

COVID-19 Technical Brief for Maternity Services

April 2020



COVID-19 Guidance Document for Maternity Services

Background:

It is anticipated that that COVID-19 (the disease caused by the novel coronavirus named SAR-CoV-2) will occur in most, if not all countries.

A key fact about COVID-19 is that the vast majority of infections will result in very mild or no symptoms. Not everybody is at risk of severe disease. Persons of advancing age and those with existing respiratory, cardiac and/or metabolic disorders and immunodeficiencies are at higher risk of moderate to severe disease.

Limited data are available on COVID-19 in pregnancy, but the studies published to date do not show an increased risk of severe disease in late pregnancy or substantial risk to the newborn. Congenital infection has not been found, and the virus has not been detected in expelled products of conception. These findings are reassuring, and are quite different from other recent pandemics, like the 2009 H1N1 influenza A pandemic which resulted in more severe disease in pregnant women, or Zika virus which is teratogenic. Information on the impact of COVID-19 on early pregnancy outcomes remains unavailable at the time of writing. Non-pregnant women of childbearing age are also at low risk of severe disease¹.

The impact on acute care services in settings with under-resourced health systems is likely to be substantial. **Maternity services should continue to be prioritized as an essential core health service**, and other sexual and reproductive health care such as family planning, emergency contraception, treatment of sexually transmitted diseases, post-abortion care and where legal, safe abortion services to the full extent of the law, also need to remain available as core health services.

Maternity care providers (including midwives and all other health care workers providing maternal and newborn care), whether based in health facilities or within the community, are essential health care workers and must be protected and prioritized to continue providing care to childbearing women and their babies.

Deploying maternity care workers away from providing maternity care to work in public health or general medical areas during this pandemic is likely to increase poor maternal and newborn outcomes.

Maternity care providers have the right to full access for all personal protective equipment (PPE), sanitation and a safe and respectful working environment. Maintaining a healthy

¹ Royal College of Obstetricians and Gynaecologists UK (2020). Coronavirus (COVID-19) infection in pregnancy: Information for health care professionals. Version 4: 21st March 2020. <https://www.rcog.org.uk/globalassets/documents/guidelines/2020-03-21-covid19-pregnancy-guidance-23.pdf>

workforce will ensure ongoing quality care for women and their newborns; without healthy midwives and other maternity care providers there will be limited care for women and newborns².

The UNFPA response to the COVID-19 pandemic within maternity care involves a 3-pronged approach:

- 1. Protect maternity care providers and the maternal health workforce**
- 2. Provide safe and effective maternity care to women**
- 3. Maintain and protect maternal health systems**

Detailed practical recommendations across these 3 prongs are outlined for antenatal care, intrapartum and postnatal care. The aim of these recommendations is to provide interim guidance to reduce the risk of infection from the mother/newborn to the maternity care provider and from the maternity care provider to mother/newborn in the immediate clinical care situation.

These recommendations are provided as an interim resource for UNFPA staff based on a combination of WHO guidelines, good practice and expert advice based on the latest scientific research. The situation with COVID-19 is evolving rapidly and the guidance will continue be updated if and when new evidence or information becomes available.

KEY FACTS:

Who is at risk of COVID-19?

- Although all human beings are at risk of infection, only some persons are at high risk of moderate to severe disease. These include persons of advanced age, and persons with pre-existing disease (e.g. HIV/ malaria, anemia, past tuberculosis, diabetes or other cardiac, respiratory and/ or metabolic conditions).
- At present **healthy women of childbearing age and pregnant women are not at high risk for moderate to severe disease if they develop COVID-19 infection**, and are not known to be more infectious than the general public. It is expected that the large majority of pregnant women will experience only mild or moderate symptoms similar to the cold or flu, or sometimes no symptoms at all. However, pregnant women are potentially at increased risk of complications from any respiratory disease due to the physiological changes that occur in pregnancy. These include reduced lung function, increased oxygen consumption and changed immunity.

² ICM (2020). ICM Official Statement: Women's Rights in Childbirth Must be Upheld During the Coronavirus Pandemic. <https://www.internationalmidwives.org/assets/files/news-files/2020/03/icm-statement-upholding-womens-rights-during-covid19-5e814c0c73b6c.pdf>

There is no evidence at present of an increased risk of miscarriage, teratogenicity (abnormalities of physiological development) or in-utero (vertical) transmission of the COVID-19 virus. There is no evidence demonstrating transmission by breastfeeding however, research is underway to investigate this further.

- There is no clear evidence of risk of preterm birth. Studies are ongoing to determine if this might be increased with COVID-19.
- Persons infected with coronavirus but who have very mild symptoms or no symptoms at all, can still be infectious to others. Babies born to mothers with coronavirus can potentially become infected with the virus after birth (through droplet exposure), however the risk of transmission can be minimized through general infection control practices. Most babies who become infected will likely only experience mild illness.
- Products of conception, the placenta, amnion etc. have **not been shown to have congenital coronavirus** exposure or infection, and do not pose risk of coronavirus infection. They need to be treated as infectious of standard blood-borne pathogens and dealt with in accordance with standard waste management practices.

