

CIDS Posters 2021

Poster Award Key

- Y = Young Investigator for residents and fellows
- T = Thornton for Clinical Research
- A = Andriole for Basic Research
- F= Friedland for International Research

Young Investigator Posters

- | | | |
|------------------------------|-----------|--|
| ☐ Y-1 | Oliver, | <i>Cervical Cancer Screening during COVID-19</i> |
| ☐ Y-2 | Palacios, | <i>SARS-CoV-2 Outbreak on a Transplant Unit</i> |
| ☐ Y-3 | Legakis, | <i>Adenovirus Infection Immunocompetent Hosts</i> |
| ☐ Y-4 | Immanuel, | <i>Travel Antibiotic Retention and Potential Diversion</i> |
| ☐ Y-5 | Hudon, | <i>Neonatal Sepsis Hospital Readmissions in CT</i> |
| ☐ Y-6 | Onwuka, | <i>Legionella Case Report - Legacy of Hurricane Henry?</i> |
| ☐ Y-7 | Zhao, | <i>Ryan White HIV Viral Suppression with New HIV Diagnosis</i> |
| ☐ Y-8 | Melo, | <i>C. Diphtheriae Case Report CT – Not a Contaminant</i> |

Provider perceptions of decreases in cervical cancer screening and follow-up during the COVID-19 pandemic, March-October, 2020

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Abstract

- Medical practices in Connecticut were surveyed to assess the impact of the pandemic on cervical cancer screening and follow-up of abnormal screening results
- Most practices reported decreases in screening and follow-up in some months
- Most practices reported decreases were due at least in part to patients not scheduling appointments

Background

- Cervical cancer is a preventable disease caused by human papillomavirus (HPV)¹
- Early signs of cervical cancer can be identified via screening, effective treatment can be utilized if precancerous lesions are detected²
- There is evidence cervical cancer screenings were reduced in some months of 2020³

Methods

- Medical practices specializing in obstetrics and gynecology (OB/GYN) and family medicine or internal medicine (FM/IM) in Connecticut were surveyed in October, 2020
- Practices indicated the impact of COVID-19 on frequency of screening and follow-up during each month, March through October, 2020 (compared to pre-pandemic levels)
- Respondents identified whether reduction in screening or follow-up was due to *reduced capacity to see patients*, *patients not scheduling appointments*, or *both*.

Results

- Response rate was 39/151 (26%)
- Fifteen OB/GYN practices (88%) reported the pandemic impacted number of patients screened
 - Ten (67%) reported reductions in screening were due to both patients not scheduling appointments and reduced capacity of the practice to see patients**
 - Three (20%) reported the reduction was due only to reduced capacity
 - Two (13%) reported the reduction was due solely to patients not scheduling
- Ten OB/GYN practices (59%) reported reduced number of patients returning for follow-up
 - Six (60%) reported the reduction was due to both patients not scheduling and reduced practice capacity**
 - Two (20%) reported the reduction was due only to reduced capacity
 - Two (20%) reported the reduction was due solely to patients not scheduling

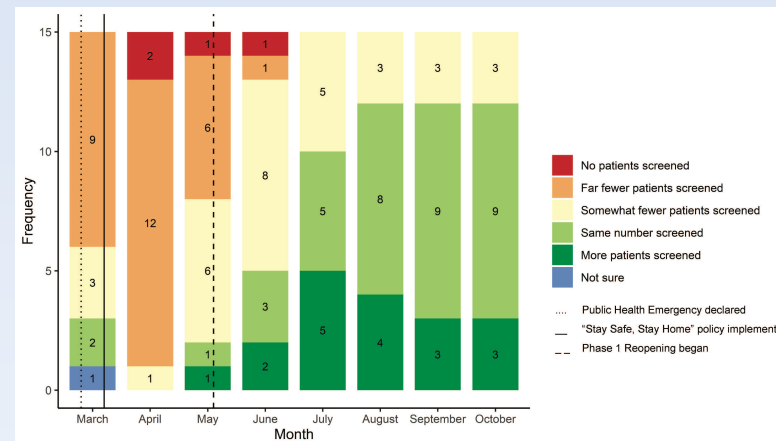


Figure 1. Changes in frequency of patients screened for cervical cancer in OB/GYN practices, March-October 2020.

