

*Patient Engagement Learning Series*

**Patient Engagement for HIV  
Services Amid COVID-19**

Tuesday, January 26, 2021 at 3:00 pm ET



**NATIONAL  
NURSE-LED CARE  
CONSORTIUM**  
a PHMC affiliate

# Disclaimer

*Through the Patient Engagement Learning Series, we intend to create a space where providers, community advocates, and patient representatives can engage thoughtfully on challenging topics surrounding patient care. We commit to providing evidence-based data and research to support all content presented.*

*We believe that addressing this topic aligns with the aims of the Learning Series and is therefore integral to our discussion. We welcome your feedback to continue guiding our content development.*

*Funding for this webinar has been provided to the National Nurse-Led Care Consortium through the Patient-Centered Outcomes Research Institute (PCORI) Contract Number 14507. Contents are solely the responsibility of the authors and do not necessarily represent the official views of PCORI.*

# National Nurse-Led Care Consortium

The **National Nurse-Led Care Consortium (NNCC)** is a membership organization that supports nurse-led care and nurses at the front lines of care.

NNCC provides expertise to support comprehensive, community-based primary care and public health nursing.

- Policy research and advocacy
- Program development and management
- Technical assistance and support
- Direct, nurse-led healthcare services

# Speakers



**Jason E. Farley, PhD, MPH, ANP-BC,  
FAAN, FAANP, AACRN**  
Professor  
Johns Hopkins University School of Nursing



**Jillian Bird, MSN, RN**  
Nurse Training Manager  
National Nurse-Led Care Consortium



**Ivy Clark**  
NNCC Board Member, Patient Representative  
Public Health Management Corporation

# Panel Discussion



**Jason E. Farley, PhD, MPH, ANP-BC,  
FAAN, FAANP, AACRN**  
Professor  
Johns Hopkins University School of Nursing



**Jillian Bird, MSN, RN**  
Nurse Training Manager  
National Nurse-Led Care Consortium



**Ivy Clark**  
NNCC Board Member, Patient Representative  
Public Health Management Corporation

# Pop Up Question

**What are some factors that can impact a patient's continued engagement in HIV care?**



# COVID-19 in Persons with HIV

Jason E. Farley, PhD, MPH, ANP-BC, FAAN, FAANP,  
AACRN

Professor & Nurse Practitioner

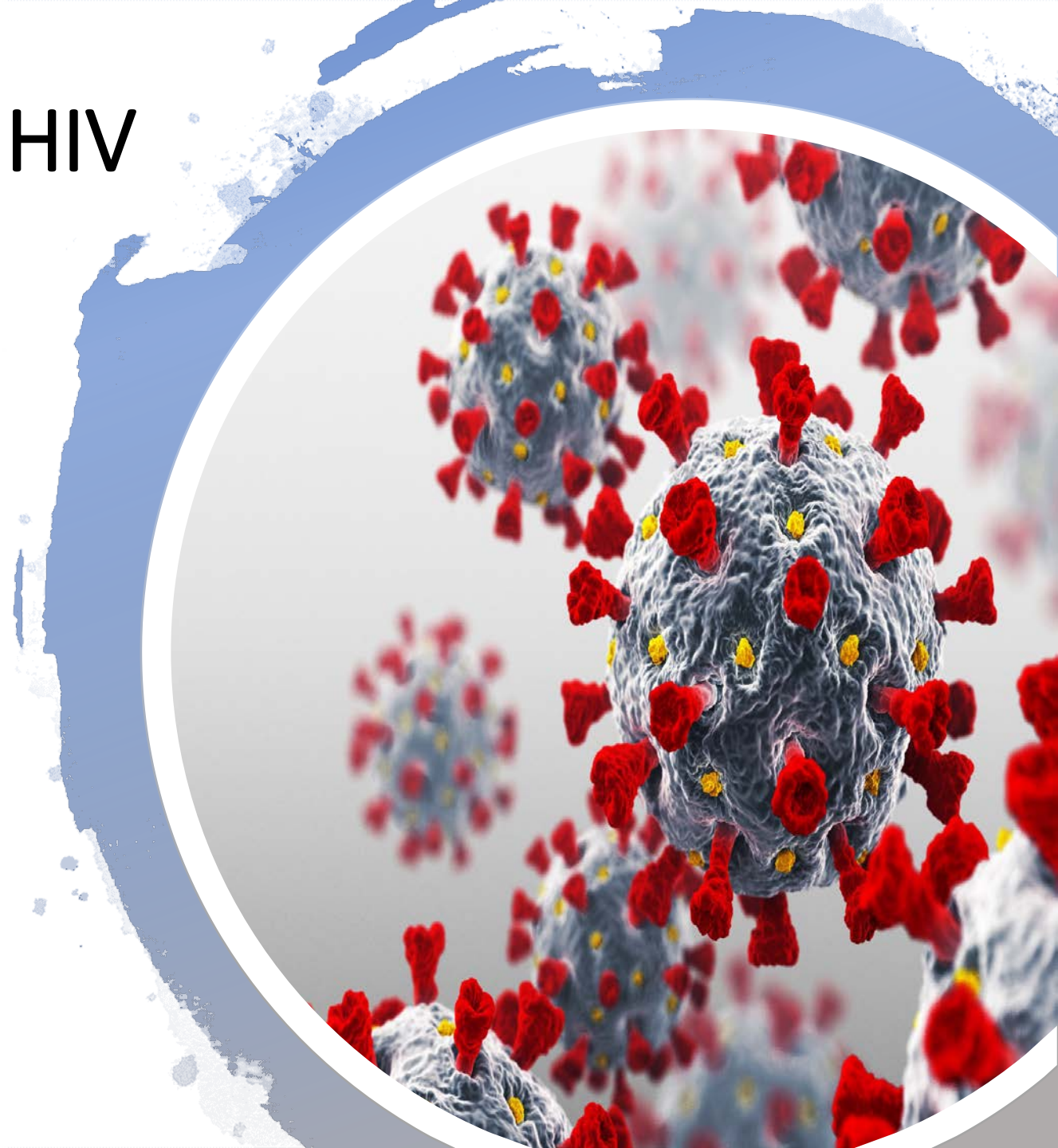
Clinical Core Co-Director, JHU Center for AIDS Research