GENERAL PROTECTIVE MEASURES THAT APPLY TO ALL EPISODES OF PATIENT CONTACT

- a)** All staff and patients need to have access to hand washing facilities and be encouraged to do so as they enter the health facility. Ensure supply of clean water (even from a bucket if running water unavailable), in every location or room where staff work and in waiting areas for patients.
- b)** Ensure availability of simple soap at every wash station in the health facility and a clean cloth or single use towel for drying hands.
- c)** Midwives providing direct patient care need to wash their hands with soap and water frequently: Hands needs to be be washed with soap and water thoroughly for at least 20 seconds. Wash before every new woman is seen and again before physical examination. Wash again immediately after examination and once the woman leaves. Wash hands after cleaning surfaces. Wash hand after coughing or sneezing. Hand sanitizer can also be used, particularly as a backup for where there is an unreliable water source.
- d)** Avoid touching the eyes, nose and mouth.
- e)** Advise all persons (patients and staff) to cough into a tissue or their elbow and to wash hands after coughing and sneezing.
- f)** Midwives need to maintain social distancing of 2 arms lengths for as much as possible during any clinical encounter. Physical examination and patient contact needs to be continued as usual for women without suspected/confirmed COVID-19 if hand washing is performed before and after.
- g)** Surfaces used by patients and staff need to be sprayed with a cleaning product (i.e.: 5% sodium hypochlorite (bleach)) and wiped down with a paper towel or clean cloth in between patients, followed by hand washing.

RECOMMENDATIONS

1. TRIAGE AND RISK SCREENING FOR COVID-19

- a) Triage and risk screening for COVID-19 exposure and symptoms needs to be undertaken for all women presenting to the health facility. [See ANNEX 1: Triage and Risk Screening for more detailed guidance \(adapted from Queensland Health \(2020\) COVID-19 Guidance for Maternity Services – Statewide maternity and neonatal clinical network. Queensland, Australia\)](#)
- b) All women and accompanying persons need to be screened for infection by asking about general wellbeing, underlying medical conditions (e.g. rheumatic heart disease, past tuberculosis, diabetes or other cardiac, respiratory or metabolic conditions), presence of fever and respiratory symptoms. Any person reporting fever and/or respiratory symptoms, needs to be considered as possibly having COVID-19. Pregnant women living in refugee camps, nomadic tribes, high density communities and urban slums will be at particular risk of COVID-19 infection due to a high incidence of communicable disease, overcrowded housing and malnutrition.
- c) A referral pathway and mechanisms to provide emergency transport from BEmONC to CEmONC facilities needs to be in place for the potential transfer of pregnant women experiencing moderate/severe disease and requiring higher level acute care and intervention.

Where possible, maternity staff from the BEmONC facility should inform the CEmONC facility about the transfer of the woman in advance of her departure. As with all patient transfers, ensure that the woman is stabilised before departure to the CEmONC facility.

When preparing for emergency transfer:

- o Prepare transport equipment and drugs in anticipation of medical emergencies that may occur en-route, such as sudden cardiovascular collapse or hypotension.
- o All transport staff should be mask-fitted for N95 respirators (where available) or surgical masks as a secondary option. All transport staff to don PPE prior to transport.
- o Put on surgical mask for patient during transport (if not done on facility admission).
- o If a bag valve mask (BMV) is required during transport, provide only gently bagging to reduce aerosolization in the event of worsening hypoxia.
- o Avoid unnecessary breathing circuit disconnection during transport.

Transport vehicles:

- Transport vehicle to be cleaned and disinfected internally by cleaning or transport staff in PPE prior to transfer from BEmONC to CEmONC facility.
- On arrival at CEmONC, transport staff to remove PPE and dispose of this as directed by facility protocol and wash hands.
- Transport staff to don new PPE prior to the return journey in the same ambulance.
- Staff to remove PPE in the nearest clinical area, for example ambulance bay, upon arrival back at BEmONC and wash hands.
- Equipment used during transportation to be cleaned and/or sterilized after transport as per facility protocol. Transport vehicle to be cleaned upon arrival when back at BEmONC facility or transport depot.

d) Women with suspected COVID-19 need to be provided with a facemask and treated in a dedicated treatment area separate from other patients where possible. Medical equipment needs to stay in these dedicated treatment areas and not be shared amongst general patients where possible. Thorough cleaning of equipment is required before it is used for other patients. All patients need to receive education from the maternity care provider on proper hygiene practices as part of the admission procedure.

e) Personal Protective Equipment (PPE): Maternity care providers involved in the direct care of patients must have access to PPE.

For maternity care providers delivering care to women with suspected or confirmed cases of coronavirus in a health facility, the following **PPE** needs to be worn: a long sleeve gown, surgical mask (for all patient interaction) or an N95/P2 mask (if the maternity care provider is directly involved in aerosol performing procedures such as suctioning airway secretions, administering nebulizing medication or CPR), eye protection and non-sterile gloves.

f) For maternity care providers delivering care to women without symptoms of coronavirus in a health facility: The WHO recommend that PPE needs to be used according to standard precautions and risk assessment. Wearing PPE for all patient contact will be dependent on availability of PPE within individual facilities and individual judgement of the exposure risk by the maternity care provider.

