Changing patterns in maternal & infant health and well-being 2003-13
WIDE Draft Discussion Brief No.6 of 10

**Key messages from the WIDE evidence**

- **The pregnancy/infancy cycle** lasts roughly 15 months. During this period the mother-infant couple faces a number of risks which can lead to death or long-term health consequences. Comparison of the WIDE data for 2003 and 2010/13 shows considerable improvements in the health and well-being of mothers and infants in rural communities which can be related to a range of state-led modernisation processes.

- Nevertheless in 2010/13 the mother-infant couple continued to face many risks, particularly those living in remote and/or drought-prone areas, poor women, women living in households with no adult male defender, and adolescents. Other risk factors included seasonality effects, amounts & quality of drinking water, and women’s workloads.

- **Risks relating to events before pregnancy:** The twenty WIDE communities had responded to interventions to increase contraceptive use, reduce female circumcision, rape and forced abduction, and set a minimum age of marriage, with a mix of compliance, reluctance and refusal depending on local cultural circumstances.

- **Pregnancy before marriage** was ‘taboo’ in some communities and associated with customary abortions. No community implemented the minimum marriage age (18) law.
  
  ➢ Under-mining deep-rooted customary beliefs requires a judicious mix of persistent persuasion and threat of punishment, backed up by implementation of the law. Over-use of threats drives practices underground.

- **Sexually active unmarried girls under 18** faced a set of problems involving poor access to contraception, consequent unwanted pregnancies, and customary abortions.
  
  ➢ Full institutionalisation and effective implementation of nation-wide adolescent reproductive services would reduce unwanted pregnancies, customary abortions and marriage under 18.

- **Pregnancy:** Health Extension Workers were giving women advice on good diets, avoiding hard work, taking rest and hygiene which many women were unable or unwilling to follow. The 2014 mini EDHS estimated that 54% of rural women received some Ante-Natal-Care.

- In the WIDE communities supply barriers to getting the necessary ANC tests included lack of instruments, distance to Health Centres and rude service. There was no demand from many women, particularly those who were poor and/or remote. Possible actions include:
  
  ➢ ANC test instruments and training for all HEWs to bring services closer to clients.
  ➢ Coverage of facility-related and transport costs for poor women.
• **Delivery:** In 2014 91% of rural women delivered their babies without skilled assistance (mini EDHS).

• In the WIDE communities the big **supply constraints** on skilled delivery were **distance** to Health Centres along **poor internal roads**, inadequate **staff** and **drugs**, rare **ambulance** service, and **costs** of hospital service and transport. **Barriers to demand** included perceived **lack of need**, especially if ANC monitoring showed no problems, taboos about **male staff**, and the **cultural unacceptability** of being out in public six hours after birth.
  
  ➢ **Moving to a fully modernised delivery system will be a slow process.** Investment in health facilities, staff and internal roads will improve supply, and sensitivity to women’s **cultural beliefs** and **choices** could increase demand. But in the meantime...

• **Inadequate supply, remoteness, poverty,** and personal choice will **prevent** many pregnant women from **delivering at Health Centres and hospitals during GTPII**. For these women:
  
  ➢ An **out-reach service** including support for **safe & clean delivery at home** could:
    - improve the functioning of the **referral system** for pregnant women at risk;
    - re-instate **deliveries** in upgraded **Health Posts** by HEWs with diplomas (GTPII);
    - select suitable women from **Health Development Armies** for regular training in safe and clean delivery and basic emergency procedures;
    - use **Health Development Armies** to educate **all women likely to assist with deliveries** in clean and safe practices and simple emergency procedures; this could be facilitated by the use of **Information and Communication Technology**.
  
  ➢ **Non-grid electricity** – solar & wind power & micro-hydels – could power **mobile phone apps** and allow **skyping** to a **skilled delivery advisory service** in times of emergency.

• **Service access, poverty and remoteness:** Many poorer women cannot afford the costs of using maternity services and accessing them can be difficult for many other women.
  
  ➢ **The state should take full responsibility** for the health and well-being of all pregnant women and infants. **Institutionalised maternity rights** for women could include:
    - **ANC & Post-Natal-Care** as **near home as possible**; an advisory period of maternity leave.
    - **Free** skilled delivery or obstetric care for all **identified at risk during ANC**, or suffering an **emergency during labour**.
    - **Male education** about pregnant and lactating women’s **needs** related to diet, drinking water, workloads, lifting heavy objects, rest, ANC and PNC.

