ROUNDTABLE DISCUSSION

Early Labor: What's the Problem?

PREFACE: *In places where hospital birth is the norm, one of the major contemporary challenges to the organization of intrapartum care is posed by women who are not in established labor. In the United Kingdom, these women have been given a special name, "Category X," and they can account for a substantial percentage of admissions (1). These women are not deemed to be in need of hospital care, but the women themselves may feel otherwise as they struggle to understand the sensations they are experiencing. Until relatively recently, little research effort was expended on early and latent phase labor, reflecting, perhaps, the assumption that it is just a gentle and relatively straightforward preamble to the "real thing" that can easily be dealt with by keeping mobile, leaning over furniture, or doing the ironing. Because early labor is not seen as needing a health professional's input, the message is that it is unimportant. However, emerging evidence is challenging that view. Four large randomized controlled trials have recently evaluated interventions related to early labor care (2–5), stimulated by concerns that included repeated visits to the labor ward and the impact of early admission with the potential for a cascade of interventions. These trials, and other research reporting women's own perspectives on labor onset, reflect growing awareness that this stage of labor merits consideration in its own right.*

An International Early Labor Research Group has formed who will develop the evidence base in this important part of childbearing. The group represents varied disciplines including midwifery, psychology, epidemiology, antenatal education, and service user representatives. Members of this group are among those who have contributed to this Roundtable Discussion. The contributions draw attention to the complexities of early labor and its importance for childbearing women, their caregivers and companions. We might reasonably hypothesize that a woman's experience of early labor sets the scene for what follows, and it is clear that this is an area worthy of considerable further research.

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"Getting Acquainted with Early Labor"

What do we know about early labor? Perhaps we should start with what we don't know. We don't know what starts labor. We don't know why, for some women, it doesn't start before 42 weeks' gestation. We don't know exactly when it starts. We don't have a simple, reliable definition of labor onset. Instead we rely on highly variable and subjectively reported symptoms. We hide early labor.

In traditional societies, women in early labor were cared for by other experienced women. They were reassured as to the progress and normalcy of their labor. As part of our Early Labor Assessment and Support at Home (ELASH) trial in Canada (2), we saw many couples begin and endure their early labor without such support. Instead, the hapless male partner, having never seen a labor or birth, was expected after a short series of prenatal classes, to keep his partner comfortable, relaxed, hydrated, rested, reassured, and to diagnose her

progression to active phase labor accurately so as to avoid the stigma of coming "too early" to hospital. A society in which early labor was observed within family and neighborhood constellations would have perhaps dispatched from the privacy of their apartments and townhouses concerned and wise women to assist. In hospitals, we do not acknowledge early labor. Women in early labor are not listed on "the board," on which many details of an "admitted" woman's labor are written, often for all the world to read, in the delivery suite.

What happens when we assign experienced obstetrical nurses to care only for women in early labor, to make them once again the focus of their care? The ELASH study showed that such women indeed come to hospital in more advanced stages of labor, and they are less likely to have visits to hospital that result in being discharged back home, and they are perceived to be coping better with their labor on admission, even though they were, on average, further advanced. Did this bode well for women who wished to have a spontaneous vaginal delivery? Apparently not. Once in the hospital environment, women who had been randomized to receive a home visit for labor assessment and support during early or latent phase labor were no less likely to receive epidural analgesia, labor augmentation, or cesarean delivery. Is this because the hospital environment does not support the natural progression of labor, as has been the mantra of obstetrical nurses and midwives and some physicians for years? Or is it because factors inherent in women lead to cesarean section regardless of the nature of early labor? What can maternity care professionals and researchers learn about early labor?

We need to learn much more about the natural history of unintervened-with early labor among healthy women. To do this, early labor needs to become visible. We must have studies in which all aspects of a combination of women's awareness of labor onset and clinician's observations are documented so that clinicians know and agree on an algorithm to describe the beginning of labor. When we agree on the beginning of early labor, we can begin to study it.

In the ELASH trial, the most important single predictor of cesarean section among women without any known risk factors on presentation to hospital was their perception that they had been in early labor for more than 24 hours. If practitioners can learn when labor departs from the normal *early* trajectory, they may take a small step toward slowing the velocity of the skyrocketing cesarean section rates. Practitioners will no longer either ignore women until they are "on the board" or leave them only in the uncertain care of their loved ones. They will acknowledge the stage women are at, support them, teach them, and provide them with expert evaluation. Should practitioners decide that a woman's probability of cesarean section is high before she is in active labor, they may treat her aggressively early on, with labor augmentation, therapeutic rest, or both, as needed.

