

COVID-19

Briefing for Emergency Medical Services (EMS) and 911 Public Safety Answering Points (PSAPs)

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COVID-19 OUTBREAK IN CHINA

Findings Published by the World Health Organization

Report of the WHO-China Joint Mission

on Coronavirus Disease 2019 (COVID-19): 16-24 February 2020

Submitted February 28, 2020

COVID-19 Signs and Symptoms among Confirmed Cases Reported in China

Sign or symptom*	%
Fever	87.9
Dry Cough	67.7
Fatigue	38.1
Sputum	33.4
Shortness of breath	18.6
Myalgia or arthralgia	14.8
Sore throat	13.9
Headache	13.6
Chills	11.4
Nausea or vomiting	5.0
Nasal congestion	4.8
Diarrhea	3.7

*Among 55,924 confirmed cases

Key Findings from the WHO-China Report (as of 2/20/20)

Age

Median Age: 51
years

Range: 2 days -
100 years

**30-69 years:
77.8%**

**<19 years:
2.4%**

Sex

Male: 51.1%

Female: 48.9%

Spectrum of Disease

Mild: 80%

Severe: 13.8%

Critical: 6.1%

Key Findings from the WHO-China Report (as of 2/20/20)

Duration of Illness

Mild Disease: ~2 Weeks

Severe or Critical Disease: 3-6 Weeks

Onset to Severe Disease: 1 Week

Onset to Death: 2-8 Weeks

Severe Disease or Death

Increased with Age

Case-fatality Rate >80 Years: 21.9%

Case-fatality Rate in Males: 4.7%

Case-fatality Rate in Females: 2.8%

Severe Disease <19 Years: 2.5%

Critical Disease <19 Years: 0.2%

Case-fatality Rate by Comorbidity

No Comorbidity: 1.4%

Cardiovascular Disease: 13%

Diabetes: 9.2%

Hypertension: 8.4%

Chronic Respiratory Disease: 8.0%

Cancer: 7.6%

Key Findings from the WHO-China Report (as of 2/20/20)

Pregnant Women (n=147)