• **Drought:** Ten WIDE communities suffered severe droughts in two or more years between 2003 and 2011. All had received PSNP support and/or Emergency Food Aid from around 2005 but there were **still human deaths in two communities in 2008 and 2010**.
  
  ➢ During droughts **special nutrition programmes** for pregnant and breast-feeding mothers and **emergency baby milk** in case of breast-feeding failure are vital.
Introduction

The pregnancy/infancy cycle lasts roughly fifteen months (450 days): 9 months of pregnancy, delivery and 6 months of (ideally breast-fed) infancy. During this period the mother-baby couple faces a number of shared and separate risks.

- What happens to an infant in the womb, during delivery, and in the first six months of life can have long-term physical and psychological consequences.
- What happens to a woman’s body and mind as she goes through pregnancy, delivery, and the first weeks and months of life with a highly dependent infant can have long-term physical and/or psychological consequences for herself, for her relationship with the child, and for her family.

The extent to which mothers can choose to become pregnant has implications for the resilience with which they move into the process. Important pre-pregnancy events include female circumcision, use of contraception, rape, forced abduction, and age of sexual initiation which may be related to age of marriage.

The brief uses qualitative data made in 2003 and 2010 to:

- Identify causes of improvement in maternal and infant health and well-being between 2003 and 2013.
- Describe differences in overall levels of risk for child-bearing women among and within the twenty WIDE communities.
- Describe WIDE3 findings on five risk factors which were important throughout the 450 days of the cycle.
- Describe WIDE3 findings on risk factors specific to four stages: before pregnancy, pregnancy, delivery, and the first six months of the infant’s life.

Causes of improvements in maternal and infant health and well-being 2003-2013

Data made in WIDE communities in 2003 and 2010-13 confirmed official statistics indicating that there had been huge overall improvements in the health and well-being of mothers and infants in rural communities, particularly since 2005. These improvements resulted from interactions among a range of ongoing modernisation processes related to government interventions across key sectors:

- Increasing wealth and incomes related to agricultural modernisation and growing non-farm sectors driven by a mix of government interventions and rural entrepreneurship.
- Government and community working together to modernise rural infrastructures by improving internal roads and access to the outside world, and building Health Posts, schools, and kebele offices.
- Rapidly improving communications, expanding education, thickening urban links, and government awareness-raising programmes bringing modern ideas to rural areas which were slowly changing community practices.
- Improvements in the status of women related to the government’s legislation on women’s rights and other programmes to reduce gender inequality, the expansion of education, access to contraception leading to reduced fertility rates, and greater participation in the cash economy.
Government, with some donor funding, providing the **Productive Safety Net Programme and Emergency Food Aid** to communities suffering from inadequate agricultural production and/or drought.

Government, with donor funding, NGO participation and community contributions of cash and labour, increasing **access to safe water**.

The efforts of thousands of **Health Extension Workers** to improve hygiene and environmental sanitation in rural communities, prevent and control local diseases, and provide health education and family health services.

Increasing access to **modern curative and reproductive health services** provided by Government, private clinics and non-profit organisations.

### Differences in maternal and infant health and well-being 2013

There were **differences among the WIDE communities** in wealth, food security, remoteness, settlement patterns, and access to Government services which affected **levels of risk** related to pregnancy, delivery and the infant’s first six months.

- These were greater in **poorer drought-prone communities** and **remoter communities**.

There were also differences **within** the communities:

- Risks were higher in **remote areas within communities**;
- And for **poor women**, women in households with no adult male defender, women falling pregnant outside marriage, and **domestic servants**.

### Some issues important throughout the 450 days in 2013

**Remoteness related to internal and external roads and urban proximity**

Use of **mother and infant services** partly depended on **ease of access** from homesteads to Health Post, Health Centres and hospitals, and conversely the ease with which Health Extension Workers and health volunteers could make home visits. **All internal roads in the twenty communities were dryseason only; during rains vehicles could not enter and walking was difficult**. In dry seasons in two communities vehicular access to some parts was possible, and in seven improvements had increased vehicular access and ease of walking to some parts. **The remaining eleven had few or poorly constructed roads hampering general access or access to remoter parts even in dry seasons**.

