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This document presents the results of an evaluation of the WHO Safe Childbirth Checklist Collaboration and provides useful insights for any group wishing to implement the WHO Safe Childbirth Checklist. It first provides an overview of the WHO Safe Childbirth Checklist and the Collaboration set up to explore factors that influence use of the Checklist in diverse settings around the world. This section includes information on the Collaboration members and their work. It then describes the methodology of the evaluation and ultimately the results.
Background

Estimates from 2015 suggest that 303,000 women die every year during and following pregnancy and childbirth.\(^1\) Complications in pregnancy and childbirth are one of leading causes of death among adolescent girls in developing countries, with the risk of mortality highest for mothers under 15 years of age.\(^2,3\) Furthermore, approximately 2.7 million newborn babies die every year within the first month of life,\(^4\) and an additional 2.6 million are stillborn.\(^5\)

Analysis shows that the greatest burden of maternal and perinatal mortality is clustered around the time of birth, with the majority of deaths occurring in the first 24 hours after delivery.

Achieving skilled attendance at every birth has emerged as a global priority as timely management and treatment can make the difference between life and death for both the mother and her baby. In practice, however, poor quality care is frequently observed and has been identified as a major contributor to childbirth-related harm.\(^6,7\) A WHO-led multi-country study also suggests that the provision of life-saving interventions alone is not enough to reduce maternal mortality, but that coverage needs to be matched with improvements in the quality of the care being delivered.\(^8\) Expanding access to deliveries by trained birth attendants is a global priority, and fundamental in moving towards universal health coverage.

The WHO Safe Childbirth Checklist

The World Health Organization (WHO) established a working group to analyse the common causes of morbidity and mortality around the time of childbirth. The group identified three components of childbirth that suggested the process would be amendable to improvement through a checklist-based intervention: 1) the major causes of maternal and perinatal mortality are well known; 2) most deaths occur within a narrow time frame; and 3) international guidelines for essential practices during childbirth exist but are not systematically followed. Furthermore, it was recognized that interventions may be simple to perform, but can be difficult to remember and execute in the proper sequence.

As such, WHO and the Harvard T.H. Chan School of Public Health developed a checklist to support the delivery of essential maternal and perinatal care practices. The WHO Safe Childbirth Checklist contains items addressing the major causes of maternal death, intrapartum-related stillbirths and neonatal deaths, especially in low- and middle-income countries. These are:

- haemorrhage
- infection
- obstructed labour
- hypertensive disorders
- inadequate intrapartum care
- birth asphyxia
- complications related to prematurity.
Each evidence-based item on the Checklist is a critical action that, if missed, can lead to severe harm. A copy of the Checklist can be found in Annex 1.

The global potential of the Checklist has been well demonstrated in a variety of contexts. In 2010 the pilot edition of the WHO Safe Childbirth Checklist underwent initial field evaluation in nine countries: China, Egypt Ghana, India, Kenya, Mali, Nigeria, Pakistan and the United Republic of Tanzania. Once feedback was incorporated, the first formal test was undertaken in Karnataka State in India, which found that the delivery of essential childbirth-related care practices at each birth event increased from an average of 10 practices to an average of 25 practices after the Checklist was introduced.

A large randomized control trial was then designed to follow 116,000 births across Uttar Pradesh, the most populous state in India. This trial – the BetterBirth Program – will determine the effect of a successful Checklist implementation on maternal and neonatal health outcomes. The preliminary results from the first five facilities participating in the BetterBirth Program are so far promising. Before the Checklist, the facilities performed only five of the seventeen birth practices measured in the trial. However, after BetterBirth introduced the Checklist – using many of the tools and strategies outlined here – birth attendants in the facilities performed 16 of the birth practices consistently. Final data from the trial will be available in 2017.

**The WHO Safe Childbirth Checklist Collaboration**

The WHO Safe Childbirth Checklist Collaboration was established alongside the Better Birth Program to explore factors that influence use of the Checklist in diverse settings around the world.

From November 2012 to March 2015, a total of 34 groups registered projects with the Collaboration, representing 29 countries and 234 sites. Groups explored a range of questions that addressed compliance, barriers to success and the main factors of effective and sustained use of the Checklist. A list of Collaboration members is presented in Table 1, below, and an outline of their projects is presented in Annex 2.

Throughout the Collaboration, members shared information about their work via SharePoint, an online platform, and many have gone on to publish their work – case studies on Ethiopia & Sri Lanka are provided in the following section by way of example. Webinars were regularly held, to discuss technical aspects of the Checklist, implementation strategies and provide updates on Collaboration members’ progress. Members also submitted progress reports at various stages in their work, which have provided key insights into the facilitating factors and challenges of a successful use of the Checklist. A summary of these findings is presented in Annex 3.

Invaluable information was ultimately shared across what proved to be a rich platform. WHO gained precious insights into implementation factors, and decided to explore these further using a more systematic method. As such, an evaluation was carried out targeting end-users of the Checklist, as well as the implementation teams.
Table 1. Collaboration members: location and institution leading the study

<table>
<thead>
<tr>
<th>WHO REGION</th>
<th>INSTITUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>African Region</strong></td>
<td></td>
</tr>
<tr>
<td>Africa (multi-site project)</td>
<td>Millennium Villages Project, United States of America</td>
</tr>
<tr>
<td>Bahir Dar, Amhara, Ethiopia</td>
<td>University of Aberdeen, United Kingdom</td>
</tr>
<tr>
<td>Conakry, Guinea</td>
<td>Jhpiego, United States of America</td>
</tr>
<tr>
<td>Kayes Region, Mali</td>
<td>USAID Applying Science to Strengthen and Improve Health Systems (ASSIST)</td>
</tr>
<tr>
<td>Port Harcourt, Rivers State, Nigeria</td>
<td>University of Port Harcourt Teaching Hospital</td>
</tr>
<tr>
<td>Orognum, Rivers State, Nigeria</td>
<td>Rivers State Primary Health Care Management Board</td>
</tr>
<tr>
<td>United Republic of Tanzania</td>
<td>AMREF Health Africa</td>
</tr>
<tr>
<td>Uganda</td>
<td>Management Sciences for Health, United States of America</td>
</tr>
<tr>
<td><strong>Region of the Americas</strong></td>
<td></td>
</tr>
<tr>
<td>Buenos Aires, Argentina</td>
<td>Hospital Alemán</td>
</tr>
<tr>
<td>Rio Grande do Sul, Brazil</td>
<td>School of Nursing, Universidade Federal do Rio Grande do Sul</td>
</tr>
<tr>
<td>São Paulo, Brazil</td>
<td>Conjunto Hospitalar do Mandaqui</td>
</tr>
<tr>
<td>Colombia</td>
<td>Universidad Nacional de Colombia</td>
</tr>
<tr>
<td>Mexico</td>
<td>The National Commission of Medical Arbitration (CONDAMED)</td>
</tr>
<tr>
<td>Lima, Peru</td>
<td>Hospital National Dos de Mayo</td>
</tr>
<tr>
<td>Punta del Este, Uruguay</td>
<td>Sanatorio Semm-Mautone</td>
</tr>
<tr>
<td>Brazil, Mexico, Peru &amp; Venezuela (multinational project)</td>
<td>Instituto Nacional de Salud Pública</td>
</tr>
<tr>
<td><strong>South-East Asia Region</strong></td>
<td></td>
</tr>
<tr>
<td>Dhaka, Bangladesh</td>
<td>Centre for Reproductive Health and International Centre for Diarrhoeal Disease Research</td>
</tr>
<tr>
<td>South-western Bangladesh</td>
<td>James P. Grant School of Public Health</td>
</tr>
<tr>
<td>Rajasthan, India</td>
<td>Jhpiego</td>
</tr>
<tr>
<td>Pondicherry, India</td>
<td>Pondicherry Institute</td>
</tr>
<tr>
<td>Banda Aceh and Yogyakarta, Indonesia</td>
<td>University of Göttingen, Germany</td>
</tr>
<tr>
<td>Colombo, Sri Lanka</td>
<td>De Soysa Hospital for Women</td>
</tr>
<tr>
<td><strong>European Region</strong></td>
<td></td>
</tr>
<tr>
<td>Mondovi, Piedmont, Italy</td>
<td>Azienda Sanitaria Locale Cn1 (ASL CN1)</td>
</tr>
<tr>
<td>Tuscany, Italy</td>
<td>Clinical Risk Management and Patient Safety Center</td>
</tr>
<tr>
<td>Barcelona, Spain</td>
<td>Hospital del Mar-Parc de Salut Mar</td>
</tr>
<tr>
<td><strong>Eastern Mediterranean Region</strong></td>
<td></td>
</tr>
<tr>
<td>Cairo, Egypt</td>
<td>Ain Shams Faculty of Medicine</td>
</tr>
<tr>
<td>Mashhad, Islamic Republic of Iran</td>
<td>Mashhad University of Medical Sciences</td>
</tr>
<tr>
<td>Zgharta, Lebanon</td>
<td>Saydet Zgharta Hospital</td>
</tr>
<tr>
<td>Kyber Pakhtunkwaha, Pakistan</td>
<td>University of Göttingen, Germany</td>
</tr>
<tr>
<td>Rawalpindi, Pakistan</td>
<td>Holy Family Hospital, Rawalpindi Medical College</td>
</tr>
<tr>
<td>Khartoum, Sudan</td>
<td>Royal Care International Hospital</td>
</tr>
<tr>
<td>Khartoum, Sudan</td>
<td>Omdurman Maternity Hospital</td>
</tr>
<tr>
<td><strong>Western Pacific Region</strong></td>
<td></td>
</tr>
<tr>
<td>Pudong, Shanghai, China</td>
<td>Nursing School of the Second Military Medical University and Shanghai Pudong New Area People's Hospital</td>
</tr>
<tr>
<td>Manila, Philippines</td>
<td>Medical City Hospital</td>
</tr>
</tbody>
</table>
Case Study: Colombia

In the maternity ward at Hospital La Victoria-sede II in Bogotá, Colombia, a pregnant mother is admitted complaining of stomach pains and a severe headache. Her blood pressure is elevated and her face and hands have begun to swell.

Head nurse Ana Celia García recognizes the symptoms of pre-eclampsia – one of the leading causes of maternal mortality in Colombia, and a condition she commonly sees in the maternity ward. She wants to ensure effective safe care for the mother.

Ana knows what to do. She refers to the WHO Safe Childbirth Checklist, attached to the patient’s medical chart, and follows every step to provide the mother and her baby with the safest care possible.