64 Confirmed Cases

**Severe Disease:
8%**

Critical: 1%

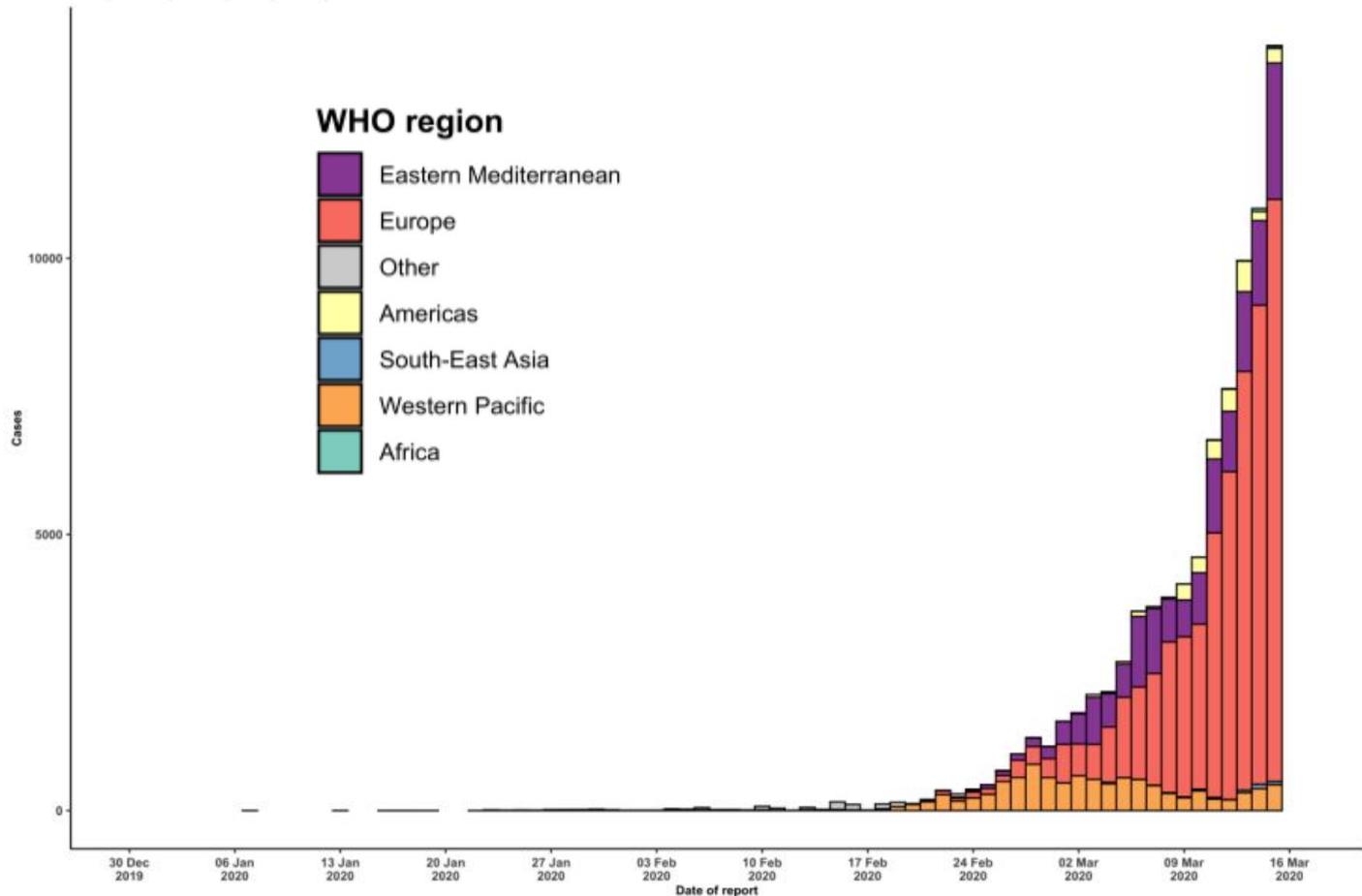
Healthcare Personnel

2,055 Confirmed Cases

**476 Hospitals
across China**

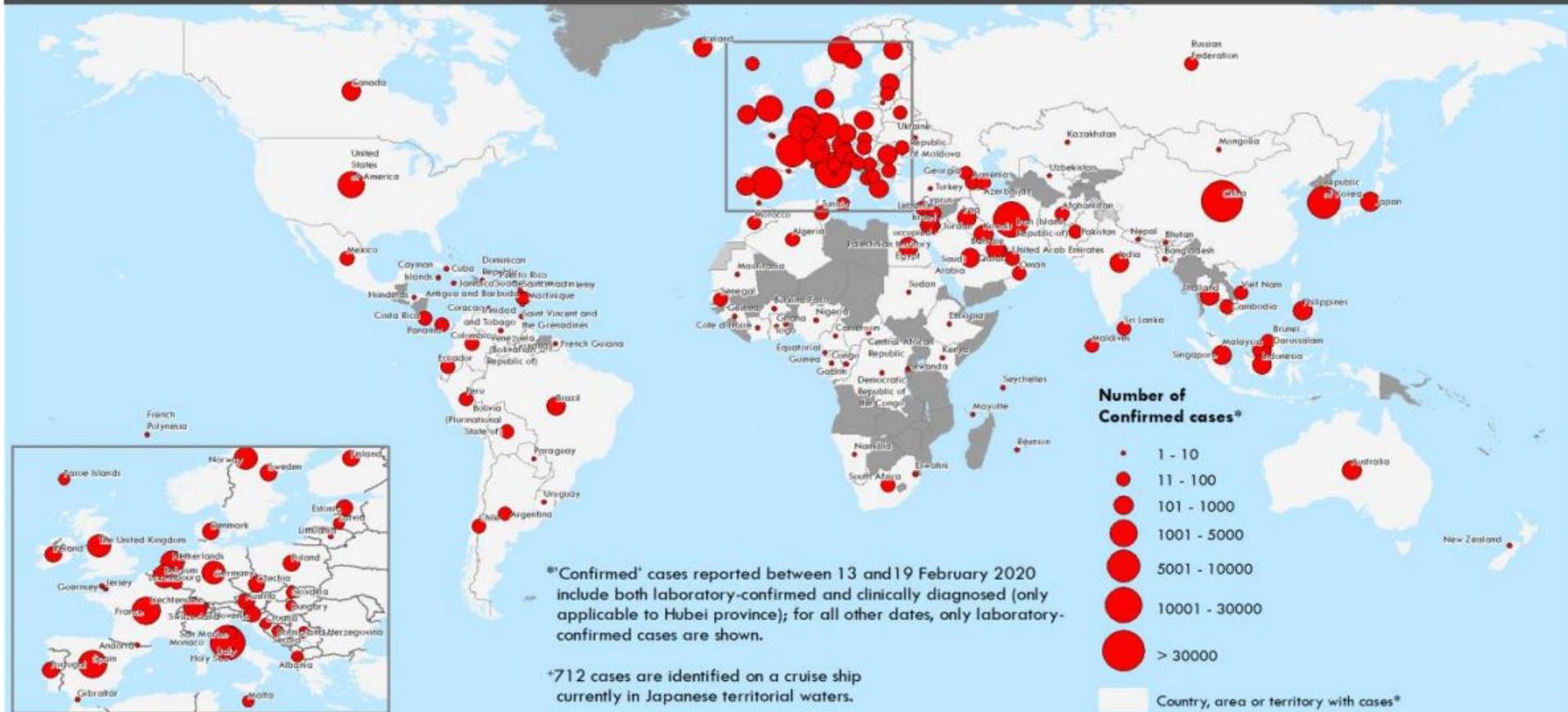
**88% from Hubei
Province**

Epidemic Curve of COVID-19 Cases Outside of China by Date and WHO Region



As of March 16, 2020

Distribution of COVID-19 cases as of 16 March 2020



Data Source: World Health Organization
Map Production: WHO Health Emergencies Programme