**Poverty**

**Poor pregnant women and mothers** were more at risk of **poor diets** and **heavy and time-consuming work**, with consequent effects on the health and wellbeing of their developing foetuses and infants in need of breast-feeding. They were **less likely to use ante-natal check-up services** and, even if pregnancy complications were identified and **modern delivery interventions advised**, found it hard to **afford the costs** of transport to and from the Health Centre or hospital and charges for services, food and/or drugs when there.

- The poorest women will be unable to use government maternity services without financial support.
Drought

The 2003 WIDE research recorded in some detail the devastating effects of drought on pregnant women and their foetuses, and mothers trying to breastfeed during the infant’s early months. They included maternal and infant deaths, physical and mental harm to mothers with longer-term consequences, and infant malnutrition with likely consequences for future physical and mental development.

Between 2003 and 2011 ten of the WIDE communities suffered severe droughts in two or more years. All benefited from the Productive Safety Net Programme (8 sites) and/or Emergency Food Aid from around 2005 but human deaths were still reported from two communities in SNNP (2008 and 2010) and one in East Tigray (2008).

- During droughts special nutrition programmes for pregnant and breast-feeding mothers and emergency baby milk in case of breast-feeding failure are vital.

Seasonality effects

In 2003 respondents were asked to describe a good time of the year to give birth. This varied by location and livelihood system. Common factors were: availability of food and cash; availability of water; temperature neither too hot nor too cold; disease prevalence, especially malaria; and the timing of women’s agricultural work.

By 2010-13 economic growth meant that communities were better-off and irrigation (13 communities) had reduced the seasonality of cash availability, although it had introduced agricultural work for women in new seasons. Access to drinking water in many sites had improved and, where preventive actions had been taken, and there was access to drugs, the problem of malaria had reduced.

Safe water

Though there had been improvements in access to safe water in most communities werea programmes were still beset with problems in 2013:

- In three communities all drinking water was unsafe and in five with some protected water points most people got drinking water from rivers, streams, ponds, and/or unprotected springs.
- In seven communities there was a mix of safe water points and unsafe water; in two there was rationing of the safe water.
- In five communities everyone had access to safe water although in one those who could not afford it used the river. Most communities with good access had been helped by NGOs.
- Not all waterpoints were operational and problems getting spare parts and plumbers were common.

Women’s work

The work a woman did depended on the size and wealth of the household and the season of the year. Potential activities included household management, housework, childcare, food preparation, marketing, providing water and wood, working on household fields, agricultural daily labour, animal management, non-farm activities, PSNP work (in some communities) and social networking.
In the first trimester pregnant women are prone to fatigue, and they should not carry heavy loads throughout the pregnancy, particularly in the later months. But given work demands many women could not follow health extension advice on resting and not lifting heavy objects.

Many men in local communities were unaware of the maternity risks associated with heavy and/or prolonged work. This affected women not only as wives but also as community members.

- For example, in one community three women reportedly suffered miscarriages as a result of carrying heavy loads during community work.
- In most PSNP communities there were no official rules preventing pregnant and lactating women from participating in heavy work associated with Public Works.

The health extension programme should include training for men on maternity risks associated with inappropriate work and pregnant and lactating women should be excused from community-organised physical work.

**Pre-pregnancy issues**

**Fertility and contraception**

The EHDS estimated that 38.4% of rural married women used contraceptives in 2014. The WIDE3 evidence suggests some diversity among different kinds of community:

- In five communities contraceptive use was relatively low. Three were remote (with different religions); in the others there was resistance from devout Muslims. Resistance from husbands and unreliable pill supplies at the HP (in 2010) were two reasons women gave for less use.
- There had been notable change in use in six communities. Reasons were better care for fewer children and ‘thinking economically’. There was still opposition from some men in four of the sites but the recent introduction of injections meant that women could use contraception secretly.
- In the remaining nine sites 50% or more used contraception.
- In some communities near towns teenagers could easily get supplies and in one remote community they could get them at the Health Post. Taboos against pre-marital sex made it harder for teenagers in other communities.

