



Virologic and immunologic outcomes in people living with HIV (PLWH) in a correctional setting during the SARS-CoV-2 pandemic

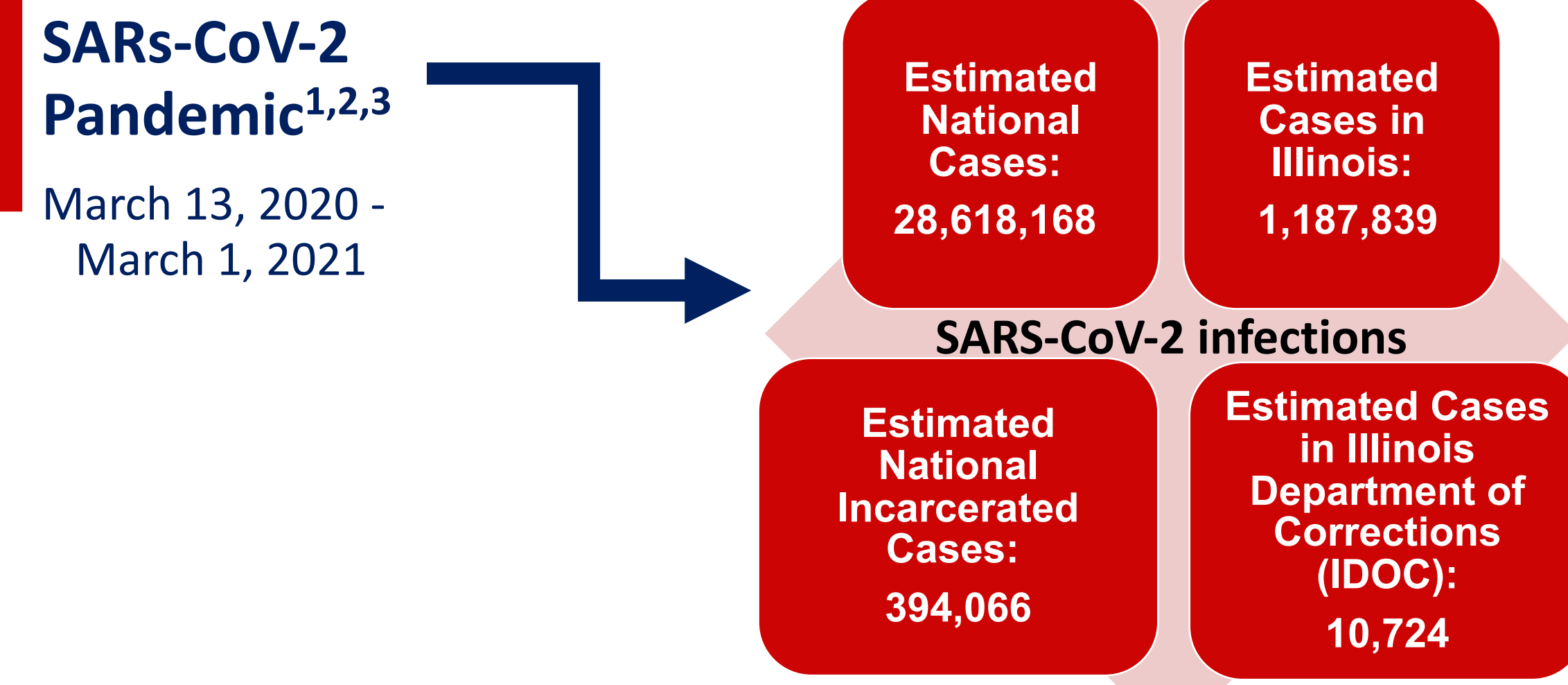
Dimple Patel, PharmD, Sarah Michienzi, PharmD, BCPS, AAHIVP, Anne Zheng, PharmD Candidate, Michael Zhu, PharmD Candidate, Mahesh Patel, MD, Scott Borgetti, MD, Melissa Badowski PharmD, MPH, FCCP, FIDSA, BCIDP, BCPS, AAHIVP

University of Illinois Hospital and Health Sciences System
University of Illinois at Chicago College of Pharmacy



Contact information:
Dimple Patel, PharmD
PGY-2 Infectious Diseases Pharmacy Resident
Beth Israel Deaconess Medical Center
dpatel13@bidmc.harvard.edu

