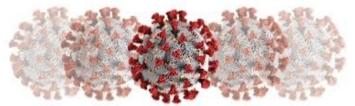
# COVID-19 in Juvenile Justice Settings A Roundtable Discussion







### Moderator: Dr. Brent Gibson



### Brent Gibson, MD, MPH, CCHP-P Chief Health Officer, NCCHC

Dr. Gibson works in both a leadership and technical capacity to help define NCCHC's strategy and direction, and advises on a variety of clinical and public health issues. He works with thought leaders, clinicians, and government officials to facilitate education, training, and technical assistance to support provision of quality health care to incarcerated persons. Dr. Gibson is board certified by the American Board of Preventive Medicine and is a Certified Association Executive.





# **Potential Topics**

### Intake/admission

- Screening
- Testing
- Quarantine

#### Staff

- Masks and PPE
- Testing
- Assignments
- Coping, stress, vicarious trauma

### Medical isolation, management of illness

- Time frame for isolation
- Testing vs. not testing to come off
- Support for patients on isolation

### Facility prevention strategies

- Surveillance: testing of staff, patients
- Limitation of visits, court, etc.
- Programming decisions (e.g., education, clinical)

These slides are available along with the recorded webinar at the NCCHC website.



# Welcome: Dr. Elizabeth Lowenhaupt



### Elizabeth Lowenhaupt, MD, FAAP, CCHP Chair, NCCHC's Juvenile Health Committee

Dr. Lowenhaupt is a board-certified pediatrician, psychiatrist, and child and adolescent psychiatrist who received her medical degree from the University of Missouri School of Medicine in Columbia. A clinical associate professor at Brown Alpert Medical School in the departments of psychiatry and human behavior, pediatrics, and medical sciences, she is the consulting medical and psychiatric director to the Rhode Island Training School. Dr. Lowenhaupt serves on NCCHC's board of directors as liaison of the American Academy of Child and Adolescent Psychiatry.



### Juvenile Health Committee

NCCHC relies on its committees to help formulate policy, guide activities to help meet the needs of its constituencies, or make recommends to the NCCHC board of directors.

The JHC functions primarily in an educational and advisory capacity and advises other NCCHC committees and the Board of Directors as a whole.



# Committee Responsibilities

- Develop educational products with an emphasis on the health of the detained juvenile
- Provide juvenile health subject matter expertise to the Standards and Accreditation Committee, the Policy and Research Committee, the Education Committee, and the Board of Directors
- Provide or recommend subject matter experts to support projects of NCCHC that pertain to the health of the detained juvenile
- Liaise and coordinate with outside organizations with respect to NCCHC policy and technical documents pertaining to juvenile health

### Welcome: Dr. Paula Braverman



### Paula Braverman, MD Member, NCCHC's Juvenile Health Committee

Dr. Braverman serves as Chief, Division of Adolescent Medicine at Baystate Children's Hospital in Massachusetts. Previously, she was medical director at the Hamilton County Juvenile Court Youth Center in Cincinnati for 14 years. In 2014 she received the Founder's Award from the American Academy of Pediatrics' Section on Adolescent Health. She is board certified in pediatrics and adolescent medicine. Dr. Braverman is liaison of the American Academy of Pediatrics on NCCHC's board of directors.





Disclaimer: The thoughts and opinions shared by the panelists for this webinar may not be reflective of AAP policy.

- Partner with NCCHC with a liaison to the NCCHC Board
- Two recent statements from AAP Committee on Adolescence
  - Policy Statement: Advocacy and Collaborative Care for Justice-Involved Youth

https://pediatrics.aappublications.org/content/early/2020/05/04/peds.2020-1755

 Responding to the Needs of Youth Involved With the Justice System During the COVID-19 Pandemic

https://services.aap.org/en/pages/2019-novel-coronavirus-covid-19-infections/responding-to-the-needs-of-youth-involved-with-the-justice-system--during-the-covid-19-pandemic/



### **Selected Positions**

- Trauma informed and developmentally appropriate rehabilitative programming
- Health care consistent with community standards and published NCCHC standards
- Diversion to community-based programs as appropriate with incarceration as a last resort
- Advocacy for adolescents to be prosecuted in the juvenile justice system with transfer to adult court only after judicial review
- Research and advocacy efforts
  - Racial/ethnic bias and disparities within the justice system
  - Risk/protective factors for justice system involvement and outcomes of incarceration