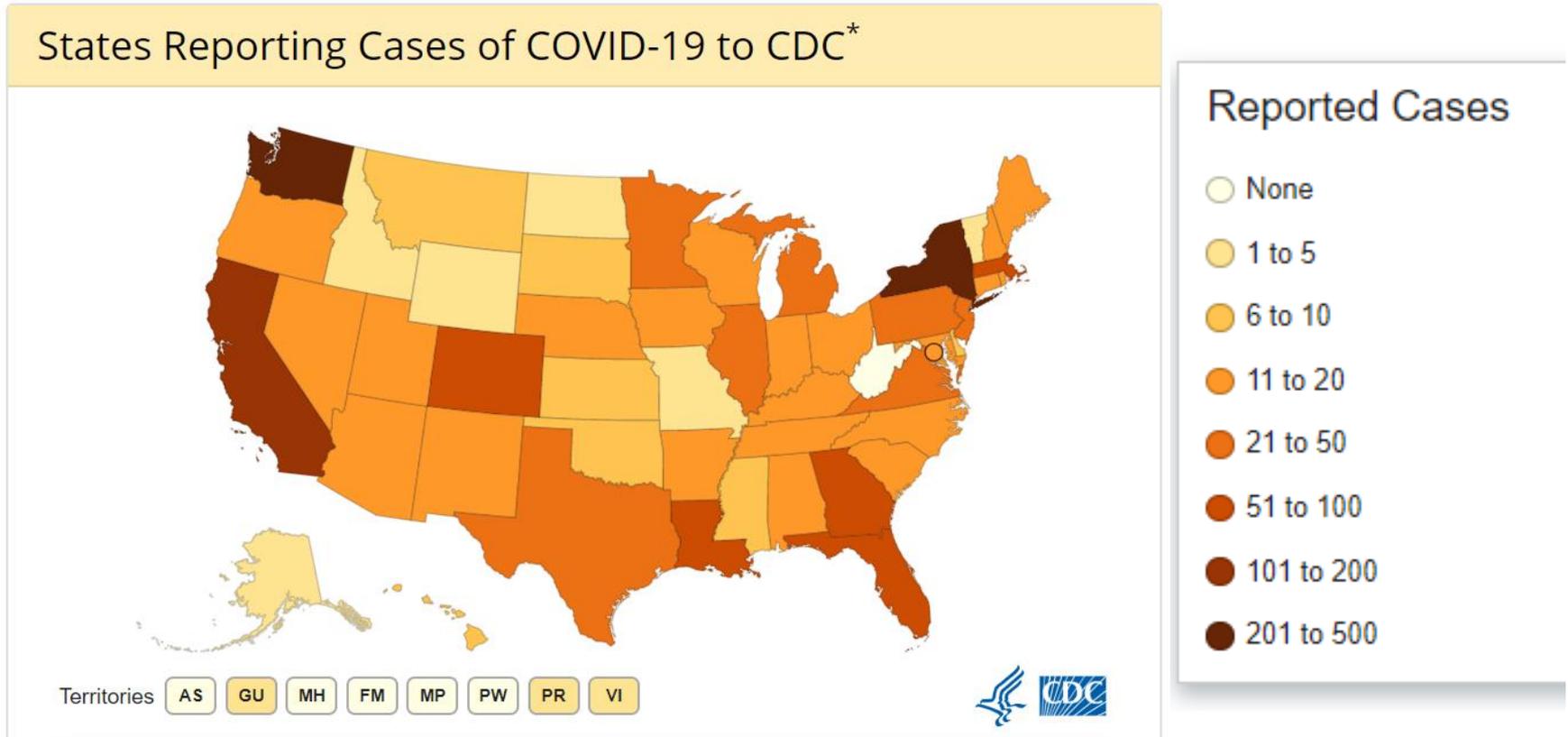
Not applicable

0 2,500 5,000 km
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The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

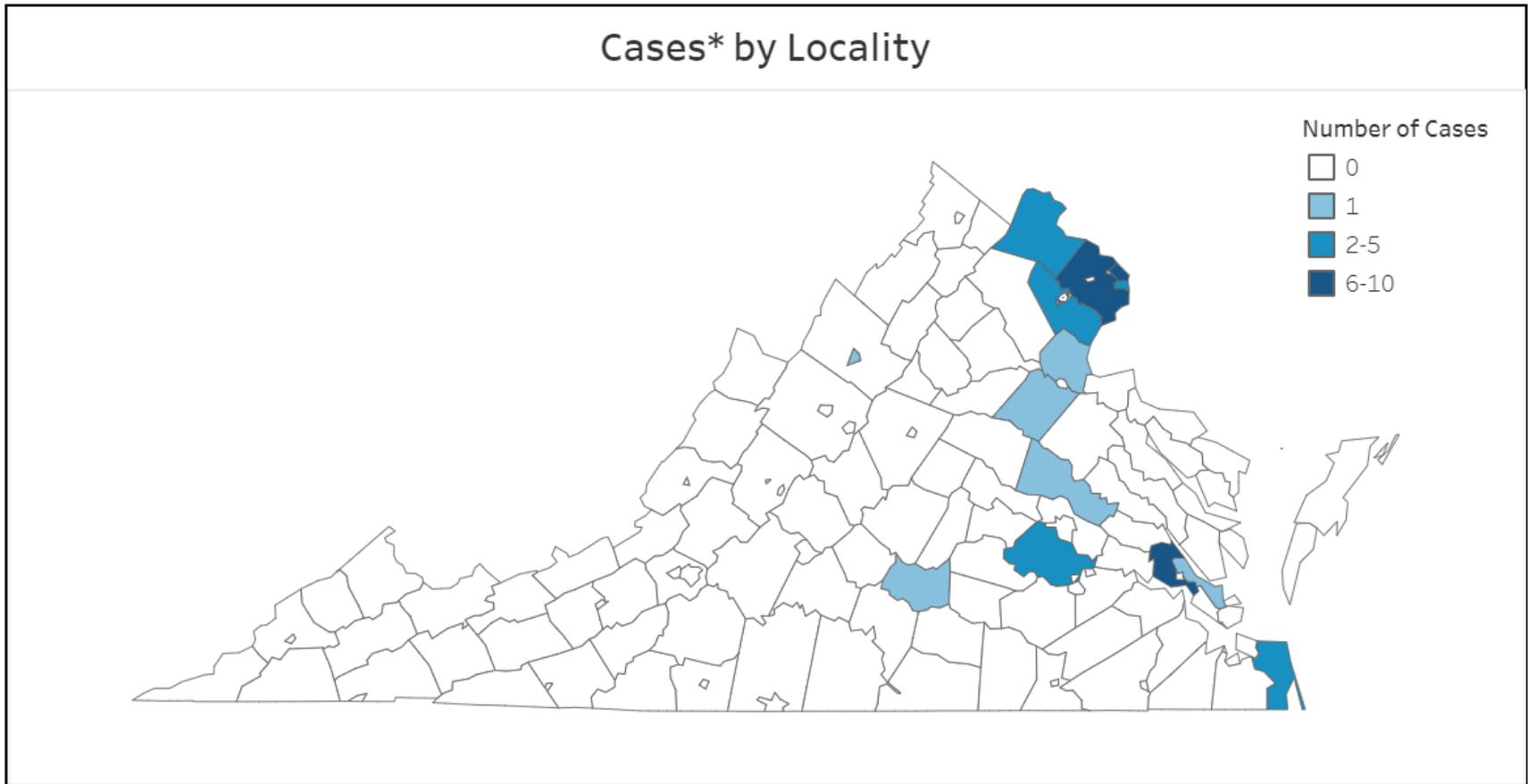
States Reporting Cases of COVID-19 to CDC