BACKGROUND



Averages of HIV viral load suppression (<200 copies/mL) in 2019

National: 89.5% (CDC)	Illinois: 55.3% (CDC)	IDOC: >97%
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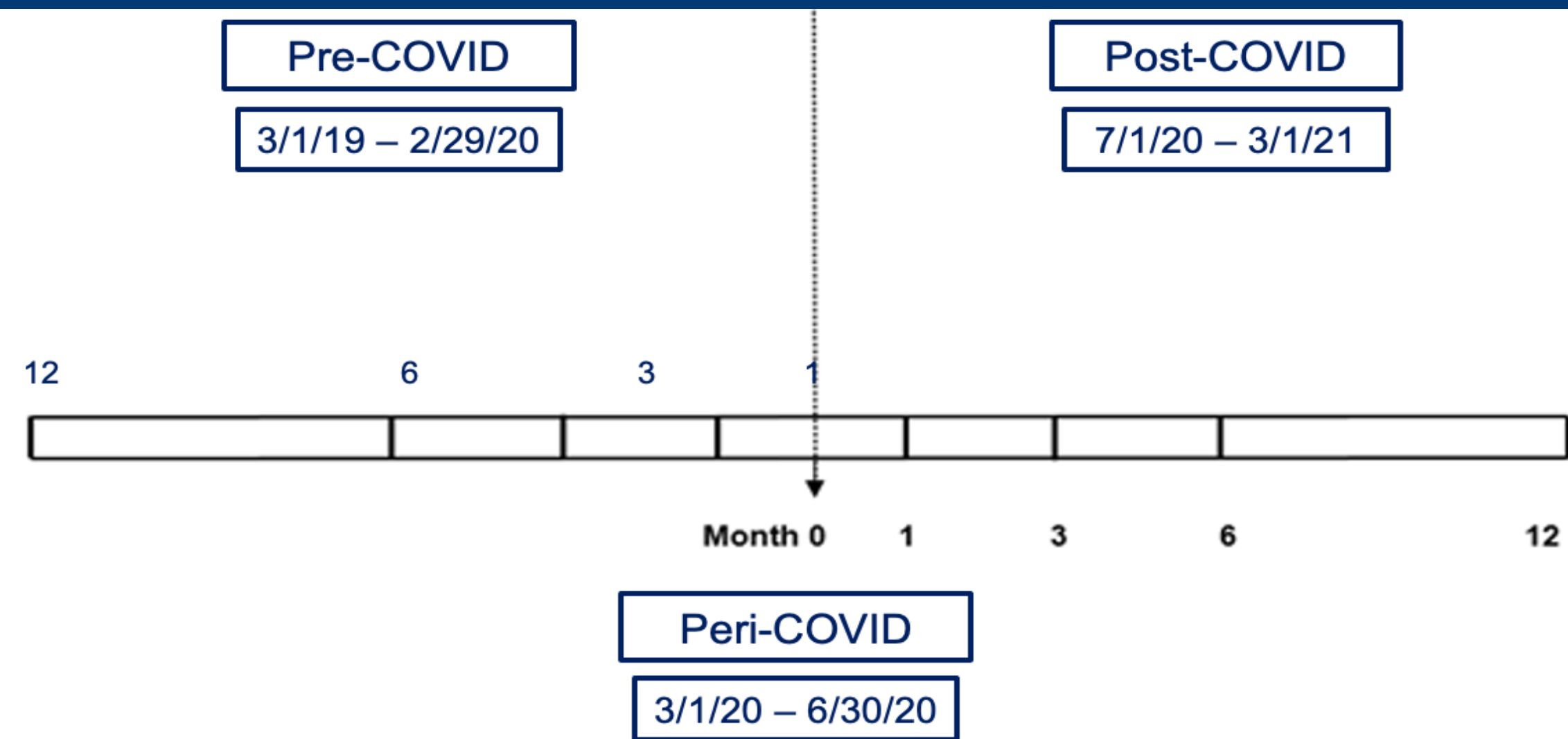
- Immunocompromised persons are at increased risk of severe illness from SARS-CoV-2 infection compared to the general population
- Telemedicine was utilized to provide patient care during the pandemic, but there is very little data on continuity of care and sustainability of telehealth throughout the pandemic²
- Young, et. al (2014) demonstrated a >90% HIV virologic suppression and a higher T-lymphocytic count when managed by a multidisciplinary team of subspecialists conducting clinics via telemedicine within the correctional setting than with on-site physicians²
- Sorbera, et. al (2021) performed a retrospective chart review at an outpatient HIV clinic during the SARS-CoV-2 pandemic and found that telemedicine may allow pharmacists to collaboratively provide remote services without jeopardizing patient outcomes¹

Are the trends comparable in a correctional setting?

