table. An invitation letter was sent via the internal post system to those selected, together with the staff participant information sheet, a consent-to-contact form and XX's email address and telephone number. Those HCPs returning consent-to-contact forms by post, or those contacting XX directly by email or phone, were subsequently contacted by phone or email.

Women participants were postnatal women, over 24 weeks gestation at delivery, and who were offered IOL in their most recent pregnancy (even if IOL was declined or delivery occurred before IOL date). Women were excluded if they were; unable to understand verbal English language, being offered IOL following an intrauterine death, or were under 16 years

of age. HCP participants were healthcare professionals employed by the participating Trust directly involved in the delivery or management of antenatal care

Recruitment and data collection occurred concurrently across a 5 month period. Purposeful maximum variation sampling (Suri, 2011) was used to invite and select participants with a range of attributes likely to influence their experiences of delivering/receiving care (e.g. for HCPs their profession, seniority and gender; for women their age, parity, reason for IOL (as reported by the participant), and decision to accept/decline IOL). Data analysis began as soon as data was collected and interviews continued until data saturation was achieved and no new emergent themes were identified in the data (Saunders et al., 2018). To reach data saturation (Hinton and Ryan, 2020), 76 individuals (50 HCPs and 26 women) received a study invitation pack and 48 (26 HCPs and 22 women) returned a 'consent-to-contact' form. Thirty-eight of these individuals (22 x HCPs, 16 x women) were invited to interview; all gave informed consent to participate and were interviewed. A flowchart detailing recruitment pathways for women and health care professionals is shown in Figure 1.

Figure 1. Recruitment Flowcharts



Ethical approval was obtained from the Dyfed Powys Research Ethics committee (ref 13/WA/0289, 04/09/2013). The study was funded by an NIHR Knowledge Mobilisation Fellowship held by the lead author.

### Data collection

Data were collected via individual semi-structured interviews between October 2013 and March 2014. Two interview guides (one for HCPs and one for women, available on request from the author) were developed by XX in consultation with other members of the research team, which included a lay representative (ZZ, YY, WW, VV). In order to focus on collecting data that might facilitate improved use of high quality research evidence, the questions and prompts in the guides were informed by the social marketing framework (Kotler and Lee,



2008); for example, we asked participants what kinds of information they accessed, how they accessed them, and how that information was used to inform the decisions made about IOL. We used this framework with the aim of understanding the overall context within which high quality research evidence is accessed, understood and mobilised to support decision making and the factors that influence this.

Each participant was interviewed once; all recruitment and interviews were conducted by XX, who did not work directly with any of the HCPs and had no involvement in the women's clinical care. XX is an experienced researcher and qualified midwife who led this research as part of programme of work funded by an NIHR Knowledge Mobilisation Fellowship. Interviews were arranged at a time, date, and location of the participant's choosing (all women chose to be interviewed at home, all HCP chose to be interviewed in a private room in their workplace). The women were interviewed between 3-8 weeks postnatal.

### **Data Analysis**

All interviews were digitally audio-recorded with the consent of the participant and were transcribed verbatim by a research secretary. The transcripts formed the dataset analysed. An inductive thematic analysis of the data was conducted using the constant comparative method (Braun and Clarke, 2006). This iterative technique involved initial descriptive data coding (Saldaña, 2013), using Atlas.ti software (Friese, 2014). The codes were then reviewed and overarching themes identified. The themes were reviewed for consistency against the dataset and the themes refined accordingly. We chose to analyse the data from HCPs and women together (as opposed to conducting two separate analyses) to take a holistic approach that considered how knowledge flows (or does not flow) through the maternity care system which includes both HCPs and women.

XX conducted the initial coding analysis using a descriptive coding technique (Saldaña, 2013). XX is a research midwife with professional and personal experience of IOL. Development of the codes into themes was discussed in regular meetings with other members of the research team who also reviewed a subset of the transcripts (YY, ZZ). YY and ZZ (an obstetrician and a social scientist respectively) had different professional and personal experiences of IOL which aided reflexivity. Disagreements were addressed via discussion until consensus was reached. Furthermore, XX engaged in memo taking throughout the data collection and analytic processes to outline and explore assumptions and attitudes that might impact on the analysis (Tufford and Newman, 2012).

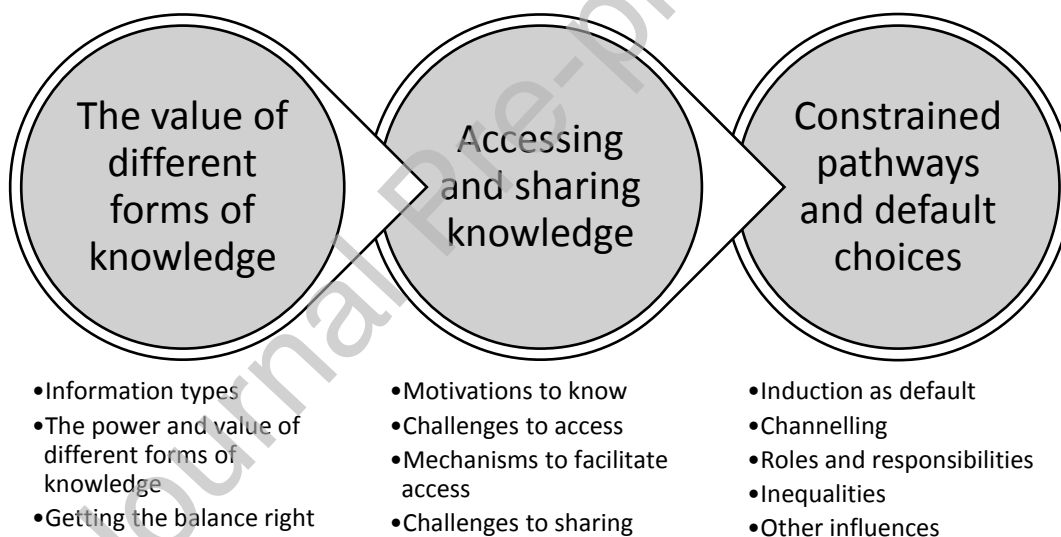
## Results

### Participants

Participant characteristics were collected directly from participants prior to interview (see Appendix 1). Interviews lasted between 28-84 minutes; the median length of interviews were 39 minutes for women and 52 minutes for HCP.

