

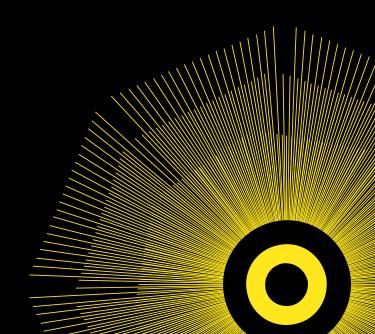
Shine 2012 final report

A checklist collaborative: Involving women and birth partners in 'harm free care'.

Organisation: Haelo (Previously NHS QUEST), Salford Royal NHS Foundation Trust

March 2014

The Health Foundation Tel 020 7257 8000 www.health.org.uk



Part 1. Abstract

Project title: A Checklist Collaborative: Involving women and birth partners in delivering 'harm free care'.

Lead organisation: Haelo (previously NHS QUEST), Salford Royal Hospital NHS Foundation Trust

Partner organisations: Originally three maternity organisations were invited to participate and accepted the invitation to participate in the project, but did not wish to participate in testing and a further three organisations agreed to be involved:

Lead Clinician: Debby Gould, Director of Leadership and Engagement (Maternity)

Project Manager: Steve Hogarth, Quality Improvement Fellow, Haelo (on secondment from previous role as Head of Midwifery, York Teaching Hospital NHS Foundation Trust)

Background in brief including the local problem and intended improvement

Having a baby in the UK is the safest it has ever been, but there are opportunities for significant further improvements (Royal College of Obstetricians and Gynaecologists 2013). Providing high quality, seamless care during labour and birth is complex and challenging; the NHS system and culture, human factors, communication and team working are all complex issues that can impact on the delivery of safe care (Kings Fund 2008).

The delivery of 'harm free care' is a relatively new concept in the NHS and the development and incentivising of the NHS Safety Thermometer (Classic) has focused attention on quality improvements in the delivery of 'harm free care' (www.harm free care.org, http://www.safetythermometer.nhs.uk).

Although there is significant routine monitoring of women in labour, there is currently no composite measure of harm in maternity (although a maternity NHS Safety Thermometer is in the development and testing phase). Neither is there a national standardised checklist in use during labour and delivery to increase reliability of care.

Our primary aim was to develop a safety checklist for labour and delivery. We had a secondary aim to measure outcomes using the Maternity NHS Safety Thermometer but this has not been possible due to this still being in the final stages of development. This project has therefore focused on the development, testing and evaluation for acceptability and compliance of a checklist for labour and birth.

Description of innovation

Checklists can improve safety where processes are complex. Other professions (surgeons) and industries (including aviation) use checklists as part of their routine work (Gawande 2001, Walker et al 2012). The success of the World Health Organisation (WHO) surgical checklist in reducing harm and improving teamwork in operating theatres is a model which we identified could be transferable to labour and birth.

The aim of this project was to develop and test a checklist for labour and birth, with a particular focus on improving communication between the midwives and the birth partners to improve safety; ensuring that fundamental care is delivered reliably during labour and birth.

We held focus groups with leading experts to develop and test a checklist, based on the national recommendations for minimum standards of care for women during labour and birth as outlined in the National Institute for Health and Clinical Excellence (NICE) Guidance (2007).

The checklist is designed for the birth partner to complete in collaboration with the midwife. The checklist also explains to the birth partner what care to expect during labour and we planned to test if its completion acted as a prompt to ensure all elements of care that should be delivered are delivered. It was anticipated that the checklist would help to encourage birth partners and women to become active collaborators in their care and in improving safety during labour and birth in a way that has not happened before.

During labour 89% of women have a birth partner (mostly fathers) with them (NPEU 2011). We believed at the outset that the checklist could be a simple way to empower them to become actively involved whilst also acting as an additional and valuable safety net.

Methods used for testing / implementation including ethics, plans and measures

We used a mixed methods approach to designing the checklist which included focus groups, interviews, survey methods and questionnaires to seek expert views on the content and to understand the perceived scope, benefits and experience of using the checklist from the perspective of the midwives, women and the birth partner.

The checklist content was directed by national guidelines for care during labour and birth (NICE 2007) as a way to help ensure the care received by women in labour meets these national guidelines, in a highly reliable way. We sought advice regarding ethics approval from the Governance Department at York Teaching NHS Foundation Trust who confirmed that as this innovation was a 'service re-design' (a term used to describe using existing knowledge and guidance to deliver better care) ethical approval was not required.

We adhered to the following design principles in the development of the checklist:

- We generated ideas from a wide a group of relevant experts and maintained communication with the group (Appendix 1 and 2)
- We were guided by service users. We obtained the views of developing a checklist from new parents through interviews (Appendix 3 and 4)
- We adopted NICE Intrapartum Care Guidelines (2007) as the 'gold standard' of care that should be delivered and designed the checklist to mirror the standards
- We attempted to build triangulation into our work where possible and cross referenced the views of experts and service users with the content of the NICE guidance (Appendix 5)
- We committed to undertake repeat testing using improvement science methods of Plan Do Study Act (PDSA) cycles to develop a series of checklist prototypes prior to use in clinical settings (Appendix 6)
- Complete an evaluation of the checklist for acceptability and compliance

We then tested the checklist in three different maternity settings to determine its acceptability and usefulness to both midwives and birth partners.

Evaluation Methodology:

We evaluated the experiences of those who completed the checklist using a survey. This identified difficulties in completion, capturing midwife, women and birth partner testers' views on its usefulness and its influence on communication between the midwife, women and their birth partners.

Part 2. Quality impact: Outcomes

The table below (Table 1) summarises the number of maternity units who were invited to participate in the testing of the checklist.

Number of organisations invited to participate	Number of organisations who agreed to participate	Number of organisations who actually participated in testing
6	6	3 (3 labour wards and 2 midwifery led units)

Table 1 - Participation in testing

Designing the checklist

We held two design event meetings with midwives to generate ideas and discuss basic care processes. We also worked with attendees to develop the checklist for birth partners (Appendix 1). We then held interviews with seven couples who were new parents to collect their views on what information they deemed helpful to have during labour and birth (Appendix 3 and 4). The views collected from both midwives and new parents were then compared to the NICE (2007) Intrapartum Care Guidelines (Appendix 5).

Improvement Science experts within Haelo were asked to critically review the checklist and advised that more detail should be incorporated prior to testing in clinical practice. Through a series of PDSA tests of change, five further versions of the checklist were developed in preparation for testing in clinical practice (Appendix 6 outlines the key learning from the PDSA cycles).

Three maternity units originally volunteered to participate in the testing. Two of those maternity units declined to be involved in testing once the checklist was developed due to concerns about the design and format of the checklist. The third maternity unit remained verbally supportive but did not carry out any testing. Three new maternity services were therefore invited and agreed to test.