AETC Regional Site Director, Mid-Atlantic AETC

PhD, DNP/PhD and Post-Doctoral Program Director

Johns Hopkins University School of Nursing and Medicine

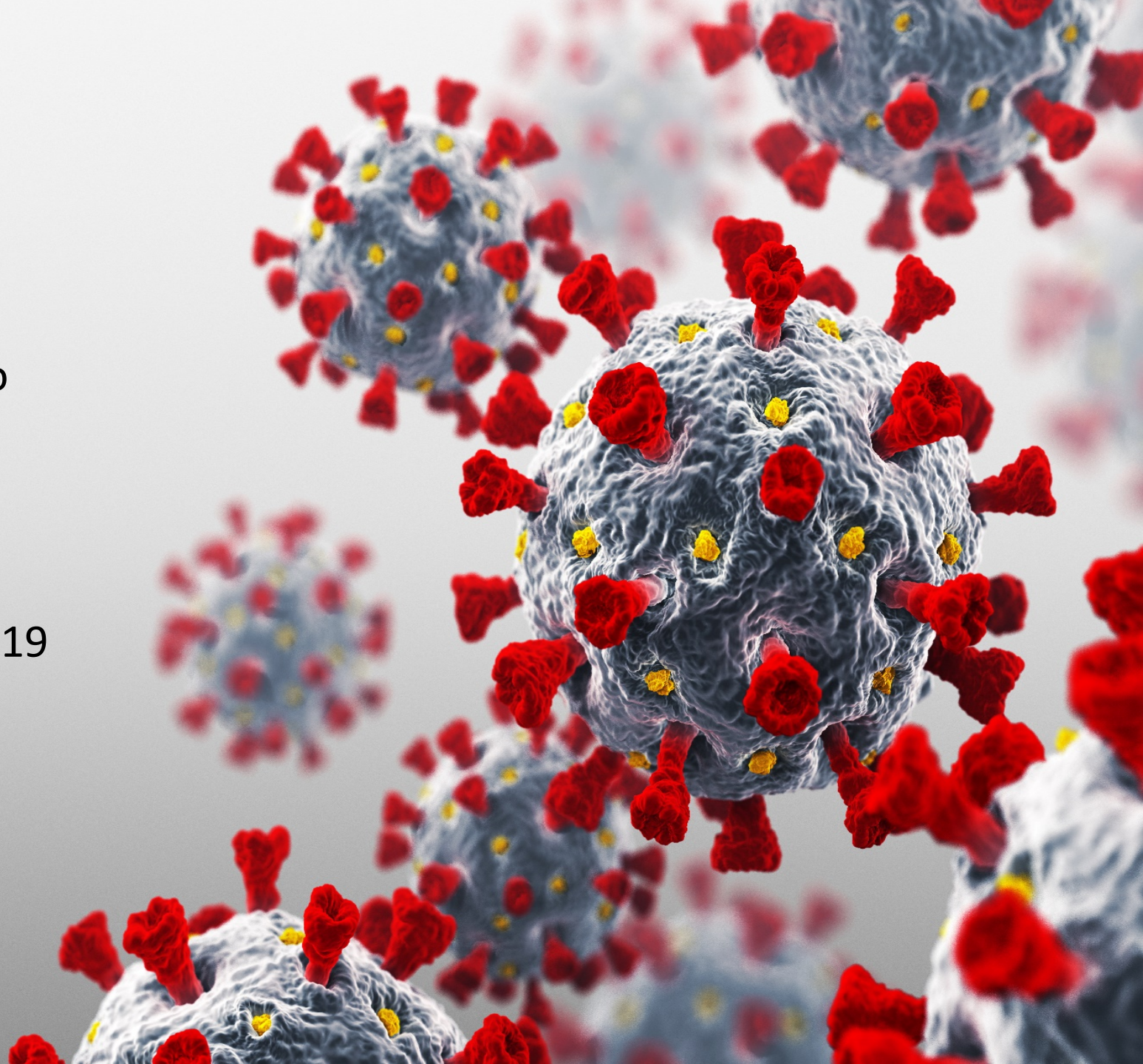
[https://nursing.jhu.edu/faculty\\_research/faculty/faculty-directory/jason-farley](https://nursing.jhu.edu/faculty_research/faculty/faculty-directory/jason-farley)





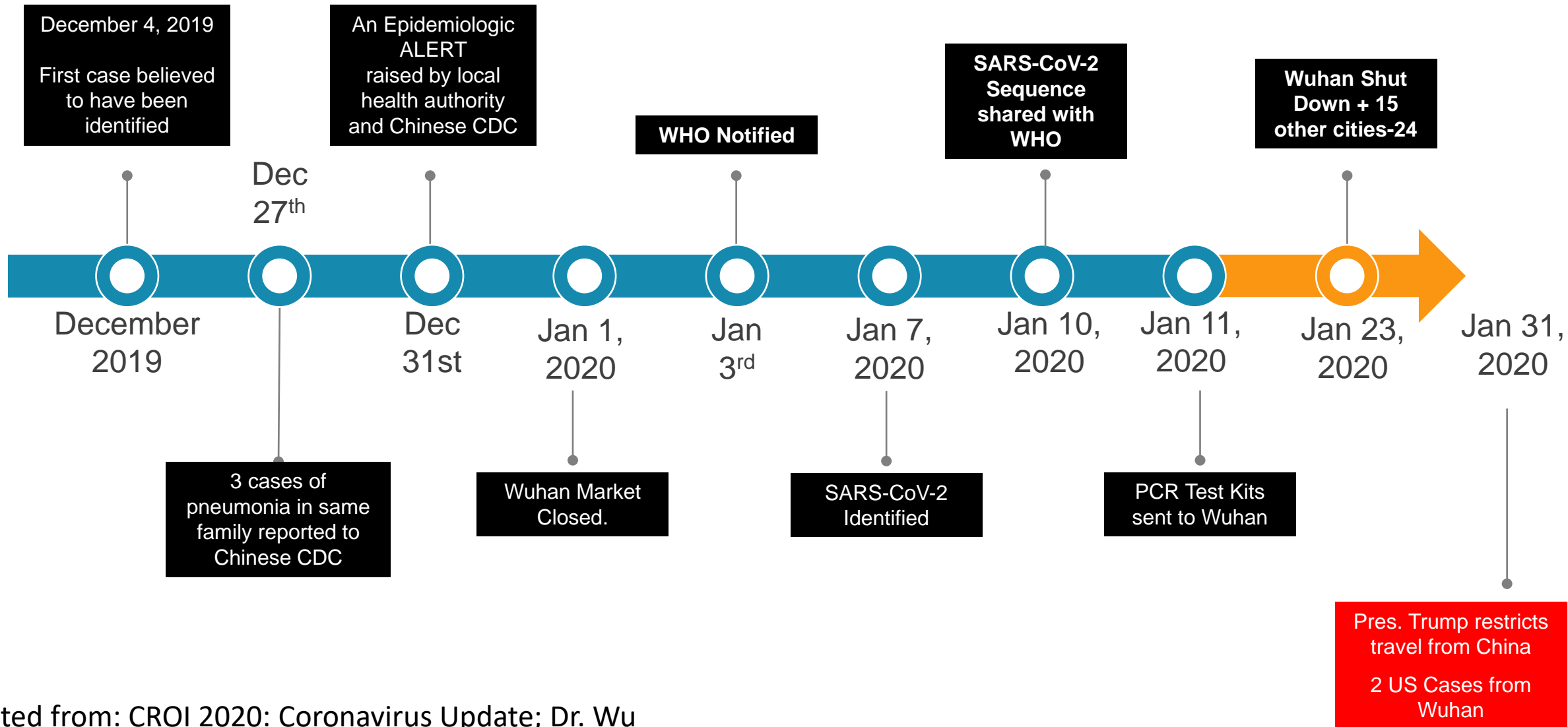
# Objectives

- Compare and contrast the beginnings of the HIV pandemic to the SARS-CoV-2 pandemic
- To describe how care models for people with HIV and/or HCV may have greater risk of severe COVID-19 disease and poor outcome