### **COVID-19** Response

- Diversion rather than incarceration and release of youth if safe
- Follow CDC guidance for correctional and detention facilities
- Frequent contact with family/supportive individuals and timely access to legal counsel/court
- Limited use of isolation unless medically necessary
  - Medical isolation: ensure access to personal belongings and programming materials
- Ensure same access to distance learning as nonconfined youth
- Provide youth with written/verbal communication about COVID-19 and preventive behaviors

### Roundtable Panelists



Brian Conant, PsyD, CCHP Behavioral Health Director Cook County Juvenile Temporary Detention Center, Illinois



Jennifer Maehr, MD

Medical Director

Maryland Department of
Juvenile Services



David Oh, MD, CCHP

Medical Director

Los Angeles County Juvenile

Court Health Services



# Brian Conant, PsyD, CCHP



Dr. Conant is the juvenile justice behavioral health director for Cook County Health at the Cook County Juvenile Temporary Detention Center in Chicago and has over 20 years of clinical experience. Dr. Conant oversees the development, coordination, and administration of mental health services and programming for the JTDC and other areas of the Cook County juvenile justice system. Dr. Conant is a lecturer at the Northwestern University Feinberg School of Medicine and has teaching experience in the areas of clinical/forensic psychology, correctional mental health, child development, and crisis intervention for law enforcement.





# Jenny Maehr, MD



Dr. Maehr is a board-certified pediatrician and adolescent medicine specialist. She has been the medical director for the Maryland Department of Juvenile Services for 14 years, providing administrative and clinical oversight of DJS' somatic health division and direct care to youth. She previously served as medical director for the Prince George's County school-based health centers and as an adolescent medicine attending at University of Maryland at Baltimore and Children's National Medical Center in D.C. Dr. Maehr's time is consumed right now with the prevention and management of COVID-19 for the 12 DJS facilities in Maryland.





# David Oh, MD, CCHP



Dr. Oh is the medical director for Juvenile Court Health Services – a part of the Los Angeles County Department of Health Services – with over 20 years of clinical experience at the County of Los Angeles Department of Probation detention centers and residential treatment camps. Dr. Oh oversees the administration and clinical services at the probation facilities, which currently house around 600 youths throughout the county.





Juvenile Court Health Services







# **Probation Admission Screening**





#### **COVID-19 SCREENING QUESTIONS & RESPONSE PLAN**

#### Screening Questions:

- 1. In the last 24 hours, have you had:
- □ Fever of ≥ 100.4° F and/or thought you had a fever?
  - ☐ Chills/body aches?
  - □ Cough, shortness of breath, or difficulty breathing?
- 2. In the last 14 days, have you had any contact with someone who has had a positive test for the coronavirus?
  - □ No

☐ Yes

#### Response plan:

#### For Youth

- If a youth answers YES to any of the questions, place a surgical mask on the youth so it
  covers the nose and mouth and isolate the youth from others.
- 2. **Immediately** call the JCHS Charge Nurse in the medical unit to come to the designated Probation screening area to conduct a further evaluation of the youth.
- 3. The JCHS nurse will come to the screening area and conduct a nursing evaluation. Based on the results of the assessment, the nurse will determine whether:
  - a. Youth will be housed in the designated Probation unit for a 14-day quarantine; or
     b. Youth will be admitted to the medical housing unit for medical isolation, monitoring,
  - and further evaluation.

    The ICHS physicians will assume responsibility for the medical care of the identified
- 4. The JCHS physicians will assume responsibility for the medical care of the identified youth and will notify Public Health when deemed appropriate.
- The JCHS Medical Director or his designee will notify Probation Executives about youth with suspected COVID-19 disease.

#### For Probation Staff

- If Probation staff answers YES to Question 1, they should be advised that they are approved
  to go home and use their appropriate accrued time as they would for any other illness.
- Probation staff without symptoms who answer YES to Question 2, are required to selfmonitor for symptoms twice a shift.
  - a. If symptoms develop, send the employee home to be seen by their primary care physician.

