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# ***THE EVOLUTION AND EFFICACY OF INCORPORATING TELEMEDICINE VISITS FOR PLWH DURING COVID-19***

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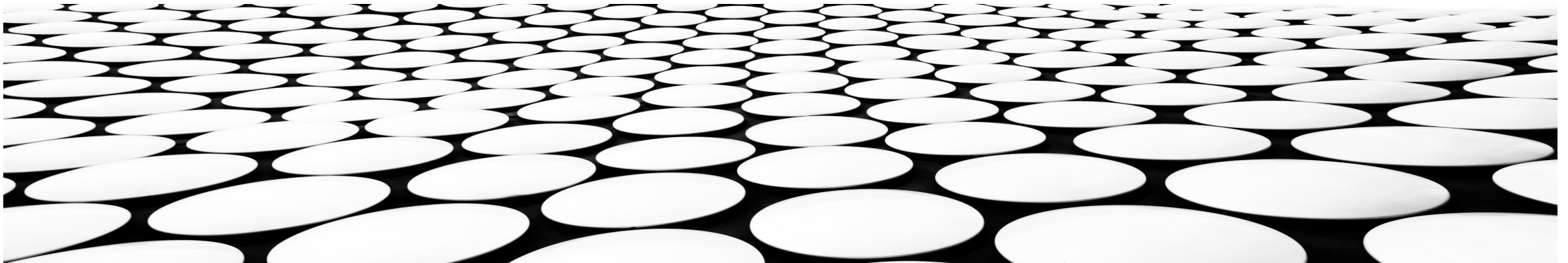
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# OUTLINE

- 1. Background
- 2. COVID-19 Pandemic
- 3. Methods
- 4. Results
- 5. Study Limitations & Strengths
- 6. What does the future hold?



## LEGEND

- “Pre-COVID”: Time period from March 2019 - March 2020
- “COVID”: Time period starting March 2020
- “Undetectable HIV Viral Load”: HIV Viral Load <20 mL
- “In-Person”: Pt. physically came in-person to ID outpatient clinic and seen by Infectious Disease Physician
- “Tele-Services”: Phone call (audio only) with a Infectious Disease Physician



# BACKGROUND

- Caring for People Living With HIV (PLWH)
  - difficult challenge for healthcare providers since start of epidemic in the 1980's
  - Stigma between patients, physicians, society overall
  - Multiple regimens of medications and intolerable S/E of Medications
  - Treatment Failures/Resistance
  - Compliance issues
  - Lack of Social Support Services

# BACKGROUND CONTINUED

- Multitude of factors contributing to this specific population (PLWH) for suboptimal care

-Mostly socio-economic factors:

-Difficulty in access to care

-Rural >>> Urban Areas

-Lack of providers and lengthy travel to providers.

-Difficulty of travel / lack of transportation means

-Bus tickets, ride-share, cab/taxi discounts or free services

-Lack of community resources, prevention methods

-Insurance approvals delayed and/or denials for \$\$\$ Anti-Retroviral Treatment (ART)

-Under utilization of technology → lack of access to care



# COVID-19 PANDEMIC 1

- The outpatient management of PLWH needed to adapt to the new reality of the pandemic
  - → Stay at home mandates
  - → Fear of contagion in healthcare settings and in general the public setting
  - → Required a transition to alternative modes of care such as telemedicine (TELE), defined as remote electronic health care services including video interactions, telephone communication and asynchronous messaging, were implemented in many clinics

# THE COVID-19 PANDEMIC: EXPANSION OF TELE-MEDICINE

-COVID-19 has improved Tele-healthcare access overall via:

- Federal Public Health Emergency Laws
- Congressional House Bill 6074
- DHHS Waivers for Tele Services
- CMMS emergency declarations
- Changes in Coverage Eligibility & Insurance Reimbursements
- Individual State Emergency Laws

-Introduced several innovations in the law + technology that transformed HIV care:

- Enabled expanded funding
- Mandated reimbursements by public and private insurance payors by law
- Increased efficacy/utilization of telemedicine services in multiple specialties  
i.e. Primary Care, Infectious Disease  
→ Changes to include urban areas and not just rural underserved areas

# COVID-19 PANDEMIC 2

- Other significant changes to barriers of entry:

- Easing licensing requirements for healthcare professionals

- Waivers of certain technical requirements

- i.e. patients can now be seen at home → improves compliance

- No nursing staff mandated to be present → improves access to care

- Law allows for allowing “audio-only” visits

- No need for expensive video cameras/hardware required

- Ease of use with just home land line or cell phone

- Improves timing and access (i.e. Pts. can now call on work break, no need to take off jobs)



# NEWARK BETH ISRAEL - RWJBH & OUTPATIENT INFECTIOUS DISEASE CLINIC NEWARK, NJ

- Newark - Large metropolitan urban area  
-densely populated, high poverty rates, low socio-economic population and minority pts.
- NBI is a Tertiary care teaching hospital w/ 680 beds, and a very large referral center throughout state of NJ
- Outpatient FTC ID Clinic  
→HIV Clinic Population >800 patients
- Launch of Tele-Medicine services in March 2020 at beginning of COVID-19 Pandemic
  - \*\*\*NO PRIOR TELE-SERVICES OFFERED\*\*\*



# OBJECTIVES

Goal was to evaluate the efficacy of In-Person clinic vs Tele-services during Pre-COVID vs. COVID era.

