How is SARS-CoV-2 transmitted?

• Person-to-person transmission
  – Respiratory droplets by an infected symptomatic person who is coughing or sneezing
  – People in close contact (within about 6 feet)
  – Droplets can land in the mouths or noses of nearby people or possibly be inhaled into the lungs.
  – Close personal contact, such as touching or shaking hands
    • Contaminated hands
    • Contaminated surfaces and fomites
    • The virus can survive on surfaces up to 3 days
• No evidence of airborne transmission of aerosols or droplet nuclei from person-to-person over long distances.

The best way to prevent illness is to avoid being exposed to this virus.
Surveillance Pyramid and Its Relation to Outbreak Containment

- The proportion of mild and asymptomatic cases versus severe and fatal cases is currently unknown
- Knowledge gap that hampers realistic assessment of the pandemic potential and complicates containment

Munster et al. NEJM. Jan 24

Patients seek health care and can be diagnosed and isolated, and their contacts can be traced. A caveat is that coronaviruses have a propensity for nosocomial spread.

Patients do not seek health care, do not receive a diagnosis, and may spread the virus to contacts.
Healthcare Setting

- Elimination and substitution are not typical options for the healthcare setting.

- Engineering controls:
  - Effective triage and isolation of potentially infectious patients to prevent exposures

- Administrative controls
  - Cohort HCP

- Personal Protective Equipment
  - Challenging shortage
Minimize Chance for Exposures

**Before Arrival**
- Call, screen, reschedule appointments if respiratory symptoms
- Triage protocols to determine if an appointment is necessary

**Upon Arrival and During the Visit**
- Limit points of entry to the facility.
- Triage for symptoms stations outside or at the entrance of the facility
- Place a face mask on patients and accompanying family members; adhere to respiratory hygiene and cough etiquette, hand hygiene; source control
- Isolation of patients with symptoms in a single-patient room with the door closed
- Cohort patients on a designated unit; cohort dedicated staff
- Assess hospitalized patients for new onset of respiratory symptoms daily
Standard and Transmission-Based Precautions

• Updated PPE recommendations: follow standard, contact and droplet precautions:
  – Fitted N95 respirator or powered air purifying respirator (PAPR) preferred when available
  – In shortage, facemasks are an acceptable alternative.
  – Reserve respirators for aerosol-generating procedures
  – Gown, gloves, eye protection (goggles or face shield)
  – Hand hygiene with soap and water or alcohol-based hand sanitizer

• Training for proper donning and doffing of PPE to prevent self-contamination
Patient Placement

- Hospitalize only if medically necessary. Home care is preferable.
- Single-person room with the door closed.
  - Airborne Infection Isolation Rooms (AIIRs) should be reserved for patients undergoing aerosol-generating procedures
- To limit HCP exposure and conserve PPE, designate entire unit to cohort patients and staff
- Patients should wear a facemask to contain secretions during transport
Aerosol-Generating Procedures

- Performance of aerosol-generating procedures on suspected or confirmed COVID-19 patients:
  - Fitted N95 respirator or PAPR
  - Airborne infection isolation room (AIIR)
  - Eye protection, gloves, and gown

- Limit the number of HCP present during the procedure
Other Controls

• Limit visitor access and movement within the facility

• Implement engineering controls
  – physical barriers to guide patients through triage areas to reduce or eliminate exposure

• Monitor ill and exposed HCP
  – Sick leave
  – Self-quarantine and monitoring
Environmental Infection Control

- SARS-CoV-2 persists on surfaces for up to 3 days
- Efficiently inactivated by surface disinfectants: 62-75% ethanol, 0.5% hydrogen peroxide, or 0.1% sodium hypochlorite (bleach) within 1 minute.
- EPA-registered, hospital-grade disinfectant
- Sensitive to ultraviolet radiation and heating.
- Management of laundry, food utensils, and medical waste should be performed in accordance with routine procedures.
For the public
How can I protect myself?

• Avoid crowds, especially in poorly ventilated spaces
• Avoid close contact with people who are sick with respiratory symptoms
• Clean your hands often
  – Wash your hands often with soap and water for at least 20 seconds, especially after blowing your nose, coughing, or sneezing, or having been in a public place.
  – If soap and water are not available, use a hand sanitizer that contains at least 60% alcohol.
  – Avoid touching high-touch surfaces in public places – wash your hands after touching surfaces
• Avoid touching your face, nose, eyes, mouth with unwashed hands
• Stay home when you are sick.
• Cover your cough or sneeze with a tissue, then throw the tissue in the trash. Wash your hands.
• Clean and disinfect your home to remove germs
• Avoid all non-essential travel including plane trips, and especially cruise ships