#### Reporting

Probation staff who exhibit COVID-19 symptoms must be reported to Deanna Carlisle with the Human Resources Management Office (HRMO) with a copy to the Bureau Consultant.

- Starts with Probation
   administering a brief screen to
   the youth asking about
   symptoms and travel history
- Notify medical staff if screens positive









- Nursing staff screens with more in-depth questions for the youth
- Also determines housing for youth based on history and symptoms
- Physician exam to review youth's history and evaluate for any risk factors if infected with COVID-19







- Discussion with public health and infectious disease specialists with the resultant decision to test all incoming admissions.
- Would hold them in quarantine until the test results returned.
- Challenges
  - Having enough housing locations to quarantine
  - Turnaround time for laboratory results
  - Refusals









 Housing guidance developed to organize where youth would go based on their history and symptoms

#### Quarantine

- Those youth with exposures to COVID-19
- Housed for 14 days for observation of emergence of symptoms
- Includes a nurse checking twice a day for symptoms and/or fever
- Now, with enough testing capabilities, can test those in quarantine

#### Isolation

- Those with symptoms and/or a positive COVID-19 test result
- Housed for 10 days after onset of symptoms (with improvement of symptoms) in addition to 3
  days without a fever without the use of fever-reducing medications
- Evaluate for any worsening symptoms requiring higher level of medical care





- Work in phases to test remaining detained youth
- Camp youth and youths who will likely be staying for an extended amount of time
  - These groups are less likely to interact with others because already have a disposition
- Tested remaining youths in facilities
  - Youths will stay in quarantine with minimal to no movements until results return
- Encouragement of continuing infection prevention methods even after negative results

# Transferred/Released Youths





#### JUVENILE COURT HEALTH SERVICES

#### Release/Transfer Screening Form Coronavirus (COVID-19)

Jovenile Court health Services

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Cartomaga			Today's Date	E	
JCHS Facility:				acility Phone Number:	
□ Campus Kilpatrick □	Central Juvenile Hall Camp Rockey Camp Afflerbaugh	□ Dorothy Kirby Center □ Camp Paige	( )	-	
Patient Last Name:	Fi	rst Name:		MI:	
PDJ Number:	Date of Birth:		SEX:	ile Female	
Custody Date(s)	Discharge To:		'		
Current Temperature:		□ Oral □ Axillary	□ Temporal □ T	ympanic	
2. Has the patient had a fever (T If yes, date of last fever:	emp <u>&gt;</u> 100.4F) within 1	4 days of this screening?		□ Yes □ No	
Is the patient currently taking If yes, list medication, and d			_	□Yes □No	
Does the patient currently have	e a cough?		-	□ Yes □ N	
<ol><li>Does the patient currently have shortness of breath?</li></ol>				□ Yes □ N	
<ol> <li>Has the patient had a cough of If yes, list any history of chro</li> </ol>			screening?	□Yes □N	
7. Is the patient currently taking If yes, list medication, and d			of breath?	□Yes □No	
Did the patient have close cor Covid-19 within 14 days of thi If yes, date of last contact:		is positive or under investig	ation for	□ Yes □ N	
Has the patient been tested for If yes, what was the date of			_	□ Yes □ N	
Print Name and Signature of JCHS	staff	Title	D	ate	

This form screens for the common symptoms of Covid-19, but is not a replacement for the laboratory test for Covid-19, which may provide confirmation or denial of the infection.

- Release/Transfer Screening form
  - Communication to the receiving party regarding
     COVID history of the youth
  - Includes information about quarantine/isolation when applicable
  - Applies to those youths going to placement or transferred to other county jurisdictions













# **Challenges During COVID-19**

- Working remotely
  - Telework technology available but no one to operate it
  - Some complications with movement to telepsychiatry clinic due to quarantine of certain pods
- Social distancing
  - Individual therapy / counseling not usually conducted with 6 feet between therapist and client
  - Social distancing during group counseling not possible with our group sizes
  - Usual milieu activities that help accelerate rapport development are limited (playing cards, etc.)
- How to conduct therapy when therapist and client are wearing PPE
  - Significantly impacts the nuanced aspects of communication between two human beings