As of 3/16/20, Total U.S. Cases = 3,487; Total U.S. Deaths = 68



COVID-19 Cases in Virginia

As of 3/16/20, Virginia has 51 cases of COVID-19



GUIDANCE FOR 911 PUBLIC SAFETY ANSWERING POINTS

PSAPs or EMD Screening Patients with Respiratory Symptoms

- Have you travelled in the past two weeks, and if so where and when?
 - Stay informed with the updated [affected geographic regions](#)
- Did you have contact with someone confirmed to have COVID-19?
- Notify possible COVID-19 patients to EMS clinicians before arrival on scene
- Response to ill travelers at US international airports and other ports of entry should be notified to CDC quarantine station of jurisdiction for the port of entry

Travel Notices and Restrictions (as of 3/16/20)

Warning Level 3

- Recommendation
 - Avoid Nonessential Travel
- China, Iran, Mainland Europe, United Kingdom and Ireland

Alert Level 2

- Recommendation
 - Practice Enhanced Precautions
- South Korea
- Japan

Watch Level 1

- Recommendation
 - Practice Usual Precautions
- Global

- Reconsider all cruise ship voyages worldwide

Entry of most foreign nationals from these destinations has been suspended:

- China
- Iran
- Mainland Europe

GUIDANCE FOR EMS PROVIDERS

COVID-19 Testing Availability

Virginia Public Health Lab (DCLS)

- Testing specimens as of February 29, 2020
- VDH approval required - specimens should not be sent without approval
- Specimen collection guidance available on [DCLS website](#)

Private Labs

- Select private labs are able to perform testing as of March 6, 2020
- VDH approval is not necessary
- Contact your lab provider to determine testing availability

Interim VDH Testing Criteria

(Revised 3/13/20)

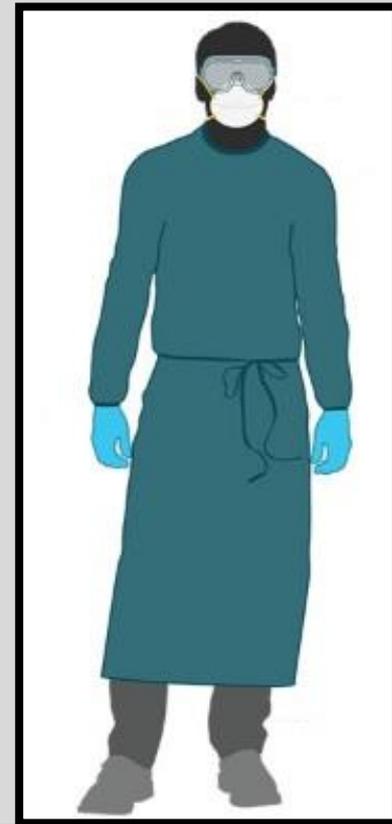
Clinical Features		Epidemiologic Risk
Fever OR signs/symptoms of lower respiratory illness (e.g., cough or shortness of breath)	AND	Any person, including healthcare personnel, who has had close contact with a laboratory-confirmed COVID-19 patient within 14 days of symptom onset
Fever AND tested negative for influenza AND a respiratory virus panel negative for all pathogens AND without an alternative diagnosis	AND	Person with clinically or radiographically diagnosed pneumonia requiring hospitalization
Fever OR signs/symptoms of lower respiratory illness (e.g., cough or shortness of breath) AND tested negative for influenza AND a respiratory virus panel negative for all pathogens AND without an alternative diagnosis	AND	Person residing in a nursing home or long-term care facility

More details can be found on the [VDH Updated Testing Guidance](#)