It is too soon to capture quality outcomes relating to birth as this project is focused on the development of the checklist. Reported outcomes are therefore:

- Number of checklists and evaluations returned
- Results of the evaluation forms
- Thematic analysis of the qualitative data

Results

1. Number of checklists and evaluations returned

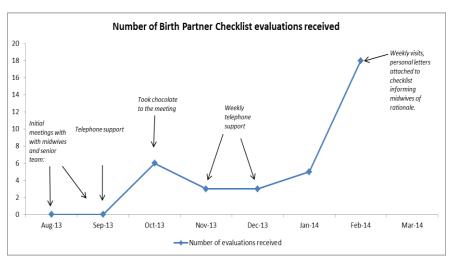


Chart 1: Number of returned checklists/ evaluations since testing commenced in August 2013 with annotations that show the approaches to aid recruitment

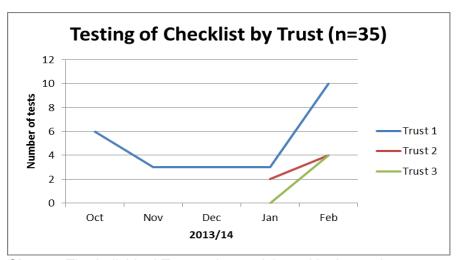


Chart 2: The individual Trusts who participated in the testing.

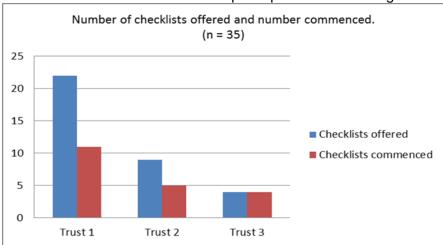


Chart 3: Checklists offered and checklists commenced by Trust

2. Results of the evaluation forms

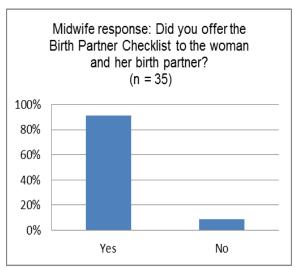


Chart 4: The percentage of checklists offered by midwives

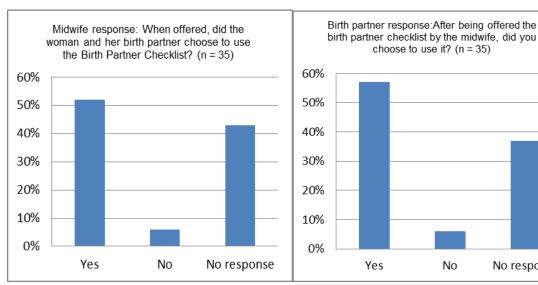


Chart 5: Uptake of checklist

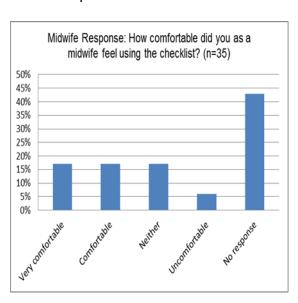


Chart 6: Usage of the checklist

No response

Chart 7: Acceptability of the checklist

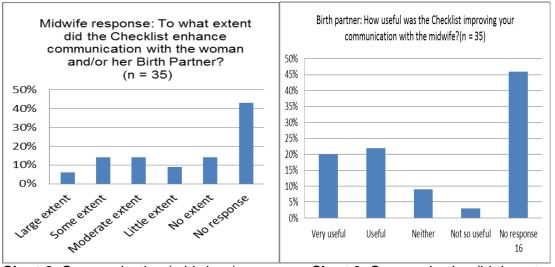


Chart 8: Communication (midwives)

Chart 9: Communication (birth partners)

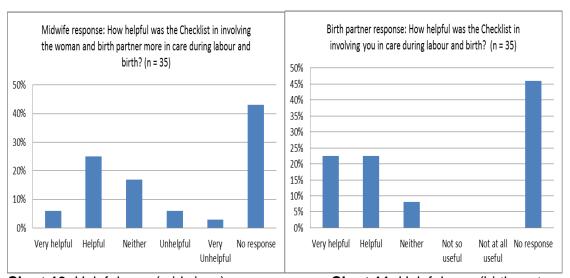


Chart 10: Helpfulness (midwives)

Chart 11: Helpfulness (birth partners)

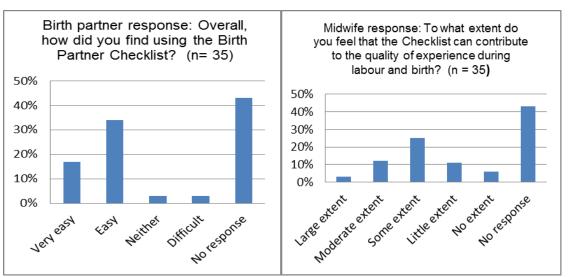


Chart 12: Overall use

Chart 13: Contribution to quality of experience

A recognised statistical test (Wilcoxon Signed Ranks test¹) was carried out to assess the difference between feedback on the use of the checklist from birth partners and midwives; the null hypothesis, which states that there is no difference between the two groups in terms of levels of feedback, is rejected (V = 41.5, p = 0.02355). This shows that there is a difference between the partners and midwives with no partners finding the checklist unhelpful whilst a minority of midwives did find it unhelpful. A higher frequency of partners returned positive views than midwives, whilst a greater number of midwives were ambivalent. This was reflected by one partners comment;

'I think getting the partner involved/ helping is a good idea if they want to, that is important'

1

¹ The Wilcoxon signed-rank test is a non-parametric statistical hypothesis test used when comparing two related samples, matched samples, or repeated measurements on a single sample to assess whether their population mean ranks differ (i.e. it is a paired difference test). It can be used as an alternative to the paired Student's t-test, t-test for matched pairs, or the t-test for dependent samples when the population cannot be assumed to be normally distributed

Thematic analysis of the qualitative data

The qualitative part of the evaluation took the form of a thematic analysis of the responses to the open ended questions. Data were coded and themes constructed during several cycles of data analysis.

The main themes in the midwifery evaluations were:

• A reluctance to test - (from midwives at the frontline, even though the midwifery leaders were supportive of testing) one midwife explained:

'despite explanation, the midwives do not like using this sheet as they feel 'big brother' is watching, so the take up rate has been poor on the high risk DS (labour ward), but we feel it could be used on our MLU, as the birth partners in this low risk setting we feel it would benefit them more'

 'Policing' - some midwives reported using the tool made them feel like they were being 'policed'. One midwife explained:

'we all agreed that it appeared a policing tool in its current format'

- Ethical Concerns over the ownership of the checklist; did it belong to the birth partner or the Trust?
- Format and design of the checklist one midwife explained:

'I feel that women and birth partners need information about care, but not too sure that a checklist is the right way'

• Information regarding care during labour

'It is not appropriate to give this during labour at a time of high anxiety'

Safety

'the (midwifery) team understood the relevance of having something to help escalate concerns at the time of labour which would be in line with the Francis report findings'

The main themes in the birth partner evaluations were

• **Communication** - creating opportunities for improved communication:

'made me feel part of [my partners] care'

- Format and design of checklist Complicated design; one partner commented :
 - '(I) got a bit muddled on tracking time when it crossed the hour'
- **Compliance** time to complete the checklist (especially when the labour was short)

A full thematic analysis is included in Appendix 7.