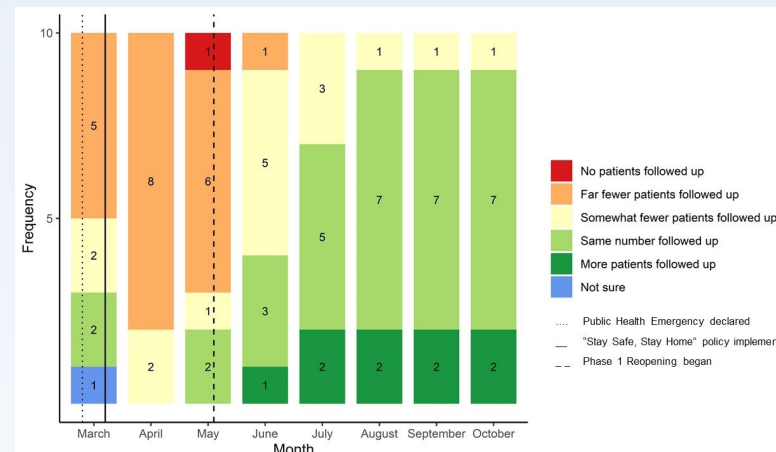


Figure 2. Changes in frequency of patients followed up (further screening or treatment) after abnormal cervical cancer screening results in OB/GYN practices during March-October, 2020

Results (continued)

- Seven FM/IM practices (54%) reported the pandemic impacted number of patients screened
 - Three (43%) reported the reduction in patients screened was due to patients not scheduling**
 - No practices reported the reduction was due exclusively to a reduced capacity
 - Two (28%) reported the reduction was due to both, and two (28%) didn't respond to the question

Discussion and Conclusions

- Most providers reported the reduction in screening and follow-up was caused in part by patients not scheduling appointments
- This suggests future interventions for “catch up” of screening and follow-up will need to go beyond ensuring availability of services**
- Public health professionals need to work with medical practitioners to identify and reach patients who have missed screening or follow-up
- This is key to ensure there are no further delays in care, and this reduction in screening and follow-up does not lead to preventable increases in cervical cancer



References

- Schiller, 2004.
- Fontham, 2020.
- Miller, 2021.

An outbreak of SARS-CoV-2 on a transplant unit in the early vaccination era

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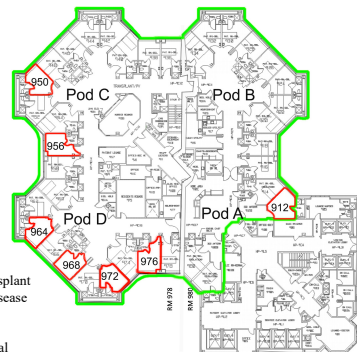
BACKGROUND

- Nosocomial SARS-CoV-2 infections are rare, but outbreaks do occur and may lead to longer hospital stays, increased healthcare costs, and worse inpatient morbidity and mortality.¹
- Solid organ transplant recipients (SOTr) are vulnerable to COVID-19 infection due to their impaired immunity.
 - Infection in this vulnerable population has associated with an increased morbidity and mortality compared to non-transplant patients.²⁻⁶
- A recent study of SOTr with COVID-19 found that 78% were hospitalized, 31% were placed on mechanical ventilation, and 28-day mortality was 20.5%.⁷
- Here, we report on a nosocomial outbreak of SARS-CoV-2 in an inpatient transplant unit at our institution.

METHODS

- Yale New Haven Hospital houses a unit for admitted liver and kidney transplant recipients, as well as patients with advanced cirrhosis.
- The transplant and liver disease unit is a square unit divided into four pods (pods A-D) with 42 total patient beds (Supplemental Figure 1).

Figure 1: Map of transplant and liver disease unit



Green: transplant and liver disease unit

Red: hospital rooms of patients who tested positive for SARS-CoV-2

- A case of COVID-19 was diagnosed in a patient (patient 1) who had been admitted for 18 days in January 2021.
- Two staff members reported symptoms at this time, prompting an outbreak investigation on the unit.
- This prompted a retrospective chart review of patients admitted to this unit who tested positive for SARS-CoV-2 in the month of the identified cases.
- We collected data on demographics, SARS-CoV-2 testing results, medications received, and clinical course.

Potential index patients

- Patient 1 was admitted for autoimmune myositis s/p IVIG + dexamethasone
 - On hospital day 18, he developed hypoxemia and tested positive for SARS-CoV-2 by NAAT.
 - Two nurses (staff 1 and 2) also developed symptoms around this time and tested positive.
- Patient 2 was admitted for acute gastroenteritis
 - Tested positive for SARS-CoV-2 by NAAT 11 hours after arriving on the floor.
 - Placed on precautions and transferred to COVID floor.