What do we know about early labor? We learned from our ELASH trial, when analyzed as a prospective cohort study, that healthy nulliparous women who present in early labor are not characterized by age, height, marital status, education, or income levels. They are, however, less likely to have attended prenatal classes, and less likely to have had a doula. What does this mean? It may mean that careful attention to, and support of, women in early labor offers hope for more appropriate timing of hospital admission. However, the benefits of early labor care do not extend inside hospital walls.

What do we *need* to know about early labor? We need to identify the natural history of early labor progression (before 4 cm cervical dilatation) that leads to vaginal delivery, that is, normal early labor. The challenge to maternity care professionals and researchers is twofold: first, to continue to study factors inherent in women that lead to troubled (prolonged painful nonprogressive) early labor and their contribution to risk for subsequent cesarean section, and second, to address those factors in the hospital environment itself that lead to cesarean section in otherwise apparently risk-free women.

Patricia Janssen, MPH, BSN, PhD, is Assistant Professor at the University of British Columbia, Department of Health Care and Epidemiology, Canada.

Address correspondence to Patricia Janssen, The University of British Columbia, Department of Health Care and Epidemiology, 5804 Fairview Avenue, Vancouver, BC, Canada V6T 1Z3.

"Labor Isn't Happening Until Health Professionals Tell You So"

In the United Kingdom the midwives and the childbirth educators are lining up against the women. Despite all the rhetoric telling women that they should be at the center of their own care, women in early labor can't get their midwives to give them the care they want. Why is this? Well, it's because the midwives are very correctly trying to implement "evidence-based practice," which for equally good reasons, the women do not want. The evidence says that the longer the women stay at home in early labor, the less likely they are to have interventions when they go into hospital—less likely to have their labor accelerated, less likely to have an epidural, or to need a ventouse or forceps delivery. So when women ring the labor ward, the midwife tells them to stay at home. "You've got a long way to go yet; wait until you're having three contractions every 10 minutes." "Rest and have something to eat." "Try taking a bath."

But what do the women want? In fact, most of them want to come into hospital.

And why wouldn't they? They've been indoctrinated for years into believing that having a baby is a hazardous undertaking; they've seen the soaps on TV in which heroic obstetricians save the lives of women who were apparently supremely healthy only 5 minutes previously. They've been subjected to constant exhortations from government to eat this, not eat that, rest, don't drink alcohol, exercise . . . . They go along for their midpregnancy scan, which is not an opportunity to find out that their baby is healthy but, rather, to detect "fetal anomalies." Their pregnancies are no longer "blooming" but oppressive.

Under these circumstances, why on earth would women think that it's safer for them to be at home when they go into labor? They learned from every clinic appointment they've ever attended that the real knowledge about their "condition" is medical/midwifery/technological knowledge, not their own instinctive womanly knowledge. They've had their pregnancies monitored with blood tests and ultrasound scans, so why would they be reassured that remaining in an environment where none of these things is available is their best course of action when they go into labor?

Women, however, tend to be compliant. They don't want to offend the modern high priests of the birthing business. So if they're told to stay at home, they do so. And then they worry because as one woman told me recently, "I really needed to get my labor passed onto the screen at the hospital; then I'd know I was in labor." She felt that her labor had no legitimacy, wasn't in fact really happening until health professionals with high-tech machines had confirmed its reality. She couldn't trust her own interpretation of the sensations she was experiencing and hence, "At home, I was frightened." And while women are worrying, their adrenalin levels are soaring and their oxytocin levels are plummeting. When they do present at the hospital, they're exhausted, tense, and miserable; their contractions are irregular and uncoordinated and the only thing to do is to accelerate labor with amniotomy and oxytocin. And we know what happens after that.

So I'm not surprised that recent studies exploring different ways of supporting women to stay at home in early labor—be it by telephone or a visit from a midwife—have shown that women still have the same number of interventions in their labors. Staying at home would be all right if the culture of birth were different. And that culture affects not just the women, but the people they choose to be their companions in labor. So while they're at home, they're surrounded by people who are as fretful as themselves. They call on their mothers, but those mothers gave birth in the 1980s, at the height of medicalization; the grandmas are even more frightened of birth than their daughters are. The women turn to their partners—men who have no instinctive understanding of birth and probably aren't the best people to be supporting them anyway. They ring their friends who express great surprise that they're not already tucked up safely on delivery suite. Home is not the place to progress a normal labor when your supporters are as keen as you are to get you to a place where there are experts who can pass labor "onto the screen."