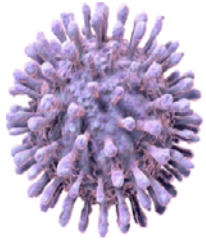




# Initial Timeline: Wuhan Response, 2019-2020

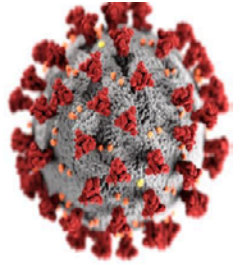


Adapted from: CROI 2020: Coronavirus Update; Dr. Wu



# **Response to Emerging Pandemics**

---



## **HIV**

- Recognize epidemic: 1981
- Isolate the agent: 1983
- Diagnostic tests: 1985
- First treatment. 1987
- Effective Rx: 1997
- Effective vaccine: ????

## **SARS-CoV-2**

- Recognize epidemic: Dec 2019
- Isolate the agent: Jan 2020
- Diagnostic tests: Jan 2020
- First treatment: May 2020
- Effective Rx: ongoing
- Effective vaccine: ongoing

# The Clinical Spectrum:

### Symptoms:

Asymptomatic  
Up to 40%

## Mild Symptoms

## Moderate – Severe Symptoms

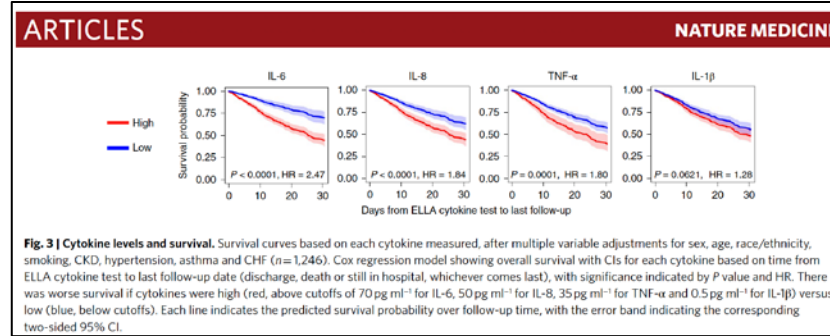
## Hospitalization:

## Age

## Race

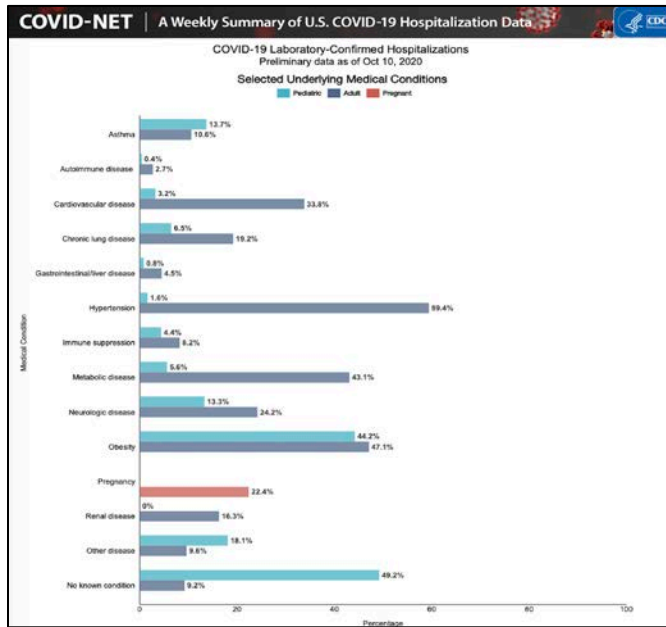
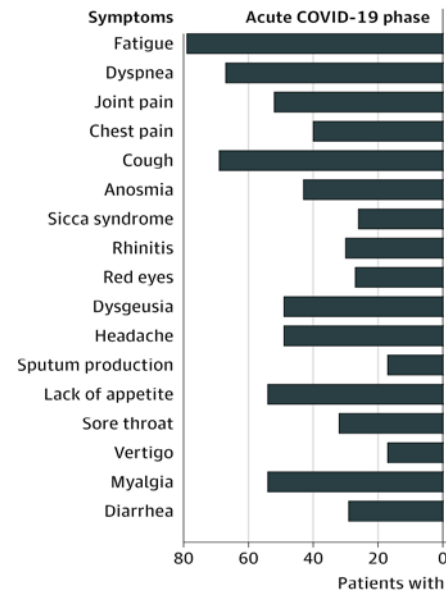
## Comorbidity

## ARDS / Ventilation:

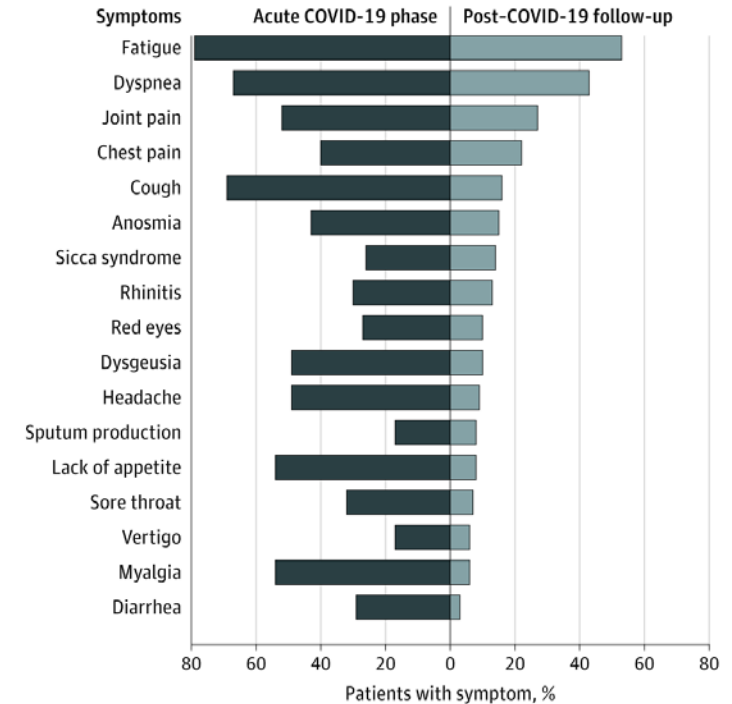
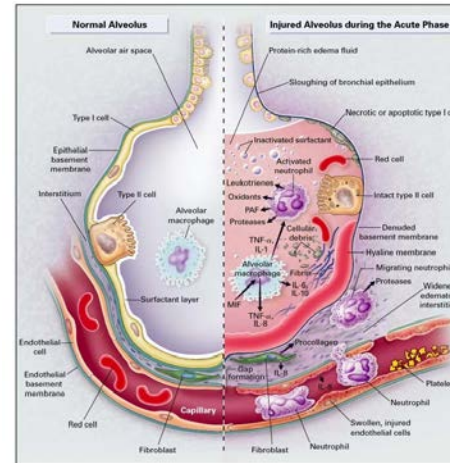