Part 3 Cost impact

We stated in our application that the project has the potential to deliver high quality care, improved outcomes and a considerable cost reduction for the NHS associated with initial care episodes and costs associated with complications caused by avoidable harm; and a reduction in litigation costs. Obstetric litigation claims cost £5,216,577 in 2010/11 alone.

However, we had intended to measure the harm outcomes in labour and birth using the NHS Maternity Safety Thermometer and we planned to calculate the costs of the improvement work (midwifery time to complete the documentation and testing). This has not been possible within the timescale of the project due to delays with testing of the checklist and the developments of the NHS Maternity Safety Thermometer. We are currently on version 24 of the Maternity Safety Thermometer. This illustrates the multiple iterations involved in its' development because of the complexity of maternity care due to the large number of different 'harms' that could be included. We underestimated both the complexity and time needed to develop the checklist and the Maternity Safety Thermometer, especially getting engagement and agreement on the right 'harms' from such a wide group of stakeholders including the UKs leading maternity care professionals and service users. Taking time to and engaging deeply with the maternity specialist community to get the Maternity Safety Thermometer right was important because we needed to be confident that the 'harms' were appropriate, measurable, high volume and most importantly 'harms' that could be improved through interventions. Once the harms were agreed, more time was then needed to test the 'harms' through multiple monthly PDSA cycles. Once data were gathered and confidence in the chosen harms was established, we then needed to agree the precise operational definitions of the harms to ensure all organisations are measuring the same thing. Finally, the elements of what make up the composite score for 'harm free care' need to be determined and agreed.

Hence, during the project we have tested the checklist and undertaken significant testing on the maternity safety thermometer. The final stage still outstanding is the use of the maternity safety thermometer to measure baseline harms and testing the checklist as an intervention, (as part of an improvement programme), to track its impact on improving outcomes.

We therefore made the decision that it is not possible to undertake the cost impact work until the final harm data collection tool is available; as without a tool for harm measurement we would not have confidence in the estimates / calculations of cost impact of the project.

Data on avoidable harm in labour and birth is still not available but we will have the opportunity to calculate these costs when the NHS Maternity Safety Thermometer is completed.

The projections of reaching 95% 'harm free care' in the NHS Safety Thermometer 'Classic' which measures harm from pressure ulcers, falls, catheter acquired infections and venous thromboembolism is predicted to be in excess of £300 million for England. Embedding the use of a maternity checklist to improve reliability of care has the potential to be a critical driver in the improvement programme that will be needed to support midwifery teams to deliver 'harm free care' in maternity. The development of the Maternity Safety Thermometer is being led by Haelo (Quality Improvement and Innovation Centre), Salford Royal NHS Foundation Trust, in collaboration with an expert maternity panel.

Intervention Costs (please note the costs of the project are reported separately)

As the content of the checklist mirrored the standards of care recommended in the NICE guidance, the care was already routinely being delivered and therefore the costs were limited to the completion of the checklist. Although we did not routinely ask the midwives to record the amount of time spent explaining the checklist, we estimate it takes less than 10 minutes for the midwife to explain how to use the checklist for each woman/birth partner (it has been designed to be efficient to complete). Meetings with senior teams and midwives to set up testing of the checklist, costs are estimated to be approximately £1390.00

We have summarised the costs of the testing;

Estimated costs	Testing Centre 1	Testing Centre 2	Testing Centre 3
Meeting time with	£300	£250	£200
Senior midwives			
Estimated costs of	£140	£50	£50
explaining the			
checklist to birth			
partners			
Estimated cost of	£200	£100	£100
completing the			
Evaluation forms			
(midwives)			
Total costs of	£640	£400	£350
testing			

The Haelo team will take forward the work from this project in terms of measuring the harms when the NHS Maternity Safety Thermometer is launched and if possible, will measure the cost

impact. This will mirror the work the team have undertaken on the cost impact for harms in the NHS Safety Thermometer classic (details provided in the section on Sustainability and Spread).

In the 12 months of the project we have been unable to demonstrate a cash releasing saving but plans are in place to take forward this work on launch of the NHS Maternity Safety Thermometer.

Part 4: Learning from your project

Our aim was to develop and test a checklist (Appendix 8) for use by birth partners during labour and birth and we accomplished this when we provided information to frontline midwives regarding the rationale for our work (Appendix 9). We underestimated the level of resistance we would encounter from midwives at the frontline, despite support from their midwifery leaders to participate, but we successfully collected the data as per the original project plan.

The secondary aim was to measure the levels of harm in labour and delivery (using the NHS Maternity Safety Thermometer) and to calculate the quality and cost impact of the checklist on improving the delivery of 'harm free care'. The work for the secondary aim is well underway but has not been completed in the lifespan of the project due to the time and complexity in developing and testing the checklist and the NHS Maternity Safety Thermometer.

Originally we had planned to teach Quality Improvement (QI) skills, awarding certificates for staff who completed the PDSA's As the first groups of staff refused to test the checklist we did not deliver this planned capability training due to time restraints. We have reflected on this and our key learning has been the importance of assessing the QI capability of teams prior to delivering improvement work and building capability. If we were to repeat the work, we would use a theoretical model (e.g. MUSIQ framework, Kaplan H, et al 2011) to maximise the potential for success. Following a critical evaluation of our approach compared to the model, we would have paid more attention to assessing QI culture and maturity in the organisations, resource availability, and motivation at the microsystem level (e.g. labour wards, midwifery led units).

A recurring theme from all testing sites was that the information regarding care processes and safety would be more beneficial if it was offered antenatally to help prepare women and birth partners for labour. Based upon the midwifery suggestions, we undertook a PDSA, and reformatted the supporting information from the checklist into a letter format with an accompanying prompt card (the size of a credit card) for the birth partner. This was offered to women and birth partners when admitted to hospital for induction, prior to labour. We tested this in one organisation for acceptability and compliance over a two week period, (Appendix 10 and 11). The feedback was positive, however we continued to test the initial checklist (as per the project plan) for the duration of this project. We have learnt that it is better to introduce women and birth partners to the checklist in the antenatally, with dedicated time for education surrounding its purpose and use. The credit card prompt may be useful to women and their birth partners and more acceptable to midwives but this needs more testing.

Securing staff buy-in

Despite initial agreement to participate from senior midwifery leaders in the initial three sites, repeated attempts to secure buy-in were met with resistance from frontline midwives.

However the midwifery leaders and midwives at Darent Valley (Dartford and Gravesham NHS Trust), Liverpool Women's Hospital NHS Foundation Trust and Warrington and Halton Hospitals NHS Foundation Trust were enthusiastic about becoming involved in the project.

A key lesson we learnt was the need to explain the purpose and rationale for our work to each frontline midwife who participated.

We developed an information letter which resulted in a significant shift in thinking in the frontline teams from the checklist being a tool for managers to audit the quality of care they delivered, to being a tool designed to help them to improve care (Appendix 9). The contribution of these midwives was critical to the successful testing of the checklist. We also ensured that the project lead visited the units regularly to build relationships with the midwifery teams. This proved important in the testing phase and resulted in an increase in testing activity.

If we were delivering the project again we would build regular visits into the project plan much earlier and continue with them throughout the lifespan of the project.