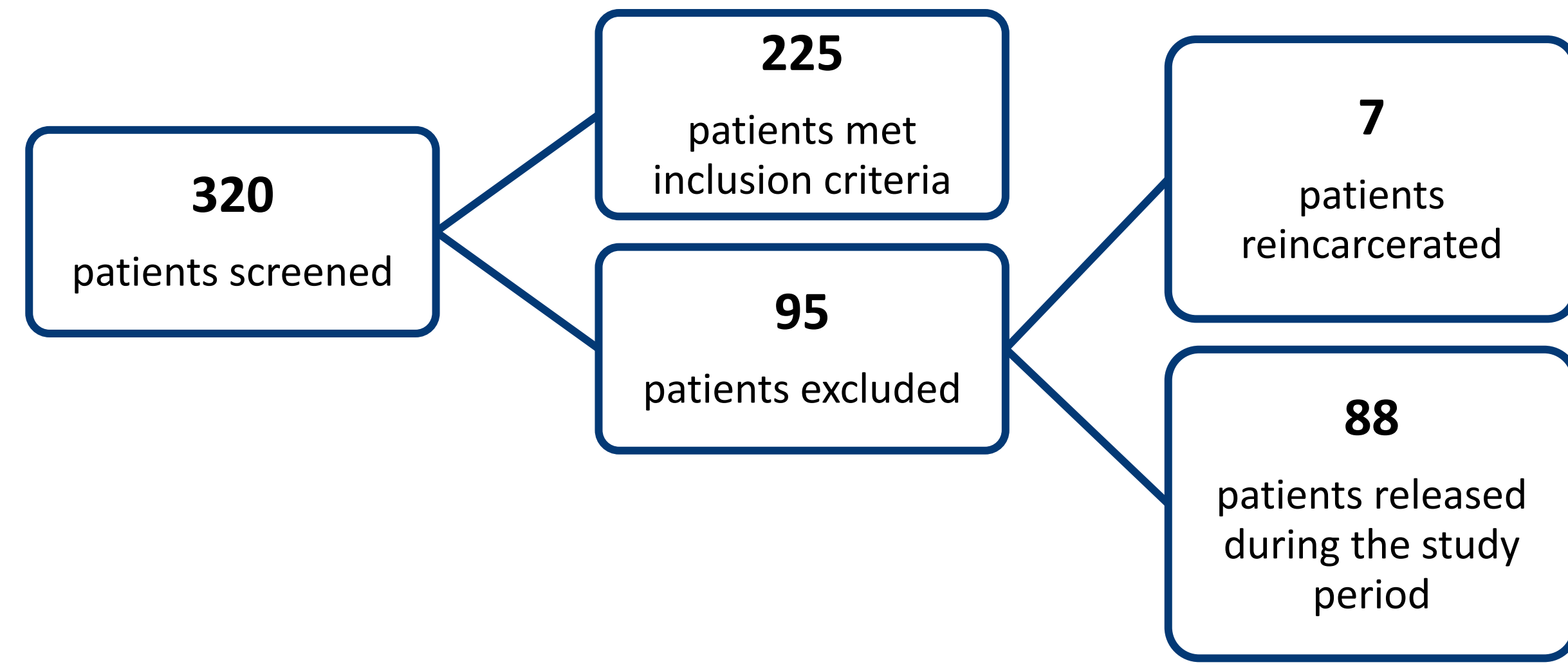
OBJECTIVE

- To investigate the rates of HIV virologic suppression in PLWH in a correctional setting prior to the SARS-CoV-2 pandemic, and during and after vaccination was available
- To determine the sustainability of telemedicine throughout the SARS-CoV-2 pandemic

TIMELINE



RESEARCH DESIGN AND METHODS



INCLUSION CRITERIA

- At least 18 years old
- ICD-10 diagnosis of human immunodeficiency virus (HIV)
- Prescribed ART
- Followed during the entire duration of the study period

EXCLUSION CRITERIA

- Released from the correctional facilities at any point during the study period
- Re-incarceration

PRIMARY OUTCOME

- Rate of virologic suppression pre-, peri- and post SARS-CoV-2 pandemic for PLWH in a correctional setting

SECONDARY OUTCOMES

- Rate of immunologic function pre-, peri- and post COVID-19 pandemic
- Incidence of SARS-CoV-2 infection
- Number of hospitalizations due to SARS-CoV-2 infection
- Any development of virologic failure
- ART changes pre-, peri- and post SARS-CoV-2 pandemic