## Persistence:

60 days after symptom onset



Nature Medicine; volume 26, pages 1636–1643: (2020)





People with HIV are **Epidemiologically Disadvantaged**,  
while many are not **Immunologically Disadvantaged**

# COVID-19 HOSPITALIZATION AND DEATH BY AGE

## FACTORS THAT INCREASE COMMUNITY SPREAD AND INDIVIDUAL RISK



CROWDED SITUATIONS



CLOSE / PHYSICAL CONTACT



ENCLOSED SPACE



DURATION OF EXPOSURE

Rate ratios compared to 18-29 year olds

0-4 years

5-17 years

18-29 years

30-39 years

40-49 years

50-64 years

65-74 years

75-84 years

85+ years

## HOSPITALIZATION<sup>1</sup>

4x  
lower

9x  
lower

Comparison  
Group

2x  
higher

3x  
higher

4x  
higher

5x  
higher

8x  
higher

13x  
higher

## DEATH<sup>2</sup>

9x  
lower

16x  
lower

Comparison  
Group

4x  
higher

10x  
higher

30x  
higher

90x  
higher

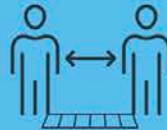
220x  
higher

630x  
higher

## ACTIONS TO REDUCE RISK OF COVID-19



WEARING A MASK



SOCIAL DISTANCING  
(6 FT GOAL)



HAND HYGIENE



CLEANING AND  
DISINFECTION

<sup>1</sup> Data source: COVID-NET (<https://www.cdc.gov/coronavirus/2019-ncov/covid-data/covidview/index.html>, accessed 08/06/20). Numbers are unadjusted rate ratios.

<sup>2</sup> Data source: NCHS Provisional Death Counts (<https://www.cdc.gov/nchs/nvss/vsrr/COVID19/index.htm>, accessed 08/06/20). Numbers are unadjusted rate ratios.

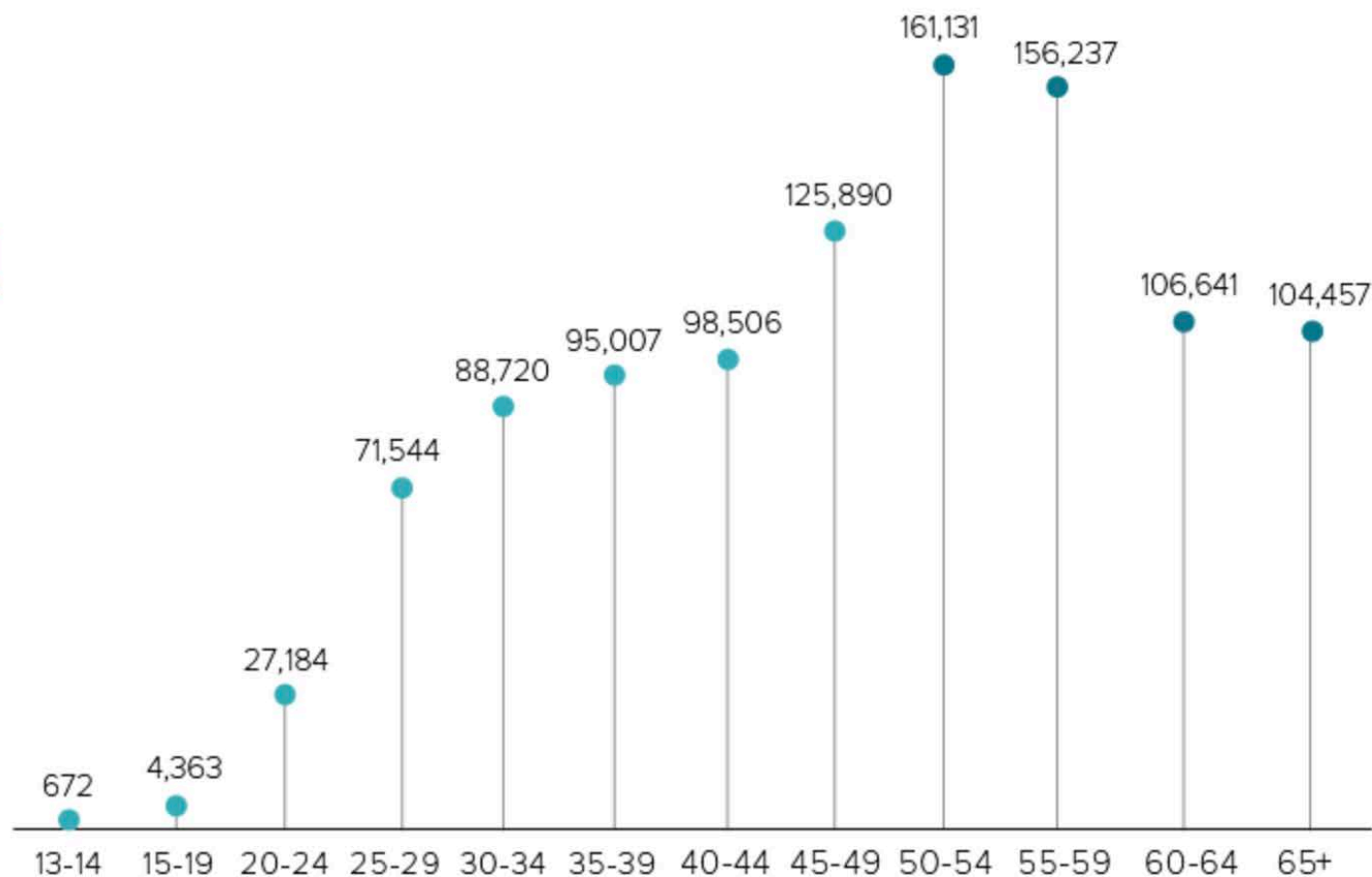
[cdc.gov/coronavirus](https://cdc.gov/coronavirus)

CS319360-A 08/10/2020



# Adults and Adolescents with Diagnosed HIV in the US and Dependent Areas by Age, 2018

**Over half of people with  
diagnosed HIV were aged  
50 and older.**



Source: CDC. Diagnoses of HIV infection in the United States and dependent areas, 2018 (updated). *HIV Surveillance Report* 2020;31.