As she scans through the Checklist, she stops at the question: “Does the mother need to start magnesium sulfate and antihypertensive treatment?” Ana administers the medication and checks the box: “Yes, magnesium sulfate given,” and moves down the list of life-saving interventions.

In June 2014, as part of a patient safety initiative, the Colombian Society of Anaesthesiology joined WHO’s Safe Childbirth Checklist Collaboration to field test the pilot Checklist’s usability in three facilities in Colombia: Hospital La Victoria-sede II, Clínica El Prado, and Hospital San José de Buga.

As part of the field testing, 142 Colombian nurses were trained to use the WHO Checklist. In the year since implementation began, Ana says it is already improving safety and quality of care in Hospital La Victoria-sede II, where more than 3800 babies are born each year.

“One of the most important things about the Safe Childbirth Checklist are the tips that alert us about the mother’s safety,” says Ana. “When we check the sequence of steps with the patient, we are reducing the risk of error and reminding ourselves of all the steps needed to ensure a safe birth for both the mother and her baby.”

“The Checklist has helped us to have better control of our practices and to properly monitor patient safety,” she says. “Our success in implementation can be observed in a reduction of adverse events and the empowerment of health workers in our facility.”
Case Study: Ethiopia

Felege Hiwot Referral Hospital (FHRH), a tertiary level hospital in Bahir, Ethiopia, begins implementation of the Checklist by observing deliveries with the support of the University of Aberdeen. Feedback of the data to hospital staff, administrators and leaders helps improve implementation of the Checklist.

The initial users were six interns who received training on-site through senior staff with a plan to expand to other health care workers. This orientation occurred on-site in the labour ward in conjunction with senior staff. The Checklist was attached to each chart. Following an initial 2-week trial period, feedback was obtained from users to make adaptations which reflected local obstetric guidelines and make it more appropriate for use in this referral hospital.

Post-implementation, there was improvement in a number of areas, although change was limited due to baseline high performance in a number of critical areas. The group concluded that “Essential practices related to labour and delivery at FHRH were generally well followed. The care of mothers and the management of complications that developed were optimal throughout the study sample. Although the pre-intervention period found good compliance with the Checklist, in the intervention period, it was shown that improvements were made where possible. The most marked improvement was in hand hygiene practices. At three months post-introduction, Checklist adoption rate in our study is around 64% of births, although with varying levels of completion.”
Case Study: Sri Lanka

A tertiary level maternity care hospital in Sri Lanka, the De Soysa Hospital for Women (DSHW), introduced the Safe Childbirth Checklist by focusing on an education programme. Implementation leaders provided basic education about the Checklist to health care workers involved in care during labour, which comprised an overview of the Checklist and its importance, aspects of patient safety, the different components of the Checklist itself, and how and when to use it. Education was reinforced by repeated visits to wards and by handing out printed leaflets.

The team then introduced the Checklist and subsequently conducted a survey of health care workers using the Checklist. The Checklist was used in a total of 824 births out of a total of 1800 births during the study period, representing an adoption rate of 45.8%. Out of the 170 health workers in the hospital (nurses, midwives and nurse midwives), 98 answered the survey (57.6%). The average number of childbirth practices checked in the Checklist was 21 out of 29 (95% CI 20.2, 21.3). Confirming the mother will seek help during labour, after delivery and after her discharge from hospital, seeking an assistant during labour, early breast-feeding, maternal HIV infection and discussing contraceptive options were the least-checked items on the Checklist. The mean level of knowledge about the Checklist among health workers was 60.1% (95% CI 57.2, 63.1). Attitudes towards acceptance about using the Checklist were satisfactory. Average adherence to Checklist practices was 71.3%. Sixty-eight checklist users (69.4%) agreed that the Checklist stimulated interpersonal communication and teamwork. Increased workload, poor enthusiasm of health workers towards new additions to their routine schedule and level of user-friendliness of the Checklist were limitations to its wider use.

After the study was completed, the team reflected on implementation of the Checklist in the facility. They felt that their pre-implementation education may not have been thorough enough given that fewer than two thirds had adequate knowledge about the Checklist. They concluded that awareness about the value and correct use of the Checklist was paramount to success, and noted that it would have been more beneficial if education regarding the Checklist was given to all the health care providers in the hospital, including senior medical personnel.

The Collaboration facilitated the development of many projects, stimulated publications and provided many insights into how the Checklist could best be introduced and used. In order to further explore the factors that could influence a successful implementation of the Checklist, a survey of both implementation teams and Checklist end-users was undertaken.

Methodology

Two surveys were developed to better understand the key factors that facilitated or hindered effective use of the Checklist in various projects registered with the Collaboration – these are presented in Annexes 4 & 5.

The first survey targeted Checklist end-users – those who had experience using the Checklist as part of their routine care of mothers and newborn babies in their facility. It explored their experience of using the Checklist, including how it was introduced, its ease of use, its effectiveness and perceived challenges of using the tool.

The second survey targeted members of the implementation team – the group of people involved in driving, planning, championing, leading or helping with introduction of the Checklist, from inception through to education of staff, coaching and ultimate use of the tool with mothers and newborns. It was comprised of questions that asked about the context of the facility/ies, how they had introduced the Checklist, implementation successes and challenges, strategies for overcoming barriers, and their feedback on helpful implementation resources and tools.

Both surveys used a mixture of closed-ended questions (yes/no & Likert Scale) and open-ended ones (which invited descriptions of modifications and barriers), and were based on key themes identified in earlier reports submitted by Collaborators, previous experience with implementation surveys and expert opinion. Four Collaboration members were invited to provide feedback on the draft surveys before modifications were made and the final version was produced. Online and paper versions were also developed.

The project leads for each Collaboration site were responsible for distributing the surveys to implementation teams and end-users, and their participation was voluntary. If the Checklist was implemented by different teams across multiple sites (i.e. different facilities or countries), it was asked that one survey be completed by each team. Responses were collected over a six-week period in May/June 2015.

Analysis

Responses to the implementation team surveys and end-user surveys were collected and analysed separately. Only one response per implementation team was analysed. When more than one had been submitted, the most complete survey was used in the analysis. All data was exported to Microsoft Excel. STATA was used to analyse the quantitative results. Themes were developed from the
qualitative data using grounded theory approach for the following domains: implementation process, implementation results and perceived value of the Checklist, facilitating factors of and barriers to implementation.

Results

A total of 134 end-users and 38 implementation teams responded to the surveys from 39 sites across 19 countries. Results from each survey are presented independently, with the exception of implementation challenges/barriers and suggested modifications to the Checklist which are presented together.

1. End-user survey

The majority of end-users were midwives (51%), and had attended births for more than 10 years (42%).

1.1 Implementation process

End-users were very interested in using the Checklist, with 79% stating they were willing or extremely willing to use it when first introduced to it. Respondents were also asked to indicate how willing they perceived each profession to be. The most resistant profession was thought to be obstetricians/gynaecologists – full results are presented in Table 3.

Figure 1. Professional background of end-users
Table 2. Demographics of respondents

<table>
<thead>
<tr>
<th>WHO Region</th>
<th>Per cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>African Region</td>
<td>32.8</td>
</tr>
<tr>
<td>Region of the Americas</td>
<td>9.7</td>
</tr>
<tr>
<td>South-East Asia Region</td>
<td>2.2</td>
</tr>
<tr>
<td>European Region</td>
<td>47</td>
</tr>
<tr>
<td>Eastern Mediterranean Region</td>
<td>4.5</td>
</tr>
<tr>
<td>Western Pacific Region</td>
<td>3.7</td>
</tr>
</tbody>
</table>

Years of experience attending births

<table>
<thead>
<tr>
<th>Experience</th>
<th>Per cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 years or more</td>
<td>41.8</td>
</tr>
<tr>
<td>8 – 10 years</td>
<td>17.2</td>
</tr>
<tr>
<td>5 – 7 years</td>
<td>20.2</td>
</tr>
<tr>
<td>2 – 4 years</td>
<td>14.2</td>
</tr>
<tr>
<td>1 year or less</td>
<td>5.2</td>
</tr>
<tr>
<td>No answer</td>
<td>1.5</td>
</tr>
</tbody>
</table>

Average number of births attended per week

<table>
<thead>
<tr>
<th>Number of births attended per week</th>
<th>Per cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;4</td>
<td>30</td>
</tr>
<tr>
<td>5 – 9</td>
<td>43.3</td>
</tr>
<tr>
<td>&gt;10</td>
<td>26.7</td>
</tr>
</tbody>
</table>

Table 3. Perceived willingness of professionals to use the WHO Safe Childbirth Checklist

<table>
<thead>
<tr>
<th>Professional</th>
<th>Extremely willing/willing</th>
<th>Neutral</th>
<th>Resistant/very resistant</th>
<th>Don’t know</th>
</tr>
</thead>
<tbody>
<tr>
<td>Midwife</td>
<td>82.8%</td>
<td>5.4%</td>
<td>6.4%</td>
<td>5.4%</td>
</tr>
<tr>
<td>Nurse</td>
<td>73%</td>
<td>14.9%</td>
<td>4.1%</td>
<td>8.1%</td>
</tr>
<tr>
<td>Obstetrician/Gynaecologist</td>
<td>40%</td>
<td>20%</td>
<td>37.8%</td>
<td>2.2%</td>
</tr>
<tr>
<td>Medical doctor</td>
<td>58.8%</td>
<td>12.7%</td>
<td>23.8%</td>
<td>4.8%</td>
</tr>
<tr>
<td>Public health professional</td>
<td>39.4%</td>
<td>13.3%</td>
<td>3.3%</td>
<td>36.7%</td>
</tr>
<tr>
<td>Anaesthetist provider</td>
<td>17.8%</td>
<td>35.6%</td>
<td>20%</td>
<td>26.7%</td>
</tr>
<tr>
<td>Administrator</td>
<td>46.7%</td>
<td>13.3%</td>
<td>3.3%</td>
<td>36.7%</td>
</tr>
<tr>
<td>Community physician</td>
<td>25%</td>
<td>17.9%</td>
<td>0%</td>
<td>57.1%</td>
</tr>
</tbody>
</table>

Although most end-users received information about the purpose of the Checklist prior to its introduction (83%), fewer received training on how to use it (64%) and even fewer were provided with coaching or supervision while using the Checklist (34%).