Childbirth educators and midwives may spend whole sessions during antenatal courses explaining to women that early labor can last for hours and even days, and that they will know when they're in active labor. But the women don't believe that they will know. After all, they've not been assumed to know anything about their pregnancies, so why should they know about labor (or breastfeeding or looking after a newborn)?

What then should be done about early labor? Perhaps we provide homelike rooms for women in the hospital; perhaps we suggest that all laboring women have a female birth companion; perhaps we send midwives to women's homes to stay with them. All of this may not be enough. It's a question of nurturing women's confidence that *they* are the ones who "know"; that they don't need to "be delivered" because they can "give birth"'; that their bodies which have nurtured a baby so wonderfully for 9 months can now complete the job of bringing those babies into the world. All of this does indeed require what Shakespeare in *The Tempest* called "a sea change." If it could be achieved, then we would once again experience birth as "something rich and strange" (Shakespeare again). To achieve such a change requires a new breed of maternity care professionals who, like the wise midwives of old, have had an apprenticeship in normal birth, have stayed quietly by women through the intense contractions of strong labor, encouraging much and doing little, and have learned that birth is a process that rarely benefits from interference.

Until this happens, don't blame the women because they keep ringing the hospital in early labor. They will go on seeking permission to come in, desperate to escape the home environment where there is no one who "knows" and to seek refuge in an institution where their labor can be "passed onto the screen" by the health professionals who, they have been convinced, know so much better than they do.

Mary L. Nolan, BA (Hons), MA, PhD, is Professor of Perinatal Education in the Department of Allied Health Science at the University of Worcester, United Kingdom, and an antenatal teacher and tutor with the National Childbirth Trust.

Address correspondence to Professor Mary Nolan, Institute of Health and Society, University of Worcester, Henwick Grove, Worcester WR2 6AJ, United Kingdom.

"Is This Really It?"

Most human beings want major life events and transitions to progress smoothly. They want recognition from others that what they are experiencing is important to them and to have their involvement in it respected. This means that there has to be an appropriate acknowledgment that the event is occurring and a sense of understanding of what it means to the individual concerned. The transition that heralds the end of pregnancy is one such event.

Hunt's ethnographic study of labor ward culture, carried out some 20 years ago, showed that this acknowledgment of the importance of early labor was often sorely lacking. The "nigglers" were not considered "real" work in the labor ward, an area that is often the focal point of any maternity unit (6). Managing the "real" work, that is, caring for women in established labor, is still a major pressure on maternity services in the United Kingdom (7). Women not in established labor are seen as taking resources from where they are needed, and with staffing and financial constraints, the current UK trend is to "contain" early labor in areas away from main labor suites. Triage areas and a range of assessment units have appeared and, in the case of admission rooms, reappeared in the maternity landscape.

During early labor, women have many questions: "Is this 'it'? Has labor really started? What should I be doing? When will this stage end and how will I know?"

The route to obtaining answers to their questions, for most women and their companions, is by telephone contact with maternity service providers. Evidence of the psychosocial significance of this contact for women is emerging from some of our recent studies (4,7,8). Some women report satisfactory encounters where they felt listened to and respected and where advice was clear and fitted with their expectations. Others, unfortunately, had the opposite experience. "Not being believed" and "being made to feel silly" were particular themes, to the extent that several women defined a good experience by the absence of those features. The midwife's manner emerged as the most important determinant of women's (dis)satisfaction with their telephone encounters. In addition, women who reported that none of their conversations lasted longer than 5 minutes and women who made repeated calls to the maternity unit were significantly more dissatisfied with the telephone call experience.

Without hearing the actual words that were spoken, one cannot always be certain just what exactly a midwife said that was interpreted as helpful or unhelpful by the woman. The following quotation, however, shows that a balance has to be achieved between treating the woman's situation as normal (considered positively) but avoiding trivializing the event (considered negatively). Strategies frequently used in advice to women at this stage may be interpreted in that light, such as taking simple painkillers:

> Nurses were calming on the phone and quite supportive, but when you're in labor it comes across as uncaring or being misunderstood, for example, suggesting paracetamol seems casual!" (participant in the ELSA trial)

An unsatisfactory telephone encounter does not provide a good start to the rest of labor. We have very little empirical evidence about how these experiences influence subsequent events, but it seems a reasonable hypothesis that something which undermines a woman's confidence and stresses her will be bad news.

