THE UNIVERSITY OF CHICAGO MEDICINE & BIOLOGICAL SCIENCES

Increased Diagnoses of Acute HIV Infection Through Routine ED Screening and Rapid Linkage to Care and Initiation of HAART During The COVID-19 Pandemic

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Disclosure(s)
David Pitrak, M.D.

- Grant support from Gilead Sciences, FOCUS (Frontlines of Communities in the United States) Program
  - Expanded HIV and HCV testing and linkage to care
- I will not be discussing off label use or investigational use of any product in my presentation.

COVID-19 and HIV infection

- Data to date indicate that outcomes for persons living with HIV (PLWH) who are infected COVID-19 are similar to those without HIV infection*,+,#
- The COVID-19 pandemic has indirectly affected the HIV pandemic by disrupting healthcare
- A number of infectious disease programs have suffered setbacks
- HIV care and prevention programs have been severely impacted

*Gervasoni, et al. Clin Infect Dis, 2020
+Suwanwongse, et al. J Med Virol, 2020
#Blanco, et al. Lancet HIV, 2020

COVID-19 and HIV infection

- We have reported that the COVID-19 pandemic has caused delays or cancellation of follow up visits for PLWH*
  - Despite rescheduling and transitioning to telehealth visits, the downstream effects on retention in care and viral load suppression are still unknown
- HIV prevention programs have also been negatively affected+
  - At the Fenway Health Center in Boston, PrEP starts declined by 72 % from January to April despite rapid implementation of telehealth visits
  - PrEP refill lapses increased by 278 %
  - HIV screens were reduced by 85 %
- Worldwide, HIV services have seen severely impacted with the greatest impact on the LGTBQ community#

*Ridgway, et al. AIDS and Behavior, 2020
+Krakower, IAS Conference, July 6-10, 2020
#Lamontagne, IAS Conference, July 6-19, 2020

COVID-19 and HIV infection

- The symptoms of COVID-19 infection, infection with other respiratory viruses, and acute HIV infection (AHI) overlap
- Screening patients with an influenza-like illness (ILI) for HIV is an opportunity to identify patients with AHI, a priority population for public health
- We report how planning for blood draws for HIV Ab/Ag combination testing in our Emergency Department (ED) maintained routine HIV screening levels during the COVID-19 pandemic
- We also report how HIV screening for patients with an ILI has led to a significantly increased rate of AHI diagnoses
- Despite the COVID-19 pandemic, rapid linkage to care and initiation of antiretroviral therapy (ART) was possible

Methods

- We reviewed the HIV screening data from the Expanded HIV Testing and Linkage to Care (x-TLC) program*
  - This is a consortium of 15 affiliated healthcare sites on the South and West Sides of Chicago who have implemented routine HIV screening
  - x-TLC previously implemented rapid LTC and initiation of ART for AHI+
- We have worked closely with our ED to establish routine opt-out screening and develop EMR prompts with automated orders for HIV screening according to CDC guidelines#
- Our model of care delivery assigns all responsibilities for test review, patient notification, linkage to care (LTC), initiation of antiretroviral therapy (ART), and partner services to the HIV Care Program*

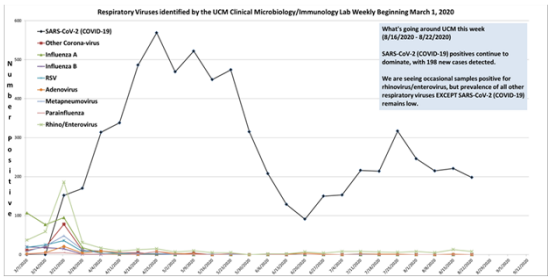
*Bares, et al. Public Health Reports, 2016
+McNulty, et al. JIAPAC, 2019
#MMWR, Revised Recommendations for HIV Testing of Adults, Adolescents, and Pregnant Women in Health-Care Settings, 2006

Methods

- We analyzed testing volumes at UCM, particularly the ED, as well as testing volumes at our affiliated sites in the x-TLC program during the COVID-19 pandemic
- Our ED did the advanced planning to incorporate blood draws for HIV screening in all eligible patients, including those with an ILI being evaluated for COVID-19 and other respiratory viruses in a "fast track" area*
- Acute infection was defined as a + 4th generation HIV combo Ab/Ag assay, with a negative or indeterminate supplemental Ab test and a positive HIV quantitative PCR