# COVID-19 CASES, HOSPITALIZATION, AND DEATH BY RACE/ETHNICITY

## FACTORS THAT INCREASE COMMUNITY SPREAD AND INDIVIDUAL RISK



CROWDED SITUATIONS



CLOSE / PHYSICAL CONTACT



ENCLOSED SPACE



DURATION OF EXPOSURE

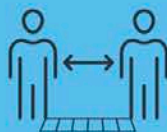
Rate ratios compared to White, Non-Hispanic Persons	American Indian or Alaska Native, Non-Hispanic persons	Asian, Non-Hispanic persons	Black or African American, Non-Hispanic persons	Hispanic or Latino persons
CASES <sup>1</sup>	2.8x higher	1.1x higher	2.6x higher	2.8x higher
HOSPITALIZATION <sup>2</sup>	5.3x higher	1.3x higher	4.7x higher	4.6x higher
DEATH <sup>3</sup>	1.4x higher	No Increase	2.1x higher	1.1x higher

Race and ethnicity are risk markers for other underlying conditions that impact health — including socioeconomic status, access to health care, and increased exposure to the virus due to occupation (e.g., frontline, essential, and critical infrastructure workers).

## ACTIONS TO REDUCE RISK OF COVID-19



WEARING A MASK



SOCIAL DISTANCING (6 FT GOAL)



HAND HYGIENE



CLEANING AND DISINFECTION

<sup>1</sup> Data source: COVID-19 case-level data reported by state and territorial jurisdictions. Case-level data include about 80% of total reported cases. Numbers are unadjusted rate ratios.

<sup>2</sup> Data source: COVID-NET (<https://www.cdc.gov/coronavirus/2019-ncov/covid-data/covidview/index.html>, accessed 08/06/20). Numbers are ratios of age-adjusted rates.

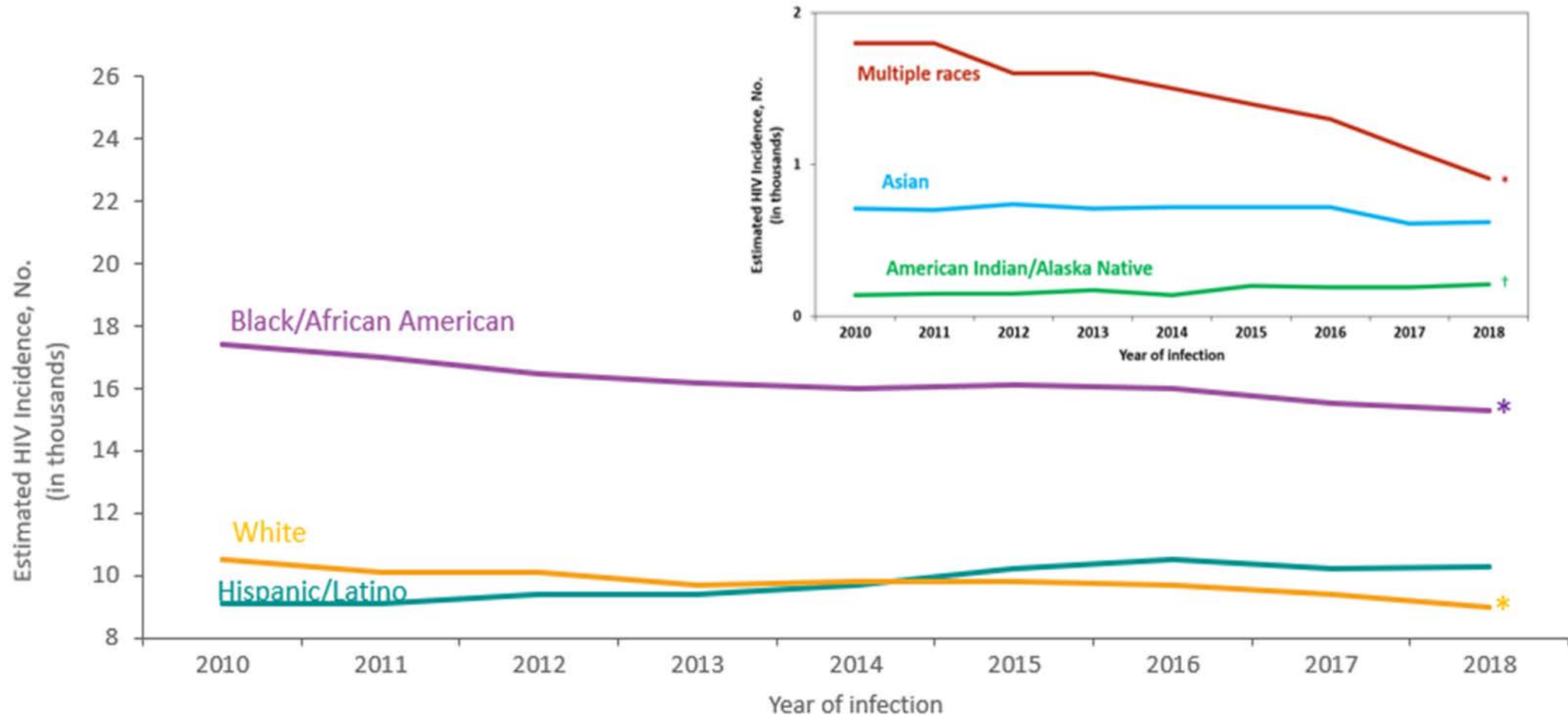
<sup>3</sup> Data source: NCHS Provisional Death Counts (<https://www.cdc.gov/nchs/nvss/vsrr/COVID19/index.htm>, accessed 08/06/20). Numbers are unadjusted rate ratios.

[cdc.gov/coronavirus](https://cdc.gov/coronavirus)

CS319360-A 08/08/2020



# Estimated HIV Incidence among Persons Aged ≥13 Years, by Race/Ethnicity 2010–2018—United States



Note. Estimates were derived from a CD4 depletion model using HIV surveillance data. Hispanics/Latinos can be of any race.

\* Difference from the 2010 estimate was deemed statistically significant ( $P < .05$ ).

† Estimates should be used with caution; relative standard errors are 30%–50%.

# Interim guidelines for HIV and COVID-19



# Interim Guidance for COVID-19 and Persons with HIV

The information in the brief version is excerpted directly from the full-text guidelines. The brief version is a compilation of the tables and boxed recommendations.

- The limited data currently available do not indicate that the disease course of COVID-19 in persons with HIV differs from that in persons without HIV.

Before the advent of effective ART, advanced HIV infection (i.e., CD4 cell count  $<200/\text{mm}^3$ ) was a risk factor for complications of other respiratory infections. Whether this is also true for COVID-19 is yet unknown.

