PUBLIC HEALTH REFERENCE SHEET
COVID-19 Associated Hospitalization and Death (SARS coronavirus-2)

Name	Coronavirus Disease 2019, SARS-CoV-2 INCLUDES: Hospitalized cases and deaths caused by SARS-CoV-2 EXCLUDES: Non-hospitalized COVID-19 cases and seasonal (non-pandemic) coronavirus (CoV-NL63, CoV-229E, CoV-OC43, and CoV-HKU1, etc.) cases; asymptomatic COVID-19 cases; hospitalizations for reasons other than COVID-19 (even with a positive test)
Reservoir & Transmission	Humans and some animals Droplet
Incubation Period	2–14 days, up to 27 days
Common Symptoms	Acute onset or worsening of any cough; shortness of breath; difficulty breathing; olfactory disorder; taste disorder; confusion or change in mental status; persistent pain or pressure in the chest; pale, grey, or blue-colored skin, lips, or nail beds (depending on skin tone); inability to wake or stay awake; clinical radiographic evidence of pneumonia; or acute respiratory distress syndrome (ARDS)
Gold Standard Diagnostic Test	Nucleic acid amplification tests (NAATs) (e.g., reverse transcription PCR (RT-PCR) and antigen tests
Risk Groups	Age and underlying medical conditions increase a person's risk for severe disease and death. The risk of severe disease and death increases significantly with age (≥50 years old), pregnancy, obesity, and with an increasing number of comorbidities.
Geographic Significance	Present worldwide

What is Covid-19 (SARS-CoV-2)?
COVID-19 (coronavirus disease 2019) is a viral disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), which is a single-stranded, positive-sense RNA virus that belongs to the family *Coronaviridae*, genus *Betacoronavirus,* and accumulates frequent mutations.

What is the occurrence of Covid-19 (SARS-CoV-2)?
The first cases of COVID-19 were reported in December 2019 in Wuhan, China, and since then, the virus has spread to all continents. International travel has played an ongoing role in the epidemiology of the pandemic, facilitating the initial global spread of the virus as well as each successive SARS-CoV-2 variant.

How is Covid-19 (SARS-CoV-2) transmitted?
SARS-CoV-2 is primarily transmitted from person-to-person following close (≤6 ft) exposure to respiratory fluids carrying infectious virus. When an infected person breathes, sings, talks, coughs, or sneezes, they release infectious aerosol particles (droplet nuclei) into the air. Exposure can occur when aerosol particles and small respiratory droplets are inhaled, or they contact exposed mucous membranes. Infection from contaminated surfaces or objects (fomites) is possible but is unlikely to contribute significantly to new infections.

Infection through inhalation is most likely to occur at closer distances (≤6 ft), but transmission over distances >6 ft by inhalation of very fine aerosolized, infectious particles (airborne transmission) has been documented. The risk of transmission is enhanced in poorly ventilated indoor spaces (CDC, 2023).

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Who is at risk for Covid-19 (SARS-CoV-2)?

Anyone can be infected with SARS-CoV-2. People who are more likely than others to get very sick from COVID-19 include those who are older (>65 years), immunocompromised, have certain disabilities, or underlying health conditions. Conditions that may increase risk of severe illness include, but are not limited to, HIV; TB; cancer; cerebrovascular disease; chronic disease of the kidney, liver, lung; cystic fibrosis; dementia or neurological conditions; diabetes type 1 or 2; and pregnancy. A person's risk of severe illness from COVID-19 increases as the number of underlying medical conditions they have increases. People can be reinfected with SARS-CoV-2 multiple times. Each time a person is infected or reinfected with SARS-CoV-2, they have a risk of developing Long COVID.

What are the signs and symptoms of Covid-19 (SARS-CoV-2)?

SARS-CoV-2 infection can present with an array of clinical findings, ranging from asymptomatic to severe (e.g., multiorgan involvement, respiratory failure, death). Most infections are mild; however, about 40% of people are asymptomatic. Among cases that do not result in severe disease or hospitalization, fatigue; headache; muscle aches; rhinitis; and sore throat are reported most often. Other reported symptoms and signs include fever, chills, cough, shortness of breath, loss of taste and smell, nausea, vomiting, and diarrhea. There is evidence that clinical presentation and illness severity differ depending on the SARS-CoV-2 variant (CDC, 2023).

What are the potential complications of Covid-19 (SARS-CoV-2)?