Gloves and a plastic apron need to be worn during the delivery of care that may involve exposure to blood, body fluids, secretions, excretions, touching oral mucosa, or medication assistance (including: taking blood or vaginal swabs, performing a stretch and sweep and first stage of labour).

During second and third stage of labour, in addition to hand washing, a surgical mask, plastic apron, eye protection, a plastic apron and gloves need to be worn.

See ANNEX 2 for further WHO guidance regarding by whom, when and where PPE should be worn. https://apps.who.int/iris/bitstream/handle/10665/331215/WHO-2019-nCov-IPCPE_use-2020.1-eng.pdf

g) During any episode of patient contact, maternity care providers are recommended to use routine infection prevention and control practices, such as handwashing.

Handwashing will substantially reduce the risk of infection from coronavirus.

h) Cleaning surfaces with a cleaning product (i.e.: 5% sodium hypochlorite (bleach)) and wiping surfaces down with a paper towel or clean cloth in between patients is recommended. Cleaning needs to be followed by hand washing.

i) In addition to routine infection control practices, maternity care providers need to maintain a **physical distance of 2 arms lengths** for as much as feasibly possible during any clinical encounter to further reduce the risk of infections. However, physical examination should be maintained, with hand washing before and after patient contact.

j) Maternity care providers and other staff also need to maintain a distance of 2 arms lengths from one another as much as possible, even when no patients are present.

2. ANTENATAL CARE

ORGANIZATION OF CARE:

- Develop a sustainable ANC service delivery model for the country’s context, which defines how services will be organized to deliver a core ANC package, specifically which set of interventions will be provided at each ANC contact and by whom (cadre), where (system level), and how (platform).
- Define mechanisms to ensure that there is coordination of care across ANC contact points, including community-to-facility linkages and supportive oversight of community-based services, activities, and auxiliary health workers.
- Support reorganization of ANC services and/or client flow, as needed, to reduce wait times and contacts with other patients, improve efficiency of service delivery, and satisfaction among clients and providers.
- Encourage women to wait outside or in designated, marked areas that show women where to stand for ANC, and maintain social distancing of 2 arms lengths wherever possible. Discourage groups of more than 20 women from attending ANC at any one time - consider use of an

appointment/queuing system (either phone based or numbered tickets/sign in sheet available for women as they arrive outside the ANC facility).

- All women should be triaged and screened for symptoms of COVID-19 before entering the health facility (refer to Annex 1):

FOR WOMEN WITH SYMPTOMS OF COVID-19:

- **If the woman meets the ‘stay at home’ guidance (see section below), the ANC appointment should be rebooked for after the isolation period ends.**

The woman can stop home isolation under the following 3 conditions: She has had 3 full days of no fever without the use of medicine that reduces fever and, other symptoms have improved (i.e.: *shortness of breath or cough*) and, at least 7 days have passed since her symptoms first appeared. Women need to be advised to seek medical help if the condition is worsening or if symptoms are not improving after 7 days.

If the woman has access to testing facilities, she may leave home after home isolation under the following 3 conditions: The woman no longer has fever and other symptoms have improved and she has had two negative tests in a row, 24 hours apart.

- **Women who have symptoms of COVID-19 and are experiencing any pregnancy related complications** need to be seen separately from others in an isolated room if possible or at the beginning or end of clinic when no other patients remain, to lower the chance of transmission to the maternity care provider and other women attending for care.

Women with symptoms need to wear a mask and maternity care providers should wear PPE as per WHO recommendations.

- a) Wherever possible, provide ANC away from general patients presenting for emergency/other outpatient care. Continuity of care models of midwifery care provided throughout the pregnancy, birth and postnatal period will reduce the number of caregivers in contact with the woman and her birth partner and decrease the chances of COVID-19 spread in hospitals; continuity of midwifery care needs to be encouraged and provided.
- b) The health information session provided by the midwife or other maternity care provider at the beginning of an antenatal clinic should include reminders about social distancing during the clinic session (i.e.: sitting 2 arm’s length apart from each other) and key messages about the virus (*such as symptoms, procedures for home isolation, emergency signs etc.*).
- c) This information session can be used as an opportunity to minimize women’s fear about the impact of COVID-19 on pregnant women and newborns and encourage ongoing contact with the

health service. **Specific precautions/guidance regarding COVID-19 for pregnant women remain the same as for the general population.**