Requirements to Care for Patients with Suspect or Confirmed COVID-19

- Providers to put on appropriate PPE before entering the scene
- Minimize contact with patient until a facemask is on the patient
- Drivers should wear all PPE if providing direct patient care
 - Remove and dispose of all PPE after care and before entering isolated driver's compartment
 - If no isolation compartment, driver should wear respirator/facemask during transport

Staff Trained On Recommended Personal Protective Equipment (PPE)



Minimum PPE Requirements for Suspected or Confirmed COVID-19

EMS Providers in Close Contact



Hand Hygiene



Goggles or Face Shield



Gown



Gloves



N95 Respirator

or



Facemask

Patients



Hand Hygiene



Facemask

PPE Prioritization: Aerosol-Generating Procedures

Prioritize PPE if supply chain disruption:

- **N95 respirators** - aerosol-generating procedures
- **Gowns** - aerosol-generating procedures, activities where splashes and sprays are anticipated, high-contact patient activities



Once supply chain is restored, fit-tested EMS clinicians should return to use of respirators for patients with known or suspected COVID-19

Aerosol-Generating Procedures

- Exercise caution if procedures are necessary
 - Consult with medical control if possible
- Bag valve masks and other ventilator equipment should be equipped with HEPA filtration
- Rear doors of transport vehicle should be opened and HVAC system should be activated during aerosol-generating procedures
- Perform away from pedestrian traffic



Clinical Management

- Currently no specific antiviral treatment
- Prompt infection prevention and control and supportive management of complications is recommended
- Patients with mild illness might not initially require hospitalization
- Signs and symptoms might worsen in 2nd week of illness
- Decision to monitor patient in an inpatient or outpatient setting is made on case-by-case basis
- Avoid corticosteroids unless indicated for other reasons

List of treatments and vaccines in development

www.clinicaltrialsarena.com/analysis/coronavirus-mers-cov-drugs/

Vaccination and Treatment

- Clinical trials for treatment and vaccines in development
- **Treatment**
 - Currently no specific antiviral treatment
 - Supportive care
 - Research is ongoing
- **Vaccine**
 - Currently no vaccine
 - NIH research and development ongoing
 - Projected timeline = 12-18 months

List of treatments and vaccines in development

www.clinicaltrialsarena.com/analysis/coronavirus-mers-cov-drugs/

Transporting Suspected COVID-19 Patients

If a patient with suspected or confirmed COVID-19 needs transported:

- Provide patient with a facemask
- Call ahead to receiving facility regarding symptoms and risk factors
- Keep the patient separated from other people as much as possible
 - Family members and other contacts of patients should **not** ride in the transport vehicle, if possible
 - If riding in transport vehicle, a facemask should be worn
- Contact your [local health department](#) to report suspected COVID-19 case
- Keep a log of all clinicians and providers and their level of patient contact

Transporting Suspected COVID-19 Patients

- When possible, use vehicles that have isolated driver and patient compartments with separate ventilation to each area
 - Close the door/window between these compartments **before** bringing the patient on board
 - Vehicle ventilation in both compartments should be set on non-recirculated mode
 - Only an equipped supplemental recirculating ventilation unit that passes air through HEPA filters may be used for recirculation
 - Use rear exhaust fan if equipped on vehicle
- If no isolated driver and patient compartments nor ventilation are present, open the outside air vents in the driver area and turn on the rear exhaust fans to the highest setting

Documentation of Patient Care

- Should be done after EMS clinicians have completed transport, removed and discarded PPE, and performed hand hygiene
 - Written documentation should match verbal information given to ED providers at the time patient was transferred
- Include list of EMS clinicians and public safety providers involved in response and level of contact with the patient (e.g., no contact with patient, provided direct patient care)
 - This documentation may need to be shared with local public health authorities

Cleaning EMS Transport Vehicles after Transporting Suspected COVID-19 Patients

- After transport, leave the rear doors of the vehicle open to allow for air changes. Doors should remain open during cleaning.
- When cleaning, wear PPE:
 - Disposable gown
 - Gloves
 - Face shield OR facemask + goggles, if splashes or sprays are anticipated
- Clean and disinfect the vehicle in accordance with SOPs
- Clean and disinfect reusable patient-care equipment
- Follow SOPs for disposal of used PPE and laundering used linen; avoid shaking the linen

Environmental Cleaning

- Products with EPA-approved emerging viral pathogens claims are recommended for use against COVID-19
- Follow the manufacturer's instructions for all cleaning and disinfection products (e.g., concentration, application method and contact time, PPE)

Refer to [List N](#) on the EPA website for EPA-registered disinfectants that have qualified under EPA's emerging viral pathogens program for use against SARS-CoV-2

Guidance on Assessment and Monitoring of Healthcare Contacts

- If COVID-19 is identified, healthcare personnel are assessed and classified as high-, medium-, or low-risk depending on multiple factors
 - Exposure duration, patient symptoms, if patient was wearing facemask, aerosol-generating procedures, and type of PPE used by healthcare personnel
- Recommendations for monitoring for COVID-19 and work restrictions depend on exposure risk classification
- LHD will work with each facility to outline roles and responsibilities

[VDH Healthcare Personnel Risk Assessment Tool](#)

EMS Employer Responsibilities

- EMS agencies should develop sick-leave policies for EMS personnel that are non-punitive, flexible, and consistent with public health guidance
- Equipment: Consult ventilator equipment manufacturer to confirm appropriate filtration capability and effect of filtration on positive-pressure ventilation

