

# COVID-19 in Persons with HIV (PWH)

Meena Ramchandani, MD MPH  
University of Washington, Division of AID  
Public Health-Seattle & King County

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# Disclosures

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NONE

# Background

- Recommendations for evaluating COVID-19 in PWH
- Describe the clinical spectrum of COVID-19 in PWH
- Based largely on studies of influenza conducted early in the HIV epidemic
  - HIV infection is commonly identified as a risk factor for severe disease
  - Low CD4 lymphocyte counts and persons off antiretroviral therapy

# Methods

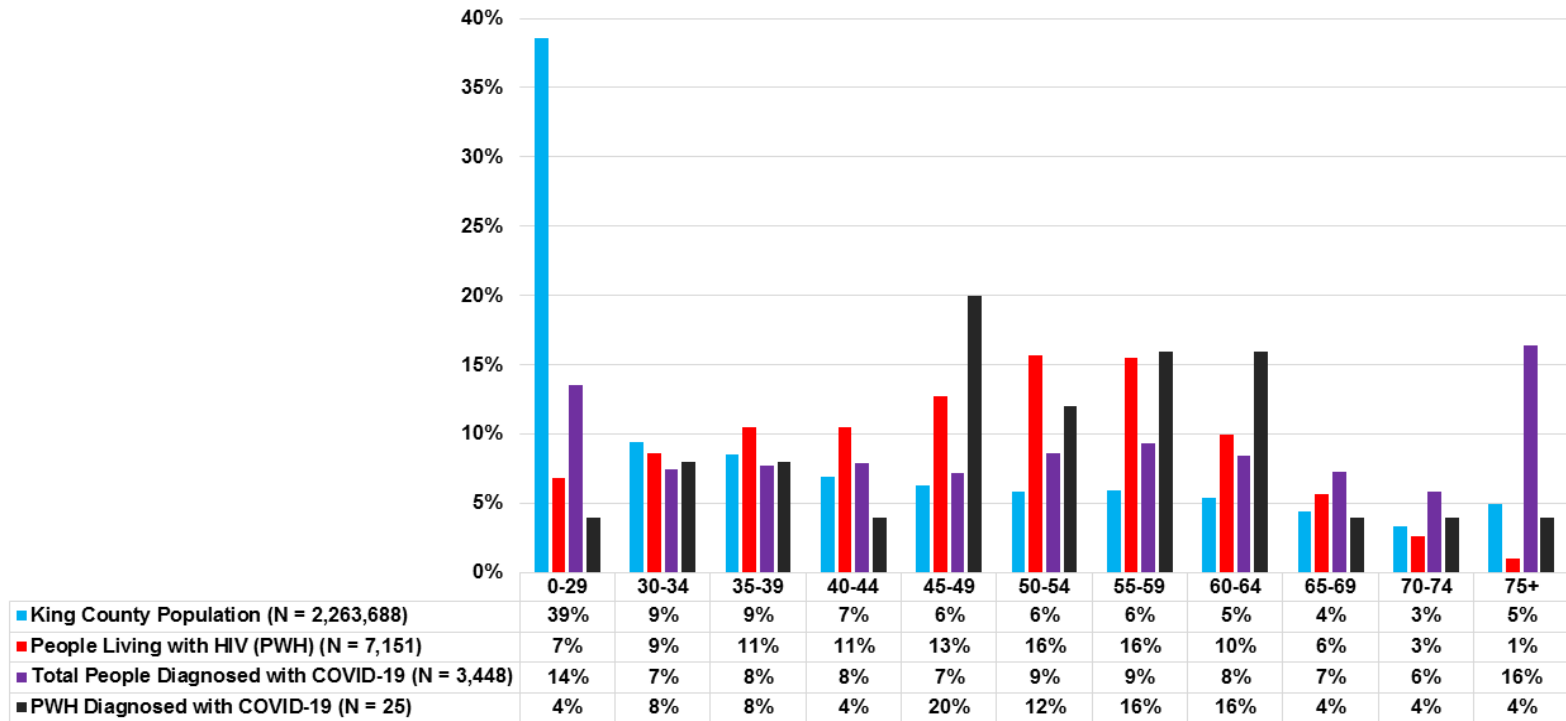
- Matched public health case registries of PWH and COVID-19 from March 1 to April 7, 2020 in King County, Washington
- Identified 25 persons with co-infection
- Reviewed medical records of 21 cases
- Calculated the age-standardized diagnosis rate among PWH
  - standardizing incidence using data on the age structure of the King County population in five year age groupings

