Maternal, Newborn, and Child Health Workflows for mHero

Antenatal and Postpartum Care

Strong antenatal and postpartum care can lead to better health outcomes for mothers and newborns.

In developing countries, the maternal mortality rate is 239 deaths per 100,000 live births as compared with 12 deaths per 100,000 in developed countriesi. Common causes of maternal mortality include pre-existing conditions worsened through pregnancy, severe bleeding (usually after child birth), high blood pressure during pregnancy, complications from delivery, and unsafe abortioni,vi. Some of the main causes of newborn mortality include prematurity, low birth weight, infections, asphyxia, and birth traumaii. With proper antenatal and care after birth, many of these deaths can be preventedi. However, pregnant women face many barriers to obtaining antenatal care including low numbers of skilled health workers, poverty, distance to health facilities, lack of information, inadequate services, and cultural practicesi. Supporting the health worker to provide both routine and emergency care during and after pregnancy can reduce both maternal and neonatal mortality.

**Antenatal Care.** The World Health Organization recommends that pregnant women have a minimum of four antenatal care visits during pregnancy. These visits can be used to prevent, identify, and treat health issues that arise during pregnancy to increase chances of healthy outcomes for both mother and babyi,v.

**Postpartum Care.** The World Health Organization recommends postnatal contact by health workers with mothers and newborns within 24 hours of birth, on day 3, between days 7-14, and six weeks after birthiii. During these contacts, the health worker should assess both the mother and newborn for any danger signs or issues and refer for further care if needediii.

The following two workflows can be adapted and used by Maternal and Child Health Departments in Ministries of Health to learn more about the antenatal and postpartum care provided by health workers to clients.

To see the Antenatal Care Workflow, [click here](#AntenatalCareWorkflow).

To see the Postpartum Care Workflow, [click here](#PostpartumCareWorkflow).

ChiIdhood Health

The World Health Organization (WHO) recommends the Integrated Management of Childhood Illness (IMCI) strategy for preventing and treating childhood illness through emphasizing treatment of multiple conditions and prevention through immunization and improved nutritionxvii.

**Immunization.** In 1947, the 27th World Health Assembly established the Expanded Programme on Immunization (EPI) with the goal of ensuring that all children were protected from the following six diseases using vaccines: tuberculosis (BCG), diphtheria, tetanus, pertussis (DTP vaccine), measles, and poliomyeitisvii. Since then, many countries have included immunization as large part of their of their public health programs and have added hepatitis B and haemaphilus influenzae tybe b to their immunization schedulesix. Many parts of the health system are involved with the provision of routine vaccinations for children including health workers, supply chain managers, and facility managersviii. In order to make sure that children receive vaccines on time, it is important that health workers have knowledge of which vaccines children need.

**Nutrition.** Malnutrition is a serious problem among children that can lead to devastating health outcomes that can affect them for the rest of their lives including stunted physical and cognitive growthxi. Malnutrition can be prevented through diverse food sources, deworming, access to clean water, and breastfeedingxii, xiii. Malnutrition can take several forms including micronutrient deficiency and acute malnutrition. Both forms of malnutrition have different treatments, some of which can be administered by health workers without the child having to leave the community. With proper knowledge and supplies, health workers can work to prevent malnutrition.

The following two workflows can be adapted and used by Maternal and Child Health Departments in Ministries of Health to test health worker knowledge about childhood immunizations and learn more nutritional services provided by health workers to clients.

To see the Immunization Workflow, [click here](#ImmunizationWorkflow).

To see the Nutrition Workflow, [click here](#NutritionWorkflow).

**Antenatal Care Workflow:**

**Q1:** This is the MOH mHero team. Are you currently providing antenatal care services at your health facility **[or in your community if this is sent to a CHW]**? Please answer Yes or No. All SMS responses are free.

**If Yes: Skip to Q3.**

**If No: Skip to Q2.**

**Q2: [first message]** What is the main reason why you are not providing antenatal care (ANC) services? Please use the response choices in the next message. **[second message]** A.My facility does not have enough ANC training, B.Our clients do not ask for ANC, C.This is not my job

**All responses:** Thank you for your time. The MOH will be analyzing this information and working with stakeholders to provide better support ANC services. [End Flow]

**Q3:** We would like to gather information to help improve antenatal care (ANC) services. Can you answer a few questions? Please answer Yes or No.