The implications of this require further consideration. It appears likely that women's and midwives' goals at this time may be very different. The professional position in the last few years has been that women should, for their own good, be encouraged to remain out of labor wards until their labor is properly established. The rationale for this approach has not been communicated that clearly to women in some settings with the potential for mismatches between expectations and experiences, resulting in disappointment. It can be easily understood why some women may think that this part of their experience is not of interest to their health professionals—akin to some women's experiences of early pregnancy. If there is one message for health professionals, it is that it *all* matters to women and each time it is unique, even if their caregivers have "seen it all before."

Helen Spiby, RM, MPhil, is Senior Lecturer (Evidence-based Practice in Midwifery) at the Mother and Infant Research Unit, University of York, United Kingdom.

Josephine Green, BA, PhD, is Professor of Psychosocial Reproductive Health and Deputy Director of the Mother and Infant Research Unit, University of York, United Kingdom.

Address correspondence to Helen Spiby, Mother and Infant Research Unit, Department of Health Sciences, Area 4, Seebohm Rowntree Building, University of York, Heslington, York YO10 5DD, United Kingdom.

"Listening to Women's Self-diagnosis of Labor Onset"

Anecdotally, it is well known that if one asks any midwife or obstetrician about their understanding of when labor starts, one will get a myriad of responses. This lack of uniformity reflects the variety of ways in which the onset of labor may be signaled, which, in turn, reflects the complex physiology surrounding this event. Usually, the removal of inhibitory effects that sustained the pregnancy triggers the "parturition

cascade" and initiates the transition from pregnancy to labor. It may be associated with a change in the role of the progesterone receptors and an increase in gastrointestinal activities. Activation of the fetal and maternal hypothalamic pituitary adrenal axis may result in emotional upheaval and restlessness in the pregnant woman, which may lead to sleep disturbances. On the other hand, sleep disturbances may also be triggered by parasympathetic-associated "contractures," which are the precursors of co-ordinated uterine contractions; ruptured membranes and a dilating cervix may follow. Given this physiological complexity and range of caregiver opinions, it is not surprising that women also identify their labor onset in a wide variety of ways.

Self-diagnosed symptoms vary from altered sleep patterns to emotional upheaval and excitement, including restlessness, anxiety, or impatience. Some women may experience blood-stained and/or watery fluid loss as symptoms, which need further professional assessment (9). These symptoms may or may not be accompanied by contractions, whether regular or sporadic. Pain is another common indicator that suggests to many women they are in labor. However, the presence of pain is not necessarily an indicator of labor progress. Not surprisingly the *timing* of self-diagnosis of the onset of labor varies greatly among women, and also differs from the midwives' assessments. Our research team has shown that nulliparas who identify sleep alterations as the first sign of labor perceive that their labor started an average of 11.5 hours earlier than the midwife's assessment (10). In contrast, women whose labor started with watery fluid loss or contractions had greater congruence with the midwife's assessment. It is perhaps not surprising that there is greater agreement between women and their caregivers for more tangible symptoms, especially when Western maternity care has tended to focus on recording timings of key events.

In attempting to reconcile women's self-diagnosis of labor onset with that of the health professional, it is also important to note that the practitioner is rarely present when onset of labor occurs. Many women notice physical changes that herald the onset of labor and may confuse them with the onset itself. If women are not properly prepared to deal with this possibility they may be disappointed and find themselves in conflict with their caregivers as a result of the disparities in recognizing the signals for onset of labor.

Most practitioners want women to have a good experience of labor and birth. Including the woman's view at the onset of labor and assessing indicators of her well-being during the process could advance knowledge of how self-diagnosed symptoms of onset of labor may be related to further events during labor.

Where do we go from here? In multivariate regression analysis we found that labor onset symptoms, such as pain, bloody show, and emotional changes, were associated with a longer time until spontaneous rupture of the membranes, whereas loss of amniotic fluid was associated with a shortened interval. In contrast, self-diagnosed symptoms of labor onset tended not to be predictive of the timing of amniotomies or the length of first stage (11). If the timing of waters breaking is, in fact, more related to self-diagnosis of onset of labor than had been imagined, then more studies are needed to confirm our findings. At present we must be cautious in our generalizations. However, the self-diagnosis of labor onset corresponds very well with the biochemical complexity around onset. It must be acknowledged that self-diagnosis of labor onset is composed of more than a single item. It is as complex as the physiology of labor.