STUDY DESIGN

- Retrospective chart review, pre-post study
- Utilized Epic and Cerner electronic medical records
- Conducted in those residing in the Illinois Department of Corrections (IDOC)/University of Illinois Chicago telemedicine clinic
- Study period: Continuous incarceration period between March 1, 2019, to March 1, 2021

RESULTS

BASELINE CHARACTERISTICS	N = 225
Gender, n (%)	
Male	210 (93.3)
Female	13 (5.7)
Transgender (MTF)	2 (0.8)
Age, mean (SD)	45.1 (12.5)
Race, n (%)	
African American or Black	166 (73.7)
White	39 (17.3)
Other	19 (8.4)
Native American	1 (0.4)
Ethnicity, n (%)	
Non-Hispanic	202 (89.7)
Hispanic	23 (10.2)

CLINICAL CHARACTERISTICS	N = 225 n (%)
CD4 count at baseline >200 cells/mm ³	214 (95.1)
>14%	207 (92)
Number of hospitalizations	10 (4.4)
Development of virologic failure	3 (1.3)
SARS-CoV-2 Infection	83 (36.8)
ART changed post-pandemic	27 (12)
≥1 Cancelled appointment	141 (62.6)
≥1 Occurrence of non-adherence	10 (4.4)
≥1 Concomitant medications	93 (41.3)
≥1 Comorbid disease	142 (63.1)

ART	Dispensed N = 262 n (%)
Abacavir	1 (0.4)
Atazanavir	1 (0.4)
Atripla	2 (0.8)
Biktarvy	88 (33.6)
Combivir	1 (0.4)
Descovy	2 (0.8)
Dovato	8 (3.0)
Genvoya	60 (22.9)
Isentress	4 (1.5)
Juluca	5 (1.9)
Lamivudine	1 (0.4)
Norvir	2 (0.8)
Odefsey	7 (2.6)
Pifeltro	2 (0.8)
Prezcobix	6 (2.3)
Prezista	8 (3.0)
Symtuza	9 (3.4)
Tivicay	9 (3.4)
Triumeq	40 (15)
Truvada	1 (0.4)
Vemlidy	3 (1.1)
Viread	1 (0.4)
Zidovudine	1 (0.4)

Type of Medication Regimen	patients N = 225 n (%)
Single-tablet	197 (87.6)
Two-tablet	21 (9.3)
Three-tablet	5 (2.2)
Four-tablet	2 (0.9)

Variable	Pre-Pandemic N = 225 n (%)	Post-Pandemic N = 225 n (%)	p - Value
Viral Suppression (<20 copies/mL)	182 (80.9)	184 (81.8)	p = 0.809
(<50 copies/mL)	209 (92.8)	213 (94.6)	p = 0.436
(<200 copies/mL)	221 (98.2)	223 (99.1)	p = 0.411
CD4 Count, mean ± SD	671 ± 360	714 ± 338	p = 0.190
CD4 %, mean ± SD	31.8 ± 11	32.3 ± 11	p = 0.651

Variable	Pre-Pandemic N = 225 n (%)	Peri-Pandemic N = 174 n (%)	p - Value
Viral Suppression (<20 copies/mL)	182 (80.9)	142 (81.6)	p = 0.855
(<50 copies/mL)	209 (92.8)	164 (94.2)	p = 0.580
(<200 copies/mL)	221 (98.2)	170 (97.8)	p = 0.737
CD4 Count, mean ± SD	671 ± 360	704 ± 352	p = 0.360
CD4 %, mean ± SD	31.8 ± 11	32.7 ± 11	p = 0.460

Variable	Peri-Pandemic N = 174 n (%)	Post-Pandemic N = 225 n (%)	p - Value
Viral Suppression (<20 copies/mL)	142 (81.6)	184 (81.8)	p = 0.966
(<50 copies/mL)	164 (94.6)	213 (94.6)	p = 0.858
(<200 copies/mL)	170 (97.8)	223 (99.1)	p = 0.264
CD4 Count, mean ± SD	704 ± 352	714 ± 338	p = 0.770
CD4 %, mean ± SD	32.7 ± 11	32.3 ± 11	p = 0.744

