UNFPA Asia Pacific Regional Office

Coronavirus (2019-nCoV) guidance document

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Key advocacy messages for UNFPA's mandate

- Sexual and reproductive health is a significant public health issue during epidemics
- Safe pregnancies and childbirth depend on functioning health systems and strict adherence to infection precautions
- Pregnant women with respiratory illnesses must be treated with utmost priority due to increased risk of adverse outcomes
- Surveillance and response systems should include sex, gender, and pregnancy status disaggregation
- Neonatal and maternal health units must be segregated from 2019-nCoV cases
- Provision of mental health and psychosocial support (MHPSS) for affected individuals, families, communities and health workers is a critical part of the response
- UNFPA will work closely with governments and WHO to ensure that accurate information is provided to women of reproductive age and pregnant women on infection precautions, potential risks and how to seek timely medical care
- Epidemics compound existing gender inequalities, increasing risks of gender based violence and sexual exploitation and abuse
- The protection needs of women and girls must be at the center of response efforts

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What is 2019-nCoV?

The novel Coronavirus (2019-nCoV) is a **new strain of coronavirus** first reported to WHO on 31 December 2019. Coronaviruses (CoV) are a family of viruses that cause respiratory illness, ranging from the common cold to more severe disease that can result in death, such as SARS-CoV (Severe Acute Respiratory Syndrome) and MERS-CoV (Middle East Respiratory Syndrome).

Coronaviruses are zoonotic, meaning that they are transmitted between animals and people, and can rapidly spread where human to human transmission occurs. The SARS epidemic in November 2002-July 2003, which resulted in 8,098 cases and 774 deaths in 17 countries, was originally transmitted from civet cats to humans in southern China[1]. MERS, also known as camel flu, resulting in several outbreaks starting in 2012 with a total of 2,494 cases and 858 deaths as of November 2019, was originally transmitted from dromedary camels to humans[2].

Initial symptoms from coronavirus infections resemble the common cold or the flu, and may include fever, cough and other respiratory symptoms such as sneezing and nasal congestion. Severe infections can cause shortness of breath and difficulty breathing, and may lead to pneumonia, severe acute respiratory syndrome and kidney failure which require intensive care, and may even lead to death. However, many people with the virus may only exhibit mild symptoms, or no symptoms at all. To date, descriptive studies of patients confirmed to have the 2019-nCoV infection mostly exhibited symptoms of fever, cough and shortness of breath[3].

The CDC estimates that 2019-nCoV has an **incubation period** (how long it takes to develop symptoms after exposure) of 2 to 14 days. The estimated range will be narrowed down with further epidemiological data. Understanding the incubation period has implications for determining and enforcing effective quarantine systems in order to control the spread of infection.

Respiratory viruses such as the coronavirus can travel through the air as respiratory droplets that are produced when an infected person talks, breaths, coughs or sneezes, and are transmitted through direct mucous membrane contact (eyes, nose and mouth). However, they can only travel a few meters from the infected person and thus primarily occur in close contact settings and in crowded households. It is not fully known how long the virus survives on surfaces, although preliminary information suggests that it may survive for a few hours. General precautions include **strict handwashing and use of disinfectants** to maintain clean surfaces and to avoid transferring the virus from surfaces to your eyes, nose or mouth, as our hands come into contact with many surfaces.

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[1] WHO. Summary of probable SARS cases with onset of illness from 1 November 2002 to 31 July 2003. Geneva: World Health Organization, 2004. http://www.who.int/csr/sars/country/table2004_04_21/en/ (accessed Jan 12, 2020).

[2] WHO. Middle East respiratory syndrome coronavirus (MERS-CoV). Geneva: World Health Organization, 2020. http://www.who.int/emergencies/mers- cov/en/ (accessed Jan 12, 2020).