Three key themes were identified (Figure 1). The results section uses quotes to illustrate key points; quotes from women indicate whether IOL was offered for medical reasons or postdates, and quotes from HCPs indicate their professional background.

Figure 2. Themes and subthemes



### Theme 1: The value of different forms of knowledge

This theme focuses on the types of knowledge participants described as influential in decisions about IOL. The value of different knowledge types and the role they may play in influencing care is explored in the subthemes.

#### 1.1 The power and value of different forms of knowledge

Participants discussed the types of knowledge that influenced their thoughts about IOL; they can be broadly conceptualised as formal evidence-based or experiential. Formal evidence-based describes knowledge which is based on data (e.g. research, local audit). Experiential

describes knowledge gained via experience (e.g. women's experiences of undergoing IOL, clinicians' experiences during training and working in a healthcare system). HCPs and women drew from both types of knowledge (Figure 3).

**Figure 3. Information Types**

*"your experience tells you things as well that you know research doesn't, you know about the different consultants, you know about different experiences that women have had, yeah, and I guess you know what women, 'cause you see them afterwards, women complain about with the inductions so you would know what to tell them beforehand" 087, HCP, medical*

*"I'd spoken to me friends who have had it done, they kind of give us a bit of an insight, and One Born Every Minute" 106, woman, postdates IOL*

Most participants reported that they generally considered formal evidence-based knowledge to be more reliable and objective than experiential knowledge. HCPs described their practice and their organisational protocols as evidence-based, with one HCP participant (119) noting that their organisation liked to be *'NICE compliant'* (referring to the National Institute of Health and Care Excellence (NICE)). Several HCP participants mentioned concerns that women can be overly influenced by experiential knowledge, however women participants also described valuing formal evidence-based knowledge over experiential in terms of how much it impacted on decisions about their care. Experiential knowledge was perceived to be prone to being opinion-based with little way for women to judge how correct or credible the information and its source was, and how much relevance it had to their own situation. The internet was described by women as being particularly liable to hosting spurious facts and commentary. Some women reported this experiential knowledge to be useful in prompting further questions, which they could then explore further by accessing formal evidence-based information from a more credible source (usually a health care professional or an NHS endorsed website). (Figure 4).

**Figure 4. The power and value of different forms of knowledge**

*“there is something intrinsic within us that recognises that erm, if you’ve read in a chat room about 5 women have tried this and 3 of them, it worked, that quality of evidence isn’t as good as if you’ve got 10,000 women and it worked in a different number. I think there’s something intuitive that tells you that one bit of evidence is probably higher quality than the other” 090, HCP, medical*

*“I go on the internet so, , I probably do more so now than I did when I was pregnant. Yeah I went on, I dunno you just do a search don’t you and it’s a bit frustrating I find with, with baby information because there’s a lot of stuff, like, is it Mumsnet? Which is just discussions, they’re just forum groups, so they always come up first, and I hate those because they’re not factual, they’re just people’s opinions about things” 096, woman, medical indication IOL*

*“I kind of just spoke to the doctors because sometimes you don’t get the right information on the net. I just thought I was seeing the same consultant so I just sat down and spoke to him, and I think, I can remember being given some leaflets and stuff so, and that was really helpful” 097, woman, medical indication IOL*

Both groups of participants described basing care on formal evidence-based knowledge as a way to achieve the best outcomes for women and babies, and indicated that knowledge of the evidence-base is an expectation for HCPs (making it problematic for HCPs to admit to uncertainty or lack of knowledge) (Figure 5). Several HCPs suggested evidence-based practice also offers HCPs protection against litigation in the event of a poor outcome. There was less consensus about the usefulness of experiential knowledge. Whilst some (most HCPs and some women) saw experiential knowledge as unreliable, others felt it offered useful adjunct information for women (e.g. about the reality of experiencing IOL).

HCPs also described using experiential knowledge. For example, NICE guidelines on IOL offer clear guidance about when a membrane sweep should be offered as part of the induction pathway, but community midwives described being often asked by pregnant women to perform additional sweeps to instigate labour. In deciding whether to agree to this, Figure 4 demonstrates that some midwifery participants agreed on the basis of their experience of women finding this supportive, whereas others’ experiences were that multiple sweeps did not work.

**Figure 5 Experiential knowledge guiding decision making**

*“You feel like you’re giving them something to hope for cos the midwife’s going to do a sweep and that’s going to work, and not whether it does work or not, but it’s the fact that you’re doing something for that woman, whether that’s the right attitude or not I don’t know, but sometimes I think I’m walking up the garden path to knock at the door and I think she’s desperate for me to come ‘cause I’m gonna give her a sweep and I’m glad I’m doing it for her ‘cause she’s really fed up” 100, HCP, midwifery*

*“they’ve heard other women that have had one <sweep>, had more than one, but then you hear about people having like 2 or 3 and they still don’t work, so I just think it’s best just to stick to 1 to wait after 41 weeks” 114, HCP, midwifery*

The data suggest that experiential knowledge can become so embedded that it becomes understood and passed on as fact. This ‘embedded’ knowledge is particularly powerful as it is associated with widespread acceptance by HCPs and women, and a lack of motivation to question the validity of the knowledge or to accommodate alternative views. A clear example was HCPs’ and women’s understandings that pregnancy should not advance beyond 41-42 weeks gestation (Figure 6).