**If Yes:** Skip to Q4.

 **If No:** Thank you for your time. [End Flow]

**Q4:** Do most women at your health facility receive the recommended 4 ANC visits prior to delivery? Please answer Yes or No.

 **If Yes:** Skip to Q7.

 **If No:** Skip to Q5.

**Q5:**  On average, how many ANC visits do women receive prior to delivery?

 **All responses:** Continue to Q6.

**Q6:** What do you think are some reasons why women aren’t receiving the recommended number of ANC visits?

 **All responses:** Continue to Q7.

**Q7:** Do you feel confident that you can identify warning signs during pregnancy? Please answer yes or no.

 **If Yes:** skip to Q9

 **If No:** skip to Q8

**Q8:** What are some reasons you do not feel confident identifying warning signs during pregnancy?

 **All responses:** skip to Q9

**Q9:** Do you know where to refer pregnant women for further care if you sense complications with the pregnancy? Please answer Yes or No.

 **If Yes:** skip to Q10

 **If No:** skip to Q11

**Q10:** Are women who are referred for further care able to reach the next facility on time? Please answer Yes or No.

 **All responses:** skip to Q11

**Q11:** Do you provide tetanus vaccination to most pregnant women? Please answer Yes or No.

 **If Yes:** skip to Q13

 **If No:** skip to Q12

**Q12:** What are the reason(s) you do not provide the tetanus vaccine during pregnancy?

 **All responses:** Skip to Q13

**Q13:** Do you screen all pregnant women for sexually transmitted infections such as syphilis and HIV during pregnancy? Please answer Yes or No.

 **If Yes**: Skip to Q15

 **If No:** Skip to Q14

**Q14:** What are the reason(s) you do not screen women for infections such as syphilis and HIV during pregnancy?

 **All responses:** Skip to Q15

**Q15:** Do you counsel women on family planning during ANC visits? Please answer Yes or No.

**All responses:** Thank you for your time. The MOH will be analyzing this information and working with stakeholders to provide better support for ANC services. [End Flow]

**Postpartum Care Workflow:**

**Q1:** This is the MOH mHero team. Are you currently providing postnatal care services at your health facility? Please answer Yes or No. All SMS responses are free.

**If Yes:** Skip to Q3.

**If No:** Skip to Q2.

**Q2: [first message]** What is the main reason why you are not providing postnatal care (PNC) services? Please use the response choices in the next message. **[second message]** A.Facility is too short staffed B. This is not my job C. I do not know

**All responses:** Thank you for your time. The MOH will be analyzing this information and working with stakeholders to provide better support for PNC services. [End Flow]

**Q3:** We would like to gather information to help improve postnatal care (PNC) services. Can you answer a few questions? Please answer Yes or No.

**If Yes:** Skip to Q4.

 **If No:** Thank you for your time. [End Flow]

**Q4:** When do you discuss PNC visits with your clients? Please choose one of the following options. A) During antenatal care B) At birth C) at a different time

 **If A or B:** Skip to Q6

 **If C:** Skip to Q5

**Q5:** You indicated you discuss PNC visits at a different time. When do you discuss PNC visits with your clients?

 **All responses:** Skip to Q6

**Q6:** Do you visit most mothers and newborns on all of these 4 occasions: within 24 hours of birth, around day 3, between days 7-14, and six weeks after birth? Yes or No.