Initial outbreak response

- Unit was closed to admissions, remaining patients and staff with >15hr exposure screened for SARS-CoV-2 by NAAT
- Staff were required to perform twice daily symptom checks, wash their hands, wear appropriate eye protection with patients, and socially distance.

Patient Cases

- Five (17.2%) out of 29 remaining patients tested positive all of whom were all localized to pods C and D
- One was presumed to have prolonged viral RNA shedding.
- The four other patients (13.8%, patients 3-6), were all asymptomatic, newly positive, and transferred to a COVID-19 dedicated inpatient unit.

Figure 2: Gantt chart of the outbreak.

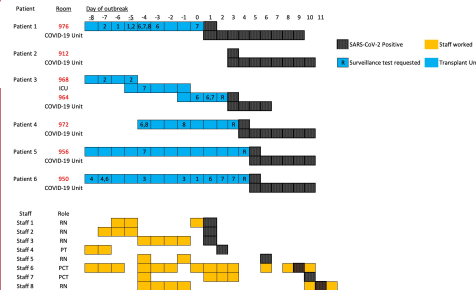


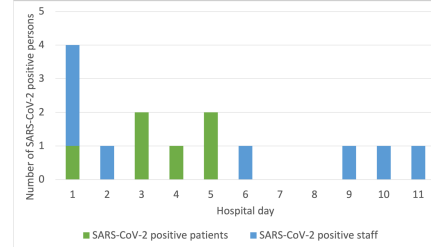
Table 1: Clinical features of patients infected with SARS-CoV-2

Patient	Age	Sex	Co-morbidities	Reason for hospital admission	Time from Transplant to SARS-CoV-2 positivity	Immunosuppression	COVID severity*	Treatment	Re-hospitalization	Outcome at last follow-up
1	48	Male	Liver transplant	Autoimmune myositis	2 years	tacrolimus, mycophenolate, prednisone 10mg	Critical	remdesivir, dexamethasone, tocilizumab	n/a	Died
2	47	Male	Liver transplant	Gastroenteritis, acute kidney injury	8 months	tacrolimus, prednisone 5mg	Moderate	remdesivir, dexamethasone	None within 90 days	Alive at 6 months
3	29	Female	Liver transplant	Liver transplant	16 days	tacrolimus, mycophenolate, prednisone 10mg	Mild	bamlanivimab	Admitted the following month for graft failure	Alive at 6 months
4	55	Male	Cirrhosis	Hepatic encephalopathy	n/a	n/a	Asymptomatic	bamlanivimab	None within 90 days	Alive at 6 months
5	52	Male	Cirrhosis	Abdominal wall hematoma	n/a	n/a	Moderate	bamlanivimab, then 2 days later remdesivir and dexamethasone	n/a	Alive at 3 months, but discharged to hospice
6	68	Female	Kidney transplant	Kidney transplant	15 days	tacrolimus, mycophenolate	Mild	bamlanivimab	Admitted the following month for acute kidney injury	Alive at 6 months

*COVID-19 illness severity according to NIH COVID severity scale.⁸

RESULTS

Figure 3: Epidemic curve of SARS-CoV-2 positive patients and staff



Staff Cases

- 129 staff members were identified as potentially exposed and underwent surveillance testing.
- Five additional staff members (staff 4-8, two nurses, two patient care technicians, and a physical therapist) tested positive.
- Resulting in a total of 8 positive staff members (6.2%).
- The Gantt chart was notable for multiple days of overlap between patients and staff before testing positive (Figure 1).
- At the time of the outbreak, no staff had been fully vaccinated

Virus Sequencing

- Whole genome virus sequencing was performed on three patient samples (patients 4, 5, and 6)
- All 3 samples were all SARS-CoV-2 lineage B.1.517 (not a variant of concern or interest) and were genetically identical