Use CDC guidelines for Social Distancing and self-isolation/quarantine activities

<https://clinicalinfo.hiv.gov/en/guidelines/covid-19-and-persons-hiv-interim-guidance/interim-guidance-covid-19-and-persons-hiv>

Bottom line:  
Currently no surprises

Special Considerations in People With Human Immunodeficiency Virus

Last Updated: October 9, 2020

Last Updated: October 9, 2020

Summary Recommendations
<p><b>Prevention and Diagnosis of COVID-19</b></p> <ul style="list-style-type: none"><li>The COVID-19 Treatment Guidelines Panel recommends using the same approach for the prevention and diagnosis of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection in people with human immunodeficiency virus (HIV) as in people without HIV (AIII).</li></ul> <p><b>Management of COVID-19</b></p> <ul style="list-style-type: none"><li>Recommendations for the triage, management, and treatment of COVID-19 in people with HIV are the same as those for the general population (AIII).</li><li>In people with advanced HIV and suspected or documented COVID-19, HIV-associated opportunistic infections (OIs) should also be considered in the differential diagnosis of febrile illness (AIII).</li><li>When starting treatment for COVID-19 in a patient with HIV, clinicians should pay careful attention to potential drug-drug interactions and overlapping toxicities among COVID-19 treatments, antiretroviral (ARV) medications, antimicrobial therapies, and other medications (AIII).</li><li>People with HIV should be offered the opportunity to participate in clinical trials of vaccines and potential treatments for SARS-CoV-2 infection.</li></ul> <p><b>Management of HIV</b></p> <ul style="list-style-type: none"><li>People with HIV who develop COVID-19, including those who require hospitalization, should continue their antiretroviral therapy (ART) and OI prophylaxis whenever possible (AIII).</li><li>Clinicians treating COVID-19 in people with HIV should consult with an HIV specialist before adjusting or switching ARV medications (AIII).</li><li>An ART regimen should not be switched or adjusted (i.e., by adding ARVs to the regimen) for the purpose of preventing or treating SARS-CoV-2 infection (AIII).</li><li>For people who present with COVID-19 and a new diagnosis of HIV, clinicians should consult an HIV specialist to determine the optimal time to initiate ART (see text for more detailed discussion).</li></ul> <p><b>Rating of Recommendations:</b> A = Strong; B = Moderate; C = Optional</p> <p><b>Rating of Evidence:</b> I = One or more randomized trials with clinical outcomes and/or validated laboratory endpoints; II = One or more well-designed, nonrandomized trials or observational cohort studies; III = Expert opinion</p>

# CDC's recommendations to help people with HIV protect themselves from COVID-19 include:

- Having at least a 30-day supply of HIV medicine [preferably, 90 days]
  - May require you to seek prior authorization for ADAP programs
- Avoiding close contact with people who are sick
- Practicing good hand washing
- Avoiding large crowds and gatherings
- Avoiding non-essential travel
- Following recommendations made by local public health officials
- Establishing a clinical care plan to communicate with health care providers online or by phone – including MAT programs

<https://www.hiv.gov/hiv-basics/staying-in-hiv-care/other-related-health-issues/coronavirus-covid-19>





# Newer Observational Studies on COVID-19 and HIV – COVID Disease Outcomes

# Characteristics, Comorbidities, and Outcomes in a Multicenter Registry of Patients with HIV and Coronavirus Disease-19

Dima Dandachi, MD, MPH<sup>\*1</sup>; Grant Geiger, BS<sup>2</sup>; Mary W. Montgomery, MD<sup>3</sup>; Savannah Karmen Tuohy, BS<sup>4</sup>; Mojgan Golzy, Ph.D.<sup>5</sup>; Annukka A.R. Antar, MD, Ph.D.<sup>6</sup>; Josep M. Llibre, MD, Ph.D. Maraya Camazine, MS<sup>2</sup>; Alberto Diaz-De Santiago, MD, Ph.D.<sup>8</sup>; Philip M. Carlucci, BS<sup>4</sup>; Ioannis N Zacharioudakis, MD<sup>9</sup>; Joseph Rahimian, MD<sup>9</sup>; Celestine N. Wanjalla MD, Ph.D.<sup>10</sup>; Jihad Slim, MD Folasade Arinze, MD, MPH<sup>12</sup>; Ann Marie Porreca Kratz, PharmD, BCPS, BCIDP<sup>13</sup>; Joyce L Jones MD, MS<sup>6</sup>; Shital M. Patel, MD, MS<sup>14</sup>; Ellen Kitchell, MD<sup>15</sup>; Adero Francis, MD<sup>12</sup>; Manoj Ray, MD David E. Koren, PharmD<sup>17</sup>; John W. Baddley, MD, MSPH<sup>18</sup>; Brannon Hill, PharmD<sup>19</sup>; Paul E. Sax MD<sup>1</sup>; Jeremy Chow, MD, MS<sup>15</sup>; and the HIV-COVID-19 consortium<sup>\*</sup>

1. Division of Infectious Diseases, University of Missouri-Columbia, MO
2. School of Medicine, University of Missouri-Columbia, MO
3. Department of Infectious Diseases, Brigham and Women's Hospital, Boston, MA
4. School of Medicine, New York University Grossman School of Medicine, New York, N
5. Department of Health Management and Informatics, University of Missouri-Columbia, MO
6. Division of Infectious Diseases, Johns Hopkins University School of Medicine, Baltimore MD
7. Infectious Diseases and Fight AIDS Foundation, University Hospital Germans Trias, Badalona, Spain
8. Internal Medicine Department, HIV Infection Unit. Puerta de Hierro Majadahonda University Hospital, Madrid, Spain
9. Division of Infectious Diseases and Immunology, New York University Grossman School of Medicine, New York, NY

© The Author(s) 2020. Published by Oxford University Press for the Infectious Diseases Society of America. All rights reserved. For permissions, e-mail: journals.permissions@oup.com.

# Characteristics, Comorbidities, and Outcomes in a Multicenter Registry of Patients with HIV and COVID-19

- N=286 patients; mean age 51.4; 75.4% were AA or Hispanic; 94.3% on ART
- Clinical presentation and admission criteria similar to non-HIV cohorts; 57% hospitalized and 17% ventilated; mortality 9.4%

TABLE 4. Multivariable analysis examining the association between hospitalization, severe outcome, and clinical characteristics of patients with HIV and COVID-19 (n=286)

	Logistic regression analysis		Generalized Estimating Equation (GEE)		
Outcome	Odds ratio (95% CI)	p-value	Odds ratio (95% CI)	p-value	
Hospitalization	Age, years	1.04 (1.01- 1.08)	0.01	1.08 (1.04 -1.07)	0.03
	CD4 count				
	< 200 cells/mm3	5.22 (1.28 - 21.35)	0.02	3.67 (1.64 -17.1)	<0.01
	200 – 500 cells/mm3	1.47 (0.7-3.08)	0.30	1.12 (1.1-12.22)	0.03
	> 500 cells/mm3	1.00 (reference)			
	Chronic kidney disease	5.12 (1.60-16.85)	<0.01	4.08 (1.45 – 11.52)	<0.01
		1.00 (reference)			
	Chronic lung disease	4.54 (1.58-13.01)	<0.01	4.06 (1.87 – 8.81)	<0.01
		1.00 (reference)			
	Comorbidity burden				
HIV disease with no other known comorbidity	1.00 (reference)				
HIV with 1 or 2 comorbidities	1.19 (0.56-2.55)	0.65	1.13 (0.49- 2.6)	0.78	
HIV with 3 or more comorbidities	4.56 (1.81-11.48)	<0.01	3.57 (1.29 -9.9)	0.01	