1.2 Implementation results

Despite a general lack of coaching and supervision, end-users found the Checklist easy to use (33% very easy, 57% easy). Uptake of it was, however, variable: 52% of respondents used it on every occasion, 29% found they were using it
half or more than half of the time, and 19% were using it less than half of the time. Some 26% said they wanted to use it, but could not do so in 50% or more of births – the reason as to why this was not explored, however.

Some 67% of respondents thought that the Checklist improved their practice around the time of birth. End-users found it helped to prepare for delivery and served as a reminder to complete all steps, while providing early identification of risks and complications.

Nursing staff and medical doctors were more likely to believe that the Checklist improved practice than midwives, of whom 54% felt it did not improve practice at all. Those with more years of experience were less likely to believe it improved their practice. Importantly, analysis revealed that those who did not receive training on use of the Checklist, and those who did not receive supervisory support while using the Checklist were less likely to believe that the Checklist improved practice.

Interestingly, three quarters of respondents felt that the Checklist improved their awareness of patient safety and more than two-thirds felt that the Checklist improved communication & teamwork in their facility (71%). But once again, midwives, and those with more years of experience, and those who had not received training or supervisory support were less likely to believe so.

Some 63% of respondents would want the Checklist to be used for a family member or friend; 33% had neutral feelings about whether they would want it to be used or not, with only 4% stating they would not want it to be used for a family member or friend. When asked, 71% said they would like to use the WHO Safe Childbirth Checklist in their facility in the future.

### 1.3 Facilitating factors

End-users were asked to list three factors that contributed positively to use of the Checklist – the five most commonly cited factors are presented in Figure 2. It was also highlighted that seeing the Checklist improve care helped reinforce its importance.

#### FEEDBACK FROM THE FIELD

“It has enabled us to quickly detect the risk … and prompt management of complications of mother and newborn.”

“This promotes our awareness regarding safety of both mother and baby.”

“We know all the mentioned practices but the Checklist helped us not to forget them during our routine procedures.”

“Patients had timely vital signs taken and interpreted… infections were identified earlier by detecting cases in time.”

“[It helped with] knowing what to do at the right time.”

“Its use helped me to get prepared and know what [I was] missing out.”

“Its use has helped me know when referral is needed.”

“It aids monitoring and supervision of [mothers and newborns].”

“The Checklist acts as a guide in monitoring and supervising labour, hence enhancing patient’s care and safety.”

“[It helps] to establish a relationship of trust between the provider and patient.”
Figure 2. Most commonly cited factors that contributed positively to use of the Checklist

The Checklist:

- is easy to complete
- is an ideal way to prepare for delivery & covers main aspects of management
- serves as an important reminder for performing essential practices
- helps with the early identification and prevention of risk factors
- is good for communication and sharing information with the team.
2. Implementation team survey

The majority of implementation teams introduced the Checklist in a regional or national referral centre (61%). The number of deliveries ranged from 180 to over 10 000 per facility, with the number of involved staff ranging from 5 to 333.

Table 4. Overview of facilities represented by implementation teams

<table>
<thead>
<tr>
<th>Type of facility</th>
<th>Per cent (of 38 respondents)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Level</strong></td>
<td></td>
</tr>
<tr>
<td>Primary health centre/Community health centre/Health post</td>
<td>7.9</td>
</tr>
<tr>
<td>Referral centre or district facility</td>
<td>18.4</td>
</tr>
<tr>
<td>Regional or national referral centre</td>
<td>60.5</td>
</tr>
<tr>
<td><strong>Sector</strong></td>
<td></td>
</tr>
<tr>
<td>Government facility</td>
<td>34.2</td>
</tr>
<tr>
<td>Private for profit</td>
<td>7.9</td>
</tr>
<tr>
<td>NGO, not for profit</td>
<td>5.3</td>
</tr>
<tr>
<td>Mission/Faith-based</td>
<td>2.6</td>
</tr>
<tr>
<td><strong>Location</strong></td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td>10.5</td>
</tr>
<tr>
<td>Urban</td>
<td>26.3</td>
</tr>
<tr>
<td><strong>WHO Regions</strong></td>
<td></td>
</tr>
<tr>
<td>African Region</td>
<td>35</td>
</tr>
<tr>
<td>Region of the Americas</td>
<td>20</td>
</tr>
<tr>
<td>South-East Asia Region</td>
<td>10</td>
</tr>
<tr>
<td>European Region</td>
<td>15</td>
</tr>
<tr>
<td>Eastern Mediterranean Region</td>
<td>15</td>
</tr>
<tr>
<td>Western Pacific Region</td>
<td>5</td>
</tr>
<tr>
<td><strong>Number of births</strong></td>
<td></td>
</tr>
<tr>
<td>&lt;1200</td>
<td>25</td>
</tr>
<tr>
<td>1200 – 3600</td>
<td>37.5</td>
</tr>
<tr>
<td>&gt;3600</td>
<td>37.5</td>
</tr>
<tr>
<td><strong>Number of staff involved in childbirth process</strong></td>
<td></td>
</tr>
<tr>
<td>&lt;25</td>
<td>28.6</td>
</tr>
<tr>
<td>25 – 50</td>
<td>25.0</td>
</tr>
<tr>
<td>&gt;50</td>
<td>46.4</td>
</tr>
</tbody>
</table>
All of the implementation team survey respondents described having a team who led the implementation of the Checklist, with the vast majority having more than four members in their team (82%). Obstetricians/gynaecologists, midwives, nursing staff, and medical doctors made up more than 50% of the implementation teams; 76% of teams included either a medical doctor or obstetrician/gynaecologist. Some 58% of teams had an administrator or chief medical officer involved. Anaesthetic providers, public health professionals and community physicians were less represented.

Teams generally reported having prior experience of implementing quality improvement projects (82%); some were centres for patient safety in their region, while others had worked on a range of projects including the WHO Surgical Safety Checklist, medication safety programmes, infection control programmes, directives to reduce time to access obstetrical procedures, and broad-reaching programmes designed to improve obstetrical and neonatal care.

2.1 Implementation process

Just over half of the implementation teams modified the Checklist before introduction (58%) – this is detailed further on. Less than half of the teams provided additional materials or tools to help end-users or the implementation process (42%). Examples of additional materials used include patient information leaflets, posters and user guides for doctors.

The vast majority said that they provided specific training for end-users on using the Checklist (95%). Training topics included introduction of the importance of the Checklist and patient safety and how to complete the Checklist, with several stating they also ran question and answer sessions. The training also often included technical skills around the areas covered by the Checklist such as hand hygiene or plotting a partograph. Two organizations reported using simulation and one did a training of trainers for obstetricians and the matron.

It is worth noting that the high percentage of implementation teams reporting that they provided training is not consistent with the lower percentage reported by end-users. This could either reflect the fact that not all end-users received the training, that implementation teams had a wider definition of what training actually represented, or it may be that the end-users were reporting from different sites than their implementation teams, as suggested by the different composition of regions represented in each survey.

Throughout the introduction of the Checklist, most of the teams reported that they received adequate support from senior leadership (84%). However 41% of teams found they had less financial resources than needed to support implementation of the Checklist. On the other hand, only 30% had less human resources than needed to support implementation.

2.2 Implementation results

Eighty-one per cent of teams found the Checklist easy or very easy to introduce. Most professional groups were willing to use the Checklist; nursing staff were the most willing (74%), while obstetricians/gynaecologists, medical doctors and midwives were thought to be the most resistant (26%, 23% and 17% respectively).

When asked about uptake of the Checklist from introduction to the present day, most identified with Graph B that indicated initial slow then rapid and steady use. Results are presented in Figure 3.
The Checklist was perceived as being of high value. Among respondents, 62% felt that significant or very significant progress had been made in the safety of childbirth as a result of using the Checklist.

**FEEDBACK FROM THE FIELD**

“The checklist is very useful. In educating the house officers on how to use the Checklist, we realized that discharge of patients was done following orders. However, from the Checklist, before discharge, the baby ought to have been examined. The house officers now examine babies before discharging the mother. The Checklist reminded all care-givers in the labour ward to counsel patients on danger signs and to call for help.” (Implementation lead)

“The Checklist actually improved the quality of care given to mothers and their babies.” (Implementation lead)

Seventy-two per cent felt that use of the Checklist was extremely successful in improving maternal and newborn care, and 92% of implementation leads said they would want the Checklist to be used in the case of a family member or close friend.
mother’s chart, leadership engagement and support, availability of ongoing supervision following the training, and the process of local adaptation. The process of adaptation to reflect local context and ensure buy-in was also noted as an important facilitating factor, especially as a way of engaging leaders.

Leadership engagement was also critical in encouraging staff to use the Checklist and ensuring supplies.

Ongoing supervision, monitoring and encouragement was reported by a number of respondents and identified as critical to success. Many sites had senior staff who were trained and then in turn mentored, supervised, and encouraged others to use the Checklist. At one site a training-of-trainers was organized to develop a pool of national trainers.

Some facilities made the Checklist mandatory which was thought to facilitate implementation.

**FEEDBACK FROM THE FIELD**

“Leadership engagement at the facility and from obstetricians/gynaecologists helped with adaptation, training and ongoing supervision”.

“Management ‘buy-in’ for committed effort to supplying copies/materials,” (Implementation lead).

**Figure 3. The five most commonly cited factors that contributed positively to use of the Checklist**

1. Checklist was easy to use with good design
2. Motivation from leadership
3. Involvement of patient safety and quality assurance units
4. Training on Checklist use
5. Enthusiasm of staff to use Checklist
Challenges and barriers to implementation

End-users and implementation teams both noted a number of challenges, however. These challenges included initial staff resistance, an initial impression of complexity in using the Checklist, the need for local adaptation, and lack of supplies (Checklist itself and essential birth supplies).

The most common barriers that end-users reported was the inability to use the Checklist when they were too busy or understaffed, and lack of awareness of the Checklist by other staff (due to turnover or unspecified reasons). However, many of these sites reported effective solutions, which they implemented, in response to a number of these challenges, as presented in Table 5.