- d) Restrict attendance for ANC visits to include only the women, an asymptomatic companion of choice and the maternity care provider. Wherever possible, children, other family members and other companions should not accompany the women into the clinic visit.
- e) Continue physical contact and clinical examination as normal during ANC visits but pay extra attention to infection control measures. All women need to wash their hands upon arrival to waiting area, upon entering clinical rooms, upon leaving clinical rooms and upon leaving clinic.
- f) Maternity care providers need to wash their hands before every new woman is seen and again before physical examination. Wash again immediately after examination and once the woman leaves. Wash hands after cleaning surfaces. Wash hand after coughing or sneezing.
- g) A reduced schedule of antenatal care visits at the facility is appropriate to minimize overcrowding in clinics and the risk of virus transmission. ANC that is not provided in person at the facility, can be undertaken on the phone, via whatsapp, sykpe, facetime (where available) and is best utilized for occasions when the woman does not require physical clinical assessments and/or tests/investigations.
The modified schedule of visits and content of phone-based ANC/PNC is currently being developed and will be communicated as soon as available.
- h) Consider supplying women with enough iron, folic acid, calcium etc. to help avoid facility visits just to obtain supplies. Also, group components of care together where possible to minimize visits primarily for investigations (i.e.: USG, OGT and vaccines all done during one visit).
- i) The specific content of ANC remains unchanged in the context of COVID-19. However, maternity care providers need to be aware of the **increased risk of antenatal anxiety and depression and domestic violence due** to the economic and social impacts of the COVID-19 pandemic. These issues add to the normal stresses of pregnancy and maternity care providers need to have guidance/referral mechanisms in place to support these women.

3. INTRAPARTUM CARE

FOR ALL WOMEN:

- a) Triage and screening needs to take place for all women and their birth companion before entering the health facility as outlined in previous sections.
- b) Routine infection control precautions need to be instituted for care during every labour and birth. It is important to remember in lower risk groups; corona virus (SAR-CoV-2) leads to mild infection whereas acute complications unrelated to COVID-19 that can occur during pregnancy and

childbirth, can carry high mortality for the mother and newborn. In the case of obstetric and newborn emergencies, care to the mother or newborn should not be delayed.

Labor Room Preparedness

The majority of women presenting in labour will not have respiratory symptoms, and the labour room should continue to provide services as before. However, the attention to infection prevention practices should be higher:

- Have sufficient supplies of all PPE supplies (masks, gloves, goggles, gowns, hand sanitizer, soap and water, cleaning supplies) in the labour room
- All surfaces should be cleaned thoroughly with spray and a clean cloth after any contact by patient or staff
- Staff should follow regular hand hygiene practices – handwashing before and after examining each patient.

- c) All women need to be encouraged to call the health facility (where possible) for advice in early labour and to inform the maternity care provider of any respiratory or other COVID-19 related symptoms, which can then assist in planning further care or potential referral.
- d) All women maintain their right to be treated with compassion, dignity and respect. Every woman has the right to receive information, provide consent, refuse consent and to have her choices and decisions respected and upheld, and this includes mobility during labour and birth position of choice.
- e) **One asymptomatic birth partner should be allowed to stay with the woman, through labour and birth.** Continuous support by a known birth partner increases spontaneous vaginal birth, shortens labour and decreases caesarean births and other medical interventions. If birth partners are symptomatic, they should remain in self-isolation and not attend the birth. Women should be advised when making plans about their birth to identify potential alternative birth support if needed.

FOR WOMEN WITH SYMPTOMS CONSISTENT WITH COVID-19 INFECTION:

- f) Following triage and assessment, women identified as having symptoms consistent with the coronavirus (SAR-CoV-2) and requiring admission to the facility, need to be cared for in a single room where possible. All care should ideally continue in the same isolation room for the entirety of the woman’s stay. Efforts need to be made to minimise the number of staff members entering

the room and maternity services should to develop a local policy specifying essential personnel for emergency scenarios.

- g)** Women with an acute respiratory illness should be given masks and staff should be provided with PPE for the duration of care. Women presenting at a BEmONC facility with severe respiratory symptoms requiring respiratory support should be stabilised and transferred to a CEmONC facility.
- h)** Where women do not have access to a single room, it is still essential to find a way of separating sick women from well women either by clustering alike women within a shared room or bay to reduce the risk of virus transmission – this also applies for any admission throughout pregnancy and the postpartum period.
- i)** Mode of birth needs to be individualized based on obstetric indications and the woman’s preferences. These decisions should not be influenced by the presence of COVID-19, unless there are maternal or fetal emergency indications as in usual practice.
- j)** Care during labour should not differ from usual, however given the association of COVID-19 with acute respiratory distress syndrome, women with moderate-severe symptoms of COVID-19 should be monitored using hourly fluid input-output charts, plus efforts targeted towards achieving neutral fluid balance in labour, in order to avoid the risk of fluid overload.
- k)** If an infected woman requires a caesarean section all staff in theatre should wear PPE. The greatest risk to theatre staff during the caesarean section relates to intubation whereby the virus load from aerosolization (the virus being airborne) is highest.
- l)** There is no evidence to suggest that steroids for fetal lung maturation, when they would usually be offered, cause any harm in the context of COVID-19. Steroids should therefore be given where indicated. As is always the case, urgent delivery should not be delayed for their administration.

4. POSTNATAL CARE

- a)** Visitors need to be limited from visiting health facilities during the current pandemic. Many health facilities have instituted a no-visitor policy. If your facility does permit visitors, it is recommended that visitors are screened for infection. Anyone with acute respiratory symptoms or possible COVID-19 infection or contact, should be excluded from the health facility.
- b)** All visitors need to follow infection control procedures and wash their hands with soap and water on entering and leaving the room where the woman and her newborn are being cared for. Hand washing should take place again upon leaving the health facility.