# **Challenges During COVID-19**

- How to assess clients while wearing PPE
  - Difficult to communicate and difficult to read affect and other non-verbal cues that are critical during clinical assessment
- How to continue training programs
  - Practicum students were not allowed to continue onsite services, presenting concerns for clinical hour accumulation







# Adjustment, Initiatives, and Innovations

- Telepsychiatry and telehealth
  - All psychiatry services were shifted to telepsychiatry
  - Use of laptops and tablets to conduct intake assessments with COVID-positive residents
- Telework
  - All staff have laptops, enabling administrative staff to work from home and clinical staff to work remotely 30%
  - Staffings, team meetings, didactics, candidate interviews, etc., are conducted via Skype
  - Staff can chart remotely using EMR
  - Supervision and inclusion of practicum students in staffings via Skype
- Heavy and regular communication with administration and the BH team
  - Daily executive team call
  - Regular COVID update emails







# Adjustment, Initiatives, and Innovations

- Continuing to provide structure for the team
  - Sticking to meetings, didactics, supervision
- Providing resources for the JTDC line staff
  - Dr. Allison Mason, Chief Psychologist, distributed resources from NCTSN and SAMHSA to all staff both electronically and physically (to help manage anxiety, coping skills, how to manage their children, etc.)
  - Contracting with a psychologist to come to the facility to provide on-site counseling for staff to supplement EAP
  - "Think Trauma"
- Enhanced support for the residents
  - Clinical staff are focusing on anxiety management, coping skills, education on COVID-19 etc.
  - BH staff participated in making an educational video for the residents
  - Books, puzzles, etc., for residents in medical isolation (Liberation Library)







# Adjustment, Initiatives, and Innovations

- Partnership with the medical department and JTDC administration
  - A BIG shout out to Superintendent Leonard Dixon and the rest of JTDC Executive Team for doing an amazing job responding to COVID-19
  - Another BIG shout out to medical leadership (Dr. Kenneth Soyemi, Josie Mabalay) and nursing leadership (Shawn Withers) for the long hours and sacrifice
  - BH staff assisting with residents who refuse testing
  - Educational video
  - Josie Mabalay, Medical Program Director, implemented a COVID-19 poster contest that was very successful
  - Moving BH staff offices to accommodate telecourt
  - Quarterly CQI meetings conducted via Microsoft Teams













### Protect the front door

- No visitation
- Mask required for entry
- Do not share pens for sign-in
- Staff entry screening
  - Utilize a form
  - Limit to one port of entry
  - Check temperature, symptoms, exposure, recent dx
  - Travel?
- Youth entry screening: Same as above





### Protect the front door

- Limit staff
  - Utilize telework
- Limit transfers to those only absolutely necessary
- Limit admissions to those only absolutely necessary
- What about home visits?







### PPE

- Masks
  - Universal: staff and youth
  - Surgical/procedure masks
  - N95
  - Avoid masks with valves/use mask over the valve
  - Cloth
  - Mask storage to extend life: paper bags
- Eye protection: goggles, face shields
- Gloves only wear for specific tasks
- Isolation gowns







## Admission Quarantine Unit

- Separate unit for new admissions
- Daily monitoring for symptoms & fever x 14 days
- Educate youth on self-monitoring and infection control & prevention
- Limit movement off the unit except outdoor recreation and essential medical care
- Try to do same process on a regular unit if no space for admission quarantine unit







# Monitoring Youth for Signs of COVID

- For temperature and symptoms
- How frequent?
- Self-monitor or staff monitoring
- Use a tool or form for consistency and documentation
- Make as youth friendly as possible
- Perform on unit







# High Risk

High risk includes but is not limited to:

- Immune compromised: cancer txn, transplant patient, prolonged prednisone or other txn, HIV/AIDS, smoking
- Diabetes, chronic kidney disease on dialysis, liver disease, certain neurological conditions
- Chronic lung disease (CF, COPD, Asthma)
- Heart disease
- Severe obesity (BMI ≥ 40)
- Hemoglobin disorders/sickle cell
- Pregnancy?