Table 5. Challenges to implementation and cited solutions

<table>
<thead>
<tr>
<th>Challenge</th>
<th>Solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resistance to using the Checklist and a lack of staff motivation</td>
<td>Education, ongoing supervision and training specifically addressing knowledge gaps; Educating physicians and their supervisors on the importance and value of the Checklist</td>
</tr>
<tr>
<td>Lack of understanding on how to use the Checklist</td>
<td>Educating staff on how to use the Checklist, developing leaflets and other job aids</td>
</tr>
<tr>
<td>Perception of increased workload related to Checklist use</td>
<td>Education on the importance of the Checklist and essential practices</td>
</tr>
<tr>
<td>Limited supplies of Checklist</td>
<td>Working with management to develop a supply system; Identifying a leader responsible for ensuring supplies</td>
</tr>
<tr>
<td>Lack of essential birth supplies</td>
<td>Advising management to request the identified critical drugs/equipment; Implementers conducting assessments and providing missing supplies</td>
</tr>
<tr>
<td>Inadequate staff including intermittent attendance</td>
<td>Focusing on attendance; Encouraging birth attendants to ask birth companions for assistance</td>
</tr>
<tr>
<td>Staff turnover</td>
<td>Conducting ongoing periodic training sessions</td>
</tr>
<tr>
<td>Care of women and newborns takes place at different places in the facility</td>
<td>Splitting Checklist pause points into separate documents for each of the different sites for care</td>
</tr>
<tr>
<td>Forgetting to use the Checklist</td>
<td>Placing the Checklist in visible places; creating large posters for walls</td>
</tr>
<tr>
<td>Insufficient trained birth attendants when multiple labour cases were in the facility at the same time</td>
<td>Encouraging birth attendants to use birth companions for assistance</td>
</tr>
<tr>
<td>Inconsistencies with local and national guidelines</td>
<td>Adaptation of the Checklist</td>
</tr>
<tr>
<td>Lack of clinical skills required by the Checklist</td>
<td>Arranging trainings on essential birth practices</td>
</tr>
</tbody>
</table>
Modifications to the Checklist

As mentioned, just over half of the implementation teams (58%) modified the Checklist before introducing it. These changes are presented in Figure 4. Those responding to the end-user and implementation team surveys also suggested modifications to the Checklist; 34% of implementation teams wanted to make changes to the Checklist, while 37% of end-users wanted to make changes to it. Those not already made (presented in Figure 4) are presented in Figure 5.

Figure 4. Modifications made by implementation teams prior to Checklist implementation

<table>
<thead>
<tr>
<th>Added</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mother’s name</td>
</tr>
<tr>
<td>Verification item on mother’s allergies</td>
</tr>
<tr>
<td>An item asking whether mother needs antihypertensives</td>
</tr>
<tr>
<td>An item about the need to treat syphilis</td>
</tr>
<tr>
<td>An item to identify whether the mother had already received oxytocin prior to presentation</td>
</tr>
<tr>
<td>An item to verify the removal of tubes and catheters</td>
</tr>
<tr>
<td>An item to check if a family planning appointment had been made</td>
</tr>
<tr>
<td>An item to verify referral to postpartum counselling and breastfeeding training</td>
</tr>
<tr>
<td>An extra point to confirm sterile episiotomy and delivery instruments on admission</td>
</tr>
<tr>
<td>A check to verify whether congenital hypothyroidism screening had been performed</td>
</tr>
<tr>
<td>A check to verify if blood typing had been performed</td>
</tr>
<tr>
<td>Administer diazepam where magnesium sulphate is contraindicated</td>
</tr>
<tr>
<td>An item for thromboprophylaxis check</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Removed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engage birth companion</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remove HIV check and add check for Hepatitis B</td>
</tr>
<tr>
<td>“Does mother need referral?” changed to “Does mother need senior review?”</td>
</tr>
<tr>
<td>Specific items – soap, gloves, water, hand gel – added for “Confirm supplies available for clean hands”</td>
</tr>
</tbody>
</table>
Figure 5. Suggested modifications to the Checklist suggested by end-users and implementation teams

Add
Use of oxygen to list of essential supplies
“Does mother need referral?” in all sections of Checklist
Referral criteria of the facility
An item to confirm clamping of cord
An area to record general information about the mother
An item to prompt/consider Vitamin K administration
A section that outlines the steps to follow for newborn resuscitation
Space for justification of deviation from essential birth practices

Remove
The item related to antibiotic and magnesium sulphate
Remove Nepivirine (as not readily available)

Other changes
Reduce number of items on the Checklist
Should be part of the partograph document
Should be part of computerised charts in use
Discussion

This evaluation was able to canvas the experiences of end-users and implementation teams in using the WHO Safe Childbirth Checklist across a diverse range of settings. Although a predominance of responses came in from tertiary care facilities, organizations reported implementation across a significant range of facilities, including community centers.

Overall, many facilities were able to successfully implement the WHO Safe Childbirth Checklist. Findings highlighted the importance of training and providing supervision or coaching throughout the implementation process. The results also highlighted the importance of ensuring leadership engagement, local ownership, and local relevance and acceptability through adaptation to facilitate initial implementation and successful uptake.

Facilitating factors to uptake included the simplicity of the Checklist and its ease of use, training and supervision, and its use as a part of the medical record. Not very surprisingly, those that did not receive training or have supervision were less likely to believe that the Checklist improved practice, awareness of patient safety, or communication and teamwork.

Interestingly, both end-users and implementation teams independently identified that obstetricians/gynaecologists and midwives were the most resistant to using the Checklist. As such, future implementation efforts need to focus on overcoming reluctance from these professional groups through early engagement and education, for example. Most reported wanting the Checklist to be used for friends and family, and to be implemented long-term at their facility.

Implementation teams and end-users did face a variety of challenges implementing and using the Checklist. The two most common barriers cited by end-users were that they were too busy or understaffed, or that there was a lack of awareness of the Checklist by other staff that hampered its effective use. Implementing teams used an array of solutions, many of which focused on ongoing horizontal and vertical education. In facilities with high staff turnover, for example, regular training sessions were scheduled.

These responses were consistent with initial feedback provided through progress reports, as documented in Annex 2. They reported similar improved quality in other areas related to practice and patient safety, including greater discussion about local practice and encouraging broader changes in quality improvement practice and avoiding errors.

The findings of this evaluation, including suggested modifications to the Checklist, informed the final version of the WHO Safe Childbirth Checklist and its Implementation Guide which was launched in December 2015. This evaluation provides insights for any institution wishing to implement the Checklist, but should be read alongside the Implementation Guide. The Guide provides further detail on the key facilitating factors identified in this evaluation, and highlights important factors for engagement, launch of the Checklist and ongoing support.
The WHO Safe Childbirth Checklist and its Implementation Guide can be downloaded at:

Acknowledgements

The World Health Organization and Ariadne Labs would like to gratefully acknowledge all those who have contributed to and supported the Safe Childbirth Checklist programme, particularly the Bill & Melinda Gates Foundation which funded The BetterBirth Trial and the WHO Safe Childbirth Checklist Collaboration.


Interns and volunteers: Natalia Abadia, Elisa Albuquerque, Marion Chapuis, Michelle Costello, Blanca Obón, Ignacio Rebollo, Sarah Rostom.


We would also like to thank Kathleen Hill, Sukhmeet Panesar and Katayoun Taghavi for their careful review of the evaluation protocol.
References


Annex 1

The WHO Safe Childbirth Checklist - Final version and Pilot edition
BEFORE BIRTH

WHO Safe Childbirth Checklist

1. On Admission

- Does mother need referral?
  - No
  - Yes, organized
  - Check your facility's criteria

- Partograph started?
  - No, will start when ≥4 cm
  - Yes
  - Start plotting when cervix ≥4 cm, then cervix should dilate ≥1 cm/hr
    - Every 30 min: plot HR, contractions, fetal HR
    - Every 2 hrs: plot temperature
    - Every 4 hrs: plot BP

- Does mother need to start:
  - Antibiotics?
    - No
    - Yes, given
    - Ask for allergies before administration of any medication
      - Give antibiotics to mother if any of:
        - Mother's temperature ≥38°C
        - History of foul-smelling vaginal discharge
        - Rupture of membranes >18 hrs
    - Magnesium sulfate and antihypertensive treatment?
    - No
    - Yes, magnesium sulfate given
    - Yes, antihypertensive medication given
    - Give magnesium sulfate to mother if any of:
      - Diastolic BP ≥110 mmHg and 3+ proteinuria
      - Diastolic BP ≥90 mmHg, 2+ proteinuria, and any: severe headache, visual disturbance, epigastric pain
    - Give antihypertensive medication to mother if systolic BP >160 mmHg
      - Goal: keep BP <150/100 mmHg

- Confirm supplies are available to clean hands and wear gloves for each vaginal exam.

- Encourage birth companion to be present at birth.

- Confirm that mother or companion will call for help during labour if needed.
  - Call for help if any of:
    - Bleeding
    - Severe abdominal pain
    - Severe headache or visual disturbance
    - Unable to urinate
    - Urge to push

This checklist is not intended to be comprehensive and should not replace the case notes or partograph. Additions and modifications to fit local practice are encouraged. For more information on recommended use of the checklist, please refer to the "WHO Safe Childbirth Checklist Implementation Guide" at: www.who.int/patientsafety.

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WHO/HIS/SDS/2015.26
WHO Safe Childbirth Checklist

Completed by ____________________

30 | WHO SAFE CHILDBIRTH CHECKLIST COLLABORATION
# WHO Safe Childbirth Checklist

## Just Before Pushing (Or Before Caesarean)

### Does mother need to start:
- **Antibiotics?**
  - No
  - Yes, given

- **Magnesium sulfate and antihypertensive treatment?**
  - No
  - Yes, magnesium sulfate given
  - Yes, antihypertensive medication given

*Ask for allergies before administration of any medication.*

- Give antibiotics to mother if any of:
  - Mother’s temperature ≥38 °C
  - History of foul-smelling vaginal discharge
  - Rupture of membranes >18 hrs
  - Caesarean section

*Give magnesium sulfate to mother if any of:*

- Diastolic BP ≥110 mmHg and 3+ proteinuria
- Diastolic BP ≥90 mmHg, 2+ proteinuria, and any of: severe headache, visual disturbance, epigastric pain

*Give antihypertensive medication to mother if systolic BP >160 mmHg*

- Goal: keep BP <150/100 mmHg

### Confirm essential supplies are at bedside and prepare for delivery:

#### For mother
- Gloves
- Alcohol-based handrub or soap and clean water
- Oxytocin 10 units in syringe

#### For baby
- Clean towel
- Tie or cord clamp
- Sterile blade to cut cord
- Suction device
- Bag-and-mask

*Prepare to care for mother immediately after birth:*
- Confirm single baby only (not multiple birth)
  1. Give oxytocin within 1 minute after birth
  2. Deliver placenta 1-3 minutes after birth
  3. Massage uterus after placenta is delivered
  4. Confirm uterus is contracted