POSTNATAL CARE IN INFECTED MOTHERS

- c) There is currently no evidence that a woman with symptoms consistent with COVID-19 infection who has recently given birth, needs to be separated from her baby. In some countries this is occurring. The risk of separating the mother and baby to reduce infection transmission, and potentially mild illness in the baby, may considerably outweigh the benefits of keeping mothers and babies together given the evidence supporting immediate skin to skin contact and early initiation of breastfeeding for thermal regulation, prevention of hypoglycemia and reduced sepsis and death in infants. This applies especially to low birth weight infants in low-resourced settings.

All mothers and babies regardless of their COVID-19 status need support to remain together to practice rooming-in, establish breastfeeding, practice skin to skin contact or kangaroo mother care.

- d) Women with symptoms consistent with COVID-19 infection need to avoid contact with other mothers and babies, undertake hand washing before and after contact with the baby and consider wearing a mask when feeding, providing skin to skin or kangaroo mother care for her baby. Routine cleaning and disinfecting of all surfaces that the mother has had contact with, should also be undertaken at regular intervals.
- e) Breastmilk from infected mothers has been shown to be negative for COVID-19 so breastfeeding is not contra-indicated. Maternity care providers need to support the mother's intention to breastfeed and where a woman is unwell, provide support for the woman to express breastmilk and feed this to her baby.
- f) The few neonatal infections that have been reported were acquired in the postnatal period and the infants were not significantly unwell. Fetal distress and early neonatal complications when present, were considered due to maternal illness or prematurity. Newborns born prematurely or sick may require additional medical support in the health facility. However, every newborn has the right to access his or her mother or parent. No mother should be separated from her baby without her informed consent.

POSTNATAL CARE IN NON-INFECTED MOTHERS

- g) Early discharge from a health facility should be considered after an uncomplicated vaginal birth for healthy mothers and newborns. This can be done provided the mother is well supported and there are systems in place for ongoing home based and/or telephone support by a maternity care provider. Discharge may be considered after 6 hours for women with uncomplicated vaginal

births and after 2 days for women with cesarean births depending on their status. **Further guidance on this is currently being developed by UNFPA.**

FOR ALL WOMEN:

- h) Breastfeeding needs to be encouraged and supported by maternity care providers.
- i) Postnatal anxiety and depression is common for mothers and also many new fathers. This may be exacerbated by the social isolation and financial impact on the family and wider community, resulting from the COVID-19 pandemic.

New parents need to be encouraged to interact with other parents, friends and family via the phone or other online resources where available. They also need to be given appropriate advice, referral to specialist services and contact information for a known maternity care provider, community health worker and emergency services, to call if they are not coping.

- j) Telephone and or/video follow up in the postnatal period may be considered in place of facility based postnatal care visits, where appropriate and if no tests, procedures or physical examinations are expected. **Further guidance is being developed by UNFPA and will be made available shortly.**

[See ANNEX 3 for frequently asked questions about pregnancy and the postpartum period.](#)

5. PERSONAL HEALTH AND SAFETY

- a) Your own health and safety and that of your family is very important. Before leaving the maternity facility and going home, or before entering home: wash your hands, and change clothes and wash them with soap and water.

During stressful events, your own health can be easily compromised. Maternity care providers need to **self-monitor for signs of illness** such as fever, shortness of breath, cough and sore throat and self-isolate and report illness to managers, if it occurs.

Staff with symptoms of COVID-19 should not come to work.

You can stop home isolation under the following 3 conditions: You have had 3 full days of no fever without the use of medicine that reduces fever and, other symptoms have improved (i.e.: shortness of breath or cough) and, at least 7 days have passed since your symptoms first appeared. Medical help should be sought if the condition is worsening or if symptoms are not improving after 7 days.

If you have access to testing facilities, you may leave home after home isolation under the following 3 conditions: You no longer have fever and other symptoms have improved and you have had two negative tests in a row, 24 hours apart.