May need more protection or monitoring
Get underlying medical conditions under best control possible





## Quarantine

- An entire unit or one or more individuals may require quarantine
- Quarantine 14 days if exposed to COVID-19
- What constitutes an exposure?
- How to quarantine
  - In individual rooms?
  - Confine the unit but allow to be out of room?
  - Increase monitoring for temp and symptoms







### Medical Isolation

- Where to medically isolate
  - Ideally in single room with own bathroom
  - Negative flow isolation rooms
  - Cohort together those who are + if need be
- Use of trailers for separate bathrooms or rooms
- Nursing/medical staff: Do you have enough?
- Have plan for ER referral what hospital, how
- Criteria for D/C from medical isolation CDC







# Medical Supplies to Have on Hand

- Medications
  - NSAIDS, acetaminophen
  - Cough drops, throat lozenges
  - Medications for nausea/vomiting
  - **Antibiotics**
  - Vitamins/minerals
  - Inhalers and spacers
- Hydration
- **Thermometers**
- Testing supplies







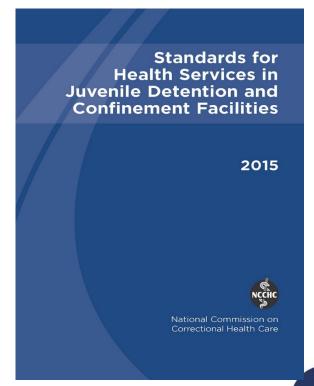
### Protect the Back Door

- Clear youth prior to discharge, transfer, or transport off grounds in order to prevent transmission to others
- Use a form
- Provide direction if ongoing monitoring or isolation needs to occur at home
- Provide PPE



### **NCCHC Standards**

Standards serve as a framework to ensure that systems, policies, and procedures are in keeping with nationally recognized best practices, and compliance with standards ensures that everyone on the team knows what is expected and how to achieve it.





### A-01 Access to Care

# Standard (E)

Juveniles have *access to care* to meet their serious medical, dental, and mental health needs.

 Access to care means that, in a timely manner, a patient can be seen by a clinician, be given a professional clinical judgment, and receive care that is ordered.



### A-08 Communication on Patient's Health Needs

# Standard (E)

Communication occurs between the facility administration and treating health care professionals regarding juveniles' significant health needs that must be considered in classification decisions in order to preserve the health and safety of that juvenile, other juveniles, and staff.



# **B-01 Infection Prevention and Control Program**

### Standard

There is an effective program that includes surveillance, prevention, and control of communicable disease.



# B-01 Infection Prevention and Control Program Compliance Indicators

- When medical isolation is provided on-site, juveniles should be checked frequently for changes in physical and mental status, and are accommodated in a separate room with:
  - A separate toilet
  - Hand-washing facility
  - Soap dispenser
  - Single-service towels



# B-02 Environmental Health and Safety

# Standard (E)

The facility ensures that juveniles are housed, work, study, recreate, and receive health care in a clean, safe, and healthy environment.



# C-04 Health Training for Child Care Staff

# Standard (E)

A training program, established or approved by the responsible health authority in cooperation with the facility administrator, guides the health-related training of all child care staff who work with juveniles.



### E-01 Information on Health Services

# Standard (E)

Information about the availability of, and access to, health care services is communicated orally and in writing to juveniles on their arrival at the facility, in a form and language they understand.



# E-02 Receiving Screening

# Standard (E)

Receiving screening is performed on all juveniles on arrival at the intake facility to ensure that emergent and urgent health needs are met.



# E-03 Transfer Screening

# Standard (E)

A transfer screening is performed on all Intrasystem transfers.



### E-04 Health Assessment

### Standard

Juveniles receive initial and periodic health assessments.



# E-05 Mental Health Screening and Evaluation

# Standard (E)

All juveniles receive mental health screening; juveniles with positive findings receive a mental health evaluation.



### E-07 Nonemergency Health Care Requests and Services

### Standard

All juveniles have the opportunity *daily* to request health care. Their *requests* are documented and reviewed for immediacy of need and the intervention required. Qualified health care professionals *respond to health services requests* and conduct *clinicians' clinics* on a timely basis and in a *clinical setting*.



# E-12 Continuity and Coordination of Care During Incarceration

# Standard (E)

All aspects of care are coordinated and monitored from admission to discharge.