†Severe outcome	Age, years	1.04 (1.01- 1.07)	0.02	1.04 (1.0 -1.07)	0.02
	CD4 count				
	< 200 cells/mm3	3.32 (1.11-9.93)	0.03	2.8 (1.02-7.67)	0.05
	200 – 500 cells/mm3	1.75 (0.76-4.02)	0.19	1.93 (0.73-5.06)	0.18
	> 500 cells/mm3	1.00 (reference)			
	Hypertension	2.44 (1.01-5.55)	0.03	2.43 (1.2- 4.93)	0.01
		1.00 (reference)			
	Chronic lung disease	3.65 (1.56-8.56)	<0.01	3.37 (1.63- 6.97)	<0.01
		1.00 (reference)			
	Comorbidity burden				
HIV disease with no other known comorbidity	HIV disease with no other known comorbidity	1.00 (reference)			
	HIV with 1 or 2 comorbidities	2.58 (0.56-11.91)	0.23	2.21 (0.42-11.7)	0.35
	HIV with 3 or more comorbidities	5.09 (1.05-24.76)	0.04	5.40 (1.02-28.54)	0.05

The model for hospitalization outcome is adjusted for age, sex, race/ethnicity, years with HIV, CD4 count, HIV viral load suppression, antiretroviral regimen, hypertension, diabetes, chronic lung disease, chronic kidney disease, cardiovascular disease, active malignancy, and chronic liver disease.

# COVID-19 in Patients with HIV: a Multi-Center Research Network Study (TriNETX)

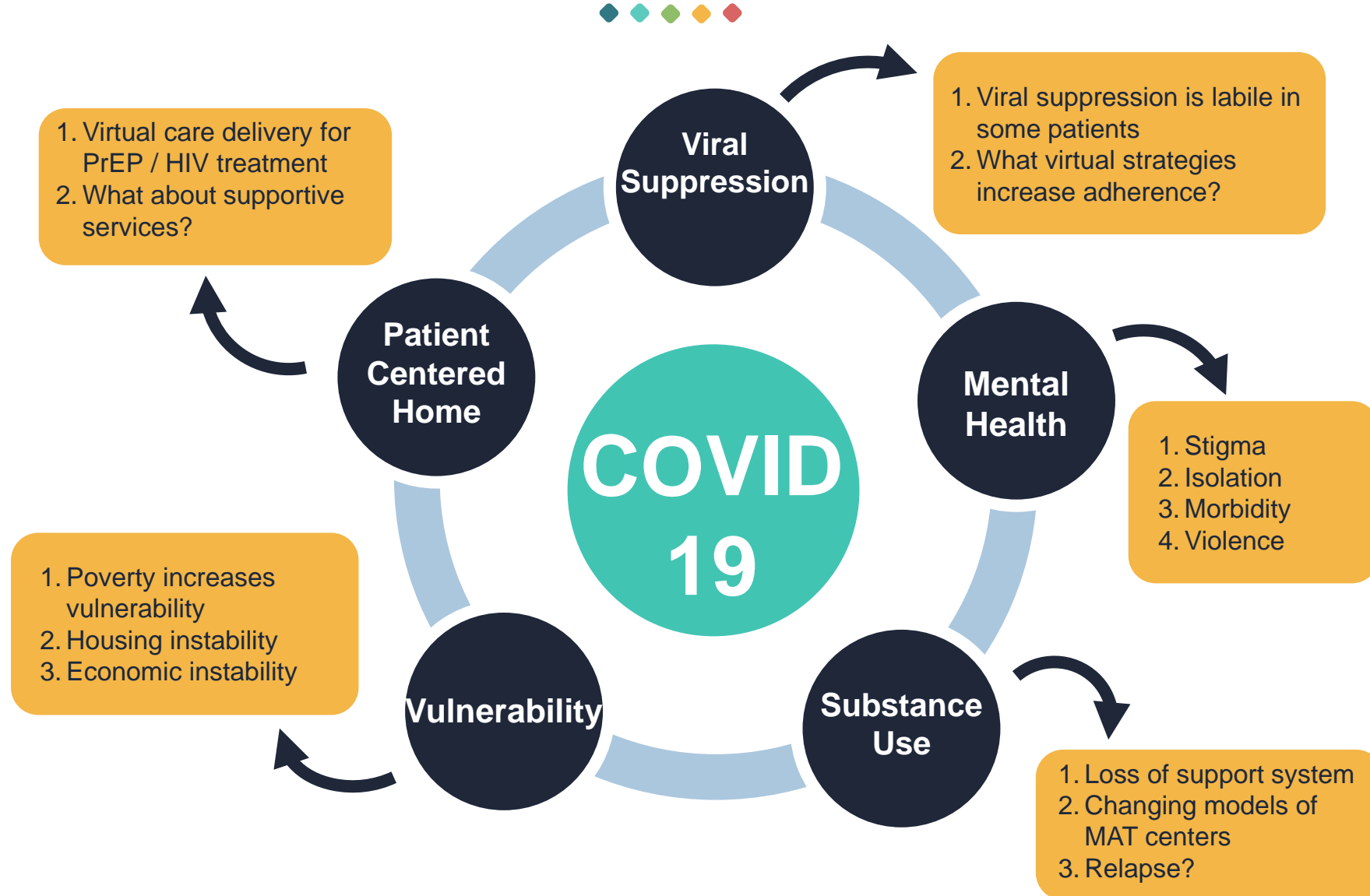
---

- 50,167 COVID-19 patients identified (404 PWH). PWH tended to be males, AA, obese and have hypertension, diabetes, CKD and nicotine dependence ( $p < .05$ )
- In unmatched analysis, PWH had higher mortality at 30 days (RR 1.55) and need inpatient services (RR 1.83)
- After propensity score matching, no difference in mortality was noted (RR 1.33, 95% CI: 0.69 – 2.57).
- Crude COVID-19 mortality is higher in PWH; however, propensity matched analyses revealed no difference in outcomes, showing that higher mortality is driven by higher burden of comorbidities

# Newer Observational Studies on COVID-19 and HIV Prevention – Prevention Outcomes



# The Impact of COVID on HIV Patient Care – we need data



# Factors Impacting Adherence

## Patient Factors

- Age
- Level of education
- Social factors
- Mental health including risk taking behaviors
- Neurocognitive impairment
- Substance abuse
- Pill Aversion

## Medication Factors

- Pill burden
- Type of drug
- Side effects
- Running out of medication without refills in setting of fear to go to pharmacy
- Literacy / numeracy