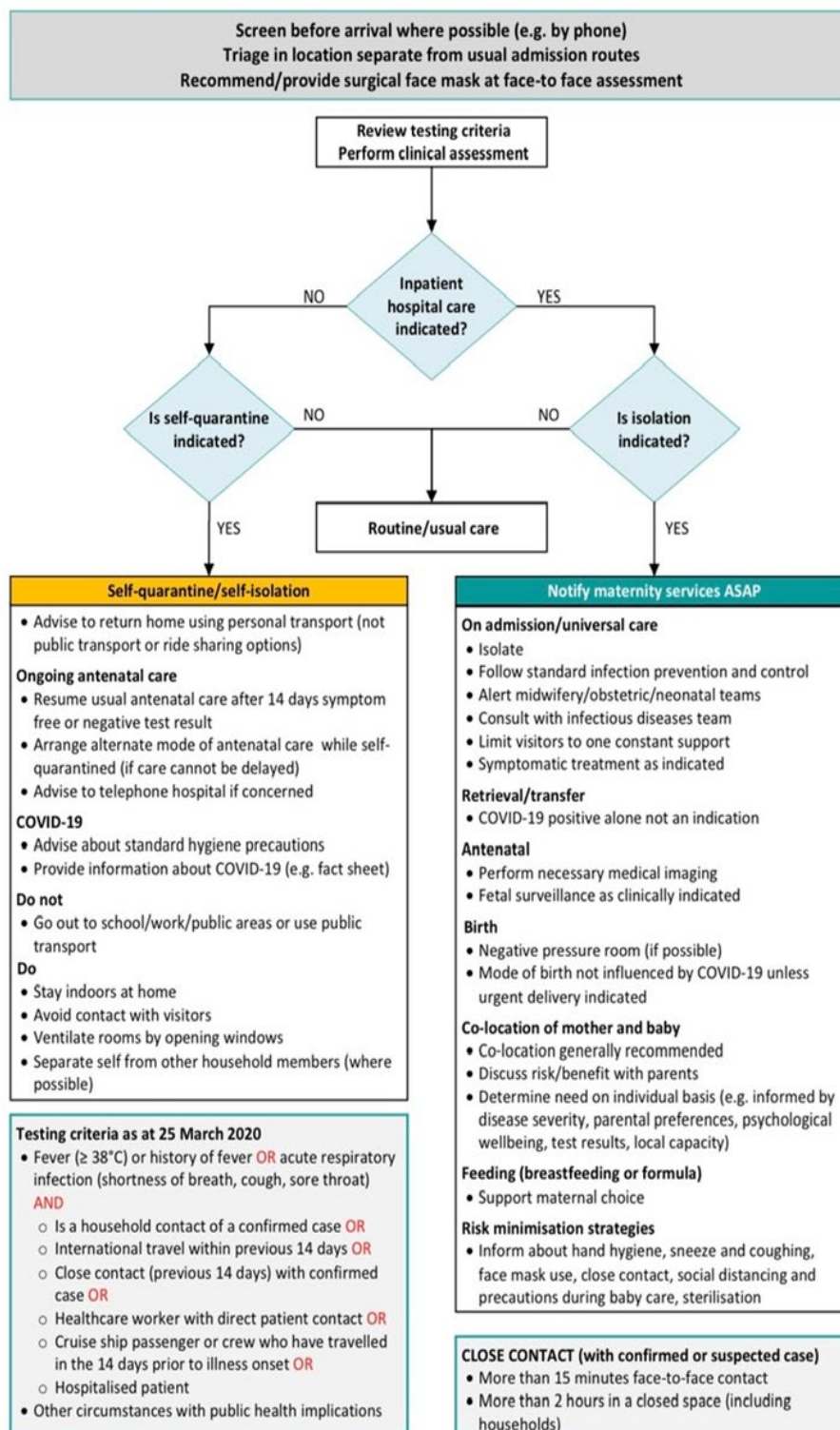
- b) Fatigue, burn out and stress related to the environmental, family and economic effects of COVID-19 can all impact upon mental and physical health. Advise management and seek help if you are feeling signs of undue stress or have mental health challenges that require supportive interventions.
- c) **Maternity care providers over the age of 65, those who have cardiac, respiratory or metabolic conditions, and possibly persons with immune deficiency including acquired immune deficiencies, need to avoid clinical contact with any patient (not only those suspected of having COVID-19) and consider non-clinical duties** if at all possible.
- d) Health care providers in their last trimester of pregnancy or with underlying health conditions such as heart or lung disease in any stage of pregnancy, are recommended to avoid direct contact with patients.

KEY RESOURCES:

- ICM (2020). ICM Official Statement: Women’s Rights in Childbirth Must be Upheld During the Coronavirus Pandemic. https://www.internationalmidwives.org/assets/files/news-files/2020/03/icm-statement_upholding-womens-rights-during-covid19-5e814c0c73b6c.pdf
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- WHO (2020) Clinical management of severe acute respiratory infection when novel coronavirus (2019-nCoV) infection is suspected (Interim guidance) WHO: Geneva, 2020. [https://www.who.int/publications-detail/clinical-management-of-severe-acute-respiratory-infection-when-novel-coronavirus-\(ncov\)-infection-is-suspected](https://www.who.int/publications-detail/clinical-management-of-severe-acute-respiratory-infection-when-novel-coronavirus-(ncov)-infection-is-suspected)
- WHO (2020)_COVID-19: Operational guidance for maintaining essential health services during an outbreak Interim guidance. WHO: Geneva, 25 March 2020: <https://www.who.int/publications-detail/covid-19-operational-guidance-for-maintaining-essential-health-services-during-an-outbreak>

ANNEX 1: TRIAGE AND RISK SCREENING

Flowchart: Triage and risk assessment of suspected or confirmed COVID-19 woman



ANNEX 2: WHO RECOMMENDATIONS FOR PPE

Table 1. Recommended type of personal protective equipment (PPE) to be used in the context of COVID-19 disease, according to the setting, personnel and type of activity^a