**Figure 6 IOL at 42 weeks as accepted routine**

*“obviously all the way through pregnancy and kind of the latest you can go is 42 weeks, so I think I kind of knew at 42 he was coming out” 106, woman, postdates IOL*

## 1.2 Getting the balance right

Knowledge was also described by HCPs and women as potentially burdensome. Many HCPs were concerned about overwhelming women with information (particularly *‘facts and*

*figures'* or information relating to adverse outcomes). Some women described avoiding information or limiting the amount they sought; importantly, such women still wanted care based on best evidence, but trusted their HCPs to provide such care and to offer any information they *needed* to know. Two women in particular, reflecting post-delivery, felt they had had gaps in their knowledge that their HCPs could have identified (Figure 7). The second quote is from a participant who was induced with a twin pregnancy and felt that had the risk of requiring an emergency caesarean for the second twin (as happened to her) been sufficiently explained she may have opted for an elective caesarean over IOL.

**Figure 7. Getting the balance right**

*"I never look any further for research, you know, as I say, I trust what the doctors and that say, you know what I mean, the <hospital>, I'm more than comfortable, I trust what the doctors say, what they advise and, you know, and they're all, they know what they're talking about" 093, woman, medical indication IOL*

*"Maybe it's my fault, I could have asked about, my fault in a way of, like you say, if I had never asked what the, you know what the percentages are. But all I'm saying is, it might have been better if they'd sort of highlighted what they were, maybe it was one of the key things, instead of me having to ask for it. Maybe that would have been better to say, you know, 'Do you realise the likelihood of this is this?'. It would have changed my decision I think" 117, woman, medical indication IOL*

*"The lawyers want us to say a whole list of things, and really we should be telling women those things so they can make an informed decision but then I have had women who've turned up and said 'Oh that doctor that I saw in clinic last week just bombarded me with a set of statistics and I don't really want to know that'. I guess you can't get it right for everybody, and you've got to, to gauge it I guess in terms of how much people want to know and what their level of education and interest" 085, HCP, medical*

## **Theme 2: Accessing and Sharing Knowledge**

This theme focuses on HCP and service user motivations for seeking knowledge, how they accessed it, and how they mobilised knowledge to support decision-making around IOL.

## 2.1 Motivations to know

Participants discussed situations in which they were/were not motivated to seek formal evidence-based information. Most women accepted IOL when offered, without seeking information about the risks, benefits or alternative options. The few women who described pursuing additional knowledge included those unclear about the need for IOL, those averse to having the procedure, and women who were considering a choice between IOL and elective caesarean section (i.e. the decision to deliver had been made and they were considering the best option).

Many HCPs suggested that they relied on local and national clinical guidelines to inform their practice regarding IOL and most had not engaged with the underpinning research evidence. Those who anticipated their knowledge being questioned were more likely to report seeking further information (e.g. in clinical assessments or where they perceived women in their caseload to be particularly inquisitive). Participants holding more senior HCP positions were more likely to report seeking further information, particularly to support clinical decision-making in specific clinical scenarios (i.e. women with a particular medical condition) or to inform their role in the development of local guidelines (Figure 8).

*"I researched it while I was in hospital, just because I was thinking, I started researching thinking I'm gonna get induced, do I wanna go through the induction or do I wanna opt for a C section 'cause I knew the two options were available" 097, woman, medical indication IOL*

*"I'm probably my own worst enemy but I was aware from the NICE guidelines that you could wait 24 hours <after spontaneous rupture of membranes> so that was the suggestion in the NICE guidelines, but I know <the hospital> have a different policy, ... <the doctor>, again, was very kind of, not really, it was presented that it wasn't a choice, we need to be induced between 12 and 16 hours, and I said 'Well actually no, I want to be induced in line with the NICE guidelines'" 105, woman, postdates IOL*

**Figure 8 Seeking further information to support decision-making or deliver care**

## 2.2 Challenges to accessing knowledge

Most HCP, and some women, participants described challenges associated with accessing formal evidence-based knowledge. Four key challenges for HCPs were: (1) volume of empirical information being produced, (2) sourcing, understanding and assimilating that knowledge, (3) understanding how to communicate the information and incorporate it into clinical care, and (4) finding time within busy clinical workloads. As shown in Figure 9, one medical participant suggested that midwives may be more time constrained than their medical counterparts, though midwifery participants did not note this as a phenomena limited to their own discipline. For women, knowing what they needed to know, and sourcing reliable, understandable information, were key issues.

Several women participants described having been given no, very limited, or superficial, information in contrast to women who saw a medical consultant. When additional information was requested it was not always provided, and some women went to on to seek further knowledge independently, largely via internet searches or talking to friends/family. Some participants felt that the internet offers women and HCPs equal access to evidence and knowledge (Figure 9).



**Figure 9 Challenges to accessing information**

*"I think you know if you know where to look for the information then you know there's nothing to stop you going and looking at it, but in the course of your working day, you're working flat out, you know, I'm sure everybody else has got the same grumbles, you know, you start early, you finish late, you don't get a lunch break, it is, it is hard, you're just on the go all the time, you know, so yeah, it is hard, it is really difficult" 118, HCP, midwifery*

*"I had, again tried to, tried to look at the research studies in the NICE guidelines poring through the annexes to try and understand what the proportions were, and had misunderstood what the proportions were so it was useful to talk to <the consultant>" 105, woman, postdates IOL*

*"I don't know, but erm, I'm not sure that erm, a busy midwife has maybe quite as much time to stay up to date with the evidence base as medical staff might have and I suspect a lot of the counselling is based on, you know, either information being given from the hospital or just past experience." 090, HCP, medical*

In contrast, accessing experiential knowledge was described as unproblematic. Women felt that other women were very willing to share their own birth/induction stories and opinions directly or via internet forums. Motivations to access experiential knowledge were to understand: (1) what induction is; and (2) what other women choose. Similarly, many HCPs reported that sharing information between colleagues, and observing their practices, heavily influenced their own care practices.