*Prepare to care for baby immediately after birth:*
- 1. Dry baby, keep warm
- 2. If not breathing, stimulate and clear airway
- 3. If still not breathing:
  - clamp and cut cord
  - clean airway if necessary
  - ventilate with bag-and-mask
  - shout for help

- **Assistant identified and ready to help at birth if needed.**

---

*This checklist is not intended to be comprehensive and should not replace the case notes or partograph. Additions and modifications to fit local practice are encouraged. For more information on recommended use of the checklist, please refer to the “WHO Safe Childbirth Checklist Implementation Guide” at: [www.who.int/patientsafety](http://www.who.int/patientsafety).*
### Soon After Birth (Within 1 Hour)

#### Is mother bleeding abnormally?
- [ ] No
- [ ] Yes, shout for help

If bleeding abnormally:
- Massage uterus
- Consider more uterotonic
- Start IV fluids and keep mother warm
- Treat cause: uterine atony, retained placenta/fragments, vaginal tear, uterine rupture

#### Does mother need to start:

**Antibiotics?**
- [ ] No
- [ ] Yes, given

**Magnesium sulfate and antihypertensive treatment?**
- [ ] No
- [ ] Yes, magnesium sulfate given
- [ ] Yes, antihypertensive medication given

Ask for allergies before administration of any medication:
- Give antibiotics to mother if placenta manually removed or if mother’s temperature ≥38 °C and any of:
  - Chills
  - Foul-smelling vaginal discharge

If the mother has a third or fourth degree of perineal tear give antibiotics to prevent infection

Give magnesium sulfate to mother if any of:
- Diastolic BP ≥110 mmHg and 3+ proteinuria
- Diastolic BP ≥90 mmHg, 2+ proteinuria, and any: severe headache, visual disturbance, epigastric pain

Give antihypertensive medication to mother if systolic BP >160 mmHg
- Goal: keep BP <150/100 mmHg

#### Does baby need:

**Referral?**
- [ ] No
- [ ] Yes, organized

**Antibiotics?**
- [ ] No
- [ ] Yes, given

**Special care and monitoring?**
- [ ] No
- [ ] Yes, organized

Give baby antibiotics if antibiotics given to mother for treatment of maternal infection during childbirth or if baby has any of:
- Respiratory rate >60/min or <30/min
- Chest in-drawing, grunting, or convulsions
- Poor movement on stimulation
- Baby’s temperature <35 °C (and not rising after warming) or baby’s temperature ≥38 °C

Arrange special care/monitoring for baby if any:
- More than 1 month early
- Birth weight <2500 grams
- Needs antibiotics
- Required resuscitation

- [ ] Started breastfeeding and skin-to-skin contact (if mother and baby are well).

- [ ] Confirm mother / companion will call for help if danger signs present.

---

Responsibility for the interpretation and use of the material in this checklist lies with the reader. In no event shall the World Health Organization be liable for damages arising from its use. For more information visit: www.who.int/patientsafety.
### Before Discharge

- **Confirm stay at facility for 24 hours after delivery.**

#### Does mother need to start antibiotics?
- **No**
- **Yes, given and delay discharge**

#### Is mother’s blood pressure normal?
- **No, treat and delay discharge**
- **Yes**

#### Is mother bleeding abnormally?
- **No**
- **Yes, treat and delay discharge**

#### Does baby need to start antibiotics?
- **No**
- **Yes, give antibiotics, delay discharge, give special care**

#### Is baby feeding well?
- **No, establish good breastfeeding practices and delay discharge**
- **Yes**

- **Discuss and offer family planning options to mother.**

- **Arrange follow-up and confirm mother / companion will seek help if danger signs appear after discharge.**

### Danger Signs

**Mother** has any of:
- Bleeding
- Severe abdominal pain
- Severe headache or visual disturbance
- Breathing difficulty
- Fever or chills
- Difficulty emptying bladder
- Epigastric pain

**Baby** has any of:
- Fast/difficult breathing
- Fever
- Unusually cold
- Stops feeding well
- Less activity than normal
- Whole body becomes yellow

---

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### Annex 1 – Safe Childbirth Checklist – Pilot Edition

#### 1. On admission

**Does Mother need referral?**
- No
- Yes, organized

**Partograph started?**
- No: Will start when ≥ 4 cm
- Yes

**Does Mother need to start:**

- **Antibiotics?**
  - No
  - Yes, given

- **Magnesium sulfate?**
  - No
  - Yes, given

- **Antiretrovirals?**
  - No, confirmed HIV negative
  - Yes, given
  - If status unknown, HIV test ordered

- **Confirm supplies are available to clean hands and wear gloves for each vaginal exam**

- **Encourage Birth Companion to be present at birth**

- **Confirm that Mother or Companion will call for help during labour if needed**

**Check your facility's criteria**

---

#### 2. Just before pushing (or before Caesarean)

**Does Mother need to start:**

- **Antibiotics?**
  - No
  - Yes, given

- **Magnesium sulfate?**
  - No
  - Yes, given

**Confirm essential supplies are at bedside and prepare for delivery:**

- **for Mother**
  - Gloves
  - Alcohol-based handrub or soap and clean water
  - Oxytocin 10 units in syringe

- **Preparations to care for Mother immediately after birth:**
  1. Give oxytocin within 1 minute after birth
  2. Deliver placenta
  3. Massage uterus after placenta is delivered
  4. Confirm uterus is contracted

- **for Baby**
  - Clean towel
  - Sterile blade to cut cord
  - Suction device
  - Bag-and-mask

- **Preparations to care for Baby immediately after birth:**
  1. Dry baby, keep warm
  2. If not breathing, stimulate and clear airway
  3. If still not breathing:
     - clamp and cut cord
     - clear airway if necessary
     - ventilate with bag-and-mask
     - shout for help

- **Assistant identified and ready to help at birth if needed**

**Completed by:** ________

---

This checklist is not intended to be comprehensive and should not replace the patient chart or partograph. Additions and modifications to fit local practice are encouraged. For more information on recommended use of the checklist, please refer to the “Safe Childbirth Checklist Manual” at: www.who.int/patientsafety.
### After Birth | SAFE CHILDBIRTH CHECKLIST - PILOT EDITION

#### 3. Soon after birth (within 1 hour)

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Is Mother bleeding abnormally?</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>□ No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>□ Yes: Shout for help</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Does Mother need to start:**

- **Antibiotics?**
  - □ No
  - □ Yes, given

- **Magnesium sulfate?**
  - □ No
  - □ Yes, given

**Does Baby need:**

- **Referral?**
  - □ No
  - □ Yes, given

- **Antibiotics?**
  - □ No
  - □ Yes, given

- **Special care/monitoring?**
  - □ No
  - □ Yes, organized

- **Antiretrovirals?**
  - □ No
  - □ Yes, organized

- **Started breastfeeding and skin-to-skin contact (if Mother and Baby wet)**
  - □ Yes

- **Confirm Mother/Companion will call for help if danger signs present**
  - □ Yes

<table>
<thead>
<tr>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Check your facility’s criteria.</td>
</tr>
<tr>
<td>Give Baby antibiotics if antibiotics given to Mother, or if Baby has any of:</td>
</tr>
<tr>
<td>• Respiratory rate &gt; 60/min or &lt; 30/min</td>
</tr>
<tr>
<td>• Chest in-drawing, grunting, or convulsions</td>
</tr>
<tr>
<td>• Poor movement on stimulation</td>
</tr>
<tr>
<td>• Baby’s temp &lt; 35°C (and not rising after warning), or Baby’s temp ≥ 38°C</td>
</tr>
</tbody>
</table>

**Is Baby feeding well?**

- □ No: Establish good breastfeeding practices and delay discharge
- □ Yes

**If Mother HIV positive, Mother and Baby have ARVs for 6 weeks?**

- □ Yes

- □ Discuss and offer family planning options to Mother

**Arrange follow-up and confirm Mother/Companion will seek help if danger signs are present after discharge**

**Completed by:**

#### 4. Before discharge

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Is Mother’s bleeding controlled?</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>□ No: Treat and delay discharge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>□ Yes</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Mother to start antibiotics?**

- □ No
- □ Yes: Give and delay discharge

**Baby to start antibiotics?**

- □ No
- □ Yes: Give antibiotics, delay discharge, give special care

**Is Baby feeding well?**

- □ No: Establish good breastfeeding practices and delay discharge
- □ Yes

**If Mother HIV positive, Mother and Baby have ARVs for 6 weeks?**

- □ Yes

- □ Discuss and offer family planning options to Mother

**Arrange follow-up and confirm Mother/Companion will seek help if danger signs are present after discharge**

**Completed by:**

### DANGER SIGNS

<table>
<thead>
<tr>
<th>Mother has any of:</th>
<th>Baby has any of:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Bleeding</td>
<td>• Fast/difficult breathing</td>
</tr>
<tr>
<td>• Severe abdominal pain</td>
<td>• Fever</td>
</tr>
<tr>
<td>• Severe headache or visual disturbance</td>
<td>• Unusually cold</td>
</tr>
<tr>
<td>• Breathing difficulty</td>
<td>• Stops feeding well</td>
</tr>
<tr>
<td>• Fever or chills</td>
<td>• Less activity than normal</td>
</tr>
<tr>
<td>• Difficulty emptying bladder</td>
<td>• Whole body becomes yellow</td>
</tr>
</tbody>
</table>
Annex 2

Collaboration members

African Region

Multi-site project, Africa
Millennium Villages Project, United States of America

Millennium Villages Project (MVP), a joint initiative of the Earth Institute at Columbia University and the Millennium Promise Alliance, a non-profit organization based in the United States of America, is coordinating the largest project currently associated with the Collaboration. The Checklist is being used in MVP-supported facilities across six different African countries: Uganda, Malawi, Senegal, Tanzania, Kenya and Rwanda. The project emphasizes the training of clinical health workers in proper use of the Checklist, as well as empowerment of clinical leaders. MVP’s research focuses on gathering qualitative feedback from end-users on usability, feasibility and acceptability of the Checklist through focus group discussions and semi-structured interviews.

Staff: Approximately 437 health care workers (e.g., midwives, nurses, skilled birth attendants, medical doctors)

Number of deliveries: Approximately 13,000 per annum

Bahir Dar, Amhara, Northern Ethiopia
University of Aberdeen

Felige Hiwot Referral Hospital (FHRH) is situated in Bahir Dar in the Amhara region of Northern Ethiopia and serves as a regional referral hospital to 7 million people from the surrounding area. The University of Aberdeen has recently entered into a partnership with Felige Hiwot Referral Hospital to undertake several quality improvement projects. As part of this work, the University is providing initial training and assistance with implementation of the Checklist. Their research explores the efficacy of this training, knowledge of the Checklist and barriers to its use.