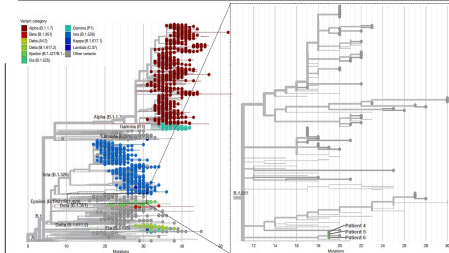
Table 2: SARS-CoV-2 sequencing results

Patient	CT (N1)	CT (S)	CT (ORF1a)	Sequencing coverage	Lineage
Patient 4	15.4	15.4	15.7	86.92%	B.1.517
Patient 5	32.1	32.3	32.1	83.85%	B.1.517
Patient 6	23.5	23.9	24.1	88.25%	B.1.517

Clinical Management/Outcomes

- All 4 asymptomatic patients qualified for and received bamlanivimab (BAM) per the FDA's EUA
- All four patients who received BAM were alive at discharge
- Patient 5 had progression of COVID-19 disease, requiring remdesivir and dexamethasone and high-flow nasal cannula for oxygen support but eventually discharged to hospice

Figure 4: Maximum-likelihood phylogenetic tree of outbreak cluster



DISCUSSION

- We describe the first genetically confirmed nosocomial outbreak investigation on a transplant inpatient unit
- Solid organ transplant recipients:
 - May have atypical presentations of COVID-19 (including diarrhea)³
 - May have a prolonged period of positive SARS-CoV-2 testing⁹
 - Are at increased risk for worse outcomes²⁻⁶
- Outbreak likely started as staff-to-patient transmission event
 - As patient 1 had been hospitalized for 18 days at the time of symptom onset
 - Staff-to-staff transmission may have propagated the outbreak
- Antibody therapy may prevent the progression of COVID-19 disease among SOTr¹⁰⁻¹¹

CONCLUSIONS

- Whole genome virus sequencing may be used to identify sources of inpatient cluster of SARS-CoV-2 infections.
- Immunocompromised hosts who test positive for SARS-CoV-2 while asymptomatic, may benefit from antibody therapy to prevent disease progression.
- Efforts to ensure hospital staff and patients are vaccinated for SARS-CoV-2 should be promoted.

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Correlations of Risk Factors on Severity of Disease and Outcomes due to Human Adenoviral Respiratory Infections

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BACKGROUND:

Human adenoviral infections typically result in upper respiratory infections, conjunctivitis, and gastroenteritis that is classically self-limiting but can be life-threatening in immunocompromised individuals. In relatively rare cases, adenovirus infections in immunocompetent patients can result in hospitalizations and severe disease that include mechanical ventilation, extracorporeal membrane oxygenation (ECMO), or death. The risk factors associated with severe adenoviral infections in immunocompetent hosts have not been thoroughly investigated and are poorly understood.

METHODS:

Patients 6 to 85 years old were selected from Yale New Haven Hospital and St. Raphael's Hospital during the time period of January 2018 through December 2019 with positive adenovirus tests on nasopharyngeal respiratory viral panel associated with a hospitalization. Those undergoing active chemotherapy, organ transplant recipients, or had a hematologic disorder that qualified as immunocompromised status were excluded. Thus far, 59/74 patients have been analyzed. Data collected included age, sex, race/ethnicity, past medical history, organ involvement, imaging studies, treatments received, and outcomes.

PRELIMINARY RESULTS:

Table 1: Shows the demographic information for admitted patients with adenoviral infections. The average age was 42.86 years old. 33 patients identified as men and 26 patients identified as female.

Table 2: Identifies past medical diagnoses prior to admission to the hospital with adenovirus infection. 40.7% patients were previously diagnosed with hypertension, 35.6% were previously diagnosed with asthma, 10.2% of patients were diagnosed with a substance abuse disorder, 10.2% were previously diagnosed with COPD, and 6.8% were previously diagnosed with a seizure disorder. 37.9% of patients had a history of smoking or were currently actively smoking.

Table 3: Highlights some of the diagnostic data obtained and treatments received. Interestingly, approximately only half (50.8%) had a chest x-ray suggestive of infectious process. Most patients received empiric antibiotics (67.8%) despite no culture of bacterial infection and evidence of viral etiology. Some patients received steroids (10.2%) and many required additional oxygen in some form (37.3%) with 7 (11.9%) requiring intubation with mechanical ventilation. 2 patients required ECMO and 2 expired in the setting of severe illness

Table 1: Demographics for patients admitted to hospital with adenovirus infections