Setting	Target personnel or patients	Activity	Type of PPE or procedure
Healthcare facilities			
Inpatient facilities			
Patient room	Healthcare workers	Providing direct care to COVID-19 patients.	Medical mask Gown Gloves Eye protection (goggles or face shield).
		Aerosol-generating procedures performed on COVID-19 patients.	Respirator N95 or FFP2 standard, or equivalent. Gown Gloves Eye protection Apron
	Cleaners	Entering the room of COVID-19 patients.	Medical mask Gown Heavy duty gloves Eye protection (if risk of splash from organic material or chemicals). Boots or closed work shoes
	Visitors ^b	Entering the room of a COVID-19 patient	Medical mask Gown Gloves
Other areas of patient transit (e.g., wards, corridors).	All staff, including healthcare workers.	Any activity that does not involve contact with COVID-19 patients.	No PPE required
Triage	Healthcare workers	Preliminary screening not involving direct contact ^c	Maintain spatial distance of at least 1 m. No PPE required
	Patients with respiratory symptoms.	Any	Maintain spatial distance of at least 1 m. Provide medical mask if tolerated by patient.
	Patients without respiratory symptoms.	Any	No PPE required
Laboratory	Lab technician	Manipulation of respiratory samples.	Medical mask Gown Gloves Eye protection (if risk of splash)
Administrative areas	All staff, including healthcare workers.	Administrative tasks that do not involve contact with COVID-19 patients.	No PPE required

Outpatient facilities			
Consultation room	Healthcare workers	Physical examination of patient with respiratory symptoms.	Medical mask Gown Gloves Eye protection
	Healthcare workers	Physical examination of patients without respiratory symptoms.	PPE according to standard precautions and risk assessment.
	Patients with respiratory symptoms.	Any	Provide medical mask if tolerated.
	Patients without respiratory symptoms.	Any	No PPE required
	Cleaners	After and between consultations with patients with respiratory symptoms.	Medical mask Gown Heavy duty gloves Eye protection (if risk of splash from organic material or chemicals). Boots or closed work shoes
Waiting room	Patients with respiratory symptoms.	Any	Provide medical mask if tolerated. Immediately move the patient to an isolation room or separate area away from others; if this is not feasible, ensure spatial distance of at least 1 m from other patients.
	Patients without respiratory symptoms.	Any	No PPE required
Administrative areas	All staff, including healthcare workers.	Administrative tasks	No PPE required
Triage	Healthcare workers	Preliminary screening not involving direct contact ^c	Maintain spatial distance of at least 1 m. No PPE required
	Patients with respiratory symptoms.	Any	Maintain spatial distance of at least 1 m. Provide medical mask if tolerated.
	Patients without respiratory symptoms.	Any	No PPE required
Community			
Home	Patients with respiratory symptoms.	Any	Maintain spatial distance of at least 1 m. Provide medical mask if tolerated, except when sleeping.
	Caregiver	Entering the patient's room, but not providing direct care or assistance.	Medical mask
	Caregiver	Providing direct care or when handling stool, urine or waste from COVID-19 patient being cared for at home.	Gloves Medical mask Apron (if risk of splash)
	Healthcare workers	Providing direct care or assistance to a COVID-19 patient at home	Medical mask Gown Gloves Eye protection
Public areas (e.g., schools, shopping malls, train stations).	Individuals without respiratory symptoms	Any	No PPE required

Points of entry			
Administrative areas	All staff	Any	No PPE required
Screening area	Staff	First screening (temperature measurement) not involving direct contact ⁶ .	Maintain spatial distance of at least 1 m. No PPE required
	Staff	Second screening (i.e., interviewing passengers with fever for clinical symptoms suggestive of COVID-19 disease and travel history).	Medical mask Gloves
	Cleaners	Cleaning the area where passengers with fever are being screened.	Medical mask Gown Heavy duty gloves Eye protection (if risk of splash from organic material or chemicals). Boots or closed work shoes
Temporary isolation area	Staff	Entering the isolation area, but not providing direct assistance.	Maintain spatial distance of at least 1 m. Medical mask Gloves
	Staff, healthcare workers	Assisting passenger being transported to a healthcare facility.	Medical mask Gown Gloves Eye protection
	Cleaners	Cleaning isolation area	Medical mask Gown Heavy duty gloves Eye protection (if risk of splash from organic material or chemicals). Boots or closed work shoes
Ambulance or transfer vehicle	Healthcare workers	Transporting suspected COVID-19 patients to the referral healthcare facility.	Medical mask Gowns Gloves Eye protection
	Driver	Involved only in driving the patient with suspected COVID-19 disease and the driver's compartment is separated from the COVID-19 patient.	Maintain spatial distance of at least 1 m. No PPE required
		Assisting with loading or unloading patient with suspected COVID-19 disease.	Medical mask Gowns Gloves Eye protection
		No direct contact with patient with suspected COVID-19, but no separation between driver's and patient's compartments.	Medical mask
	Patient with suspected COVID-19 disease.	Transport to the referral healthcare facility.	Medical mask if tolerated
	Cleaners	Cleaning after and between transport of patients with suspected COVID-19 disease to the referral healthcare facility.	Medical mask Gown Heavy duty gloves Eye protection (if risk of splash from organic material or chemicals). Boots or closed work shoes

ANNEX 3: FREQUENTLY ASKED QUESTIONS

Advice for Pregnant and Lactating Women on COVID-19 Frequently asked questions

1. Are pregnant women at higher risk of getting COVID-19? If they become infected, will they be more sick than other people?