### **2.3 Mechanisms to facilitate access to knowledge**

Some participants described mechanisms that facilitated access to formal evidence-based knowledge for HCPs and women. The most frequently mentioned was national and local guidelines, with all HCPs and many women mentioning NICE. Guidelines were described by HCPs as a useful way to consolidate information and support the provision of consistent and evidence-based care, though some had reservations about the quality of evidence underpinning them. Whilst some women had accessed NICE guidelines directly, many were

content to accept their HCPs recommendations regarding IOL. In this respect both HCPs and women described a ‘*cascade of knowledge*’; evidence is translated into national guidelines, which are then translated into local guidelines, which are then interpreted and translated by HCPs into the care offered to, and the information shared with, women. Trust was a frequently mentioned concept, with each person trusting that those preceding them in the ‘*cascade*’ were qualified to source, interpret, and consolidate the information in an accurate, unbiased way. Some senior HCPs however suggested that national guidelines are not always based on the highest quality evidence and that the translation of national to local guidelines could be influenced by a number of factors including personal beliefs, biases and organisational resources (Figure 10).

*“you have to have some form of trust that your leaders on research have gone through and will always do what is ethical, therefore your results would stand up in court if you like” 089, HCP, midwifery*

*“I think I felt quite comfortable to kind of trust, trust in away, not to question everything of them, so, but I guess in a way it would be good to, if, ‘cause now I’m thinking did I, sort of, know everything exactly? Em, I’m not sure” 094, woman, postdates*

*“It used to be the case that you wouldn’t find a recommendation in NICE that was based on just one RCT but today, most of NICE guidelines are, you find recommendations based on cases, so the NICE guidelines have been diluted to the point where clinicians now feel almost compelled to look at evidence and pick and choose, ..., so I think NICE is shooting itself in the foot by in essence, forcing clinicians to pick and choose which guidelines they do, and once you’ve allowed for them to pick and choose, they will pick and choose both the good bits and the bad bits” 088, HCP, medical*

**Figure 10 Trust and clinical guidelines**

Most HCPs found guidelines a useful and appropriate mechanism of formal evidence-based knowledge mobilisation, but some HCPs and women expressed concern that it left HCPs as ‘*messengers*’; knowing when they should offer IOL but not fully understanding why.

Participants (from both groups) noted that this could result in HCPs treating guidelines as

rules or implementing them inappropriately. This was felt to be particularly problematic for women with questions about how the guidelines related to their individual circumstances or who queried why local guidelines differed between NHS Trusts (Figure 11).

**Figure 11 Clinical guidelines as a mechanism of knowledge mobilisation**

*“I do think guideline policies sometimes gets confused and people might view them as being more rigid and you can’t deviate which clearly isn’t the case, , but I certainly, my view of a guideline is it’s a prompt, it’s a guide, as it suggests” 107, HCP, midwifery*

*“the midwives in the hospital were very much like, ‘well yes you should get induced at 42 weeks because there are risks’, and, but then when you say ‘Well actually, you know, there are risks with being induced and I’d, you know, I, kind of, I’m not sure I want that’ then they’d say ‘Oh, okay, fine, yeah that’s your choice” 105, woman, postdates IOL*

For women, HCPs were generally reported as the most appropriate gateways to knowledge and informed opinion (either directly or via signposting to NHS leaflets/websites). Other mechanisms mentioned were antenatal classes (via NHS or independent companies like the National Childbirth Trust), the internet (including NHS endorsed websites, internet chat forums), friends and family, and non-NHS books and leaflets. For HCP participants, access mechanisms included peer-to-peer, professional journals (especially systematic reviews), Royal College of Obstetrics and Gynaecology (RCOG) guidelines, conferences, journal clubs, in-house training and meetings, and training (clinical and continuing professional development).

## **2.4 Challenges to sharing knowledge**

HCP participants saw themselves as having a role in sharing formal evidence-based knowledge with women but described challenges to achieving this. Being able to integrate population level evidence with the circumstances and preferences of individual women was described as important, requiring skill and time (not always feasible in a busy antenatal clinic). Similarly, challenging inaccurate knowledge brought into consultations by women in a non-dismissive, sensitive way was experienced as hard. Dealing with women with good knowledge of the evidence-base also presented challenges to some HCPs who felt their own

knowledge may come under scrutiny. Senior level HCPs described their frustration at having no time to observe more junior staff in consultations to guide them in developing these important skills (Figure 12).

**Figure 12 Challenges to knowledge sharing**

*“Hopefully it’ll help them to see where the guideline and the policy kind of side of things is coming from, but you’ve got to also have a human connection with the woman in front of you so you’ve got to go beyond that. I think if you just talk facts and figures and numbers that’s quite off-putting because that woman’s gonna go ‘Well I’m not just a statistic’. Well that’s how I would probably feel, so it is kind of relating population data, to individual women in their social context, which is much more challenging” 084, HCP, medical*

*“It would be nice to give them a bit more support because sometimes they don’t know what they need to know, em, but the way the NHS is just now with staffing and things, sometimes we just haven’t for the staff to offer loads of time where you can, which, I know, it sounds terrible, but it’s reality” 100, HCP, midwifery*

### **Theme 3. Constrained pathways and default choices**

This theme focuses on the environment within which knowledge is sourced, shared, and interpreted. Several factors appear to influence the choices presented to women, and how much information is shared and sought by both HCPs and women. This calls into question the extent to which women ‘choose’ induction and the consequent impact on knowledge seeking behaviours.