	Observation	Admission	ICU	Death	Total
Patients	N = 18 (30.5%)	N = 26 (44.1%)	N = 13 (22.0%)	N = 2 (3.4%)	N = 59
Average Age	27.61 years	52.92 years	39.92 years	68.50 years	42.86 years
Men	10	16	6	1	33 (55.9%)
Women	8	10	7	1	26 (44.1%)
Race/ethnicity					
White	11	15	7	1	34 (57.6%)
Black or African American	3	7	2	1	13 (22.0%)
Hispanic	0	3	2	0	5 (8.5%)
Asian	3	0	0	0	3 (5.1%)
Not available	1	1	2	0	4 (6.8%)

Table 2: Past medical diagnoses prior to admission to the hospital with adenovirus infections

	Observation	Admission	ICU	Death	Total
Patients	N = 18 (30.5%)	N = 26 (44.1%)	N = 13 (22.0%)	N = 2 (3.4%)	N = 59
Average number of comorbid conditions	1.72	3.62	3.92	2.00	2.75
Asthma	5	10	6	0	21 (35.6%)
COPD	0	5	1	0	6 (10.2%)
OSA	2	4	0	0	6 (10.2%)
Hypertension	4	13	6	1	24 (40.7%)
CAD	0	1	0	0	1 (1.7%)
DM	1	5	5	0	11 (18.6%)
Seizure	1	1	2	0	4 (6.8%)
Substance abuse	1	5	1	0	6 (10.2%)
Smoking:					
Active	4	2	3	1	10 (16.9%)
Past	3	8	3	0	12 (20.3%)
Never	10	14	4	1	28 (47.5%)

Table 3: Diagnostics and treatments for patients admitted to the hospital with adenovirus infections

	Observation	Admission	ICU	Death	Total
Patients	N = 18 (30.5%)	N = 26 (44.1%)	N = 13 (22.0%)	N = 2 (3.4%)	N = 59
Chest X-ray					
Opacities suggesting infection	6	13	10	1	30 (50.8%)
Clear	6	12	3	1	22 (37.3%)
Not done	6	1	0	0	7 (11.9%)
Empiric antibiotics	9	17	12	2	40 (67.8%)
Steroids	1	4	1	0	6 (10.2%)
Oxygen	0	8	12	2	22 (37.3%)
BiPAP	0	1	3	0	4 (6.8%)
HFNC	0	0	2	0	2 (3.4%)
Mechanical Ventilation	0	0	5	2	7 (11.9%)
Pressors	0	0	3	2	5 (8.5%)
ECMO	0	0	1	1	2 (3.4%)

Figure 1: Demographic information by race/ethnicity for patients hospitalized with adenovirus infections

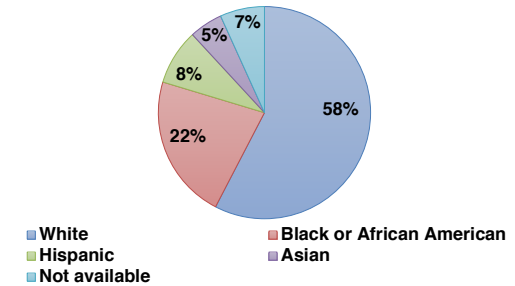


Table 4: Organ involvement of adenoviral infections

Organ	Pulm	GI	Ocular	Skin	Blood	Ear	Heart
# of patients	59 (100%)	19 (32.2%)	4 (6.8%)	2 (3.4%)	2 (3.4%)	1 (1.7%)	1 (1.7%)

PRELIMINARY RESULTS (cont):

Figure 1: Displays the demographic information for admitted patients with adenoviral infections by race/ethnicity.

Table 4: Highlights the organ involvement of patients hospitalized with adenovirus. All patients were determined to have pulmonary involvement. The most common extrapulmonary symptoms involved gastrointestinal involvement (32.2%).

FUTURE DIRECTIONS:

- Include data from affiliated hospitals to increase sample size.
- Determine age-related outcomes after adenoviral infection.

CONCLUSIONS:

- Adenovirus can result in severe infections in immunocompetent patients ranging from short hospitalizations to death.
- Asthma and smoking history were associated with need for hospitalization with adenovirus infection.
- Chest x-rays suggested an infection in 50.8% of cases.
- In the preliminary analysis, 58% were white and 37% were African American/Hispanic or Asian.

Antibiotic Stewardship: A Review of International Travel Medicine Antibiotic Usage and Perception

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Abstract

Background

International travelers are often prescribed antibiotics, but many of these prescriptions are not used during the travel resulting in leftover medication that may be disposed of improperly or used for unrelated reasons. Improper use of antibiotics may contribute to antimicrobial resistance. This descriptive study sought to assess the appropriateness of antibiotic use and what happens to unused pills that are not taken during the travel experience.