We predicted that the birth partner checklist would enhance communication between birth partners and midwives. We hadn't anticipated the extent of the different views reported by the birth partners and the midwives when we undertook the paired analysis.

Collecting financial information

We have learnt about the complexity of calculating cost of quality improvement work and the limitations of estimating staff time/costs. We have also learnt from the team who are estimating costs of harms measured by the classic NHS Safety Thermometer and have resisted attempting to undertake the cost impact work of this project before we are able to do so robustly. We recommend that cost impact calculations are undertaken in the next phase of the work which could be incorporated into the work undertaken by the NHS Safety Thermometer team (based in Haelo) which would ensure sustainability of the project.

We have taken key learning from the wider NHS context and the political agendas which can provide external motivators and create strategic importance. The circumstances surrounding the 'Investigation into Morecambe Bay Maternity and Neonatal Services' (2013) has raised awareness of safety issues in maternity care nationally and expectations in the basic standards of care provided. National reports, such as the Francis Report and Berwick Report have also had a major impact in securing senior leadership support for QI programmes of work.

Challenges

Prior to starting the project, there was a realisation that we had underestimated the costs to undertake the evaluation. The university when approached had first estimated a cost of £60,000, which was clearly in excess of what we predicted. Over a three month period we were able to negotiate an evaluation for the cost of the project, this being £20,000. However, due to the time scales for the project and the amount of time needed for the University to meet its ethical procedures and contractual arrangements, this was no longer feasible. Therefore we chose to access the qualitative and quantitative expertise from within the 'Haelo' team.

We had a number of changes to key staff throughout the project. The project lead (Debby Gould) left and a new project lead (Steve Hogarth) commenced in March 2013. In addition, the executive sponsors (the Director of Nursing and Head of Midwifery) both also moved to new positions in new Trusts. Leadership support for the project was therefore lost and was replaced from within Haelo.

What would we do differently?

- We would involve the independent evaluators from the outset to cost the evaluation part of the project fully before submission
- We would give more detailed consideration to the timing of the project; we had not
 anticipated the final version of the NHS Maternity Safety Thermometer would not be
 available to measure the harms, yet we may have been able to predict this if we had
 explored in more detail the timeline for developing other safety thermometers
- We would use a theoretical model to assess the potential for success and adapt our programme of work accordingly
- We would undertake a small pilot and analyse the data prior to full scale testing and data collection. This would have helped us to identify potential additional data e.g. time of the

- baby's birth as this would help to clarify completion rates and compliance when using the checklist
- We would introduce the concept of the checklist to women and their partners during their antenatal care. (Appendix 10 and 11).

Part 5. Plans for sustainability and spread

The team at Haelo are developing the NHS Maternity Safety Thermometer which is one of the 'next generation' safety thermometers, as part of a contract the team hold with NHS England. The team are also now leading the discussions with the Maternity Expert Panel.

The next phase of work is the identification of the main causes of harm in labour and birth using the Maternity NHS Safety Thermometer. Once the main causes of harm nationally have been identified using the NHS Maternity Safety Thermometer, the team would be able to calculate the cost impact using the methodology adopted in the classic safety thermometer, with appropriate funding. Alongside the distress and suffering the women experience, the harms also cause a significant burden on health care services. Once the prevalence of the main harms are identified following national release of the thermometer, we will undertake a review of the literature to make judgements about the costs and if possible develop a cost calculator (similar to the pressure ulcer cost calculator).

We will then be able to calculate the annual cost associated with the treatment and management of the harm and determine the percentage of the total NHS expenditure that it represents. Using the classic NHS Safety Thermometer Annual data as an example, the Safety Thermometer has revealed that on general medical wards there are 3.67 new pressure ulcers per ward each year. If we use the DH Pressure Ulcer Productivity calculator we can estimate that the cost of this burden. On completion of this work in maternity, we will be in a position to identify the potential cost impact and savings when improvements are delivered.

The element of the work that will require further funding will be the design and delivery of a quality improvement programme to ensure that highly reliable systems of care are designed and delivered in labour and delivery.

Our key contacts include:

- NHS Safety Thermometer Team (Haelo Measurement team)
- Maternity expert panel
- Local Supervising Authority Midwifery Officers, (LSAMOs)

Acknowledgements

We would like to acknowledge the following people for their expertise and time in supporting the testing of the checklist:

Dr Maxine Power, Director of Improvement and Innovation, Haelo

Dr Ailsa Brotherton, Associate Director Programmes, Haelo

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Debby Gould Programme Manager, Compassion in Practice: Driving Improvement. Open and

Honest Care (Maternity), NHS England

Deb McAllion, Head of Midwifery, Dartford and Gravesham NHS Trust

Ursula Marsh, Labour Ward Manager, Dartford and Gravesham NHS Trust

Stephanie Wills, Labour Ward Coordinator, Dartford and Gravesham NHS Trust

Cathy Atherton, Head of Midwifery, Liverpool Women's NHS Foundation Trust

Angela Winstanley, Labour Ward Coordinator, Liverpool Women's NHS Foundation Trust

Sarah Nuttie, Midwife, Midwifery Led Unit, Liverpool Women's NHS Foundation Trust

Chelsea McDonough, Midwife, Midwifery Lead Unit, Liverpool Women's NHS Foundation Trust

Melanie Hudson, Head of Midwifery, Warrington and Halton Hospitals NHS Foundation Trust

Yvonne Erikson, Matron, Warrington and Halton Hospitals NHS Foundation Trust

Lisa Whittle, Labour Ward Manager, Warrington and Halton Hospitals NHS Foundation Trust

Freya Oliver, Matron, York Teaching NHS Foundation Trust

Maternity Expert Panel, The Maternity Safety Thermometer

Elizabeth Duff, Senior Policy Advisor, National Childbirth Trust (NCT)

Miranda Dodwell, BirthChoiceUK

Mark Harris, Birthing for Blokes

Resources from the project

Please attach any leaflets, posters, presentations, media coverage, blogs etc you feel would be beneficial to share with others

The information shared in the checklist is known by midwives and doctors, included in Trust guidelines for clinical care during labour and publically available on the internet and there is also a public version for women to understand what to expect called 'Care of women and their babies during labour' at www.nice.org.uk the links are below -

http://publications.nice.org.uk/care-of-women-and-their-babies-during-labour-ifp55/what-happens-during-labour

http://guidance.nice.org.uk/CG55/Guidance

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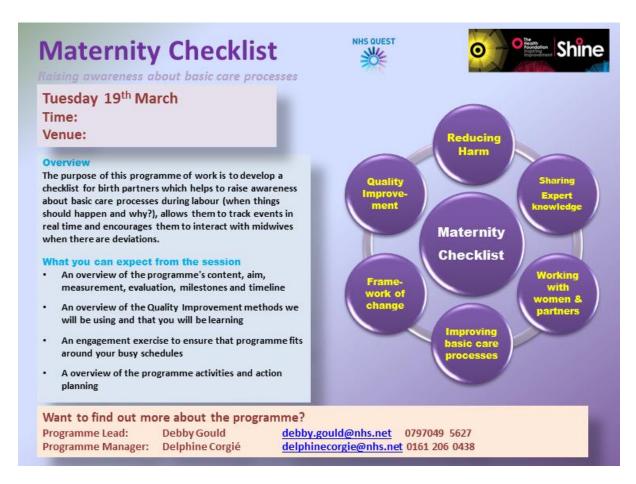
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http://bja.oxfordjournals.org/content/early/2012/05/30/bja.aes175.full

Appendix 1: Generating new ideas for the creation of the birth partner checklist. Our flyer (below), created for the maternity staff at York NHS Foundation Trust (Scarborough Hospital site) inviting all to participate in developing the Birth partner Checklist



Feedback from midwives after the first group work session. This was thought provoking for many staff members who had attended.