**Female circumcision**

WIDE3 data showed considerable variation in female circumcision across the communities:

- In four communities female circumcision was not practised at all.
- In a fifth it had ‘virtually stopped’.
- In four communities the custom was to circumcise at seven days old. In one remote site the ban was not accepted or enforced; in the three where it was enforced the practice had reduced though it was still done secretly by some, sometimes ‘not at the right time’.
- In three communities the norm had been to circumcise just before a customary marriage.
  - there was enforcement and reduction in two Arssi communities boosted by declines in customary marriage and increases in voluntary marriage.
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- In the Gamo Gofa site the age of circumcision had fallen, the community opposed the ban, and there was no enforcement.

- In eight communities circumcision took place shortly before girls were deemed ready for sexual activities.
  - In two the ban was contested and not enforced;
  - In two the ban was not enforced but the practice was reducing anyway;
  - In one awareness and fear of punishment had reduced the practice;
  - In three, where female circumcision had been an important rite of passage, strong enforcement had led to the practice going underground, so it was difficult to establish the facts.

Female age of marriage and sexual initiation

There was a general belief that it was acceptable for a girl who was sexually mature and potentially sexually active to get married. A minimum marriage age of 18 was thought to be too low since sexual maturity could be reached by 16 or so; better diets were said to be reducing the age. Parents were worried about potential pre-marital pregnancies.

Reasons why under 18s got married included personal choice, lack of success at school or because they were unable to afford secondary school, to escape onerous domestic responsibilities at home or an unpleasant stepmother. Some rich girls were ‘married off’ by parents.

There were cases of the Women’s Affair office stopping underage marriage of girls in education, often on the grounds that the girl wanted to continue her education rather than that she was underage.

- In the Tigray and Amhara communities parents who wanted their daughters to marry young lied about their age. In one Tigray wereda fines of 800 birr and 6 years’ imprisonment for the girls’ parents were threatened. In two Amhara sites nothing was done, and in two other sites while girls were sent for age examinations under-18 marriages were still taking place.

- Very early marriage was not customary in the Oromo and Southern agriculturalist sites and there was no implementation of the law. Increasing education, local economic participation, and urban and international migration were leading many young women to postpone marriage.

- In the two pastoralist sites girls of 12 were considered mature enough to marry.

Rape and forced abduction resulting in pregnancy

Rape and forced abduction had reduced everywhere, but there were variations in their incidence across the sites:

- Forced abduction reportedly no longer existed in four communities and was not considered a problem in one of the pastoralist weredas.

- In the Kembata site where an NGO took cases to court a recent sentence of 15 years imprisonment had reportedly contributed to the elimination of abduction.

- Girls were still at (reduced) risk in one Tigray and three Amhara sites.

- In many Oromiya areas forced abduction had been a customary way to get married.
without paying bridewealth; in all the sites ‘voluntary abduction’ with the girl’s consent had increased and forced abduction declined.

- Government action had reduced forced abduction in two Southern communities; it was reduced but still a problem in another.
- In four communities rape was still a problem; including of married women in one community.
- In the other communities rape was said to be less common due to fear of punishment.
- Poor and vulnerable women were most at risk and could not get justice.

Government interventions

Under-mining deep-rooted customary beliefs requires a judicious mix of persistent persuasion and threat of punishment, backed up by implementation of the law. Over-use of threats drives practices underground.

Pregnancy issues

Pregnancy outside marriage

There was variation across the communities in attitudes to pregnancy outside marriage.

- It was not asked about or mentioned in 7 communities.
- In four of the remaining communities, all near towns, unmarried mothers could stay in the community with their babies.
- In six communities pregnancy outside marriage was ‘taboo’ and girls aborted (usually ‘customarily’), left the community or abandoned the baby to die; in one community using contraceptives before marriage was shameful.
- In the Gedeo community pre-marital sex was rare; if a girl got pregnant she aborted, left or got married.
- In the Tsemay pastoralist site pre-marital sex was culturally approved; however, girls who got pregnant went for customary abortions because if the child was born it would be mingi and could be killed, and the girl would be stigmatised.

Abortions

Again there was considerable variation among the communities:

- In four communities modern abortions were said to be available and there was no mention of customary abortions (which does not mean they did not occur).
- The four Amhara communities and three others reported occasional use of modern abortions by those who could afford it, alongside customary abortions.
- In five communities there were customary abortions, but no mention of modern ones.
- In the Tsemay pastoralist site modern abortion was believed to be illegal.
- In three communities abortion was rare for different reasons: due to contraception; ‘very taboo’; and rarely practised since large families were desirable.
- Unmarried girls usually visited traditional practitioners or used traditional herbs or overdoses of drugs such as ampicillin. There were cases of infections and deaths. In one
community some abortions were disguised from husbands as miscarriages.