Methods

This project was approved by the UConn Health IRB. A survey was emailed to 1,446 patients who were prescribed antibiotics through the UConn International Travel & Immunization Clinic between January 2018 and December 2019.

Results

217 patients participated in the study (response rate 15.0%) with 185 subjects reporting traveling with an antibiotic. Of these, 24.9% self-administered at least one dose of antibiotic during the course of their travel. 144 subjects (77.8%) reported returning from their travel with at least one antibiotic pill. Of these, 41% of subjects still had an antibiotic in their possession, of which 21.0% did not know how to dispose of it, and 68.4% wanted to save it for future use. 7.1% reported taking their antibiotics after the travel experience for an unrelated issue and 7.9% reported saving them for someone else to use. 48.6% of those returning with medications had disposed of their pills after returning home, of which "throwing it in the trash" was the most common method of disposal (41.4% of disposals). Among all participants who were surveyed, 85.3% report having some degree of concern antibiotic resistance. Participants who disposed their antibiotics through a proper method to limit environmental contamination also reported a greater degree of concern for global antibiotic resistance.

Conclusions

These findings demonstrate that large numbers of antibiotic prescriptions provided for international travel go unused and are often retained by the patient or disposed of improperly, potentially contributing to development of global antibiotic resistance. Travel medicine clinicians should provide clear instructions on how to appropriately dispose of leftover medications and provide education about the issue of antibiotic resistance.

Methodology

A survey was emailed to 1,446 patients who were seen at UConn's Travel Clinic between January 2018 - December 2019 and were prescribed an antibiotic during their visit.

The survey was sent to these patients using the email address they provided while they were at the clinic and assessed several factors including:

- The percentage of participants who did not complete the entire antibiotic course
- The reasons for not completing the entire antibiotic course
- The ways by which participants disposed of leftover pills
- The reasons that participants held on to leftover pills that they did not use for their illness
- The degree of self-reported concern for global antibiotic resistance

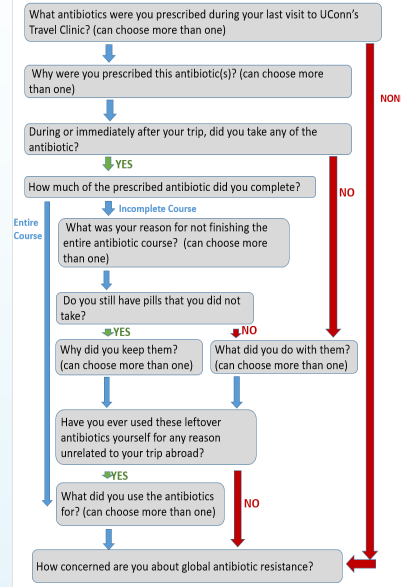


Figure 1: Survey Format. A sixteen-item survey was designed to explore antibiotic usage, storage, and disposal methods among participants. It also assessed the degree of concern with global antibiotic resistance.

Results

Of the 1,446 patients who were invited to participate in the study, 217 participants opted to enroll, yielding a response rate of 15.0%.

Of the 217 participants, 140 identified as female and 77 identified as male.

185 subjects reporting taking either partial or the entire antibiotic course prescribed.

Participants who disposed of their leftover antibiotic pills in an environmentally-friendly way expressed greater concern for global antibiotic resistance than those who disposed of their antibiotics in a trash can or toilet.

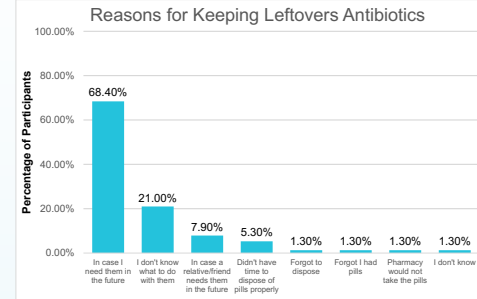


Figure 2: Reason for Keeping Leftover Antibiotics. The most common reason for keeping leftover antibiotics was to use in the future.