## Provider Related Factors

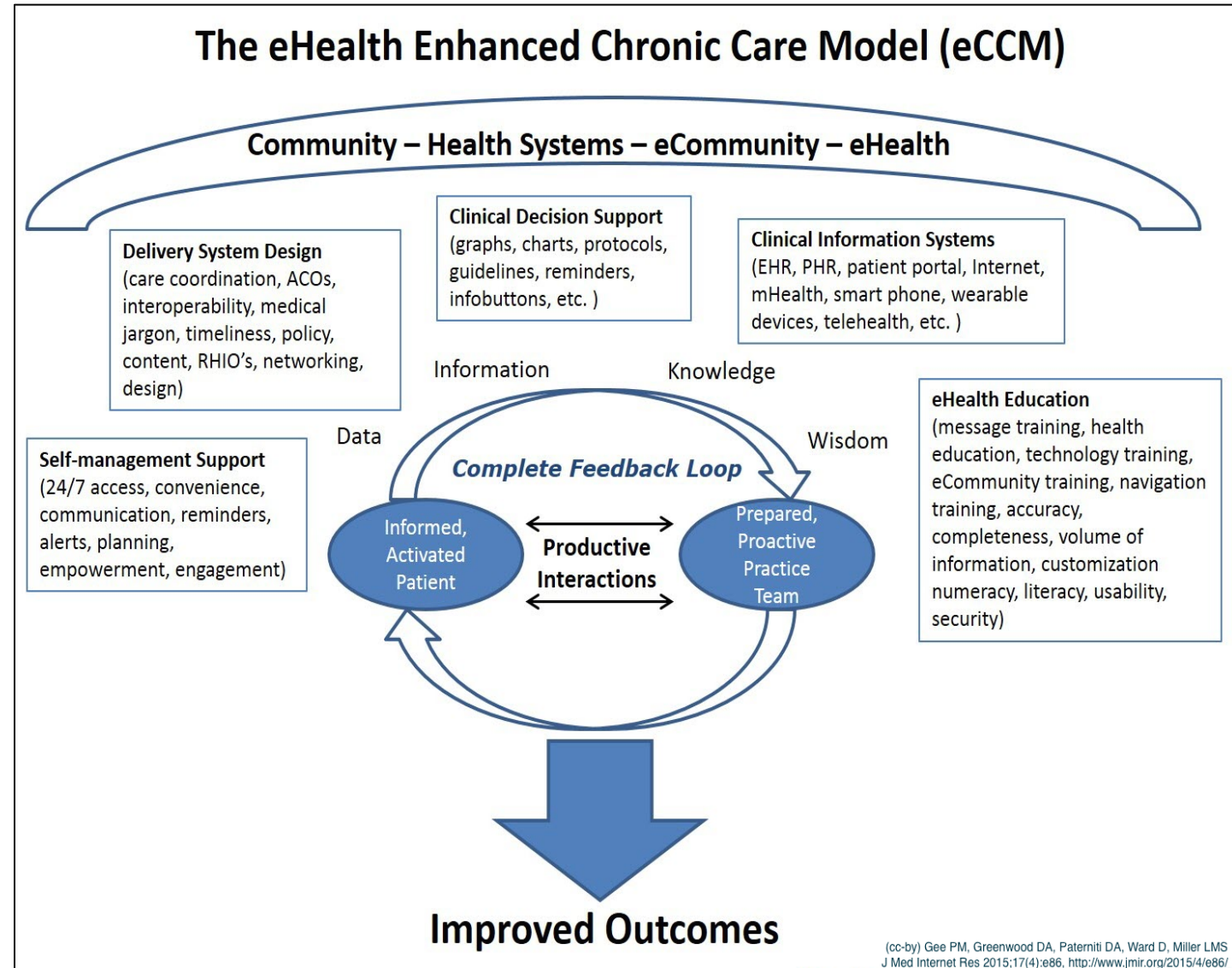
- Provider-patient relationship
- Trust
- Satisfaction with care
- Accessibility
- User experience with telehealth / telephone contacts

Factors in red are factors differentiated by COVID19

# Avoiding Destruction of the Patient Centered Medical Home:

## Key Questions for virtual medical home:

1. How are support and adherence staff engaged?
  - a. Pharmacists?
  - b. Providers?
  - c. Nurses?
2. Telehealth
  - a. HIV only or HIV and PrEP
  - b. Acute visits via telehealth
  - c. Home disclosure of HIV status
  - d. Telephone might be better for some
3. Differentiated models
  - a. Longer refills
  - b. Text reminders – do HCWs use their cell
  - c. Mailed pill boxes
  - d. External lab providers



# Escalation of Adherence Strategies

- Tier 1:
  - All patients receive standardized information
  - Email, EHR blasts, robo-calls
- Tier 2:
  - Patients with long-term viral suppression ( $VL < 20$ )
  - Automatic refills by pharmacy for 90 day supply
- Tier 3:
  - Patients with  $VL < 20$ , vulnerable to non-adherence
  - Weekly contact (perhaps more), added virtual support
- Tier 4:
  - Labile viral suppression needing frequent contact
  - Text reminders, phone calls, filled / shipped pill boxes.



# Pop Up Question

**What strategies might you use in your healthcare setting to support patients' engagement in HIV care during COVID?**

# **Viral Suppression Rates and Retention in a Safety-net HIV Clinic in SF during COVID-19**

---

- **Compared viral suppression and retention before and after COVID-19 Shelter in place.**
  - **Odds of viral non-suppression were 31% higher in April 2020 vs pre-COVID-19 (95% CI=1.08-1.53).**
  - **3 fold higher in homeless**
  - **54% of visits were telephone visits**
- **Retention-in-care via telemedicine was not sufficient to keep suppression rates stable. Loss of viral suppression is deleterious to the individual and hinders treatment-as-prevention**

# The Unknowns of COVID-19 Vaccination: Advocacy required

- Most vaccine trials excluded people with HIV originally, until....Lynda Dee of AIDS Action Baltimore
- Shortly after the petition, Moderna and Pfizer announced it would open the vaccine to PWH
  - Moderna enrolled 176 PWH / 30,000
    - No cases reported in PWH in active arm
  - Pfizer enrolled 120 PWH / 43,000
    - Data not yet available

<https://www.nbcnews.com/feature/nbc-out/inside-fight-include-hiv-positive-people-covid-19-vaccine-trials-n1252458>



# Discussion





# Upcoming Opportunities!

## What Do Pesticides Have To Do With COVID-19?

Wednesday, January 27, 2021 at 4:00 pm ET



Audience: Nurses, Nurse Practitioners, Providers

# Pennsylvania's Healthcare Mosaic: Advocacy & Equity in Action Virtual Conference



- Hosted by the PA Action Coalition's Nurse Diversity Council in partnership with Penn State College of Nursing- March 1-5, 2021
- Entire conference virtual and conducted through Zoom
- [Registration and agenda posted here!](#)
- Sponsorship opportunities available

# Thank you

Visit us on the web at [nurseledcare.phmc.org](http://nurseledcare.phmc.org)

Follow us on social media at

[facebook.com/nursingclinics](https://facebook.com/nursingclinics)

[twitter.com/NurseLedCare](https://twitter.com/NurseLedCare)

[linkedin.com/company/national-nurse-led-care-consortium/](https://linkedin.com/company/national-nurse-led-care-consortium/)