*Stanford, et al. AIDS & Behavior, 2020

Viral Illnesses at UCM (through 8/22/2020)*

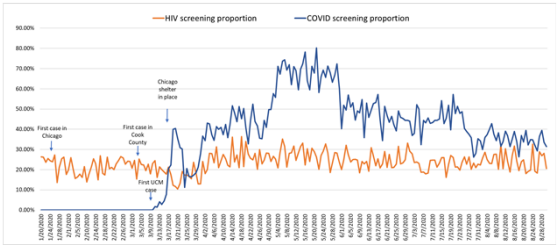


*KV Beavis, Clinical Microbiology, UCM

Results

- The x-TLC program saw a decrease from 22,502 tests in Jan/Feb to 11,766 in April/May (-48 %)
- Testing volumes were significantly decreased for the majority of sites during the peak of the pandemic
  - Median reduction in HIV screens of -58 % (range +13 % to -74 %)
  - As of June (end of Q2), testing at our sites was still reduced by a median of -32 % (range -4 % to -62 %)

Routine Screening for HIV in an Urban ED During the COVID-19 Pandemic



Results

- UCM performed 19,111 HIV screens (11,133 in the ED) between 1/1/20 and 8/17/20
- There were also 100,635 COVID-19 RT-PCRs performed at UCM (14,754 in ED) between 3/17/20 and 8/17/20
- Nine patients were diagnosed with AHI after the first case of COVID-19 in Chicago (1/24/20)
- All cases of AHI were diagnosed in the ED
- The rate of AHI diagnoses was significantly higher in 2020 compared to the previous 4 years (14.4 per year versus 6.8 per year, Incidence Ratio (IR) 2.14, 95 % CI 1.01 to 4.54)
- AHIs comprised 25.7 % (9/35) of all new diagnoses, the highest proportion ever observed

Year	AHI Dx	AHI Dx ED	New Dx	New Dx ED
2016	7	5	41	19
2017	7	7	37	22
2018	4	4	39	28
2019	9	9	56	39
2020 (through 8/17/2020)	9	9	35	31

Results

- Of the 9 AHI patients, 7 were men (6 identified as MSM) and 2 were cis-gender women
- Median age was 25 years (range 21 to 28 years)
- The median viral load was > 6 million (range 115,000 to > 6 million) copies/mL
- Eight of 9 patients presented with an illness indistinguishable from COVID-19
  - Including 1 patient with co-infection
- All 9 patients were notified, LTC, and initiated on ART
  - Median of 1 day (0-38 days) from result of confirmatory PCR
  - Median 3 days (range 1-41 days) from presentation as a result of delayed reflex PCR testing due to high demands on lab personnel and scarcity of reagents due to COVID-19 testing volumes

Results*

- Since we submitted our abstract on 9/9/2020, this trend has continued
  - 3 additional patients with AHI have been identified
    - 2 heterosexual males and 1 heterosexual female
    - Ages 24, 28, and 56 years
  - All three were notified, LTC, and initiated ART (at 2 days, 3 days, and 4 days)
- IR of AHI during the COVID-19 pandemic is now up to 2.57 (95 % CI 1.29 to 5.11)
- Confirmatory PCR is now run stat by request
  - Charts are reviewed every morning for all patients with + HIV Ag/Ab combo test
  - If patients presented with symptoms consistent with AHI, stat supplemental Ab testing and PCR is performed

*through 10/16/2020

Conclusions

- HIV screening is the first step in the continuum of care for PLWH and the PrEP continuum for persons at risk
- HIV screening programs, especially those in EDs, need to maintain HIV screening volumes during the COVID-19 pandemic
- Despite the pandemic, rapid LTC and initiation of ART can be achieved
- Review of performance data can identify factors that delay the continuum of care and initiation of ART
- In our case, we addressed the delay in reflex PCR testing

Conclusions

- There are multiple possibilities for the increased incidence of AHIs diagnosed in the ED
- Patients with AHI may be more likely to seek medical care because of a concern for COVID-19 infection
- The incidence of AHI diagnoses may be due to an increase in new transmissions due to
  - Disruptions of the continuum of care for PLWH and treatment as prevention (TasP), as well as disruptions in the PrEP continuum
  - Behavioral changes precipitated by the pandemic
- Routine HIV screening in healthcare settings should implemented for all eligible patients, including patients with IFI being screened for COVID-19 infection

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- Our community of PLWH