- Is there an increase of clinic patient population Pre-COVID vs. COVID?  
New pts. and Re-introduction of pts. to clinic
- Is there higher utilization and efficacy of clinic services Pre-COVID vs COVID?  
In-Person Show Rates vs. Tele-Medicine Virtual Appointments
- Was there effectiveness of RX assessed by HIV Viral Load suppression rates in the Pre-COVID era vs COVID era?

# METHODS

- Retrospective chart review of Outpatient HIV Clinic patient's pre-COVID vs. COVID.
- Data was collected on specific demographics:
  - Age
  - Type of visit encounter (In-Person vs. Tele-Visit)
  - Number of encounters
  - Consistency of follow up visits
  - ART regiment
  - Analysis of lab values (HIV Viral Load)
  - Frequency and Utilization of tele-services
- Assessed overall patient outcomes
  - Suppression of the HIV viral load
  - Compliance w/ appointments

# RESULTS

## (DEMOGRAPHICS)

- A total of 607 pts were included.
- The mean age was 51 years (Range: 20-84)
- Gender distribution:
  - 306 Males (50.4%)
  - 299 Females (49.2%)
  - 2 trans-gender (0.03%)
- Ethnicities:
  - 545 African Americans (90%)
  - 50 Hispanics (8.2%)
  - 9 Caucasians (1.5%)
  - 3 Asians (0.5%)
- Risk for HIV within the demographics:
  - 437 heterosexuals (72%)
  - 118 male sex with male – MSM - (19.4%)
  - 8 intravenous drug users (1.3%)

# RESULTS

- A total of 530 unique patients seen at the in-person clinic (Pre-COVID).
- There was a total of 606 patients seen during the COVID (CO) period.
- 304 of 606 patients (50.2%) were exclusively Tele-visits.
- 89/606 (14.7%) were in-person.
- 213/606 (35%) utilized \*\*\*both Tele and In-person visits\*\*\*
- There was an increase of 76 patients seen overall after introduction of Tele-services in COVID.
- The number of new pts in the Pre-CO were 36 (7%) vs. 52 (8.6%) in the CO (p=0.26).



# RESULTS CONTINUED

Exclusive in person Pre-CO visits from 3/2019 - 3/2020:

- 3612 unique pt. encounters scheduled
- 1827 showed up
- → 50.5% In-Person Clinic Show Rate

Exclusive Tele visits which were started during CO (After 3/2020-):

- 1585 pts scheduled
- 1324 pts showed up
- → 83.5% TELE-Visit Show

# RESULTS

## (VIRAL LOADS)

373 pts had a VL measured at the end of Pre-CO period → 337 (90.3%) at last visit were undetectable

448 pts had VL measured during COV period → 417 (93%) were undetectable (p=0.002)

Of the same 290 pts that were seen Pre-CO as well as during CO:

→ 249/290 (86%) pts had undetectable VL Pre-CO

→ Compared to 276/290 (95%) undetectable VL during CO after Tele-services were utilized (p=0.0003).

→ An increase of 27 patients became undetectable during COVID.

## CONCLUSION

- MORE pts were cared for during COVID period vs. Pre-COVID period
  - directly due to advent and success of incorporating Tele-Visits
- A LARGER proportion of pts. maintained undetectable HIV VL during the CO period vs Pre-COVID
  - This was statistically significant with a  $P=.0003$
- There was a statistically different and HIGHER show up rate for Tele-Visits vs. In-Person Show Rate
- Overall, 75% of pts. utilized a minimum of one Tele-Visit.



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# PRIOR RESEARCH

- OHL et al  
Study at VA system, pts. traveled to a clinic for TELE encounter. High satisfaction rates, decrease in travel time
- Fadul, et al  
Reported a reduction in the # of visits frequency but a maintenance of viral load suppression.
- Mayer et al.  
Viral load suppression were not interrupted after transitioning to phone or video encounters.
- Spinelli et al,  
TELE in a SF clinic: reduction in viral suppression rates
- Sorbera et al  
No difference in viral load suppression rates.



## THE FUTURE FOR TELE-VISITS?

- Telemedicine has a significant role in the management of PLWH.
- This study has proven that when this patient population is offered Tele services:
  - there is significant and increased utilization of services
  - a higher show up rate and compliance with appointments, refills of medications
  - Improved clinical outcomes, specifically in terms of suppressed/undetectable HIV Viral Loads
- More research needs to be done to assess the effect of Tele-medicine on reducing HIV morbidity and mortality as well as reduction in HIV transmission.
- Emergency laws and payor reimbursements should be crossed over to make permanent adaptations and implementations for Tele-Medicine overall, and at minimum in this patient population for PLWH.



- THE END.

- Please see Q&A.