Staff: 22 midwifery staff, 3 gynaecologists and 12 general practitioners

Number of deliveries: 6,000 per annum
Conakry, Guinea

Jhpiego, United States of America

Jhpiego, an international non-profit health organization affiliated with Johns Hopkins University (USA) is employing a mobile version of the Checklist in three referral hospitals in Conakry, Guinea: Donka University Teaching Hospital, Matam Medical and Surgical Center and Ratoma Medical and Surgical Center. The mobile Checklist collects data in real time, opening new and additional possibilities for using and harnessing the data that is generated by the application. The team is assessing the feasibility of using a mobile Checklist to improve care during childbirth and will gather feedback from providers on its usability and acceptability. This work is being undertaken in collaboration with the Ministry of Health in Guinea.

Kayes Region, Mali

USAID Applying Science to Strengthen and Improve Health Systems (ASSIST)

The USAID ASSIST programme is collaborating with the Ministry of Health in Mali to test use of the Checklist as a tool to improve the quality of maternal newborn services in Mali. Research is being conducted in two referral health centres in two different districts, and in 37 peripheral health centres in the Kayes region. The majority of deliveries occur in peripheral health centres, although those encountering complications are sent to the two referral centres.

Staff: 133 skilled providers (23 medical doctors, 15 midwives, 95 nurses) and 74 trained providers (matrons)

Number of deliveries: 4268 per annum

Port Harcourt, Rivers State, Nigeria

University of Port Harcourt Teaching Hospital

The University of Port Harcourt is using mixed methodology to determine the effectiveness of the Checklist in improving compliance with best practice, and to explore factors that will enable its sustainable use. Research is being undertaken at the university’s teaching hospital (UPTH), a 900-bed facility situated in Rivers State, Southern Nigeria.

Staff: 24 Consultant obstetricians, 50 resident doctors and 105 nurse-midwives

Number of deliveries: 2000–3000 per annum

Orogbum, Rivers State, Nigeria

Rivers State Primary Health Care Management Board

The Rivers State Primary Health Care Management Board (RSPHCMB) was established to promote and deliver the highest attainable level of primary health care services in Rivers State. The Board is undertaking research in two primary health centres to assess acceptability of the Checklist amongst health care workers, how it is used, and what factors may affect its successful implementation.

Staff (PHC Potts Johnson): 27 staff in total with 2 medical officers and 5 nurses/midwives
Staff (PHC Orogbum): 30 staff in total with 2 medical officers and 7 nurses/midwives.

**Number of deliveries**: 1000 per annum

**United Republic of Tanzania**

AMREF Health Africa

AMREF Health Africa are piloting the Checklist in five health facilities in the Shinyanga Region. Qualitative research is being undertaken in one referral centre, two district health facilities, one urban dispensary facility and one rural dispensary facility. The overall goal of the pilot process is to evaluate the usability, acceptability, and feasibility of the Checklist in Msalala and Ushetu.

**Number of deliveries**: Approximately 10 000 per annum

**Uganda**

Management Sciences for Health, USA

Management Sciences for Health (MSH), a global health non-profit organization based in the United States, is conducting research on implementation of the Checklist in multiple facilities in Kamwenge and Kyenjojo, two districts in Uganda, in collaboration with the Ugandan Ministry of Health. Their research covers the use, completeness and fidelity of the Checklist.

**Number of deliveries**: Approximately 10 000 per annum

**Region of the Americas**

**Buenos Aires, Argentina**

Hospital Aleman

The Hospital Aleman is an institution of the Deutsches Community of Buenos Aires, Argentina. The Neonatology Service and Obstetric Service are undertaking the project to assess how use of the Checklist may affect breast-feeding rates in the first hour after birth.

**Number of deliveries**: 1500 per annum

**Rio Grande do Sul, Brazil**

School of Nursing, Universidade Federal do Rio Grande do Sul

The University Hospital is a public, general and teaching hospital in Porto Alegre, Rio Grande do Sul, Brazil. The team are exploring the challenges of implementing the Checklist in a large scale obstetric centre.

**Number of deliveries**: 3567 per annum
**São Paulo, Brazil**

Conjunto Hospitalar do Mandaqui

Located in the north of São Paulo, Conjunto Hospitalar do Mandaqui is a public general hospital with a high-risk maternity unit. Their maternity team is investigating the acceptability and usability of the Checklist.

**Staff:** 30 obstetricians, 27 paediatricians, 162 nursing and allied staff

**Number of deliveries:** 2400 deliveries per annum

**Colombia**

Universidad Nacional De Colombia

The National University of Colombia is adapting the Checklist to be used across multiple institutions in Colombia. The team aims to employ three different strategies for training in use of the Checklist and to compare its effectiveness that way.

**Mexico**

The National Commission of Medical Arbitration (CONAMED)

The National Commission of Medical Arbitration (CONAMED) is an autonomous institution affiliated with the Ministry of Health in Mexico. It was created in 1996 with the purpose of facilitating arbitration and conflict resolution between patients and health professionals. They are testing use of the Checklist in three pilot hospitals (Hospital Materno Magdalena-Contreras, Hospital Médica Sur and CIMIGEN), and focusing on the assessment of acceptability and feasibility using qualitative methods.

**Lima, Peru**

Hospital National Dos de Mayo

Dos de Mayo National Hospital is a tertiary care referral hospital located in Lima, Peru. They are undertaking implementation analysis of compliance with the best practices included in the Checklist.

**Number of deliveries:** 3250 per annum

**Punta del Este, Uruguay**

Sanatorio Semm-Mautone

Sanatorio Semm-Mautone is a private, tertiary care institution in Punta del Este, Uruguay. Their Patent Safety Committee are researching the acceptability and usability of the Checklist in collaboration with the Department of Obstetrics and the Department of Paediatrics.

**Number of deliveries:** 700 per annum
Brazil, Mexico, Peru and Venezuela

Instituto Nácional de Salud Pública

The Instituto Nácional de Salud Pública (INSP) of Mexico, in collaboration with affiliated organizations from Brazil, Peru and Venezuela, are evaluating implementation and impact of the Checklist across 12 facilities in Latin America. They are designing an implementation strategy to facilitate use of the Checklist and minimize barriers to its use, and researching its effect on quality of care.

Number of deliveries, Brazil: 5790 per annum
Number of deliveries, Mexico: 15 949 per annum
Number of deliveries, Peru: 10 464 per annum
Number of deliveries, Venezuela: 25 125 per annum

South-East Asia Region

Dhaka, Bangladesh

Centre for Reproductive Health and International Centre for Diarrhoeal Disease Research

The Centre for Reproductive Health, part of the International Centre for Diarrhoeal Disease Research in Bangladesh, is working with Dhaka Medical College Hospital and Shaheed Suhrawardy Medical College Hospital in Dhaka to compare the usability, feasibility and acceptability of a paper-based versus an electronic version of the Checklist.

South-western Bangladesh

James P. Grant School of Public Health

A research team based at the James P. Grant School of Public Health (JPGSPH) of the BRAC Institute of Global Health (BIGH) are exploring mechanisms that may facilitate sustained adherence to best practices in childbirth. Their work is being undertaken in two district-level hospitals, Magura and Jhenaidah, situated in the south-western part of the country.

Number of deliveries: 1500 per annum

Rajasthan, India

Jhpiego

Jhpiego, an international non-profit health organization affiliated with Johns Hopkins University (USA), is using a quasi-experimental design to study effectiveness of the Checklist in improving providers’ practice. They are implementing the tool in 100 facilities in Rajasthan, India.

Staff: More than 900 providers
Number of deliveries: 10 000
Pondicherry, India
Pondicherry Institute

The Pondicherry Institute of Medical Sciences is a tertiary level perinatal centre that cares for routine and high-risk obstetric cases. The Institute is testing whether using the Checklist leads to improvements in the quality of birthing services.

**Number of deliveries:** 600 per annum

Banda Aceh and Yogyakarta, Indonesia
University of Göttingen, Germany

The University of Göttingen is using a mixed methods approach to assess use of the Checklist in Banda Aceh and Yogyakarta, Indonesia. The first part of their work is a randomized intervention to assess impact of the Checklist on several hospital indicators. The second part of their work is exploring applicability and feasibility of the Checklist through qualitative interviews.

Colombo, Sri Lanka
De Soysa Hospital for Women

De Soysa Hospital for Women is a major tertiary care maternity hospital in Colombo, Sri Lanka. The team are assessing the level of compliance with best practices, as well as the level of acceptance by health-care personnel and the challenges to implementation. The hospital-based, prospective observational study is set across De Soysa’s five obstetrics wards.

**Staff:** Eight obstetricians, 45 medical officers, 110 nursing staff and 55 midwives

**Number of deliveries:** 4000 per annum

European Region

Mondovi Piedmont, Italy
Azienda Sanitaria Locale Cn1 (ASL CN1)

The Italian Ministry of Health has recommended use of the Checklist. The team at ASL CN1 (the local health organization) are implementing the Checklist and are specifically interested in the training required, alongside the resources that may be required and potential constraints when first introducing the Checklist.

**Staff:** 30 doctors, 50 midwives

**Number of deliveries:** 2000 per annum

Tuscany, Italy
Clinical Risk Management and Patient Safety Center

The Clinical Risk Management and Patient Safety Center (CGRC) is implementing the Checklist across 10 hospitals in the Tuscany region. They have adapted the tool to the
Italian context with the help of ergonomic experts and multidisciplinary experts. The team is exploring compliance, acceptability, feasibility and usability of the Checklist.

Barcelona, Spain
Hospital del Mar-Parc de Salut Mar

Hospital del Mar-Parc de Salut Mar is located in Barcelona (Spain). They are introducing the Checklist over a 12-month period and are analysing compliance with best practices, correlating it with the rate of complications.

Staff: 19 doctors, 2 trainees, 2 midwives, 1 nurse, 1 assistant

Number of deliveries: 1588 per annum

Eastern Mediterranean Region

Cairo, Egypt
Ain Shams Faculty of Medicine

Ain Shams Faculty of Medicine’s Healthcare Quality Unit is undertaking an interventional follow-up study at the Ain Shams Maternity Hospital. The Unit is exploring effectiveness of the Checklist in facilitating compliance with best practices.