Infection Prevention and Control Actions Needed Now

- Meet with staff to educate and train them on COVID-19 and what to do to prepare
 - Ensure staff are trained in correct use of PPE and respiratory protection device use
- Plan to optimize your facility's supply of PPE and EPA-registered hospital grade disinfectants due to ongoing shortages
 - Report any EMS facility supply chain issues to the Regional Healthcare Coalition

Key Reminders

- All personnel should avoid touching their face while working
- Perform hand hygiene after removing PPE
- EMS personnel should be alert for fever or respiratory symptoms (e.g. cough, shortness of breath, sore throat)
 - If symptoms develop, self-isolate and notify occupational health services and/or LHD to arrange for appropriate evaluation

Help Counter Stigma

- Support people who are coming back to school or work after completing their quarantine or isolation period for COVID-19
- Maintain confidentiality of those seeking health care and those who are part of any contact investigation
- Raise awareness without increasing fear
- Share accurate information about how virus spreads
- Provide social support

ADDITIONAL RESOURCES

New or Updated CDC Guidance

Revised PUI Case Definition

Healthcare Infection Control Guidance

Healthcare Personnel with Potential Exposure Guidance

Pregnant Women and Children FAQs

Inpatient Obstetric Healthcare Guidance

Discontinuation of Transmission-based Precautions

HCP Preparedness Checklist and Tool

Strategies for Long-Term Care Facilities

COVID-10 Publications

VDH Resources for EMS Providers

Information for Healthcare Providers

- http://www.vdh.virginia.gov/content/uploads/sites/13/2020/03/Provider_FAQ_03082020.pdf

Interim Guidance for COVID-19 Testing

- http://vdhweb/epi/Novel%20Coronavirus_2019-nCoV/VDH%20Updated%20Guidance%20on%20COVID19%20Testing_03122020_final.pdf

Healthcare Personnel Risk Assessment Tool

- http://www.vdh.virginia.gov/content/uploads/sites/13/2020/03/VDH_COVID-19_Healthcare_Personnel_Risk_Assessment_Tool_3.8.2020.pdf

EMS COVID-19 Resources

CDC COVID-19 Interim Guidance for EMS

- <https://www.cdc.gov/coronavirus/2019-ncov/hcp/guidance-for-ems.html>

EMS Infectious Disease Playbook

- <https://www.ems.gov/pdf/ASPR-EMS-Infectious-Disease-Playbook-June-2017.pdf>

Criteria to Guide Evaluation of PUI for COVID-19

- <https://www.cdc.gov/coronavirus/2019-ncov/hcp/clinical-criteria.html>

Interim Infection Control Guidance

- <https://www.cdc.gov/coronavirus/2019-ncov/infection-control/index.html>

Strategies for Ensuring Healthcare Systems Preparedness and Optimizing N95 Supplies

- www.cdc.gov/coronavirus/2019-ncov/hcp/healthcare-supply-ppe.html

CDC Patient Resources

COVID-19 Factsheet

- <https://www.cdc.gov/coronavirus/2019-ncov/downloads/2019-ncov-factsheet.pdf>

Steps to Prevent the Spread of COVID-19

- <https://www.cdc.gov/coronavirus/2019-ncov/about/steps-when-sick.html>

Travelers: Frequently Asked Questions and Answers

- <https://www.cdc.gov/coronavirus/2019-ncov/travelers/faqs.html>

People at Higher Risk and Special Populations

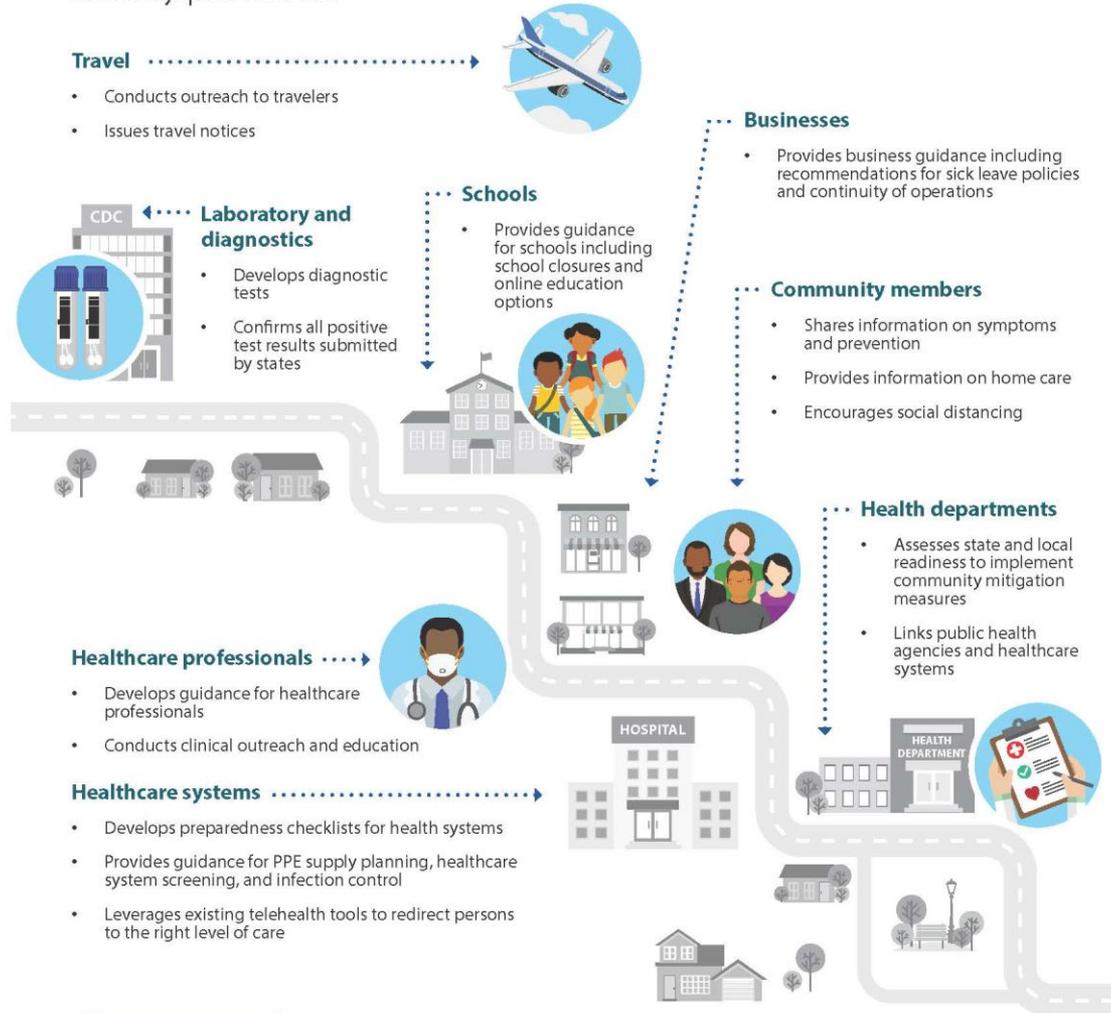
- <https://www.cdc.gov/coronavirus/2019-ncov/specific-groups/index.html>