Midwife 1 (York Teaching NHS Foundation Trust)

'After today's session I will go away and have a look at my parentcraft input and probably tweak the parentcraft presentation to look at it a lot more from a birthing partner's point of view and hopefully get them to be a little bit thought provoking and involve them more in the process of labour.'

Midwife 2 (York Teaching NHS Foundation Trust)

'It has been really interesting to explore how we might be able to offer some clarity to partners on what they can offer to their women and how that might be able to help us in the increasingly challenging times that we have. This is an example of credible leadership and enthusiasm to drive the use of the checklist in convincing health professionals that there is a problem and this is a tool to reduce harms during labour and birth'.

Appendix 2 – Letter: Following on from the first group meeting, we wanted to acknowledge the staff for their contribution. In addition we wanted recognise their learning and to offer them Health Improvement Science certificates





Dear All,

It was so great to see you all on 19 March and witness such great enthusiasm to develop and test the new 'birth partner' check list. If you haven't seen it, there's a short update on the NHS QUEST website (hyperlink), which captures the work on both maternity sites within the Trust.

This is such an exciting time. By helping to move our work forward you'll be recognised for your contribution. We would be delighted to hear from those of you that would like to be part of the team in developing the birth checklist.

As we progress from developing, to testing and implementing, you will develop a wealth of knowledge and will be acknowledged for your contribution in the following area of Health Improvement:

- Understanding Improvement Science
- Understanding tests of change
- Understanding measurement

At the meeting on 19 March, you all kindly gave us your email addresses so that we could contact you with a view to moving this project forward.

The next stage is organising 'webex' meetings which can take place at a PC anywhere, at work or in your own home. This will involve us all being able to contribute to each of these conversations without always having to meet face-to-face.

Looking forward to hearing from you all. Let's ALL make a difference!

Best wishes, Steve Hogarth Debby Gould Delphine Corgié Reinis Jones

P.S. We have not forgotten about the pens for you

Appendix 3: Meeting the new parents. This was a presentation that was used to introduce and inform the senior midwifery teams and the midwives of the development of the birth partner check. We visited Liverpool Women's Hospital NHS Foundation Hospital in May 2013. This was prior to interviewing some of the new parents, we sought acceptance from the senior midwifery team and consent from the parents to be interviewed, audio recorded, and photographed.



Slide 1



Slide 3





Slide 2



Slide 4







Slide 7

Slide 8





Slide 9

Slide 10

Appendix 4: Some of the very new parents who took part in the development of the checklist were interviewed and agreed to have their photographs taken.







New parents from Site B

During our interviews with new parents we found support for the concept of the checklist one father (1) said 'Having a checklist in labour would be very helpful, knowing what will happen and what to do if there is a problem would really help' (Father 1)



A new father from Site B

Another father commented

'I always like to know what is going on and if I have a checklist this would help me to have an understanding of when things need to be done'. (Father 6)

'If we both understood, then we might not need to call the midwife as much.' (Father 2)

We deliberately chose to interview parents with very new-born babies as we felt that labour and birth would still be fresh in their minds and time would not have distorted their memory of what might have helped too much.

Appendix 5: Cross reference of collected data

In developing a Birth Partner Checklist we based all clinical care on the Nice Intrapartum Guidelines (2007). Following our meetings and group work with the midwives and interviews with the new parents we then cross referenced these findings. There were some suggestions from midwives and women / partners that were the same.

NICE Intrapartum Guidelines	Expert suggestions	Women/Birth Partner suggestions
Assessment of progress		
Maternal Temperature		
Maternal Pulse		
Progress		
Colour of Waters	V	
Frequency of Vaginal examinations	V	
Contractions		V
Being able to drink		
Being able to pass urine		
Mobilising in labour		
Frequency of listening into		$\sqrt{}$
baby's' hear beat		
Options for pain relief		
Explanations		
Time frames		V
Bleeding		
Feeling unwell		
Calling a midwife	V	V

Appendix 6: Collective summary of the PDSA cycles in developing a checklist prototype for testing in clinical practice.

Plan	Using both primary and secondary data to develop a birth partner checklist that could be tested in during labour. In preparing for this, the information will be shared with the Haelo team, user groups and parents to provide feedback data from the prototype checklists. Document any potential adaptations and changes and further develop the checklist in preparation for use during labour.							
Do	were generated and feedback over repeated developments developments, we created ev	prototype checklists over a two was sought from the team and using feedback through verbal caluation forms for midwives an cklist for acceptability and com	d measurement experts reports. During these d birth partners/women.					
Study	content of the checklist. It was for women/birth partners to conformation was required. This birth partners to be able to ide by the midwife and what the burth version six, a checklist with a information was created for the	d to the use of medicalised land is identified through these developments such a checklist, suppose information was needed to 'so entify what clinical observations pirth partner role could also include box, time sequence formation birth partner to be able to refere small scale testing sequenting.	lopments, that in order orting, guiding et the scene' and for s would be undertaken lude. The creation of t. In addition, supporting fer to.					
Act	view to commence testing. The	Dates were set with the respective organisations to introduce the checklist with a view to commence testing. This involved presentations, time to be spent in the clinical areas with the midwives and birth partners to offer guidance and support.						
Final Checklist content	Demographics Agreed to collect name of partner, name of woman, name of midwife, date, time	Midwife care and observations Based on NICE guidelines, clinical observations were	Partner checks This included some additional care that could be provided by					
	of admission and checklist start time	explained and the partner was able to work with the midwife to ensure that safe care was carried out in accordance with NICE guidelines. rovided (please see Checklist	the partner, this involved offering regular drinks, encouraging the woman to pass urine. There was an emphasis on being able to raise concerns. for final wording)					

Appendix 7: Thematic analysis of the results

From the thematic analysis the following themes were constructed as the most important themes from the midwives, who were keen to report back on their perceptions of the experiences of the partners as well as sharing their own professional views.

Theme 1 - Reluctance to Test

During this project, I have experienced strong support from midwifery leaders in three (out of the six) units approached to undertake testing. However, in clinical practice, in all areas, midwives were reluctant to participate in testing and allowing birth partners to participate. During my discussions with midwives the issues that they raised included policing, ethics, the tool having a negative impact on communication and the role of the partner in the birth. There was further evidence of reluctance to use the tool, during the testing as evidenced by the quotes from the midwives who completed the evaluation.

Midwives spoke of their difficulties, "I managed to gain some evaluation forms", "the team found it difficult to understand why the focus was just on partners, should this not be on the holistic family unit" and felt that the green notes [used routinely] already focus on family centred birth planning.