Number of deliveries: 13,966

Zgharta, Lebanon
Saydet Zgharta Hospital

Saydet Zgharta Hospital is a private non-profit hospital that cares for the northern communities of Lebanon, including Lebanese, Syrian and Palestinian refugees. This team is adapting the Checklist and exploring how effective the Checklist is in facilitating compliance with best practices.

Staff: 10 obstetricians, 5 midwives and 1 patient safety expert

Number of deliveries: 950 per annum

Mashhad, Islamic Republic of Iran
Mashhad University of Medical Sciences

The Research Center for Patient Safety, an affiliation of the Mashhad University of Medical Sciences, is running a project across three teaching referral hospitals: Ommonlbani, Ghaem and Imam Reza. The team are looking at compliance with best practices. Two of the hospitals are in the interventional arm and one is functioning as a control.

Staff: 99 nurses, 52 midwives, 8 paediatricians and 5 gynaecologists.

Number of deliveries: 7000 per annum.
Khyber Pakhtunkhwa, Pakistan
University of Göttingen, Germany

The University of Göttingen is working with the Muskoka-funded Reproductive, Maternal and Newborn Health Project implemented by Deutsche Gesellschaft für Internationale Zusammenarbeit on behalf of the German Federal Ministry for Economic Cooperation and Development. They are implementing the Checklist in Nowshera and Haripur and are studying its effectiveness in improving maternal and child health. More specifically, they are seeking to find out under which conditions the Checklist is most effective in order to improve its use and success.

Rawalpindi, Pakistan
Holy Family Hospital, Rawalpindi Medical College

The Holy Family Hospital is a tertiary care centre in northern Pakistan. The team are adapting the Checklist with some additions and exploring its ability to improve the compliance of health workers with best practices. They are also interested in factors that enable its sustained use and any barriers to its implementation.

Number of deliveries: 15,000 per annum

Khartoum, Sudan
Royal Care International Hospital

The Royal Care International Hospital is a tertiary care centre in Khartoum, Sudan. Their research focuses on assessing compliance with best practices and usability of the Checklist using qualitative techniques.

Staff: Three obstetrics and gynaecology consultants, 4 specialists, 5 residents, 5 midwives, 4 nurses and a large number of part-time staff.

Number of deliveries: 840 per annum

Khartoum, Sudan
Omdurman Maternity Hospital

Omdurman Maternity Hospital is in Khartoum, Sudan, and specializes in pregnancy, delivery and women's health. Their Patient Safety Department are investigating the adherence of providers to a set of essential practices, both pre-and post-introduction of the Checklist, and exploring the enablers, barriers and modifications required for implementation of the Checklist.

Number of deliveries: 35,255

Staff: 45 doctors and 60 midwives
Western Pacific Region

Pudong, Shanghai, China
Nursing School of the Second Military Medical University and Shanghai Pudong New Area People’s Hospital

The Nursing School of the Second Military Medical University and Shanghai Pudong New Area People’s Hospital, a secondary teaching hospital in Shanghai, are testing usability and acceptability of the Checklist in a Chinese setting. They endeavour to devise an effective way to train professionals to use it.

Staff: 13 doctors, 47 nurses

Number of deliveries: 3500 per annum

Manila, The Philippines
Medical City Hospital

The Medical City (TMC) is a tertiary care hospital in Pasig City, Manila. The team are monitoring compliance with best practices through use of the Checklist, as part of its continuous quality improvement efforts. They are specifically interested in comparing the Checklist with their own normal spontaneous delivery pathway.

Number of deliveries: 2374 per annum
Annex 3

Feedback on use of the Checklist collected through progress reports

Throughout the duration of the WHO Safe Childbirth Checklist Collaboration, members were encouraged to provide progress reports to keep WHO abreast of their work, and to share early findings with fellow collaborators. These reports helped WHO focus its support during implementation, but also provided unique insights into the perceived benefits of the Checklist, facilitating factors and challenges, which are presented below.

Perceived benefits of the Checklist

1. The Checklist prompted discussions about ensuring uniform equipment availability for a facility where multiparous women delivered in different areas than primiparous women.
   - “It was recorded that all delivery sets contained just one pair of scissors for use during childbirth. Therefore, if a mother requires an episiotomy, these same scissors are used for cutting the cord, as opposed to a sterile blade, as recommended. This prompted local consideration of adapting the delivery sets to contain a sterile razor blade for the purpose of appropriate cord care.” – Ethiopia

2. The Checklist encouraged broader changes in quality improvement practice
   - “Staff became much more engaged with hand hygiene practices and it became a frequent topic of discussion” – Ethiopia

3. The Checklist helped avoid human error
   - “I almost forgot to prepare the bag and mask for the baby the other day. Luckily the Checklist was there to remind me, and after delivery of a cyanotic baby, I was really thankful” – Sudan

Facilitating factors to using the Checklist

1. Checklist is simple and easy to use.
   - “The fact that the Checklist fits onto one page (front and back) helps minimize the sense of additional paperwork.” – Millennium Villages Project

2. Support of senior members is critical.
   - “Support of senior members of the labour ward (senior obstetricians and the head midwife) ensured that importance of the checklist was highlighted to
the entire staff, and feedback was given to both hospital management and clinicians, ensuring that appropriate discussion and modifications could be made where appropriate.” – Ethiopia

ii “[Those in-charge] play a key role in using the Checklist in maternity units. They need to be empowered to own use of Checklist” – Uganda

iii “…there’s a strong necessity to convince the leadership of the department, which is the intermediate between the executive and the clinical [staff], about use of the Checklist.” – Italy

3 Ongoing training and education is needed.

i “Once the interns had become familiar with the Checklist they were rotated into a different department, meaning that constant re-training and direction was required, and this had an impact on the number of Checklists completed. This highlights the requirement for on-going training and management of the Checklist project.” – Ethiopia

4 Ownership

i “To enable the modified Checklist to become a routine part of labour ward practice, it is important to identify a member of staff to take ownership of the Checklist to ensure its successful implementation.” – Ethiopia

5 Familiarity with the Checklist

i Staff were more likely to fill the Checklist out if they felt familiar and confident in its use.” – Ethiopia

ii “…use of flowcharts, educational materials and posters for ease of use.” – Peru

iii “Conducting educational sessions for training data collectors (midwives) before starting the programme and during its implementation.” – Iran

iv “The health workers are already familiar with the procedures and have all of the necessary equipment, supplies, and reference materials needed to carry out the Checklist tasks.” – MVP

Challenges to use

1 Resource availability limits full use of Checklist.

i Neonatal resuscitation equipment not always available, soap not always available – Ethiopia

ii Often requirements of the Checklist are below the standard of practice or are routinely used,, for example the essential supplies. This meant doctors were less likely to use the Checklist – China

2 Checklist is seen as extra work for insufficient staff

i “Staff were also engaged and interested in the Checklist, but due to the high flow of patients, staffing demands and various other factors, it may have appeared to be simply more paperwork, which would be time/consuming and distract from clinical duties” – Ethiopia
ii “[It was] considered that this Checklist meant additional work to fill in a form... [this changed] when they verified it was [the core tasks of the end-user]” – Peru

iii “Doctors ... said they are too busy to finish some other checklists required in their daily work. You know, Chinese doctors are quite busy. They always have to see about fifty patients in half day. They said they don’t want to have some more work burdens. Besides, some of the items are different with Chinese professional requirements.” – China

iv “A perception among some midwives and nurses that the SCC is additional paperwork or a data collection tool, since some of the established forms and registers already capture similar information.” – MVP

“Already high work load” – Sudan

3 Cost of SCC supply

i “Photocopying the Checklist forms is an added expense that can be difficult for under-funded health facilities in rural areas. There should be a strong system for supply chain management to address the stock outs of supplies immediately; if stock outs persist, midwives may become discouraged and have no choice but to provide lower quality care.” – Uganda

ii “While minor, the costs and logistical challenges associated with printing, distributing, storing, and disposing of Checklists causes reluctance among some health workers to use the Checklist for each maternity patient they see. Indeed, in some health facilities, it was discovered that the staff were using the SCC as a reference tool rather than as a Checklist to be completed for individual patients, which greatly reduces the potential efficacy of the tool... The Checklist will have to be sustained by the health facilities themselves, which may pose challenges if they do not see the added benefit.” – MVP

4 Multiple people are required to use the Checklist

i “We have noticed that in the filling of the Checklist there are several people involved and in different moments (eg.: midwives, obstetricians, nurses, neonatologists and pediatricians). We think that this situation could be a barrier for a 100% successful accomplishment.” – Argentina

5 “Lack of accountability” – Sudan

These challenges are similar to those identified through the surveys. Please refer to Table 5 for potential solutions suggested by implementation teams.
Annex 4
End-user survey

WHO Safe Childbirth Checklist Collaboration
Questionnaire to collect feedback from Checklist end-users

Thank you for participating in this survey – your experience using the Safe Childbirth Checklist (SCC) and responses to these questions will be invaluable in helping WHO and the Harvard T.H. Chan School of Public Health complete the final version of the Checklist and its implementation guide.

This questionnaire aims to explore your experience using the WHO Safe Childbirth Checklist. It will take you approximately 10 - 15 minutes to complete.

- Participation, although encouraged, is voluntary. You may opt out at any stage.
- All answers will be kept confidential and treated anonymously, however we will provide you with the opportunity to provide more feedback at the end of the survey.
- Please only complete one survey.

If you have any questions, please do not hesitate to contact us at bagherinejads@who.int.

General Information
1. Name (optional)

2. Email address

3. Name of health-care facility/organization

4. Please select your professional background.
   - Obstetrician/Gynaecologist
   - Midwife
   - Nurse
   - Medical doctor
   - Anaesthetic provider
   - Administrator
Public health
Community physician
Chief Medical Officer/Superintendent
Other ____________________________

5. How many years experience do you have attending births?
   - 1 year or less
   - 2 – 4 years
   - 5 – 7 years
   - 8 – 10 years
   - 10 years or more

6. On average, how many births do you attend each week?
   ______________________________________

Checklist use

7. Did you receive any information about the purpose of the Checklist?
   - Yes
   - No
   Please describe:

8. Did you receive any training or education about how to use the Checklist?
   - Yes
   - No
   Please describe:

9. Did you receive any supervision, support or coaching while using the Checklist?
   - Yes
   - No
   Please describe what you received, how often and how useful it was.