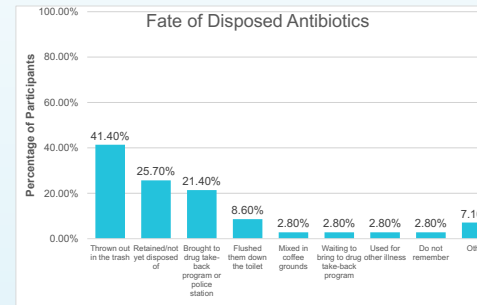


Figure 3: Fate of Disposed Antibiotics. The most common method of disposal of leftover antibiotics involved throwing it in the trash.

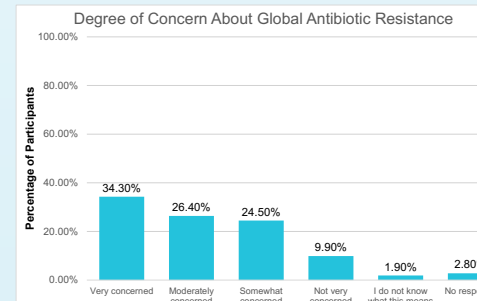


Figure 4: Concern About Antibiotic Resistance. Among all participants who were surveyed, 85.3% report having some degree of concern about antibiotic resistance.

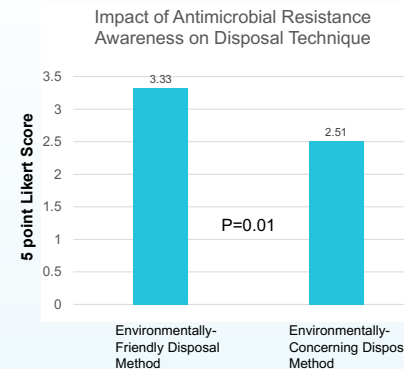


Figure 5: Impact of reported concern for antibiotic resistance on appropriate disposal techniques.

Conclusions

- The majority of travelers prescribed antibiotics returned home with leftover pills, either because they never took any to begin with or because they did not complete the entire antibiotic course.
- The most common reason for keeping leftover antibiotics was for future use.
- Disposal of antibiotics in the trash can appeared to be the most common method of getting rid of leftover pills.
- The majority of participants reported at least some concern about global antibiotic resistance.
- Participants who expressed concern about antibiotic resistance were more likely to dispose of antibiotics in an environmentally-friendly way.
- Travel physicians should discuss antibiotic stewardship (including concern for antimicrobial resistance and methods for proper antibiotic disposal) with patients at the time of the pre-travel clinic visit.
- Travel clinics may consider developing antibiotic disposal or take-back programs to facilitate stewardship.

Acknowledgements

We acknowledge and thank UConn's Travel Clinic for their help in assisting with data collection. We also thank UConn Health's IRB for their assistance with designing our study in a way that protects patient information.



Hospital Readmissions among Infants Diagnosed with Early-Onset Neonatal Sepsis in Connecticut

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Abstract

Background: Early-onset neonatal sepsis, defined as sepsis within 72 hours of birth, results in significant infant morbidity and mortality. Readmissions associated with neonatal sepsis have not previously been well-described. Early-onset neonatal sepsis is a mandatory reportable condition in Connecticut, allowing for expanded data collection through public health surveillance to evaluate readmissions.

Methods: Infants with early-onset neonatal sepsis born in Connecticut during 2007–2016 were identified from statewide surveillance data and matched with a statewide hospital discharge database. We describe readmission rates, causes and timing of readmissions, and demographic and clinical factors associated with readmission among this group.

Results: Among 250 infants with early-onset neonatal sepsis matched to discharge data, 208 (82%) infants survived their initial hospitalization at birth. During the first year of life, 49 (23.6%) infants were readmitted. The most frequent reasons for readmissions were pulmonary complications (19%), systemic symptoms (17%), and gastrointestinal illness (13%). Infants with initial hospitalizations lasting longer than 30 days after birth were associated with higher rates of readmission compared to those discharged within 30 days after birth (35% vs. 19%, $p=0.02$). Higher readmission rates were observed among non-white infants (29% vs. 18%, $p=0.06$).

Conclusions: Given the high proportion of infants diagnosed with early-onset neonatal sepsis who are readmitted within the first year of life, further efforts are needed to prevent readmissions among this vulnerable patient population. Non-white infants and infants with prolonged initial hospitalizations after birth might be at higher risk for readmission. These groups warrant intensified strategies to prevent readmission.