#### **3.1 Induction as default**

Participants in both groups felt it was important that women made informed choices about their care, but one of the clearest themes evident in the data was women’s perceptions that IOL was not presented to them as a choice, and HCP perceptions that women agree to have IOL rather than actively choose it. The importance of this observation to the research question relates to the concomitant observation that women do not ask questions (Figure 13).

*"... it was very much like 'well we will book you in for an induction then', as opposed to 'there are some choices, you could be continuously monitored', and it was more that I was aware that that was a choice, than I was given that choice" 105, women, postdates*

*"I think that <women> do just say 'Okay I'm being induced', and they might be given some statistics about induction, but it's given as 'that's the option' rather than 'this is one option, that's the alternative option', and so I think it is maybe sold as this is our routine, and only if it's questioned do they then get the flip side of the coin" 101, HCP, midwifery*

*"Induction is done for a variety of reasons and therefore in circumstances where induction is clearly indicated, and one assumes the woman kind of knows that, then there isn't a lot of discussion except to say 'You are fully two weeks, you need to be induced' and she says 'Yes'. 'Off you go, off you go to get induced'. So that's a fair picture of the 30 second discussion." 088, HCP, medical*

**Figure 13. Induction as a non-choice**

Some explanatory factors for this phenomenon were evident. Firstly, language use in the interviews suggested a power dynamic skewed towards the formal health care system, with frequent references to what is 'allowed' and what HCPs will 'let' happen. Choosing expectant management was often described as a 'refusing' IOL, suggesting that acceptance is the default; this idea is strengthened by women who described concerns that declining IOL may define them as awkward to HCPs (Figure 14).

**Figure 14. Language and 'Choice'**

*"We didn't really talk about whether it was something I could refuse, or what the risks of not having an induction were" 111, woman, postdates IOL*

*"I mean often once they get to the point of their due date 'cause you see them at the 40 week appointment, then they would normally be maybe 'Well what happens from here on in? How long am I allowed to go over me dates?' 118, HCP, midwifery*

Some women described having feared that they would be blamed (either by others or themselves) if they declined IOL and experienced a poor outcome; some HCPs described wanting to protect women from this. Participants' discussions almost exclusively revolved around blame in the event of a women declining IOL, although one woman blamed IOL and her HCP for her instrumental birth. Some women described feeling a responsibility to avoid any level of risk to their baby, although others felt that risk is unavoidable and that discussing it in realistic, understandable, and non-sensational ways was important (Figure 15).

**Figure 15 Risk, responsibility and blame**

*"... if you go against what people who are a lot more knowledgeable than you say, if anything went wrong who do you blame? You've been told the facts and if you ignore those facts and anything goes wrong, ultimately who is the person to blame? It would have been me" 117, woman, medical indication IOL*

*"When the doctor was getting my consent, or telling me I was having to go and have a high, a forceps delivery, I remember saying 'This is because you demanded that I come in at 42 weeks and he wasn't ready to come out and if I'd have had a few more days he would have turned his head'" 111, woman, postdates*

*"The risk element of it isn't communicated well, you're just told it's risky, but I don't remember anyone saying well how is it, and how risky in each case, how risky might it be because as a, a pregnant woman you make all sorts of decisions that may or may not be risky, like whether or not you're gonna have a glass of wine or eat some meat that isn't fully cooked. So I think women do make, are very well capable of making choices based on risk, but that isn't, I think sometimes you're fed a bit of like, you're a dumb person, so it's risky, don't do it" 111, woman, postdates IOL*

### 3.2 Channelling

The data suggest that HCPs may use knowledge selectively to 'channel' women towards options that align to professional norms and/or organisational guidelines. Some participants suggested midwives and medical trainees may come under pressure from medical consultants to restrict referrals of healthy women requesting early IOL (i.e. before 41 weeks). Discussing such situations, HCPs described using strategies to encourage women to continue their pregnancy (e.g. emphasizing the risks of IOL, offering an additional cervical sweep with a follow up appointment (Figure 16)).

**Figure 16 Knowledge sharing in constrained systems**

*“Someone says ‘I’m really fed up and I want to be induced’ so you’re saying ‘Well if your body’s not ready to go into labour you’re really increasing your chance of having a caesarean section if you got induced just now, so it’s not a good idea unless it’s really medically indicated, if you’re unwell, the baby’s unwell, but you know, not grown or whatever’ but, you really just have to try and support them” 100, HCP, midwifery*

*“... the other thing that we need to really look into is, what, what, that we have the capacity if you like, to be able to do all of what is recommended from the RCOG’s guidelines, so it’s not, it’s not always an easy thing to implement, though, you know, it’s recommended” 095, HCP, midwifery*

### **3.3 Roles and responsibilities**

The role of HCPs in their organisation in relation to IOL decision-making also appeared to impact on their willingness to know and share formal evidence-based knowledge. Trainee medical staff and midwives explained that women requesting care that did not align with local guidelines had to be referred to a medical consultant to make further decisions. These HCPs suggested they had awareness of the variable preferences of different consultants and would sometimes adjust the knowledge they shared with women to manage women’s expectations. They also suggested that they may transfer responsibility for information provision to the consultant to avoid inconsistency or conflict. For example, the care pathway in the hospital Trust required community midwives to (a) routinely offer IOL at 41-42 weeks gestation to women with an otherwise low risk pregnancy, and (b) to refer on women who declined this offer, or who requested IOL prior to this gestation, to a medical consultant. Similarly, medical trainees referred on women who did not accept an offer of IOL. Midwifery/trainee participants described that further discussion did not generally precede that referral, suggesting that responsibility for further information sharing was seen to rest with the decision-maker (the consultant). A number of women expressed dissatisfaction at this system and felt it would be more appropriate to have an evidence-based discussion with a known and trusted HCP (and that for many this would be a community midwife).