# Demographics

<b>Number of PWH and COVID positive</b>	<b>21</b>
<b>Median Age (range)</b>	52 (29-76)
<b>Male Sex assigned at birth (%)</b>	<b>17 (81%)</b>
<b>Median CD4 count, cells/mm<sup>3</sup> (range)</b>	579 (199-1436)
<b>Number of patients w CD4 T cell <math>\geq</math>200 cells/mm<sup>3</sup></b>	20 (95%)
<b>HIV viral load &lt;40 copies/mL</b>	<b>21 (100%)</b>
<b>Co-morbid conditions</b>	
<b>At least one co-morbid condition listed below</b>	<b>18 (86%)</b>
<b>Hyperlipidemia</b>	8 (38%)
<b>Hypertension</b>	6 (28%)
<b>Diabetes</b>	5 (24%)
<b>Chronic liver disease (chronic hepatitis C virus, hepatitis B virus and fatty liver disease)</b>	5 (24%)
<b>Obesity</b>	3 (14%)
<b>Cardiovascular disease</b>	3 (14%)
<b>Chronic kidney disease</b>	3 (14%)
<b>Chronic lung disease (COPD, asthma)</b>	2 (10%)
<b>Tobacco</b>	
<b>Former smoker</b>	4 (19%)
<b>Current smoker</b>	3 (14%)

# Distribution of age in years

## Jan 29 to April 7, 2020



- The overall rate of COVID-19 diagnosis among King County PWH was 265 per 100,000 compared to a diagnosis rate of 152 per 100,000 for the total population of King County (unadjusted RR 2.3, 95% CI 1.6-3.4)
- The age-adjusted incidence of COVID-19 in PWH was higher than the general population of King County (relative risk 1.8, 95% confidence interval 1.2-2.7)

# Results

<b>Symptoms at presentation</b>	
>1 symptom	<b>20 (95%)</b>
Cough	19 (90%)
Subjective fever	15 (71%)
Gastrointestinal (nausea, emesis, diarrhea, poor appetite)	11 (52%)
Myalgias	10 (48%)
Fatigue	9 (43%)
Chest pain or tightness	8 (38%)
Headache	7 (33%)
Dyspnea	7 (33%)
Rhinorrhea or sinus congestion	7 (33%)
Sore throat	3 (14%)
<b>Disease severity</b>	
Asymptomatic	1 (5%)
Mild	<b>17 (81%)</b>
Severe	2 (10%)
Critical	2 (10%)
<b>Lung imaging performed (chest X-ray or computerized tomography scan)*</b>	<b>6 patients</b>
Bilateral involvement	4 (67%)
<b>Medical course at time of review*</b>	<b>18 patients</b>
Symptoms improving or resolved	<b>15 (83%)</b>
Currently hospitalized	1 (6%)
Death	2 (11%)

# Recently Published

First author	PMID	Cases	Location
Benkovic	32427361	4	NYC
Blanco	32304642	5*	Spain
Gervasoni	32407467	47*	Italy
Childs	32459833	18*	London
Härter	32394344	33	Germany
Okoh	32483000	27	New Jersey
Ridgway	32469614	5	Chicago
Shalev	32472138	31*	NYC
Vizcarra	32473657	51	Spain

\* Hospitalized patients

- 40-60s (range 20s-89)
- CD4 >200, Suppressed HIV VL
- Majority male
- On ART (majority on Integrase)
- HTN, HLD, CKD, HBV or HCV, DM, obesity
- Fever, SOB, cough, fatigue
- B/I CXR abnormalities
- Majority recovered fully, very few deaths
- Suggest increased numbers of African Americans but little analysis



# Takeaway points

- COVID-19 was more commonly diagnosed among PWH than among King County residents
- Clinical outcomes of hospitalized and ambulatory PWH similar to the general population
- HIV status alone may not be a risk factor for severe COVID-19 disease
- Critical illness seems to be factor of co-morbidities rather than HIV

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