 **If Yes:** Skip to Q8

 **If No:** Skip to Q7

**Q7:** What are some reasons you do not make the four recommended PNC visits?

 **All responses:** Skip to Q8

**Q8:** Do you feel confident identifying danger signs in newborns at birth? Please answer Yes or No.

 **If Yes:** Skip to Q10

 **If No:** Skip to Q9

**Q9:** Would you like more training on identifying danger signs in newborns at birth? Please answer Yes or No.

 **All responses:** Go to Q10

**Q10:** Do you feel confident identifying danger signs in newborns during PNC visits? Please answer Yes or No.

 **If Yes:** Skip to Q12

 **If No:** Go to Q11

**Q11:** Would like more training on identifying danger signs in newborns during PNC visits? Please answer Yes or No.

 **All responses:** Go to Q12

**Q12:** Do you feel confident identifying warning signs in mothers during PNC visits? Please answer Yes or No.

**If Yes:** Skip to Q14

 **If No:** Go to Q13

**Q13:** Would you like more training on identifying warning signs in mothers during PNC visits? Please answer Yes or No.

 **All responses:** Continue to Q14

**Q14:** Do you counsel mothers on exclusive breastfeeding until 6 months of age at PNC visits? Please answer Yes or No.

 **If Yes:** Skip to Q16.

 **If No:** Go to Q15.

**Q15:** What are the reasons you do not counsel mothers on exclusive breastfeeding until 6 months of age?

 **All responses:** Continue to Q16

**Q16:** Do you provide iron and folic acid supplementation to mothers for 3 months after birth? Please answer Yes or No.

 **If yes:** Skip to Q18

 **If No:** Continue to Q17

**Q17:** What are the reason(s) you do not provide iron and folic acid supplementation to mothers after birth?

 **All responses:** Skip to Q18

**Q18**: Do you discuss family planning with mothers after birth and at PNC visits?

**If yes:** Thank you for your time. The MOH will be analyzing this information and working with stakeholders to provide better support for PNC services. [End Flow]

 **If No:** Continue to Q19

**Q19:** What are the reason(s) you do not discuss family planning with mothers after birth?

**All responses:**  Thank you for your time. The MOH will be analyzing this information and working with stakeholders to provide better support for PNC services. [End Flow]

**Immunization Workflow** [this flow should be customized to a country’s vaccination schedule]:

**Q1:** Hello this is the MOH. Do you provide immunizations to infants and/or children? Please answer Yes or No. All SMS messages are free.

 **If Yes:** Skip to Q3

 **If No:** Skip to Q2

**Q2: [first message]** What is the main reason you do not provide immunizations to infants and/or children? Please use the response choices in the next message. **[second message]** A. This is not my job B. I have no vaccination supplies C. I need training to provide immunizations

**All responses:** Thank you for your time. The MOH will be analyzing this information and working with stakeholders to provide better support for immunization services. [End Flow]

**Q3:** We would like to learn about what you know about vaccines. May we ask you a few questions? Please answer Yes or No.

 **If Yes:** Continue to Q4

 **If No:** Thank you for your time. [end flow]

[bolded answer choices below are the correct answer]

**Q4:** Which of the following is NOT an immunization normally given at birth? A. BCG B. Hepatitis B C. Polio **D. Hepatitis C**

 **All responses:** Continue to Q5

**Q5:** Which of the following is NOT an immunization normally given at 6 weeks? A. DTP B. Polio C. Hepatitis B **D. Measles** E. HIB F. Pneumococcal G.Rotavirus

 **All responses:** Continue to Q6

**Q6:** Which of the following is NOT an immunization normally given at 10 weeks? **A. Hepatitis A** B. DTP C. Polio D. Hepatitis B E. HIB F. Pneumococcal G.Rotavirus

 **All responses:** Continue to Q7

**Q7:** Which of the following immunizations is NOT normally given at 14 weeks? A. DTP B. Polio C. Hepatitis B D. HIB Pneumococcal E. Rotavirus **F. Meningitis A**

 **All responses**: Continue to Q8

**Q8:** Which of the following immunizations are normally NOT given at 9 or 12 months? A. Measles **B. BCG** C. Rubella

 **All responses:** Continue to Q9

**Q9:** Which of the following vaccinations does not require a booster in the 2nd year? **A. BCG** B. Measles C. DTP

 **All responses:** Continue to Q10

**[only use this Q10 if you plan to follow-up on those who say “Yes”]**

**Q10:** Do you regularly experience stockouts of any the required vaccinations for infants and children? Please answer Yes or No.