**Figure 17 Roles and responsibilities of healthcare professionals**

*“If somebody refuses induction the midwife’s role would be to inform the medical staff who would then, it’s, because it’s outwith the norm, and because they become high risk, midwives are able to care for women at low risk. Anything out with that, it would be a medical review” 095, HCP, midwifery*

*“I think individual consultants get a reputation for what they want in their clinic and I think, the trainees often try and deliver what they perceive as being the right answer in that situation, and to some extent that’s, that is how medicine’s always worked” 091, HCP, medical*

*“It’s a social induction at 41 weeks and, I’m really sorry, but I think they shouldn’t have got as far as the clinic in the first place, or it’s often written in the notes by the community midwife you know, come to the antenatal clinic to discuss early induction, and they know as well as we do that that’s not appropriate, but it’s a way of passing it on and getting them out of their consultation room or whatever, and that’s not fair because the women then come to clinic with unrealistic expectations because they think they’re gonna get an early induction” 085, HCP, medical*

### **3.4 Inequality**

HCP participants suggested that access to choices and information about IOL may be inequitable, and several gave women with symphysis pubic dysfunction (SPD) as an example. Such women were reported to often request early IOL but to have their requests declined without discussion. Conversely, women with a previous history of second/third trimester pregnancy loss were reportedly given more information and choice about timing of IOL. Some HCPs also explained their perceptions that some ‘types’ of women (educated, middle class) were more likely to value detailed information than others (Figure 18).

**Figure 18 Inequality of knowledge sharing and access to IOL**

*“I think people who’ve got SPD are the most tricky characters because they have got very, very, painful, immobilising pregnancies that seem to get little sympathy from professionals, because they don’t live that life and I think there’s also a professional opinion that these people are trying to be induced, and there probably is a hard core of people who are trying to be induced, but there’s also some people who really are, they need to be induced, they really are in extreme pain, but still, we would try and get them as near to term as we can ‘cause we want them to have a spontaneous labour, just because it’s, it is better for them” 119, HCP, midwifery*

*“I work in <two affluent towns> so I tend to get a lot of, my ladies are professional people who are well-educated and will question and will look up things so they understand what’s going on, where maybe other areas, you know, because of language difficulties or reading difficulties or, you know, in some of the socially deprived areas, they don’t always question, they just accept that that’s what’s gonna happen” 114, HCP, midwifery*

### 3.5 Other influences

Some participants described societal and professional perceptions about pregnancy, birth and the desirability (or not) of pursuing an intervention-free vaginal delivery. Some HCPs felt that some women have fixed views about IOL and are selective in the knowledge they seek and accept as legitimate, and that some HCPs may strive to avoid IOL. Finally, a number of HCPs and women indicated that women have alternative motivations for seeking or accepting IOL, namely that pregnancy can be tiring and uncomfortable so hastening its completion becomes desirable. HCPs described their experience that this led some women to have low motivation to understand the evidence-base (since they have already decided that they want IOL) or to seek non-evidence-based interventions (e.g. more cervical sweeps than are recommended by NICE guidance)(Figure 19).

**Figure 19 Additional influences on decisions about IOL**

*“... people seem, almost seem to be a bit polarised into either wanting a birth experience, the most, a natural birth experience or being quite pro induction but there seems to be, people often seem to have very much made up their mind before they come” 091, HCP, medical*

*“At that point I would have done anything to get him out” 106, woman, postdates IOL*

*“It’s this instinct from clinicians who believe that a caesarean section is bad and insist to attempt a vaginal birth is good, this primary belief, and unless you kind of deal with that belief at the onset, then you face a much bigger challenge. But this is not just obstetricians, it’s midwives, it’s everyone in maternity care from the Government down. Everyone thinks that vaginal birth is good, caesarean section is bad” 088, HCP, medical*

#### **4. DISCUSSION**

The results of this study suggest that whilst high quality research evidence was valued by participants, and was viewed as a means to secure the best quality of care, evidence-based knowledge was not always effectively mobilised to support decision making (e.g. it was not always accessible and understandable to women and HCPs when the offer of IOL was made).

The KM literature encourages us to think about use of knowledge as a social process that occurs within social, political and organisational contexts that shape the way that different forms of knowledge are accessed, shared, and used in every day care (Crilly et al., 2010). Applying this lens to our research question led us to focus on the way high quality research evidence is used in everyday interactions about IOL, and to consider the role of context when interpreting the results. The results highlight the complexity of the context within which choices about IOL are made, and highlight several influential factors (e.g. personal and professional preferences, accessibility of knowledge, organisational constraints, experiential knowledge, and societal norms).

Many of the findings echo similar work exploring women’s experiences of decision-making about IOL; in particular, observations that women perceive that they are given limited information and choice about IOL, and even less about alternatives (Coates et al., 2020;

Coates et al., 2019; Dupont et al., 2020; Jay et al., 2018; Lou et al., 2019; Moore et al., 2014; Stevens and Miller, 2012). Descriptions of the use of directive language, maternal feelings of moral obligation to avoid risk, and socially/medically constructed beliefs about pregnancy contribute to that observation. These concepts have all been observed in maternity care more broadly (Begley et al., 2019) and may explain why the 'non-choice' scenario regarding IOL appears to continue without much challenge.