# E-13 Discharge Planning

### Standard

Discharge planning is provided for all juveniles whose release is imminent.



# F-01 Healthy Lifestyle Promotion

# Standard (I)

To promote healthy lifestyles, juveniles are provided with access to health promotion, wellness, and recovery information.



## Steps to an Effective Response



Limit visitors to the facility



Post visual alerts (signs, posters) at entrances and in strategic places providing instruction on hand hygiene, respiratory hygiene, and cough etiquette



Ensure supplies are available (tissues, waste receptacles, alcohol-based hand sanitizer)



Take steps to prevent known or suspected infected patients from exposing other patients



Limit the movement of infected patients (e.g., have them remain in their cell)



Identify dedicated staff to care for infected patients.



Observe newly arriving arrestees for development of respiratory symptoms.





### Actions to Take for Preparation of Future Outbreaks



Designate a time to meet with your staff to educate them on the pandemic and what they may need to do to prepare.



Explore alternatives to face-to-face triage and visits.



Plan to optimize your facility's supply of personal protective equipment in the event of shortages.



Prepare your facility to safely triage and manage patients with respiratory illness. Become familiar with infection prevention and control guidance for managing exposed patients.





### Key Considerations for Correctional Health Care Facilities

- In each facility, the primary goals included:
  - Provision of the appropriate level of medical care
  - Protecting health care personnel and noninfected patients accessing health care from infection
  - Preparing for a potential surge in patients with respiratory infection
  - Preparing for potential personal protective equipment supply and staff shortages



# Differences between isolation and quarantine...

#### Isolation...

 Isolation is used to separate ill persons who have a communicable disease from those who are healthy. Isolation restricts the movement of ill persons to help stop the spread of certain diseases. For example, hospitals use isolation for patients with infectious tuberculosis.

#### Quarantine...

 Quarantine is used to separate and restrict the movement of well persons who may have been exposed to a communicable disease to see if they become ill. These people may have been exposed to a disease and do not know it, or they may have the disease but do not show symptoms. Quarantine can also help limit the spread of communicable disease.

Isolation and quarantine are used to protect the public by preventing exposure to infected persons or to persons who may be infected.





### Medical Isolation of Infectious Disease Cases

Ensure that the individual is wearing a face mask at all times when outside of the medical isolation space, and whenever another individual enters

Provide clean masks as needed

Masks should be changed at least daily, and when visibly soiled or wet





# Recommended Personal Protective Equipment (PPE)

Law enforcement who must make contact with individuals confirmed or suspected to have infectious diseases should follow <u>CDC's Interim Guidance for EMS</u>. Different styles of PPE may be necessary to perform operational duties. These alternative styles (i.e. coveralls) must provide protection that is at least as great as that provided by the minimum amount of PPE recommended.



If unable to wear a disposable gown or coveralls because it limits access to duty belt and gear, ensure duty belt and gear are disinfected after contact with individual.





### The Minimum PPE Recommended is:

- A single pair of disposable examination gloves,
- Disposable isolation gown or single-use/disposable coveralls\*,
- Any NIOSH-approved particulate respirator (i.e., N-95 or higher-level respirator), and
- Eye protection (i.e., goggles or disposable face shield that fully covers the front and sides of the face)



### Prevention Practices to Consider

1

Communicate clearly and frequently with youth population about changes to their daily routine and how they can contribute to risk reduction

2

Note that if group activities are discontinued, it will be important to identify alternative forms of activity to support the mental health of youth



Consider suspending work release programs and other programs that involve movement of youths in and out of the facility





### **Prevention Practices for Staff**

Remind staff to stay at home if they are sick. Ensure that staff are aware that they will not be able to enter the facility if they have symptoms of the disease, and that they will be expected to leave the facility as soon as possible if they develop symptoms while on duty



Perform verbal screening and temperature checks for all staff daily on entry

In very small facilities with only a few staff, consider self-monitoring or virtual monitoring

Send staff home who do not clear the screening process, and advise them to follow community health practices





## Social Distancing Examples for Corrections

#### **Common areas**

- Enforce increased space between people in
- holding cells
- lines
- waiting areas such as intake
   (e.g., remove every other chair in a waiting area)