Sexually active unmarried girls under 18 faced a set of problems involving poor access to contraception, consequent unwanted pregnancies, and customary abortions.

- **Full institutionalisation and effective implementation** of nation-wide adolescent reproductive services would reduce unwanted pregnancies, customary abortions and marriage under 18.

**Being pregnant**

Many problems related to being pregnant were raised by women interviewed in 2003.

- They included pain, sickness, fatigue, inappropriate work activities, anxiety, and pregnancy-related illnesses.
- **Poor diets during pregnancy** were problematic for both mothers and their infants.
  - Pregnant women suffered extra pain, psychological problems, vulnerability, anaemia, exhaustion and inability to function, delivery problems, long-term physical damage and death.
  - Consequences for foetuses on delivery included: underweight and sickness, inability to feed and develop properly, vulnerability to disease, mental retardation, skin problems, crying, and death.

**Ante-natal care**

The 2014 EHDS estimated that 35% of rural women received some ANC from a skilled provider and 19% from an HEW. There were no direct questions on ANC in WIDE3 and it is difficult to establish patterns given the government push to increase use of ANC between 2010 and 2013 and the fact that the communities researched in 2013 were richer.

By the end of 2011 HEWs generally were advising on good diets, avoiding hard work, taking rest, eating fresh food, and environmental and personal hygiene. Iodine, iron and immunisation were mentioned. One HEW had no stethoscope, blood pressure instrument or scales so referred women to the Health Centre though some were reluctant. Some high figures provided by HEWs and wereda officials, who were under pressure to meet targets, did not match what community members said.

In the 2013 research in six richer communities the limited information we have shows that ANC was variously provided at Health Centres, Health Posts, and through home visits, though what the care consisted of is not known. Generally there was lack of agreement on what the Health Development Army (HDA) was.

In the WIDE communities supply barriers to getting the necessary ANC tests included lack of instruments, distance to Health Centres and rude service. There was no demand from many women, particularly those who were poor and/or remote. Possible actions include:

- **ANC test instruments and training** for all HEWs to bring services closer to clients
- **Coverage** of facility-related and transport costs for poor women
Delivery issues

Perinatal deaths

Women interviewed in 2003 said that babies were born dead as a result of physical stress (pregnant woman falling over, carrying heavy things, being beaten by husband, or having heavy sexual intercourse), malnutrition, illness during pregnancy, inadequate antenatal care, use of medical drugs or harmful substances during pregnancy, damage resulting from previous deliveries or abortions, delivery problems, prematurity, hereditary factors, God's will, witchcraft, and various superstitions. There is no data about infant deaths in WIDE3.

The 2011 EDHS indicated that perinatal death rates (stillbirths+deaths in the first 7 days) over the previous 5 years were similar in rural and urban areas, being 46/1000 pregnancies of seven or more months duration. In 2005 the rural perinatal death rate was less being 37/1000 pregnancies of seven or more months duration.

Neonatal mortality rates (first month of life, rural+urban) in the previous five years had not changed much between 2005 and 2011 (from 39/1000 to 37/1000). In 2014 WHO estimated that prematurity (37%), infection (28%) and birth asphyxia (24%) were the most common cause of death in neonates. The proportion of neonatal deaths due to malaria, measles, HIV, diarrhoea, and pneumonia had declined since 2005.

Maternal deaths

There is no information on maternal deaths in the WIDE3 data apart from a few anecdotes. The EDHS 2011 found that maternal mortality rate for the 7 years preceding 2011 was 676 maternal deaths per 100,000 live births (EDHS 2011); one estimation for the rate in 2013 was 497 per 100,000 live births (Lancet 2014). Abortion, hypertension in pregnancy, haemorrhage, and sepsis ‘are among the causes of maternal deaths indicating the interventions to address them require institutional care’ (HSTP 2015-2019: 9).