Mechthild M. Gross, RM, RN, PhD, is Senior Research Fellow and Head of Midwifery Unit at the Department of Obstetrics, Gynaecology & Reproductive Medicine at the Hannover Medical School, Germany.

Address correspondence to Dr. Mechthild M. Gross, Department of Obstetrics, Gynaecology & Reproductive Medicine, Medical School Hannover, Carl-Neuberg-Str. 1, D - 30625 Hannover, Germany.

"Has Labor Started? A Judgment Made in Uncertainty"

Perhaps it is not surprising that so many women are admitted to labor wards in early labor or before labor has started and that many of these women then receive inappropriate labor interventions. Although practitioners often portray an illusion of certainty, deciding whether labor has started is a judgment that is characterized by uncertainty (12). Often based on unclear or incomplete information, the decision is made in an atmosphere of anxiety, emotion, time pressures, and competing priorities.

Several fundamental aspects of labor onset are uncertain, in particular, when and why labor starts and even whether it has started. Women are given an expected date of delivery (EDD) during their antenatal care and typically place a high degree of anticipation on that date. However, normal labor may start at any time between 37 and 42 weeks of gestation (use of the term "complete weeks" adds to the confusion), and the mechanisms that trigger labor are not yet fully understood. Calculation of the EDD is based on the statistical concept of normal—the EDD is the mean duration of pregnancy (280 days from the last menstrual period using the historical Naegele's rule). Prior to obstetric ultrasound, calculation of the average length of pregnancy was confounded by uncertainty about the start of pregnancy. Ironically, the widespread practice of routine induction

of labor at 41 weeks means that calculation of the average duration of normal pregnancy is now confounded by uncertainty about the upper limits of normal gestation. The EDD should therefore be considered an estimate rather than an expectation.

Although hindsight makes diagnosis of labor straightforward, hospital birth requires a distinction between a woman being in active labor and therefore admitted to hospital, or not being in active labor and remaining at (or returning) home. This diagnostic task is unusual in that it requires the prediction of likely future progress based on an assessment of current signs (the active phase is defined by an increased *rate* of cervical dilatation). The element of prediction makes this judgment uncertain.

Finally, the judgment is made in a context of uncertainty. Women experience a wide range of signs in early labor. They report that they don't know what to expect and describe anxiety, uncertainty, and the need for reassurance about whether labor has started and about timing of hospital admission (13). Their decisions are influenced by factors, such as the presence or absence of social support, the fears of their partner or mother, and concern over distance and transport to hospital. Midwives' judgments are made in a context of time and workload pressure and limited options for care, and they report conflict between providing the care that women need (regardless of diagnosis) and fear of the criticism of their peers (14).

We have argued that deciding whether labor has started is a judgment made in uncertainty and that maintaining the illusion of certainty results in many women receiving intervention in labors that have not yet started. What are the options? Can the uncertainty be reduced or is it possible to accept some degree of uncertainty and adapt to it? We suggest that some elements of uncertainty cannot be reduced and must be accepted. For example, there is a normal time range for the onset of labor and, although strict adherence to the EDD is important in relation to induction of labor, it remains a statistical construct that is intrinsically uncertain. It may be possible to reduce uncertainty among practitioners; however, initiatives so far have had mixed success. For example, in a recently completed trial we aimed to reduce the uncertainty of midwives in the diagnosis of labor by restricting the number of cues used in their assessment and providing a decision support tool (5). Use of this tool resulted in more women being discharged home "not in labor"; however, women who were sent home quickly returned to hospital. It appeared that although midwives' diagnostic uncertainty may have been reduced, women still sought reassurance and support from maternity unit admission. Perhaps, then, the focus should be on better antenatal preparation for women; however, currently, evidence of the effectiveness of antenatal education in reducing early admission to labor wards is insufficient (15).

It seems likely that women will continue to be uncertain about the start of labor and to seek early hospital admission. Even when provided with information about the increased risk of intervention, women are often willing to accept this risk in return for the reassurance that they associate with hospital admission. However, accepting and adapting to uncertainty may be uncomfortable for clinicians who typically prefer action to inactivity. Where health care practice is associated with confidence and certainty, clinicians may fear (perhaps with justification) that acknowledging uncertainty will result in women losing confidence in their professional ability. Nevertheless, current practice is unsatisfactory, frustrating for women and midwives alike, and potentially harmful. Perhaps it is time for mothers, midwives, and obstetricians to consider what childbirth practices would look like if we could all accept a little more uncertainty about early labor.