#### Recreation

- Choose spaces where people can spread out
- Stagger time in recreation spaces
- Assign each housing unit a dedicated recreation space to avoid mixing and crosscontamination

#### Meals

- Stagger meals
- Rearrange seating in the dining hall (e.g., remove every other chair and use only one side of the table)
- Provide meals inside housing units or cells

#### **Group activities**

- Limit their size
- Increase space between people
- Suspend group programs where people will be in closer contact than in their housing environment
- Choose outdoor areas or other areas where people can spread out

#### **Housing**

- Reassign bunks to provide more space between people
- Sleep head to foot
- Minimize mixing of people from different housing areas

#### **Medical**

- Designate a room near each housing unit to evaluate people with COVID-19 symptoms
- Stagger sick call
- Designate a room near the intake area to evaluate new entrants who are flagged by the intake screening process





# **CAUTIONS** for Cohorting Infectious Disease Cases

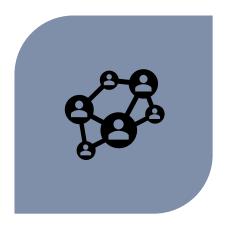


**DO NOT** COHORT CASES WITH UNDIAGNOSED RESPIRATORY INFECTIOUS

SUSPECTED CASES



PRIORITIZE SINGLE CELLS FOR PEOPLE AT HIGHER RISK OF SEVERE ILLNESS FROM INFECTIOUS DISEASE



USE SOCIAL DISTANCING AS MUCH AS POSSIBLE





# COVID-19 Testing – Basics and Approach

#### **Two Types**

#### **Antigen testing**

- Currently infected
- Most guidance centers on this

### **Antibody testing**

- Infected in past
- No current CDC recommendations

### **Priorities for COVID-19 Testing (Nucleic Acid or Antigen)**

#### **High Priority Testing**

- Hospitalized patients with symptoms
- Healthcare facility workers, workers in congregate living settings, and first responders with symptoms
- Residents in long-term care facilities or other congregate living settings, including prisons and shelters, with symptoms

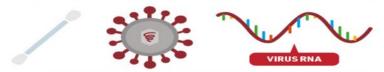
### **Priority Testing**

- Persons with symptoms of potential COVID-19 infection, including fever, cough, shortness of breath, chills, muscle pain, new loss of taste or smell, vomiting or diarrhea, and/or sore throat
- Persons without symptoms who are prioritized by health departments or clinicians, for any reason, including but not limited to: public health monitoring, sentinel surveillance, or screening of other symptomatic individuals according to state or local plans

### **HOW DO THE TESTS FOR CORONAVIRUS WORK?**

#### **HOW CURRENT TESTS WORK**

A swab is taken of the inside of a patient's nose or the back of their throat. This sample is then sent to a lab to test.



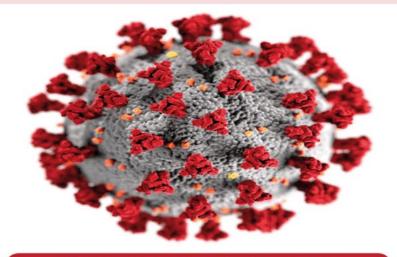
The RNA of the virus is extracted and purified. An enzyme, reverse transcriptase, converts the RNA to DNA.



The DNA is mixed with primers, sections of DNA designed to bind to characteristic parts of the virus DNA. Repeatedly heating then cooling DNA with these primers and a DNAbuilding enzyme makes millions of copies of virus DNA.



Fluorescent dye molecules bind to the virus DNA as it is copied. Binding makes them give off more light, which is used to confirm the presence of the virus in the sample.



#### **POSITIVE AND NEGATIVE TESTS**

The fluorescence increases as more copies of the virus DNA are produced. If it crosses a certain threshold, the test is positive. If the virus isn't present, no DNA copies are made and the threshold isn't reached. In this case, the test is negative.



#### **ISSUES WITH TESTING**



#### REAGENT ISSUES

High demand and issues with reagents have delayed testing in some countries.



#### TIME-CONSUMING

It takes a few hours to get results from the test, limiting how many tests can be done.