Place and type of delivery

EDHS data showed a rapid increase in deliveries in rural health facilities from 4.1% in 2011 to 10.3% 2014. Delivery with help from skilled professionals increased from 4% to 9.1%. Most of these will have been rich women in communities close to towns: ‘the increase in percentage of deliveries attended by skilled health personnel has been achieved mainly through improvements among the rich and urban groups’ (HSTP 2015-19: 57). The obverse statistic is that in 2014 90.9% of rural women delivered their babies without skilled assistance; most of these were helped by family members, neighbours or Traditional Birth Attendants; 5.7% delivered their babies themselves.

We do not have good WIDE 3 evidence on delivery. In the richer sites researched in 2013 there were signs that government policy that all deliveries should take place in Health Centres (or hospitals) was starting to be implemented: delivery-friendly environment in one Health Centre, ambulances/cultural ambulances in some, HEW advice to deliver at the Health Centre, threats to Traditional Birth Attendants who helped at home deliveries. However there were supply constraints on skilled delivery, including distance to Health Centres along poor internal roads, inadequate staff and drugs, rare ambulance service, and costs of hospital service and transport.

Also, even in the richer and more connected communities researched in 2013, many women were
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reluctant to deliver in the Health centre. Some reasons given were that Health Centres were of poor quality and/or had insufficient or male staff, transport and drug costs, ambulances rarely/never came when called and would not take you home after delivery, it was culturally unacceptable to be out in public six hours after giving birth, and there was no need if ANC monitoring showed no problems.

- Moving to a fully modernised delivery system will be a slow process.
- Continuing investment in health facilities, staff and internal roads will improve skilled delivery supply while sensitivity to women’s cultural beliefs and choices in service delivery could increase demand. But in the meantime...

Inadequate supply, remoteness, poverty and personal choice will prevent many pregnant women from delivering at Health Centres and hospitals during GTPII. For these women...

- An out-reach service including support for safe & clean delivery at home could:
  - improve the functioning of the referral system for pregnant women at risk;
  - re-instate deliveries in upgraded Health Posts by HEWs with diplomas (GTPII);
  - select suitable women from Health Development Armies for regular training in safe and clean delivery and basic emergency procedures;
  - use Health Development Armies to educate all women likely to assist with deliveries in clean and safe practices and simple emergency procedures; this could be facilitated by the use of Information and Communication Technology.

- Non-grid electricity – solar and wind power and micro-hydel – could be used to power mobile phone apps, for example on safe delivery, and allow skyping to a skilled delivery advisory service in times of emergency.

Post-natal issues

Post-natal care

The WIDE3 communities variously described provision of vitamin A, vaccinations, nutritious food for lactating mothers, and teaching about not working too soon after delivery, sole breast-feeding for 6 months and mother’s nutrition, infant hygiene, better clothes, taking infants for health treatment, and no discrimination between boys and girls. Awareness of what mothers ought to do in these respects was widespread thanks to the efforts of Health Extension Workers. However, not all mothers practised what they had learned: some were too busy, some reluctant, and some too poor. In two sites (and maybe more) HEWs said there were house-to-house visits to identify malnourished children. In Harresaw women had 10 months leave from PSNP after delivery.

Infant illnesses

In 2003 the most frequently mentioned infant illnesses were diarrhoea, vomiting, respiratory illnesses, malnutrition and malaria. Incidence of all these is likely to have been reduced as a result of the increase in numbers using safe water, improved stoves and kitchens, economic growth, food aid, and the malaria prevention and treatment initiatives. There is no direct WIDE3 data about infant illnesses. There was evidence that those who could afford it, and were within relatively easy reach of a Health Centre, were more likely to take a sick infant for treatment than in the past.
Service access

Many poorer women cannot afford the costs of using maternity services and accessing them is difficult for all women living in remote areas. Other women face different access barriers, such as lack of support from husbands.

➢ The state should take full responsibility for the health and well-being of all pregnant women and infants. Institutionalised maternity rights for women could include:

  – ANC & Post-Natal-Care as near home as possible; an advisory period of maternity leave.
  – Free skilled delivery or obstetric care for all identified at risk during ANC, or suffering an emergency during labour.
  – Male education about pregnant and lactating women’s needs related to diet, drinking water, workloads, lifting heavy objects, rest, ANC and PNC.

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2 See for example http://www.maternity.dk/en/The%20Safe%20Delivery%20App which was piloted in Ethiopia.