Other midwives reported that the complete team shared the same views, "All agreed that it appeared a policing tool in current format". Some midwives explained this was not the case, "I explained that this was not an exercise whereby the midwives practice was being examined/assessed" but engagement with midwives continued to be challenging in the first phase of the project, as evidenced by one midwife, "I have since found it very difficult to engage any of the midwifery staff. In view of the complete negative press that this format has had, I feel very uncomfortable in approaching potential partners/patients". The reluctance to use the checklist was a dominant theme. Other quotes included:

- I do not feel that it is not conducive to staff relations on the delivery suite, if I was to ask the patients/partners to be involved without the consent of the midwife providing the intrapartum care
- I do wonder if this concern came from the fact that because I wasn't on duty, was the same information I gave, being relayed to the patient/partner/midwife when asking if they would take part, by the staff attempting to recruit? Was there continuity in the way the trial/testing was explained?
- The 'birth tick sheet' has been not so popular due to birth partners not engaged using this sheet

- Despite explanation, the midwives do not like using this sheet as they feel 'big
 brother' is watching, so the take up rate has been poor on the high risk DS, but we
 feel it could be used on our MLU, as the birth partners in this low risk setting we feel it
 would benefit them more
- I started to approach women and their partners, when they were in established labour a move that I have never felt entirely comfortable with. After two successful attempts at introducing the 'checklist' and actively involving a midwife and a midwifery student
- This was further impeded by the fact that the majority of the delivery suite midwifery staff didn't know what the HALO trial was about, therefore if I hadn't had the chance to explain what the trial was to the midwife delivering the intrapartum care, they then didn't feel able to comment on the partners use of the card or fill in the midwife evaluation form
- In the initial stages of the trial, and in our very first meeting, we discussed this model and agreed that it wasn't going to be easy to use in Liverpool. We both agreed, along with information you had gained from other midwifery colleagues, that we didn't 'like' this format and that midwives would feel like they were 'being checked up on'.... and indeed this is the feeling of the midwifery staff here
- This is when I was able to sit with the midwife and partner and fully explain what the trial involved. I explained fully that the testing of this format was in a trial stage and that if so wished it would be completely anonymous. In my absence, in the following days, Kate Woodcock, tried to undertake the trial and attempted to recruit partners to the checklist. Kate, as you know, found this exceptionally difficult. I forwarded you the text that I received from Kate on Saturday 1st Feb
- Forms I have so far managed to obtained, both completed by senior midwifery colleagues, whom expressed their anxiety and worries surrounding the use of this format

Theme 2: Policing

Throughout this project, there has been a considerable amount of resistance from midwives because they felt that their clinical practice was being 'policed'. The first testing site refused to participate in testing of the birth partner checklist in its current format. There was also evidence of resistance from the supervisors of midwives, for a number of reasons including potential control and regulation of midwifery. I then introduced the concept of the checklist to the senior midwifery managers of the proposed second site. At this meeting the theme of 'policing' was echoed and I did not secure support for testing the checklist. However, they did explain that they valued the need for information for the women and partners, but did not

value the 'tick box' approach used in a checklist. Since this time there have been a diverse range of feelings from midwives about their practice being 'spied' upon and anxiety expressed as to how the birth partner may feel in collecting this data through completing the checklist. My discussions with both supervisors of midwives, midwifery managers and midwives have generally been met with resistance. The quotes below are representative of many of the views captured;

- 'Partner didn't feel comfortable with the checklist, said he didn't need to 'check-up' on the midwife'
- 'Is this a smoke screen for checking up on the midwife looking after my girlfriend?'
- 'I feel like my practice is being watched, just because the partner doesn't see
 me completing the midwifery tasks on the checklist, doesn't mean I haven't completed
 them.'
- 'Is this another way that big brother will be watching us'
- 'I'm telling you now, a partner will end up going to 'the echo' with this checklist, and say we are asking partners to do midwifery care'

Theme 3: Ethical concerns

Concerns were raised regarding who would be the owner of the checklist. These concerns were raised by both midwives and supervisors of midwives. Some of the concerns were about a difference in the recordings on the birth partner checklist made by either the woman or birth partner should these differ from the woman's records (a legal document) of the care delivered by the midwife and other health professionals.

Theme 4: Format and design of the checklist

In developing the checklist for testing, we wanted to track care during the length of labour. Having a timeframe for care to be recorded appeared the way forward. However during the testing, there has been a varied view from midwives. Some midwives feel that partners are assessing their practice and that the partner is not a qualified person to do this. In addition midwives perceptions of how the partner would feel in completing the checklist were also captured. There were also mixed views from the partners, some were happy to be involved and complete the checklist whilst others 'forgot' or wanted to provide support for their labouring partners.

- Despite explanation, the midwives do not like using this sheet as they feel 'big brother' is watching
- Got a bit muddled on tracking time when it crossed the hour

• I think this sheet is a waste of time, get rid!!!!

Theme 5: Information regarding care during labour

We have introduced the checklist to six maternity organisations, three of which have declined to participate in testing, whist three have been prepared to proceed with testing. An echoing theme from all organisations is that they recognised the need for information for women and birth partners in relation to care processes and clinical care during labour and birth. It was felt that this information would be more beneficial if it was given antenatally to help prepare women and birth partners for labour. Here are some representative quotes from both midwives and birth partners.

- I think having something to prompt questions is a good idea, but not sure that this
 questionnaire is appropriate
- It is not appropriate to give this during labour at a time of high anxiety
- They don't have time to get used to it
- I think getting the partner involved/ helping is a good idea if they want to, that is important. Special note: Our midwives were excellent and kept us informed all the through!

Theme 6: Safety

The idea of developing the checklist was based upon improving communication and safety. For women and birth partners to develop this knowledge and understanding was core in helping to work collaboratively with health professionals in contributing to care. However some birth partners and midwives felt that the checklist may undermine clinical care and confidence in health professionals. Comments included 'Are you saying that without this checklist my wife won't be safe?' and 'the team understood the relevance of having something to help escalate concerns at the time of labour which would be in line with the Francis report findings'.

Birth partner thematic analysis

Theme 1: Communication

During this project, I have identified that women/birth partners report that midwives have been very through at explaining the care and care processes during labour and birth. Due to, what some describe as good communication, birth partners did not feel the need to complete the checklist. However, there were birth partners who found having the checklist helpful in being able to generate discussion, thus involving women and birth partners in care during labour.

- It does create avenues for discussion in relation to pregnancy, but midwife had already discussed with me
- The midwife kindly explained everything as able as the labour was short. Not sure if the checklist would have changed things
- · Clearly explained by the midwife
- Helped to monitor progress of the birth and felt more involved having the whole care explained and able to track it
- Not used, happy with communication
- No not good English
- Clearly explained by the midwife
- Felt more involved having the whole care explained and able to track it.
- It does create avenues for discussion in relation to pregnancy, but midwife had already discussed with me
- The midwife kindly explained everything as able as the labour was short. Not sure if the checklist would have changed things
- Made me feel part of Michelle's care
- I think having something to prompt questions is a good idea, but not sure that this questionnaire is appropriate. I think getting the partner involved/ helping is a good idea if they want to, that is important. Special note: Our midwives were excellent and kept us informed all the way through!