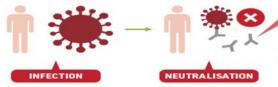


#### **FALSE POSITIVES AND NEGATIVES**

In some cases sample degradation or contamination can affect the results.

#### **FUTURE TESTS**

The current tests are good for diagnosing an infection - but they can't tell us if someone has had it and then recovered. Tests that look for antibodies against the virus can do this.



#### ANTIBODIES

Produced by the immune system. They remain in the blood for some time after infection.

Tests that look for proteins on the surface of the virus are also in development. These tests are faster, but less accurate.



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#### **GUIDANCE ON**

### **INTERPRETING COVID-19 TEST RESULTS**

	RESULT	INTERPRETATION	RECOMMENDED ACTION
VIRAL TESTING:  (testing for current infection)	Positive	Most likely* you DO currently have an active COVID-19 infection and can give the virus to others.	Stay home* and follow CDC guidance on steps to take if you are sick. *If you are a healthcare or critical infrastructure worker, notify your work of your test result.
	Negative	<i>Most likely*</i> you DO NOT currently have an active COVID-19 infection.	If you have symptoms, you should keep monitoring symptoms and seek medical advice about staying home and if you need to get tested again.
			If you don't have symptoms, you should get tested again only if your medical provider and/or workplace tells you to. Take steps to protect yourself and others.
ANTIBODY TESTING:  (testing for past infection with the virus)	Positive:	You <i>likely*</i> have HAD a COVID-19 infection.	You may be protected from re-infection (have immunity), but this cannot be said with certainty. Scientists are conducting studies now to provide more information. Take steps to protect yourself and others.
	Negative	You <i>likely*</i> NEVER HAD (or have not yet developed antibodies to) COVID-19 infection.	You could still get COVID-19. Take steps to protect yourself and others.
<b>BOTH</b> (antibody and viral testing)	Viral <b>Positive,</b> Antibody <b>Positive</b> :	Most likely* you DO currently have an active COVID-19 infection and can give the virus to others.	Stay home* and follow CDC guidance on steps to take if you are sick. *If you are a healthcare or critical infrastructure worker, notify your work of your test result.
	Viral <b>Positive,</b> Antibody <b>Negative</b>	<i>Most likely*</i> you DO currently have an active COVID-19 infection and can give the virus to others.	Stay home* and follow CDC guidance on steps to take if you are sick. *If you are a healthcare or critical infrastructure worker, notify your work of your test result.
	Viral <b>Negative,</b> Antibody <b>Positive</b>	You <i>likely*</i> have HAD and RECOVERED FROM a COVID-19 infection.	You may be protected from re-infection (have immunity), but this cannot be said with certainty. Scientists are conducting studies now to provide more information. You should get tested again only if your medical provider and/or workplace tells you to. Take steps to protect yourself and others.
	Viral <b>Negative,</b> Antibody <b>Negative</b>	You <i>likely*</i> have NEVER HAD a COVID-19 infection.	You could still get COVID-19. You should get tested again only if your medical provider and/or workplace tells you to. Take steps to protect yourself and others.





# Testing plan of action

- Determine the availability of testing in your area.
- Based on what is available to you and practical, integrate testing into your protocols and procedures.
  - This will look different for every program.
- Develop a consensus among your medical staff about how to handle a positive test.
  - Think about how treatment and response will differ depending on which type of test you use.
- Communicate and be transparent with both staff and patients about your testing program, both the benefits and limitations.
- Continuously evaluate your program based on the available science and related information.
  - What makes sense now may not in a couple of weeks.
  - Make changes when you need to and communicate those changes.





Protective masks will be made available to facilities (jails, prisons, and juvenile detention facilities) impacted by COVID-19, with emphasis on correctional officers, medical and civilian workers. Surgical masks or 3-ply disposable masks may be distributed to infected and non-infected inmates based on need and availability.

https://warriorfoundation.us



### National Commission Resources

- For all things NCCHC go to: www.ncchc.org
- For NCCHC COVID-19 go to: <a href="https://www.ncchc.org/covid-resources">www.ncchc.org/covid-resources</a>
- To submit a question to NCCHC, email: NCCHC-COVID@ncchc.org