 **All responses:** Continue to Q11

**Q11:** Does your health facility **[or community]** participate in mobile health clinics that support vaccination? Please answer Yes or No.

 **All responses:** Continue to Q12

**Q12:** Would you like more information about mobile clinics? Please answer Yes or No.

**All responses:**  Thank you for your time. The MOH will be analyzing this information and working with stakeholders to provide better support for immunization services. [End Flow]

**Nutrition Workflow:**

**Q1:** Hello this is the MOH. Do you counsel families on nutrition? Please answer Yes or No. All SMS are free.

**If Yes:** Skip to Q3

**If No:** Continue to Q2

**Q2:** What is the main reason you do not counsel families on nutrition? A. This is not my job B. I need more training C. I have no nutrition supplies

**All responses:** Thank you for your time. The MOH will be analyzing this information and working with stakeholders to provide better support for nutrition services. [End Flow]

**Q3:** Do you feel confident that you can diagnose acute malnutrition in children? Please answer Yes or No.

 **All responses:** Continue to Q4

**Q4:** Do you counsel most mothers on the benefits of exclusive breastfeeding for 6 months? Please answer Yes or No.

 **All responses:** Continue to Q5

**Q5:** Do you feel confident explaining the benefits of breastfeeding? Please answer Yes or No.

 **All responses:** Continue to Q6

**Q6:** Do you feel confident helping mothers who are having trouble with breastfeeding? Please answer Yes or No.

 **All responses:** Continue to Q7

**Q7:** Do you counsel most mothers on complementary feeding with breast milk from 6 months to 2 years? Please answer Yes or No.

 **All responses:** Continue to Q8

**Q8:** Do you provide iron supplements to most women 6 months after birth? Please answer Yes or No.

 **All responses:** Continue to Q9

**Q9:** Do you provide folic acid supplements to most women 6 months after birth? Please answer Yes or No.

 **All responses:** Continue to Q10

**Q10:** Do you provide most breastfeeding mothers with a vitamin A supplement 6 weeks after birth? Please answer Yes or No.

 **All responses:** Continue to Q11

**Q11:** Do you provide vitamin A supplements every 6 months to most children between 6 months to 5 years of age? Please answer Yes or No.

 **All responses:** Continue to Q12

**Q12:** Do you provide deworming medication every 6 months to most children from 12 months to 5 years of age? Please answer Yes or No.

 **All responses:** Continue to Q13

**Q13:** Do you counsel most families on using iodized salt for the whole family? Please answer Yes or No.

 **All responses:** Continue to Q14

**Q14:** Do you have ready to use therapeutic foods (RUTF) to treat malnutrition? Please answer Yes or No.

 **All responses:** Continue to Q15

**Q15:** Do you know where to send children who need more medical attention for acute malnutrition? Please answer Yes or No.

**All responses:** Thank you for your time. The MOH will be analyzing this information and working with stakeholders to provide better support for nutrition services. [End Flow]

**References**

i<http://www.who.int/mediacentre/factsheets/fs348/en/>

ii<http://www.who.int/mediacentre/factsheets/fs333/en/>

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iv<http://www.who.int/gho/maternal_health/reproductive_health/antenatal_care_text/en/>

vii<http://www.who.int/immunization/programmes_systems/en/>

viii<http://www.who.int/immunization/programmes_systems/service_delivery/en/>

ix <http://www.who.int/immunization/programmes_systems/supply_chain/benefits_of_immunization/en/>

x<http://www.unicef.org/immunization/index_75054.html>

xi<http://www.unicef.org/nutrition/>

xii<http://www.who.int/elena/titles/deworming/en/>

xiii<http://www.unicef.org/nutrition/index_lifelong-impact.html>

xiv<http://www.unicef.org/nutrition/index_iodine.html>

xv<http://www.who.int/nutrition/topics/indicators_monitoringframework_miycn_background.pdf?ua=1>

xvi<https://www.k4health.org/sites/default/files/IIB._HW_Training_Handouts_complete.pdf>

xvii <http://www.who.int/maternal_child_adolescent/topics/child/imci/en/>

xviii<http://www.who.int/pmnch/knowledge/publications/summaries/ks18/en/>