Theme 2: Format and Design of the Checklist

In developing the checklist for testing, we wanted to track care during the length of labour. Having a time frame for care to be recorded appeared the way forward. However during the testing, there has been a varied view from birth partners. Some partners feel the checklist is

simple and easy to use and monitor the progress of labour over time, whilst others found this format complicated to follow. Some birth partners did not complete the evaluation forms and one felt that it was a waste of time, suggesting that we do not use it. Comments included:

- Way too complicated & confusing
- The checklist does seem over complicated. The concerns box should probably be bigger or a big box for roles rather than concerns.
- Got a bit muddled on tracking time when it crossed the hour but the care of both midwives was good.
- A simple checklist that will go towards helping the birth unit
- Easy to follow, step by step format
- Helped to monitor progress of the birth
- There is points or reminders of procedures that were needed
- Easy to relate to

Theme 3: Compliance

During this project, I have experienced conflicting views from midwives and birth partners regarding completing/commencing the form. During labour, partners felt happy with the level of communication and did not either commence or continue using the checklist. Some partners declared that they 'forgot' to complete it whilst others had difficult entering the information due to being confused with the times to complete the tick boxes. Some birth partners felt that having to complete the checklist took them away from their caring and supporting role. There were some well completed checklists returned. There was further evidence of reluctance to use the tool, during the testing as some birth partners did not feel the need to 'check up on' the midwife. Comments included:

- I was more than confident with our midwife she was very thorough in every way. I
 didn't think the checklist was necessary. Also being a birth partner you are there to
 support and I didn't feel right leaving my lady in labour to fill in the checklist
- My wife was only in labour for a short period, didn't have much time to fill it in
- Did not make note of times
- Didn't use it
- Checklist not used but happy with care
- Did not think it was necessary
- Partner didn't feel comfortable with checklist, said he didn't need to 'check up' on MW
- Want to look after and support my partner not fill out checklist
- Forgot to fill it in

Appendix 8: The Birth Partner Checklist and Supporting Information (that features on the back of the checklist)

Partnering during labour and birth - a checklist to guide you

Evidence suggests that a small number of simple tasks checked every hour can help reduce the risk of complications during the early stages of labour. We are testing whether a partnership between the birth partner and midwife during stage one of labour is a helpful safety check. We would like you to complete the boxes every hour with either a √ (yes) or X (no). Call your midwife at any time to ask questions or if you need help with this checklist and review it with her when she comes in to see you. On the back of this checklist are instructions to help you answer the questions.

Date Time of A						klist star						
	Hourly Checks											
Enter start time and time of hourly review	1	2	3	4	5	6	7	8	9	10	11	12 (start new)
Midwife checks												
1. Pulse of partner		- ×		×			3.	(2)		0		9
2. Clarity of waters	1					100				100 100		100
3. Vaginal bleeding						- 60	10	(a) 1				- 0
4. Frequency of contractions (enter frequency)												
5. Baby's heartbeat (enter number of reviews)						- 50				100 200		100
6. Position and mobility reviewed and discussed						3		9		(0)		6
	Checks to be carried out at least every four hours											
7. Temperature												
8. Blood pressure												
		Vagi	nal exa	minatio	ns (ch	eck if di	scussio	n of birt	th prog	ression	happe	ned)
9. Document the time of vaginal examinations						(1)		1)		(1)		10
Partner checks												
10. Have I offered my partner a drink?												
11. Has my partner passed urine?						S				83		83
12. Does my partner feel faint or look unwell?						85		85		88	3	85
13. Is there anything else that concerns me?												
Document here		5		3		82		2				

This is for you both to use, to keep and in no way does this make you responsible for your care. It is important that your midwife understands what matters to you and that if you have any concerns you are able to let her/him know. We hope that this helps you both to understand your care and have a happy experience.

Partnering during labour and birth - a checklist to guide you

- 1. A healthy pulse rate is usually below 100 beats per minute and is observed at least every hour.
- 2. After the waters have broken, the midwife will look to see if they are clear or discoloured. Clear waters are a good sign that baby is well. The midwife will check this frequently during labour. If you or your partner notice a difference in the colour, please seek help from your midwife.
- 3. Bleeding can be worrying, please tell your midwife if your partner experiences any new or heavy bleeding.
- 4. Contractions are a normal part of labour that gradually build up in strength and frequency. If your partner has more than 4 contractions in any 10 minute period, please inform your midwife.
- 5. During labour it is recommended that the midwife listen to the baby's heartbeat every 15 minutes. Sometimes baby's heartbeat will be listened to electronically for longer periods of time. Just prior to, and during pushing the baby out, the midwife will listen in at least every 5 minutes. The baby's heart rate is usually always between 110-160 beats per minute. Please feel free to ask the midwife what the heartbeat rate is.
- 6. Being up right and mobile is really helpful during labour and birth. Sometimes women may choose to have an epidural, which can restrict mobility, if this is so, please help her to change positions whilst on the bed at least every two hours. If your midwife suggests using leg support or stirrups for the birth of the baby, please ask her why.
- 7/8. Your midwife will monitor the woman's general wellbeing by making some simple observations: temperature, pulse rate and blood pressure. A healthy temperature is always below 37.5 and this is usually done every 4 hours unless there are some concerns. Blood pressure is usually taken every 4 hours unless there is a need for it to be taken more frequently. If this happens ask your midwife to give you some information.
- 9. During labour a midwife may offer to examine your partner vaginally, this helps inform how labour is progressing; examinations are usually 4 hours apart. If the midwife suggests more then please ask her to tell you the reasons why. It is recommended that there are no more than 7 during labour.
- **10/11.** Keeping fluids topped up during labour is really important, so we ask you to encourage your partner to drink when she feels thirsty. Equally, her passing urine frequently is also important, so we ask if you can remind her to pass urine too.
- 12. If your partner feels unwell at any time during labour, or after baby is born, please call your midwife immediately.
- 13. If you have any concerns, please feel free to write them down and share them with your midwife. During labour, if you feel that you are being left for periods of time, let your midwife know how this makes you both feel. Your care and what matters to you is important.

This is for you both to use, to keep and in no way does this make you responsible for your care. It is important that your midwife understands what matters to you and that if you have any concerns you are able to let her/him know. We hope that this helps you both to understand your care and have a happy experience.

Appendix 9: Letters attached to the Checklist for midwives

Appendix 9: The following letter was developed as a result of trying to ensure that midwives were more aware of health improvement science and to inform each individual midwife of the what the project was trying to achieve. We attached the letter to each of the checklists.



Dear Midwife,

Care during labour and birth has never been safer in the UK. As a profession we have been able to demonstrate that we can lead real improvement in the care that we deliver. We want to see if we can improve even more. Thank you for taking part in this improvement work; your views are really important to me.

As an experienced midwife myself I have had the opportunity to undertake a HI Science fellowship and have been learning about the science of checklist and their contribution to achieving safer outcomes, good communication and implementation of highly reliable care.