[3] Epidemiological and clinical characteristics of 99 cases of 2019 novel coronavirus pneumonia in Wuhan, China: a descriptive study, The Lancet (January 29, 2020) https://doi.org/10.1016/ S0140-6736(20)30211-7

Other modes of transmission occur in intense exposure settings such as workplaces and modes of mass transportation (eg. airplanes, trains). However, most cases of human to human transmission occur in health care settings in the absence of adequate infection control precautions. During the SARS epidemic, health care workers accounted for 21% of all cases- particularly those involved in medical procedures that generate aerosols (such as intubating and extubating patients)[4].

There are 2 key factors to understanding and estimating how quickly an epidemic can develop. The first is the **Reproduction number (Ro),** which measures *how contagious a virus is*; the higher the Ro, the more rapid and extensive the spread. The second is the **Case Fatality Rate (CFR)**, which is the percentage of persons with the virus who die from the viral infection; in other words, *how severe the infection is*. The most updated information on global case rates can be accessed through the Johns Hopkins website.

Early quantification of the basic reproduction number (Ro) of 2019-nCoV in the current phase of the outbreak is **2.2**[5]. The Ro relates to the efficiency of transmission, and represents the average number of people who will catch the disease from a single infected person. Ro of 2.2 means that with no intervention, each case will lead to 2.2 new infections. The Ro of SARS-CoV was quantified at 2.0-5.0[6], and for MERS-CoV at 2.7-3.9[7].

The Case Fatality Rate is currently not fully known yet, as there are possible cases with no or mild symptoms that have not been confirmed by laboratory diagnosis and the overall true number of infections is unknown. WHO, in a press conference on January 29, 2020, estimated a CFR of **2%** and a preliminary study in The Lancet provided an estimation of **3%**[8]. This indicates that the fatality rate of 2019-nCoV is lower than that of SARS-CoV (CFR of 9.6%)[9] or MERS-CoV (CFR of 36%)[10], although the ultimate scope and effects of the outbreak remain to be seen.

Currently, there are **no approved existing therapeutics for 2019-nCoV**. Medical management focuses on early diagnosis of suspected cases, immediate isolation, implementation of strict infection control measures, and supportive/symptomatic care.

Development of effective vaccines are of high importance, as coronaviruses can reemerge and cause additional epidemics. While biotech and research companies are working on a vaccine for 2019-nCoV, **developing, testing and reviewing the safety and efficacy of new vaccines is a long process**; by the time a vaccine was developed for the SARS epidemic one year after the outbreak, the epidemic had been contained.

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[4] Koh D, 9 Occupational health aspects of emerging infections – sars outbreak affecting healthcare workers *Occupational and Environmental Medicine* 2018;**75:**A14.
[5] Li, Qun et al (2020). 'Early Transmission Dynamics in Wuhan, China, of Novel Coronavirus-Infected Pneumonia' *N Engl J Med*
[6] "Wallinga J, Teunis P (2004) "Different epidemic curves for severe acute respiratory syndrome reveal similar impacts of control measures". Am. J. Epidemiol. 160 (6): 509–16. doi:10.1093/aje/kwh255. PMID 15353409. Archived from the original on 2007-10-06.
[7] Lin, Q.; Chiu, A.P.; Zhao, S.; He, D. Modeling the spread of Middle East respiratory syndrome coronavirus in Saudi Arabia. Stat. methods Med. Res. 2018, 27, 1968–1978.
[8] A novel coronavirus outbreak of global health concern - Chen Wang et al., The Lancet. January 24, 2020
[9] Summary of probable SARS cases with onset of illness from 1 November 2002 to 31 July 2003" World Health Organization (WHO)
[10] de Wit E, van Doremalen N, Falzarano D, Munster VJ. SARS and MERS: recent insights into emerging coronaviruses. *Nat Rev Microbiol*. 2016;14 (8):523-534. doi:10.1038/nrmicro.2016.81

The current epidemic has led to a massive **'infodemic'**- a surge of information, much of which is inaccurate and based on myths and misconceptions. False rumors and unscientific claims can have negative consequences on how this crisis is managed. It is important to ensure accurate information based on trustworthy sources such as the latest WHO guidance and daily sitreps.