Preventing the Spread of COVID-19 in Communities

- <https://www.cdc.gov/coronavirus/2019-ncov/hcp/guidance-prevent-spread.html>

PUBLIC HEALTH SYSTEM RESPONSE

CDC is aggressively responding to the global outbreak of COVID-19 and preparing for the potential of community spread in the U.S.

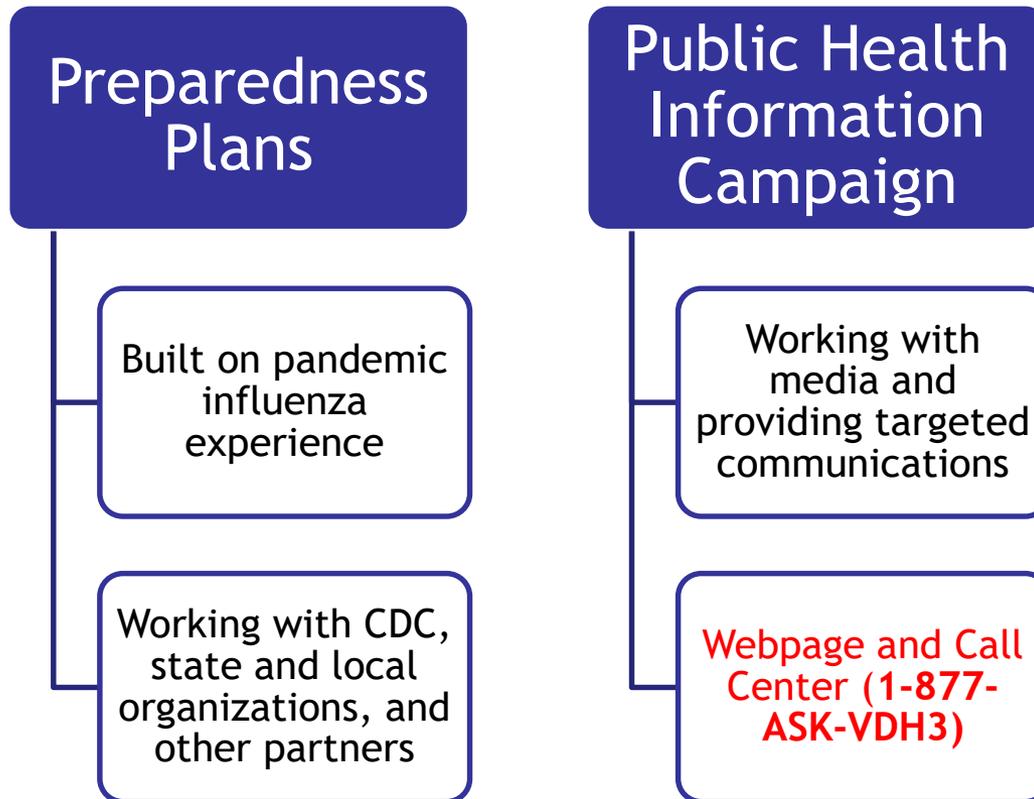


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For more information: www.cdc.gov/COVID19