The checklist explains to the birth partner, what care to expect during labour and can act as a prompt to ensure that it happens. The checklist helps birth partners and women to become active collaborators, improving safety during labour and birth in a way that that has not happened before. 89% of birth partners want to be involved in the birth and have a strong vested interest in a safe outcome (NPEU 2011). The checklist may be a simple way to get them actively involved and act as an additional and valuable safety net.

Thank you for being involved in the testing of this innovative tool.

Project Leader

Haelo

Appendix 10: Many midwives felt that the women and birth partners needed information about care processes in labour. It was felt that giving the information during pregnancy was more appropriate than offering it during labour. Following a PDSA the following 'Birth Partners in Care Programme' was developed as a result of midwife concerns and suggestions. The following information was accompanied by a colourful pocket guide for the birth partner to refer to during labour. This was tested on a small scale in one maternity unit for a period of two weeks.

Birth Partners in Care Programme. Supporting information to help you both during labour and birth

We are delighted to welcome you both to the maternity services; our dedicated team is looking forward to working closely with you during your labour and birth to provide a positive and safe birth experience which reflects each of your individual needs and wishes. On admission to the labour ward/birth centre, a midwife will be allocated to provide your care. Please find attached your pocket guide and supporting information below, for you to keep, and assist you both, during your labour and birth experience. We would suggest that you read the supporting information before labour, and keep the pocket guide with you as a prompt for you both to escalate any concerns that you may have to your midwife or other health professional. Your care and what matters to you is important.

Here is your very own pocket guide (please peel off and keep).

You can help by 1. Offering a drink 2. Encouragement to pass urine 3. Recognising if my partner feels faint or look unwell? 4. Always informing a midwife or doctor if anything concerns either of you. **Your Midwife will** 5. Offer help with position and mobility 6. Check the colour of the waters **Your Midwife will** 7. Check for Vaginal bleeding 8. Check frequency of contractions 9. Listen to the baby's heartbeat 10. Check the woman's pulse 11. Check the woman's body Temperature 12. Check the woman's blood pressure 13. Discuss vaginal examinations

Your Supporting Information

Evidence suggests that a small number of simple tasks checked every hour can help reduce the risk of complications occurring during labour and if there are complications then they will help to identify them early to ensure your partner and baby get the best possible care. We are testing whether this guide and supporting information is helpful to enhance partnership between you the birth partner and your midwife during labour. Please call your midwife at any time to ask questions or if either of you have any concerns regarding your care.

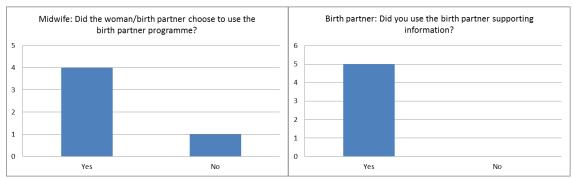
The numbered information below refers to the number on your pocket guide.

- **1.** Keeping fluids topped up before and during labour is really important, so we ask you to encourage your partner to drink if she feels thirsty.
- **2.** Equally, her passing urine frequently is also important, so we ask if you can remind her to pass urine regularly too.
- **3.** Encourage your partner to tell you if she feels unwell at any time during labour, or after the baby is born. If so, please call your midwife immediately.
- **4.** If you have any concerns, please feel free to write them down and share them with a midwife, a doctor or a supervisor of midwives. Let your midwife know how you feel if you are being left for periods of time when it worries you.
- **5.** Being upright and mobile is really helpful during labour and birth. Sometimes women may choose to have an epidural, which can restrict mobility. If this is so please help her to change positions whilst on the bed at least every two hours. If your midwife suggests using leg support or stirrups for the birth of the baby, please ask her/him why.
- **6.** After the waters have broken, your midwife will look to see if they are clear or discoloured. Clear waters are a sign that the baby is usually well. If the waters are discoloured, either red or green this could indicate that there may be a problem. She/he will check this frequently during labour. If you or your partner notices a difference in the colour, please seek help from your midwife.
- 7. Please tell your midwife if your partner experiences any new or heavy bleeding.
- **8.** Contractions are a normal part of labour that gradually builds up in strength and frequency. If your partner has more than 4 contractions over a 10 minute period for more than 1 ten minute period please inform your midwife.
- **9.** During labour it is recommended that the midwife listens to the baby's heartbeat every 15 minutes for one minute. Sometimes the baby's heartbeat will be listened to electronically for longer periods of time. Just prior to, and during pushing the baby out, the midwife will listen in at least every 5 minutes for one minute. The baby's heart rate is usually between 110 -160 beats per minute. Please feel free to ask the midwife what the heart rate is.

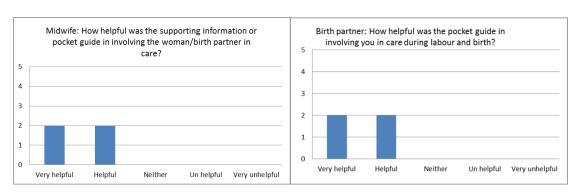
10/11/12. Your midwife will monitor your partner's general wellbeing by making observations of her temperature, pulse rate and blood pressure. A healthy pulse rate for an adult is usually below 100 beats per minute and should be observed at least every hour. A healthy temperature is always below 37.5 and this is usually done every 4 hours unless there are some concerns. Blood pressure is usually taken every 4 hours unless there is a need for it to be taken more frequently. If this happens ask your midwife to give you some information. **13.** During labour your midwife may offer vaginal examinations to assess how labour is progressing; these are usually a minimum of 4 hours apart. If the midwife or doctor suggests doing more frequent examinations please ask them to tell you the reasons why. It is recommended that there are no more than 7 vaginal examinations during labour as the risk of infection can increase for mother and baby.

We hope that your pocket guide and the above information will help you to work with the midwives and doctors who care for you. Should you have any worries or concerns please ask your midwife for help. If you are not satisfied with the response please ask for further help, you can always speak with a doctor and or a Supervisor of Midwives if you wish. We wish you and your partner the very best of care, support and communication.

Appendix 11: This is the evaluation data for acceptability and compliance relating to the testing of antenatal supporting information and the use of a pocket guide



Graph 1: Midwives: views of birth partners. Graph 2: Birth partners using the checklist



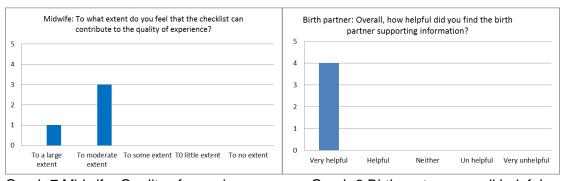
Graph 3: Midwives: Involvement

Midwife: How comfortable did you feel as a midwife working with the women and her birth partner using the supporting information or pocket guide?

Support of the partner: How useful was the pocket guide in improving communication with the midwife?

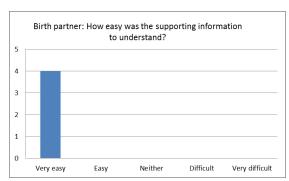
Wery Comfortable Neither Un comfortable Very uncomfortable Very uncomforta

Graph 5: Midwives: Comfort using checklist Graph 6: Birth Partner: Communication



Graph 7 Midwife: Quality of experience

Graph 8 Birth partner overall helpfulness



Graph 9 Birth Partner Ease of use