DISCUSSION

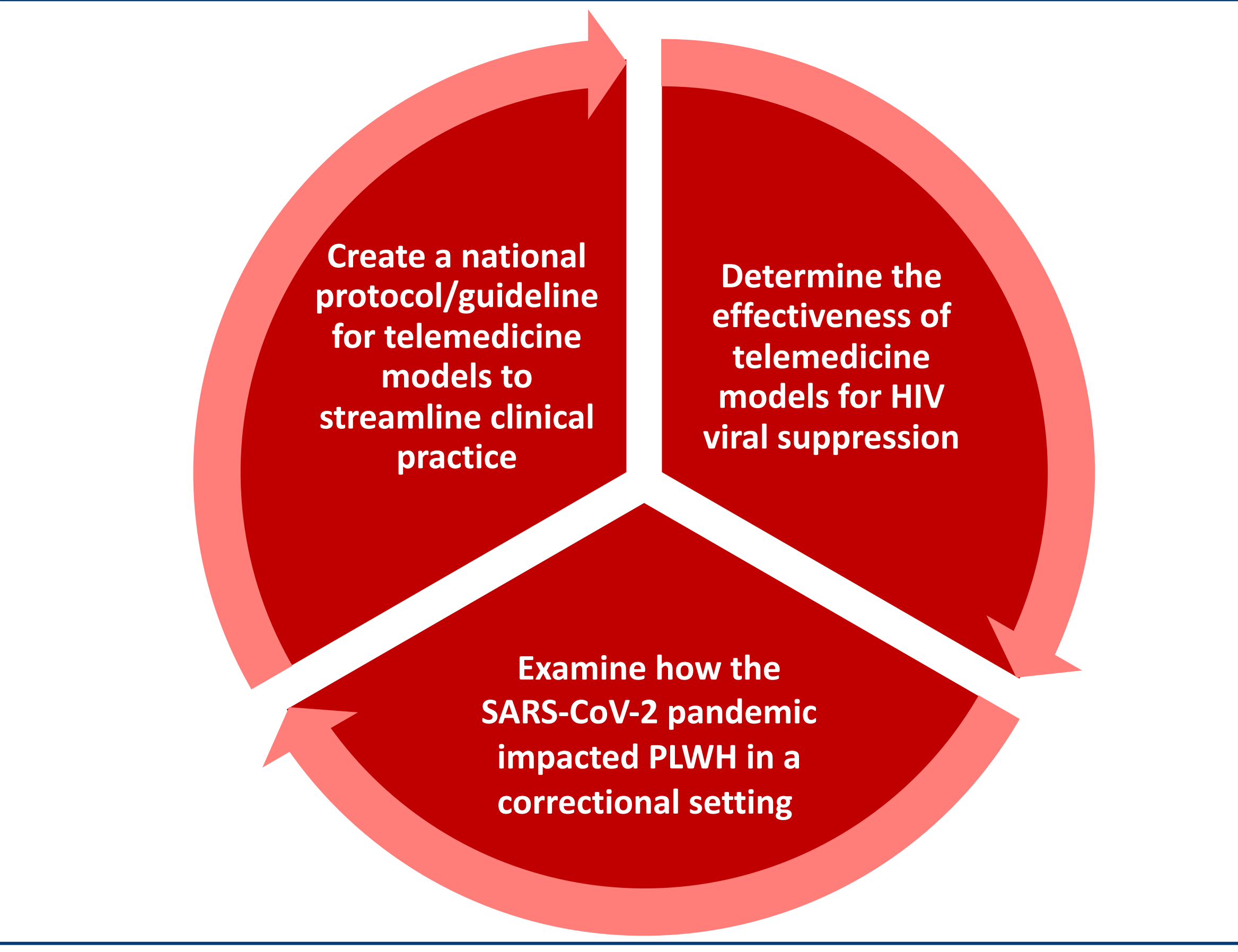
These results confirm previous studies that showed the effectiveness of telehealth in managing PLWH by maintaining HIV VS in the outpatient setting

Strengths:	Weaknesses:
<ul style="list-style-type: none"> Controlled environment Patients had access to their ART regimen at all times All patients are assessed if labs were available for possible treatment failure Telemedicine team peripherally reviewed patients if appointments were cancelled 	<ul style="list-style-type: none"> Difficult to assess pertinent past medical history prior to incarceration Genotypic data, past ART regimens Subjective SARS-CoV-2 infection data Reliant on nurse or patient report due to lack of tests available for laboratory confirmation

CONCLUSIONS

Utilizing a telemedicine model in a correctional setting for PLWH:
No statistically significant difference found in pre-, peri-, or post-SARS-CoV-2 pandemic
Rate of viral suppression Rate of immunologic function

POTENTIAL IMPACT



DISCLOSURES

Authors of this presentation have nothing to disclose concerning possible financial or personal relationships with commercial entities that may have a direct or indirect interest in the subject matter of this presentation

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