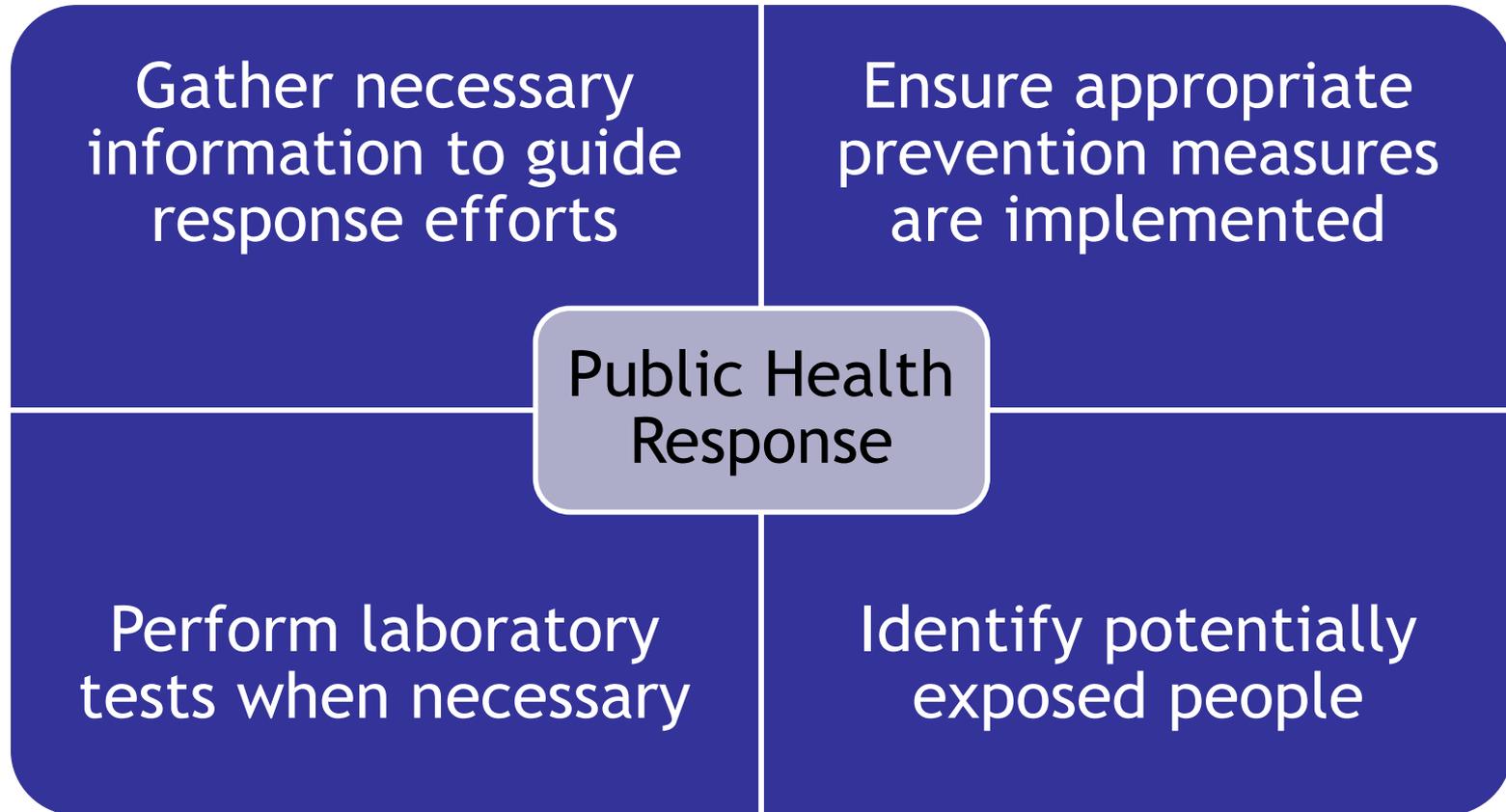
Virginia Readiness

Incident command structure in place since January 22, 2020



COVID-19

Surveillance and Investigation



Identify and Monitor People Exposed to COVID-19

- **Airport screening**
 - Exit & entry screening - Flights from China & Iran
 - Exit screening in Italy & South Korea
- **Monitoring and movement restrictions of travelers and contacts to cases**
 - Contact info of travelers from China & Iran provided to state health departments
 - Other travelers instructed at airport to stay home and monitor themselves for 14 days
 - Known close contacts; cruise ship notifications provided to state health departments
- **Contact tracing**

Nonpharmaceutical Interventions



Knowledge Gaps

- Source of infection
- Pathogenesis and virulence evolution of the virus
- Transmission dynamics
 - Role of aerosol transmission in non-healthcare settings
 - Role of fecal-oral transmission
- Viral shedding
- Risk factors for infection
 - Asymptomatic infection
- Seasonality

Take Home Messages

- Prepare your transport vehicles to safely triage and manage patients with respiratory illness, including COVID-19
- Immediately report suspect or confirmed COVID-19 cases to your [local health department](#)
- Everyone has a role to play in preparing for COVID-19 in the community
- Direct OEMS questions to Karen.Owens@vdh.virginia.gov

General COVID-19 Resources

Virginia Department of Health (VDH)

- [35 Local Health Districts](#)
- www.vdh.virginia.gov/coronavirus

Centers for Disease Control and Prevention (CDC)

- COVID-19 Website: www.cdc.gov/coronavirus/2019-nCoV
- Health Alert Network (HAN):
<https://emergency.cdc.gov/han/2020.asp>

World Health Organization (WHO)

- www.who.int/emergencies/diseases/novel-coronavirus-2019



Thank you!

Please send questions to:

respiratory@vdh.virginia.gov

VDH VIRGINIA
DEPARTMENT
OF HEALTH

*To protect the health and promote the
well-being of all people in Virginia.*