Helen Cheyne, RM, PhD, is Reader and Research Programme Director at the Nursing Midwifery and Allied Health Professions Research Unit, University of Stirling, United Kingdom.

Vanora Hundley, RM, PhD, is Honorary Senior Lecturer at the Nursing Midwifery and Allied Health Professions Research Unit, University of Stirling, United Kingdom.

Address correspondence to Dr. Helen Cheyne, NMAHP Research Unit, University of Stirling, Stirling FK9 4LA, Scotland.

"Early Labor in Dutch Midwifery Care"

In countries where hospital births are the norm, assessment of labor progress invariably takes place in a hospital delivery suite. In the Netherlands, 45 percent of all women start labor under care of an independent midwife (16). For those women, assessment of labor at home is the norm. Women are instructed to telephone their midwife in case of contractions that come every 3 to 5 minutes and last at least 1 minute during a period of at least 1 hour. Women are counseled to always call their midwife in case of ruptured membranes (during daytime or also at night if the baby's head is known not to be engaged), if blood loss is excessive, or if they have other concerns.

The midwife's decision whether to actually visit the woman at home is based on this first telephone contact. The midwife will speak to the woman herself to estimate the intensity and duration of the contractions based on the woman's verbal account and her tone of voice. If

a midwife concludes during the telephone conversation that labor has not started or is not in the active phase and the woman does not explicitly request support, she will likely not make a home visit immediately.

Once a first visit has been made and the midwife has confirmed that the woman is in established labor, admission for those women who decide to give birth in hospital under care of the midwife (about 30% of women in midwife-led care) will generally not take place before 5-cm dilatation has been reached. For women who have decided to give birth at home, the midwife will generally visit every 3 to 4 hours for checkups. The midwife will not stay until, in her opinion, the onset of the second stage is expected to start within 1 or 2 hours. Thus, continuous support is not routinely being provided by midwives in the Netherlands for most of the duration of women's labors.

A recent "Guideline for Failure to Progress in Labor" by the Royal Dutch Association of Midwives (17) stipulates, however, that to confirm labor onset and to act as a baseline for the evaluation of subsequent progress, a home visit is necessary. In this guideline, it is argued that the onset and progression of labor are multidimensional processes, the evaluation of which requires an integrated approach with use of several methods, such as abdominal and vaginal examinations, and observations of the woman's behavior. Such an integrated approach should better differentiate between false and true early labor, and between early and established labor.

It is not known whether home visiting practices during labor have changed since the guideline has been issued. We do not expect this to be the case, since a Dutch midwife who works fulltime provides care to an average of 110 to 120 women per year. Home visits are very time- and energy consuming and will be postponed or delayed in case of busy shifts, tiredness, or other matters considered of higher priority. The Dutch assumption that pregnancy and birth are normal physiological processes appears to imply that women should have the capacity to be self-supporting during early labor and the beginning of established labor, but evidence to support this assumption has not been identified. Conversely, we do know that continuous professional support, especially when begun early in labor, is effective in preventing slow progress, fear, and the need for pain relief during labor (18).

It is unclear at this stage whether Dutch midwives' relative absence in the stages before active labor stimulates or hinders the labor process. It is conceivable that the implicit message to the laboring woman and her lay helpers that she can go through these stages without professional help may be empowering, lower maternal stress, decrease the likelihood of unnecessary interventions, and could be considered a positive feature of the Dutch system. Conversely, women may be more insecure and nervous without midwife support and may have longer labors and more interventions. Women may not always articulate their wish for continuous support if they feel it is not available.

The potential effect of more frequent routine home visits and of continuous support for early labor at home should be evaluated for their impacts on women's satisfaction with care, the process of labor, the referral rate for slow progress or pain relief, and neonatal and maternal outcomes. Unlike the midwives, Dutch women may not believe that their early labor is being taken seriously enough when routine care comprises telephone assessment and home visits by request only.

Marlies Rijnders, RM, is a research midwife at TNO Quality of Life, Leiden, The Netherlands.

Ank de Jonge, RM, MSc, PhD, is a midwife researcher at EMGO Institute for Health and Care, VU University Medical Center, The Netherlands.

Simone Buitendijk, MD, MPH, PhD, is a perinatal epidemiologist at TNO Quality of Life and Professor of Midwifery Studies at the Academic Medical Center of the University of Amsterdam (AMC), The Netherlands.

Address correspondence to Marlies Rijnders, TNO Quality of Life, P.O. Box 2215, 2301 CE Leiden, The Netherlands.

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