10. How did you find using the Checklist?
    - Very easy
    - Easy
    - Difficult
    - Very difficult
    - Not using it

11. How often do you use the Checklist?
    - Always
    - More than half of the time
    - About half the time
12. What percentage of total births did you intend to use the Checklist, but were not able to (since the time you introduced the Checklist)?

- Less than half of the time
- Never

13. Please describe three factors that contributed positively to use of the Checklist (please skip this question if you have not yet used the Checklist).

14. Challenges in use of the Checklist: Please briefly describe the three most significant challenges or barriers you have faced in using the Checklist, any approaches used to overcome these challenges/barriers, and the success in overcoming them.

**Challenge/barrier 1:**

- Technique(s) to address it:
- Success in overcoming it:
  - Very unsuccessful
  - Unsuccessful
  - Relatively successful
  - Highly successful

**Challenge/barrier 2:**

- Technique(s) to address it:
- Success in overcoming it:
  - Very unsuccessful
  - Unsuccessful
  - Relatively successful
  - Highly successful

**Challenge/barrier 3:**

- Technique(s) to address it:
- Success in overcoming it:
  - Very unsuccessful
  - Unsuccessful
15. Please indicate how willing each of the following professional disciplines were to using the Checklist.

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<th></th>
<th>Extremely willing</th>
<th>Willing</th>
<th>Neutral</th>
<th>Resistant</th>
<th>Very resistant</th>
<th>Don’t know</th>
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</table>

If other, please specify: ________________________________________________

16. Please indicate how willing you were to using the Checklist when the Checklist was first introduced to you.

☐ Extremely willing
☐ Willing
☐ Neutral
☐ Resistant
☐ Very resistant
☐ Not applicable
17. To what extent do you believe use of the Checklist has improved your practice around childbirth?
   - Very significantly
   - Significantly
   - Somewhat
   - Not at all

   Briefly describe how use of the Checklist helped you to improve your practice.

18. To what extent do you believe use of the Checklist has improved awareness of patient safety at your health-care facility?
   - Very significantly
   - Significantly
   - Somewhat
   - Not at all

19. To what extent do you believe use of the Checklist has improved communication and teamwork?
   - Very significantly
   - Significantly
   - Somewhat
   - Not at all

20. If you, a family member, or close friend were to give birth, would you want the WHO Safe Childbirth Checklist to be used?
   - Yes
   - No
   - Neutral

21. Would you like to see the WHO Safe Childbirth Checklist used at your health facility in the future?
   - Yes
   - No

22. Would you add or remove anything from the Checklist?
   - Yes
   - No

   Please describe:_________________________________________________________
   ____________________________________________________________
Other

23. Is there anything else you would like to comment on?
__________________________________________________________________________
__________________________________________________________________________

24. If required, would you agree to being contacted to schedule a follow-up call, to further discuss your experience using the Checklist?

- Yes
- No

Please provide your telephone number (If a follow-up call is required, we will confirm the date and time via email before the call).
__________________________________________________________________________

Thank you for your cooperation.

Please save the form and submit your responses by email to bagherinejads@who.int.
Annex 5
Implementation team survey

WHO Safe Childbirth Checklist Collaboration Questionnaire to collect feedback from the implementation team

Thank you for participating in this survey – your experience implementing the Safe Childbirth Checklist (SCC) and responses to these questions will be invaluable in helping the WHO and the Harvard T.H. Chan School of Public Health complete the final version of the Checklist and its implementation guide.

This questionnaire aims to better understand the context of your site, how the Checklist was introduced, implementation successes and challenges, strategies for overcoming barriers, and feedback on helpful implementation resources and tools. It will take you approximately 30 minutes to complete this questionnaire.

- Participation, although encouraged, is voluntary. You may opt out at any stage.
- All answers will be kept confidential and treated anonymously, however we will provide you with the opportunity to provide more feedback at the end of the questionnaire.
- If the Checklist was implemented by different teams across multiples sites (i.e. different facilities), one questionnaire should be completed by each team.

If you have any questions, please do not hesitate to contact us at bagherinejads@who.int.

General Information

1. Name
   
2. Email address
   
3. Name of your organization
   
4. Name of site where SCC has been implemented.

Country


5. Please select your professional background:
   - Obstetrician/Gynaecologist
   - Midwife
   - Nurse
   - Medical doctor
   - Anaesthetic provider
   - Administrator
   - Public health
   - Community physician
   - Chief Medical Officer/Superintendent
   - Other ________________________________

The Implementation Team
6. How many people are on your ‘Checklist Implementation Team’? This includes yourself as well as leaders, champions and key staff members involved in helping to implement or introduce the Checklist to your health facility.
   - 1
   - 2
   - 3
   - 4
   - >4

7. Who has been on your ‘Checklist implementation team’? Please check all that apply.
   - Obstetrician/Gynaecologist
   - Midwife
   - Nurse
   - Medical doctor
   - Anaesthetic provider
   - Administrator
   - Public health
   - Community physician
   - Chief Medical Officer/Superintendent
   - Other ________________________________

8. Please briefly describe your role in implementing the WHO Safe Childbirth Checklist.
   _________________________________________
   _________________________________________
   _________________________________________
9. How much support did the implementation team receive from senior leadership for this effort?
   - More than was needed
   - What was needed
   - Less than was needed
   - None provided

10. Has your facility/organization participated in any other project to improve the quality of care?
    - Yes
    - No
    Please briefly describe the project. .................................................................

Introducing The Checklist

11. Did end-users of the Checklist undergo a specific introduction or training on using the Checklist?
    - Yes
    - No
    Please describe how the training was conducted (presenters, topics covered, materials used).

12. Did you modify the Checklist?
    - Yes
    - No
    Please provide details on the changes made, and please share your modified Checklist as an attachment to this survey.

13. How did you find *introducing* the Checklist?
    - Very easy
    - Easy
    - Difficult
    - Very difficult
    - Have not yet introduced the Checklist
14. The level of financial resources (e.g. for printing, advertising, promotion) available to support Checklist introduction was:
   - More than was needed
   - What was needed
   - Less than was needed
   - None provided

15. The level of human resources (e.g. staff, time) available to support the Checklist’s introduction was:
   - More than was needed
   - What was needed
   - Less than was needed
   - None provided

16. Did you produce additional material or tools (e.g. poster, pocket leaflet, guides, etc.) to support use of the Checklist by end-users?
   - Yes
   - No
   Please describe them, and share them as an attachment to this survey.

Checklist Use

17. How did those using the Checklist in your facility find using it?
   - Very easy
   - Easy
   - Difficult
   - Very difficult
   - Not using it

18. To the best of your knowledge, how often is the Checklist now used in your healthcare facility?
   - Always
   - More than half of the time
   - About half the time
   - Less than half of the time
   - Never
19. Please describe three factors that contributed positively to use of the Checklist (please skip this question if the Checklist is not yet being used at your facility).

20. Implementation challenges: Please briefly describe the three most significant challenges or barriers your team faced in using the Checklist, the approaches used to overcome these challenges/barriers, and the success in overcoming them.

   **Challenge/barrier 1:**

   Technique(s) to address it:

   Success in overcoming it:
   - Very unsuccessful
   - Unsuccessful
   - Relatively successful
   - Highly successful

   **Challenge/barrier 2:**

   Technique(s) to address it:

   Success in overcoming it:
   - Very unsuccessful
   - Unsuccessful
   - Relatively successful
   - Highly successful

   **Challenge/barrier 3:**

   Technique(s) to address it:

   Success in overcoming it:
   - Very unsuccessful
   - Unsuccessful
   - Relatively successful
   - Highly successful
Technique(s) to address it:

Success in overcoming it:
- Very unsuccessful
- Unsuccessful
- Relatively successful
- Highly successful

21. Please indicate how willing each of the following professional disciplines were to using the Checklist.

<table>
<thead>
<tr>
<th></th>
<th>Extremely willing</th>
<th>Willing</th>
<th>Neutral</th>
<th>Resistant</th>
<th>Very resistant</th>
<th>Don’t know</th>
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<tbody>
<tr>
<td>Obstetrician / Gynaecologist</td>
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<td>Midwife</td>
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<td>Chief Medical Officer / Superintendant</td>
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<td>Other</td>
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</table>

If other, please specify: __________________________
22. To what extent did you observe any improvement in practice or any progress in the safety of childbirth when using the Checklist (please skip this question if the Checklist is not yet being used at your facility)?

- Very significantly
- Significantly
- Somewhat
- Not at all
- Not applicable

23. Which graph best describes your facility’s uptake of the Checklist from introduction to present day?

- A
- B
- C
- D

![Graphs A, B, C, D]

Graph A – 17% (5)
Graph B – 51% (15)
Graph C – 13% (4)
Graph D – 17% (5)

24. Would you add or remove anything from the Checklist?

- Yes
- No

Please describe: _____________________________________________________________

25. If implemented well, how successful do you think the Checklist could be in improving maternal and newborn care around the time of birth?

- Extremely successful
- Somewhat successful
- Not too successful
- Not at all

26. If you, a family member, or close friend were to give birth, would you want the WHO Safe Childbirth Checklist to be used?

- Yes
- No
- Neutral
27. Would you like to see the WHO Safe Childbirth Checklist used at your health facility in the future?
   ❑ Yes
   ❑ No
   ❑ Neutral

**Additional information about the implementation site**

28. Please describe your implementation site (select all that apply):
   ❑ Primary health-care facility/community health centre/health post
   ❑ Secondary level health-care facility (referral centre or district health-care facility)
   ❑ Tertiary health-care facility (regional or national referral center)
   ❑ Government
   ❑ Private for profit
   ❑ Non-governmental organization, not for profit
   ❑ Mission/faith-based
   ❑ Rural
   ❑ Urban
   ❑ Other ____________________________________________

29. On average, how many births take place at your implementation site every year?

30. How many staff participate in labour and childbirth services?

31. Is there anything else you would like to comment on?

32. Would you agree to being contacted to schedule a follow-up call, to further discuss your experience using the SCC?
   ❑ Yes
   ❑ No

   Please provide your telephone number (If a follow-up call is required, we will confirm the date and time via email before the call).

Thank you for your cooperation.

Please save the form and submit your responses and attachments by email to bagherinejads@who.int
For more information, please contact:
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Department of Service Delivery and Safety
World Health Organization
20 Avenue Appia
CH – 1211 Geneva 27
Switzerland
E: mail: patientsafety@who.int
Website: www.who.int/patientsafety