Within a few weeks after onset, most people make a full, uneventful recovery. Some people have effects that last longer than 4 weeks; this is known as Long COVID or Post-COVID Conditions. Long COVID is broadly defined as signs, symptoms, and conditions that continue or develop after initial COVID-19 infection. Long COVID is not one illness but rather can include a wide range of ongoing health problems from damaged organ function as well as symptoms such as joint pain, chronic change or continued loss of smell and taste, sleep disorder, amnesia, depression, rash, and hair loss. These conditions can last weeks, months, or years.

How is Covid-19 (SARS-CoV-2) diagnosed?

Viral tests that detect current infection with SARS-CoV-2 are used for COVID-19 diagnosis and include nucleic acid amplification tests (NAATs) (e.g., reverse transcription PCR (RT-PCR) and antigen tests. Tests that detect antibody to SARS-CoV-2 can be used to identify previous infection and might be useful for surveillance purposes; however, these tests are not typically used for diagnosis, except for multisystem inflammatory syndrome in children and adults.

How is Covid-19 (SARS-CoV-2) treated?

For mild disease, medications such as acetaminophen or ibuprofen can provide symptomatic relief. Ill people also should rest and stay well hydrated. For people at greater risk for progression to severe disease, the FDA has issued Emergency Use Authorization for several postexposure treatments, including antiviral medications and monoclonal antibodies. For maximal efficacy, administer medications as soon as possible after diagnosis. Emergence of future variants might impact future treatment options. The National Institutes of Health regularly updates COVID-19 treatment guidelines at https://www.covid19treatmentguidelines.nih.gov/.

How can Covid-19 (SARS-CoV-2) be prevented?

- Vaccines are available, safe, and effective at preventing severe illness, hospitalization, and death from COVID-19, as well as limiting the spread of the virus.
- Inhalation of virus particles and deposition of virus on mucous membranes can be prevented by wearing a well-fitting mask or respirator and avoiding crowded indoor spaces with poor ventilation. Handwashing can help prevent transmission from contact with contaminated

surfaces (fomite transmission). Used in combination, layered interventions (e.g., mask wearing, avoiding crowded indoor spaces with poor ventilation, testing, isolation, quarantine, vaccination) are measures that can reduce risk of transmission.

- In addition to the CDC, resources are available from the Defense Centers for Public Health–Aberdeen at https://ph.health.mil/topics/discond/covid19/Pages/default.aspx.

What are some Public Health considerations?

- Guidance for contact tracing is available at: https://ph.health.mil/PHC Resource Library/cv19-contact-tracing-toolkit.pdf
- Guidance for specific settings, such as school and childcare, is available at: https://www.cdc.gov/coronavirus/2019-ncov/community/index.html
- When reporting cases of COVID-19 in the Disease Reporting System internet (DRSi) system—
    - Document if the patient was hospitalized, including admission and discharge dates, place of hospital admission, and clinical course.
    - Document if the patient died, including the date of death.
    - Document if the patient works in, lives in, or attends a high transmission setting such as, daycare, school, group living, health care, training center, or ship.
    - Document if the patient has any relevant comorbidities, underlying illnesses, or is otherwise immunocompromised (e.g., via immunocompromising medications).
    - Document if the patient was vaccinated for SARS-CoV-2, vaccine manufacturer, and date(s) of vaccination.
    - Specify the variant, if known.
- Hospitalization is defined as an admission to an inpatient ward of a hospital, a medical transfer, or evacuation to a facility with a higher level of care. Patients admitted for observation and discharged the same day are considered hospitalized for this case definition. An overnight stay is not required. Emergency room or outpatient clinic visits that do not result in hospital admission are not considered hospitalizations.
- Cases that are hospitalized for other reasons (e.g., childbirth, surgery) with an incidental COVID-19 positive test do not meet this case definition and, therefore, are not reportable.

References:

Defense Health Agency. 2022. *Armed Forces Reportable Medical Events: Guidelines and Case Definitions.* https://www.health.mil/Reference-Center/Publications/2022/11/01/Armed-Forces-Reportable-Medical-Events Guidelines

Heymann, David L. ed. 2022. *Control of Communicable Diseases Manual*. 21st Edition. Washington, DC: APHA Press.

"Covid-19," Centers for Disease Control and Prevention (CDC), last reviewed September 25, 2023. https://www.cdc.gov/coronavirus/2019-ncov/index.html

Guagliardo, Sarah Anne and Friedman, Cindy. "COVID-19." *CDC Yellow Book 2024: Travel-Associated Infections & Diseases.* Centers for Disease Control and Prevention, 2023. https://wwwnc.cdc.gov/travel/yellowbook/2024/infections-diseases/covid-19