Theme three suggests organisational factors that may influence how motivated HCPs are to understand and use evidence in their clinical decision making and in their interactions with pregnant women, for example the normalisation of IOL as a routine part of care or the known preferences of senior clinicians leading to practices that we have labelled 'channelling'. Care pathways that require women who wish to explore choices that deviate from routine care (e.g. to decline postdates IOL, or to request IOL) to be referred to a medical consultant, appeared to influence HCP perceptions about who has responsibility for knowledge sharing to support decision-making. Several accounts suggested that that midwives and trainees felt it was not appropriate for them to engage in discussions about options when they had no ability to sanction deviations from clinical guidelines; it was unclear whether this was because they felt they lacked knowledge or because they felt it was not their responsibility. Only a proportion of women access medical consultant care (and thus access to these evidence based discussions) and, for well women, midwives and trainees generally act as gatekeepers to consultant care (Nippita et al., 2017). Additionally, some women found the requirement to be referred to a consultant in these circumstances to be intimidating (as compared to the 'easier' option of compliance). Several women in this study noted dissatisfaction with this arrangement, suggesting that it would be more appropriate to have a well-informed discussion about IOL with HCPs who have already been involved in their care, and community midwives were mentioned in particular.

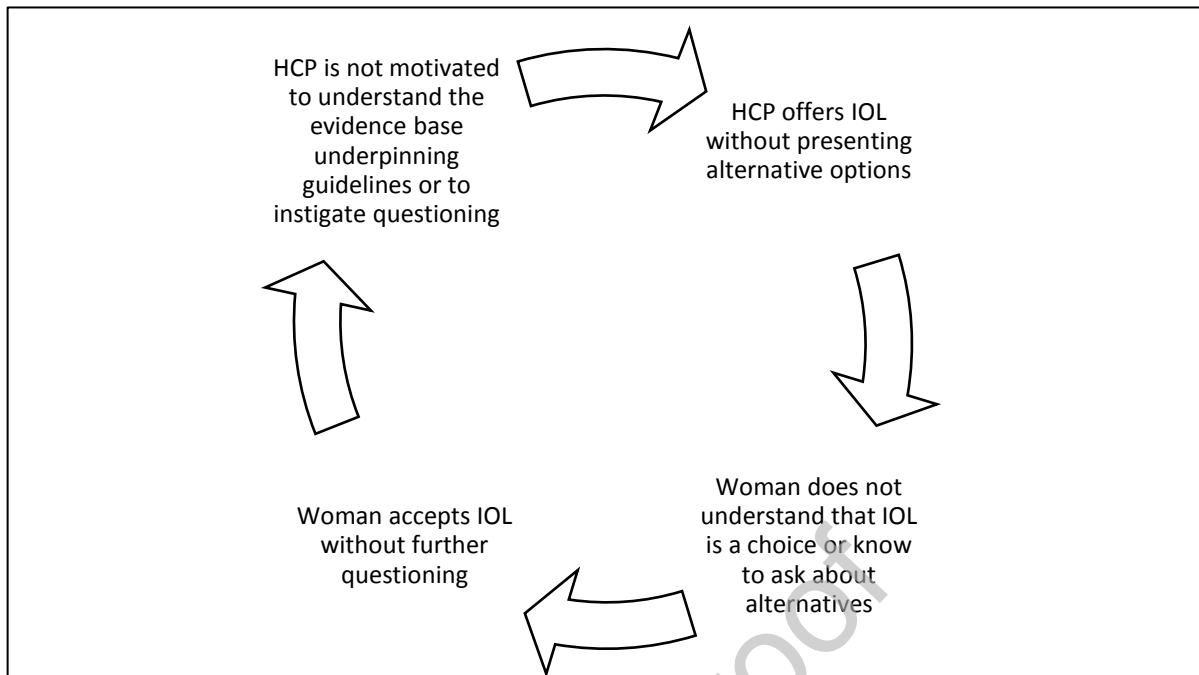
Clinical guidelines are a well-accepted and widely used tool that aim to increase evidence based care and decrease unwarranted variation in NHS care (National Institute for Health and Care Excellence). In light of the reported challenges of accessing, understanding, and applying a rapidly expanding evidence base, they represent a familiar way to summarise and share knowledge. In our study, the use of clinical guidelines represented a 'double-edged sword' in their role as a mechanism of knowledge mobilisation. They were undoubtedly well recognised and widely trusted, and were referred to frequently by all HCPs (and several women), but there were also suggestions that they were frequently applied in inflexible and mechanistic ways. Conversely some of the senior HCP participants suggested that local guidelines often do not completely reflect national guidelines because of concerns about the

quality of the evidence underpinning them or issues regarding the resources required to deliver them; this has significant implications for the ability of guidelines to increase the use of 'best practice' and decrease variation. This aspect of our findings resonates with other literature on this subject (Shackelton et al., 2009; Woolf et al., 1999), as does the observation that guidelines were applied inconsistently based on individual clinician preferences, resource availability, or collective local understandings. Our study also suggests that guidelines can reduce the motivation of HCPs to understand the evidence base underpinning the guidelines, which then limits their abilities to deliver care individualised to the needs and preferences of each woman or to engage in shared decision making practices (Elwyn et al., 2012). Many women in this study indicated their passivity in relation to knowledge seeking, instead indicating that they place trust in their HCPs to actively provide them with appropriate options and explain information of importance; this meant that HCPs were generally not challenged on their lack of detailed knowledge.

Widespread acceptance of IOL by women when offered may also lead to assumptions that alternatives are risky or even subversive choices; these assumptions appear to have translated into embedded or '*collective*' knowledge (Greenhalgh, 2010) which has the potential to limit the extent to which HCPs and women are prepared to seek evidence to support these embedded understandings or to challenge them. A belief that IOL is a routine part of care, rather than a choice, encourages uniform acceptance and invokes discourses of risk and blame when alternative options are considered or chosen by either HCPs or women (Woolf et al., 1999). Furthermore, it may put pressure upon women to adhere to usual care to avoid being labelled as difficult or reckless (MacKenzie Bryers and van Teijlingen, 2010).