Pregnancy alters a woman's immune system, making them more susceptible to infections. However, at present there is no evidence suggesting that pregnant women are more likely to be affected by COVID-19 than the general public nor whether they are more likely to have serious illness as a result.

Pregnant women experience changes in their bodies that may increase their risk of some infections. It is always important for pregnant women to protect themselves from illnesses, and report possible symptoms (including fever, cough or difficulty breathing) to their healthcare provider.

2. How can pregnant women protect themselves from getting COVID-19?

Pregnant women should do the same things as the general public to avoid infection. Pregnant women without any symptoms of cough or fever and no history of contact with a confirmed COVID case should take following precautions to prevent any infection:

General advice:

1. Wash your hands frequently with soap and water
2. Cover your mouth and nose with handkerchief or tissue or with your elbow while coughing or sneezing. If you use a handkerchief, wash it frequently. If use a tissue, dispose of the used tissue immediately.
3. Keep social distancing – do not go to crowded places, avoid use of public transport
4. Avoid contact with persons who are suffering from fever or cough, or with anyone who is coughing or sneezing
5. Avoid touching your eyes, nose and mouth as much as possible.
6. Clean/disinfect contaminated surfaces such as tables, door knobs/handles, mobile phones and other everyday objects.
7. If you have cough, fever or breathlessness, immediately contact your doctor. Call before going to a health facility, and follow the directions of your local health authority.

Antenatal care:

8. Go for your antenatal care visits regularly and follow all instructions of your maternity care provider.

3. Should pregnant women go for routine antenatal care or avoid going to hospitals?

Pregnant women should continue to go for their routine antenatal care visits and health facility birth.

Although it is advised that unnecessary hospital visits should be avoided at the time of Corona virus pandemic, it is important that women have their antenatal visits and deliver in a health facility in order to have the best outcomes for themselves and their babies.

4. If a pregnant woman develops symptoms such as cough, fever or breathlessness, what should she do?

Pregnant women concerned about exposure or symptoms indicating possible infection with COVID-19 should visit the nearest health centre:

- They should avoid using public transport and call for an ambulance or private transport. Inform the ambulance driver immediately so that he can take appropriate preventive steps and inform the hospital in advance.
- They should use a mask or cover their nose and mouth while interacting with ambulance driver or staff at hospital
- Notify the health centre or hospital prior to arrival, if possible, so the facility can make appropriate infection control preparations before their arrival.
- They should immediately inform the reception area or health provider about the symptoms/ risk of exposure / contact.
- They should avoid contact with other patients and their attendants and wait till the advice of health staff on where to wait/ or attend OPD/emergency person.
- If it is an emergency (they have labour pains/ any problem such as bleeding / convulsions etc.), they should immediately inform the health staff about it.

5. Can COVID-19 cause problems for a pregnancy?

The available evidence at this time does not suggest that COVID-19 would cause any additional problems during pregnancy or affect the health of the baby after birth.

6. Can COVID-19 be passed from a pregnant woman to the fetus or newborn?

We still do not know if a pregnant woman with COVID-19 can pass the virus to her fetus or baby during pregnancy or delivery. To date, the virus has not been found in samples of amniotic fluid or breastmilk.

7. Do pregnant women with suspected or confirmed COVID-19 need to give birth by caesarean section?

No. WHO advice is that caesarean sections should only be performed when medically indicated. Having COVID 19 does not make any difference to the mode of delivery.

8. Can a Mother Confirmed or suspected for COVID-19 breastfeed her baby?

Much is unknown about how corona virus spreads. Person-to-person spread is thought to occur mainly via respiratory droplets produced when an infected person coughs or sneezes, similar to how other respiratory infections spread.

Breast milk is the best source of nutrition for most infants and provides protection against many illnesses. Breastfeeding women should not be separated from their newborns, as there is no evidence to show that respiratory viruses can be transmitted through breast milk. The mother can continue breastfeeding, as long as the necessary precautions below are applied:

- Symptomatic mothers well enough to breastfeed should take the following precautions while breastfeeding:
 - Wear a mask while handling the baby and breastfeeding the baby
 - Wash her hands before touching the baby
 - Keep all surfaces clean
- If a mother is too ill to breastfeed, she should be encouraged to express milk that can be given to the child using all the above precaution and use a clean cup and/or spoon to give expressed milk.

9. Can a mother touch and hold her newborn baby if she has COVID-19?

Yes. Close contact and early, exclusive breastfeeding helps a baby to thrive. You should be supported to

- Breastfeed safely, wear a mask while handling the baby, providing kangaroo mother care and breastfeeding the baby;
- Wash hands before touching the baby and hold your newborn skin-to-skin; and
- Share a room with your baby.

You should wash your hands before and after touching your baby, and keep all surfaces clean.