Links to daily WHO Sitreps on 2019-nCoV: https://www.who.int/emergencies/diseases/novel-coronavirus-2019/situation-reports

UNFPA APRO has set up a dedicated page on 2019-nCoV on our agency website to provide updated information:
https://sites.google.com/unfpa.org/regionalopscop/2019-ncov-updates?pli=1&authuser=1

A coordinated emergency health system and public health response for the epidemic

Effective and coordinated clinical and public health services, as well as community engagement and mobilization, are key to an epidemic response. Strategic objectives per the WHO Strategic Preparedness and Response Plan entail:

- Limiting human-to-human transmission, including reducing secondary infections among close contacts and healthcare workers, preventing transmission amplification events, and preventing further international spread from the epicenter in China
- Identify, isolate and care for patients early, including providing optimized care for infected patients
- Identify and reduce transmission from the animal source
- Address crucial unknowns regarding clinical severity, extent of transmission and infection, treatment options, and accelerate the development of diagnostics, therapeutics and vaccines
- Communicate critical risk and event information to all communities, and counter misinformation
- Minimize social and economic impact through multisectoral partnerships

Patients diagnosed with 2019-nCoV must immediately be isolated and examined/treated in a health facility by trained health workers, preferably in negative pressure rooms, with strict adherence to airborne precautions in addition to contact and droplet precautions by using personal protective equipment (PPE)- including gloves, isolation gowns and eye protection- in order to limit the possibility of medical personnel becoming infected. This requires national capacity at all levels of the healthcare system to appropriately triage patients and ensure clear referral pathways for timely management of positive cases in collaboration with case management and surveillance capacity, and intact supply chain systems to avoid shortage of necessary supplies.

Public health interventions to try to control the spread of disease involve community awareness on accurate preventive measures which include hand washing, disinfection of surfaces, avoiding contact with bodily fluids and avoiding crowded places, in addition to isolation and up to 14 days of quarantine for high-risk individuals travelling from the epicenter of the outbreak. Clear communication is an essential function for effective coordination across the public health sector to prevent and respond to disease outbreaks.

How will 2019-nCoV affect sexual and reproductive health services, including maternal health?

Effect of coronaviruses on maternal health:

Fatality rates from coronavirus infections, and infectious diseases in general, are highest in older people (age 65 or older), newborns, young infants, and other populations considered to be **immunocompromised**. Immunocompromised means not having the ability to respond normally to an infection due to an impaired or weakened immune system. This includes those with chronic health conditions such as diabetes, heart conditions or asthma; HIV or tuberculosis; autoimmune diseases; malnutrition; and cancer patients undergoing chemotherapy or radiation treatment.

Pregnancy also alters a woman's immune system, making them more susceptible to infections. This is why pregnant woman are prioritized in receiving annual influenza vaccines during the start of flu season. Historically, pregnant women have been disproportionately affected by respiratory infections. During the 2009 H1N1 pandemic and the 2003 SARS epidemic, respiratory infections in pregnant women led to higher mortality rates, ICU admissions and other co-morbidities compared to non-pregnant women[111213]. There are limited pregnancy specific data available on the 2019-nCoV, but **any febrile respiratory illness in pregnancy should be treated seriously** with immediate diagnosis, appropriate care and infectious precautions.

Pregnant women have more contact than usual with health care settings as they require regular antenatal visits, increasing their risk for contracting infections. In addition, infectious diseases sometimes have atypical presentations during pregnancy, and may be more difficult to diagnose. **Infection control in maternity settings must be prioritized** in order to prevent hospital acquired infections, and a low threshold of suspicion to investigating infections in pregnant women must be exercised.

Coronavirus infections are not believed to cause vertically transmitted infections through **mother-to-child transmission**; in other words, coronaviruses are not believed to cross the placenta directly to the fetus or the baby during pregnancy or childbirth. There were no