We propose that the longstanding routinised and guideline driven offering of IOL by HCPs, alongside almost uniform and unquestioned acceptance of the procedure by women, has created a cycle of '*non-decision*'. Alternatives to IOL are not considered, thereby limiting motivations on the part of HCPs and women to seek evidence to support decision-making (because it is perceived that no decision is being made). Organisational pathways that (deliberately or inadvertently) discourage women from accessing evidence-based discussions or considering alternative choices, support this cycle further. This cycle represents the easiest route for both women and HCPs to take and there is little incentive for either to deviate from it (Figure 20).

Figure 20. Cycle of non-decision-making



The implications of this cycle, and the context within which it operates are significant for anyone aiming to develop strategies to increase the use of high quality research evidence in discussions and decisions about IOL (and perhaps around maternity care more generally). Such strategies might aim to disrupt the status quo at any point in the cycle (for example by aiming to make choices around IOL more explicit) but they might also consider the implications of this for other parts of the cycle. For example, it could be hypothesised that awareness of choice may lead to increased questioning by women, which may lead to an increase in HCPs' motivation to understand the evidence base in order to engage in discussions; it would then be important to think of ways to make that evidence available to HCPs in an accessible and understandable way.

### Strengths and weaknesses

Whilst this study was conducted in 2013/14, subsequent research strengthens the notion that women continue to perceive shortcomings in the amount of information and choice they are given about IOL (Begley et al., 2019; Coates et al., 2020; Jay et al., 2018; Lou et al., 2019). National IOL guidelines have not changed since the study was conducted, and an evidence update published by NICE in 2013 (The National Institute for Health and Care Excellence, 2013) reported no changes to guidance around information and decision making. Guidelines for care of women with specific circumstances (e.g. diabetes) have contributed to an increase in the number of women being offered IOL (The National Institute

for Health and Care Excellence, 2015). We believe, therefore, that the results of this study have continued relevance to an increasing number of women.

The key strengths of the study are the focus on how knowledge is understood in discussions and decisions about IOL, the qualitative methodology (allowing an in-depth exploration of the issue), and the inclusion of data from midwives, obstetricians and pregnant women. This approach has offered the opportunity to explore the contexts within which decisions about IOL are made, expanding understandings of the reasons why pregnant women persistently report having limited choice and information about IOL.

The study weaknesses include the self-selected nature of the participants; those who chose to take part may have had a particular interest in evidence-based care. The women who participated were also more educated, older and less ethnically diverse than the general population in England and there would be merit in exploring the experiences of women from different backgrounds. Finally, this represents the experiences of individuals from one NHS Trust and it is likely that Trusts with different processes (for example, those that refer women requesting care outwith guidelines to consultant midwives) may have different experiences; this would be interesting to explore in future research.

## 5. Conclusion

The results of this qualitative study offer a key contribution to our understandings of how decisions about IOL are made by women and HCPs, and the value placed on different forms of knowledge. It has identified some of the complex personal, professional, organisational, societal, and cultural factors that have developed and coalesced to support a culture of '*non decision-making*' about IOL. The findings have profound implications for understandings of informed decision-making in maternity care, and for developing strategies to share knowledge with women and support them to make informed choices about their care. This is especially important for IOL, which is currently experienced by almost a third of the birthing population in England. Transforming current patterns of care is likely to require complex and multi-layered approaches that target behavioural and organisational changes, and that engage women and healthcare professionals..

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## Appendix 1 Participant Characteristics

Woman Participants n(%) Total 16		Healthcare Professional Participants n (%) Total 22	
Parity		<b>Gender</b>	
First child	12 (75)	Female	18 (82)
Educational level		Male	4 (18)
GCSE or equivalent	1 (6)	<b>Professional Background</b>	
A level or equivalent	3 (19)	Medical (consultant)	5 (23)
Degree or above	12 (75)	Medical (Specialty Trainee)	4 (18)
Had an IOL		Senior midwife (e.g. matron, sister)	6 (27)
Yes*	10 (62)	Midwife (hospital)	2 (9)
Choice about IOL (as reported by participant)No*	6 (38)	Midwife (community)	5 (22)
Accepted IOLChoice about IOL (as reported by participant)	14		
Declined IOL #Accepted IOL	2/14		
Declined IOL #	2		
<b>Reason for IOL discussion (as reported by participant)</b>			
IVFReason for IOL discussion (as reported by participant)	1 (6)		
Multiple pregnancyIVF	1 (6)1 (6)		
PostdatesMultiple pregnancy	8 (50)1 (6)		
Pre-existing medical problemPostdates	2 (12)8 (50)		
Pregnancy related problemPre-existing medical problem	2 (12)2 (12)		
Previous obstetric historyPregnancy related problem	1 (6)2 (12)		
Requested IOLPrevious obstetric history	1 (6)1 (6)		
Age Requested IOL	1 (6)		
Median (range) Age	33 (27-43)		
Ethnicity Median (range)	33 (27-43)		
White, British Ethnicity	14 (88)		
White, otherWhite, British	1 (6)14 (88)		
Asian, BangladeshiWhite, other	1 (6)1 (6)		
Asian, Bangladeshi	1 (6)		

\* 4 women went into labour spontaneously (of which 2 had previously declined IOL, and 2 had accepted IOL and had a date booked); 1 woman had an elective caesarean section; 1 woman had an emergency CS prior to labour.

# 1 women initially declined IOL but accepted a subsequent offer, 1 woman declined and went into spontaneous labour

### **Author Credit Statement**

**Allison Farnworth:** Conceptualization, Methodology, Validation, Formal analysis, Investigation, Writing - Original Draft, Writing - Review & Editing, Project administration, Funding acquisition.

**Ruth H Graham:** Supervision, Conceptualization, Methodology, Formal analysis, Writing - Review & Editing, Project administration.

**Catherine A Haighton:** Supervision, Conceptualization, Methodology, Writing - Review & Editing, Project administration.

**Stephen C Robson:** Supervision, Conceptualization, Methodology, Formal analysis, Writing - Review & Editing, Project administration.

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