Background

- Neonatal sepsis causes 16% of neonatal mortality in the United States
- Previously identified risk factors include race, early gestational age, low birth weight, cesarean section delivery, maternal intrapartum fever, and prolonged membrane rupture (>18 hours)
- Early onset neonatal sepsis refers to sepsis that develops within the first 48–72 hours after birth
- Group B streptococcus and *Escherichia coli* are the most common causative organisms
- There has been no longitudinal examination of hospital readmissions in these infants

Goals

- Calculate one-year readmission rates for infants with early-onset neonatal sepsis
- Identify demographics and clinical factors associated with these readmissions
- Identify causative organisms
- Identify reasons for readmissions

Methods

Data Sets

- Emerging Infections Program Neonatal Sepsis Data Set
- CT hospital discharge dataset

Data Matching

	Matching Criteria	# of cases
Best Match	Must match at least 3 of the following: first name, last name, date of birth, and/or MedRec#	199
Moderate Match	Must match 2 of the best match criteria plus at least one additional data point: address, mother's maiden name, unique admission/discharge dates	42
Weak Match	Must match 1 of the best match criteria plus at least two additional data points	5
No Match	One or no data points found. Excluded from study	4

Definitions

- Initial Birth Hospitalization:** admission date is same as date of birth
- Transfer from Another Hospital:** second admission recorded on date of birth or readmission within 24 hours
- Emergency Room Visit:** same day admission and discharge
- Hospital Readmission:** different admission and discharge dates that do not meet criteria for an initial birth hospitalization

Data Analysis

- Descriptive analysis summaries of demographic and clinical factors
- Univariate analysis with chi-square for comparing differences between readmitted and non-readmitted infants

Results

Table 1: Summary of Early-Onset Neonatal Sepsis Cases and Return Hospital Visits in Connecticut, 2007–2016.

Summary of Cohort	Number of Infants	Percent
Total Reported Neonatal Sepsis Cases	250	
Matched Neonatal Sepsis Cases	246	
Lived	208	84.6%
Died	38	15.4%
Surviving Infants	208	
No ED Visits or Readmissions	89	42.8%
ED Visit Only (≥ 1)	70	33.7%
Readmission Only (≥ 1)	14	6.7%
ED Visit and Readmission (≥ 1)	35	16.8%
Total Infants with Readmissions	49	23.6%
Total Infants Readmitted in 30 days	14	6.7%
Total Infants Readmitted in 90 days	21	10.1%

Table 2: Demographic and clinical factors for Connecticut neonatal sepsis cases, 2007–2016. (abbreviated)

	Readmitted (n=49)	Not Readmitted (n=159)	Chi-Square Analysis
Race			0.06
White	17 (18%)	80 (82%)	
Non-White	32 (29%)	79 (71%)	
Initial Infant Hospital Stay (days)			0.02
30 days or less	29 (19%)	122 (81%)	
>30 days	20 (35%)	37 (65%)	

Table 3: Responsible Organisms - Early-Onset Neonatal Sepsis in Connecticut, 2007–2016.

Organism	Total (n=250)	In-hospital death (n=38)	Readmitted (n=49)	Not Readmitted (n=159)
Group B Streptococci	75 (30.0)	8 (22.0)	16 (32.7)	50 (31.3)
<i>Escherichia coli</i>	66 (26.4)	22 (56.1)	13 (26.5)	30 (18.8)
<i>Streptococcus viridans</i>	43 (17.2)	2 (4.9)	10 (20.4)	31 (19.4)
Multiple organisms	15 (6.0)	2 (4.9)	0 (0)	13 (8.1)
Enterococcus	11 (4.4)	0 (0)	3 (6.1)	8 (5)
<i>Haemophilus influenzae</i>	11 (4.4)	2 (4.2)	2 (4.1)	7 (4.4)
<i>Staphylococcus aureus</i>	11 (4.4)	0 (0)	3 (6.1)	8 (5)
Other organisms	18 (7.2)	2 (7.3)	2 (4.1)	12 (8.1)

Less than 5 total cases of each of the following organisms: *Klebsiella pneumoniae*, *Listeria monocytogenes*, *Moraxella* species, *Streptococcus bovis*, *Acinetobacter baumannii*, *Actinomyces neuii*, *Bacteroides fragilis*, *Citrobacter amalonaticus*, Group A *Streptococcus*, Group D *Streptococcus*, Group G *Streptococcus*, *Streptococcus salivarius*

- One-year readmission rate: 236 per 1000 neonatal sepsis cases
- Readmission rates by year during the study period remained stable
- Readmission was more common in infants with an initial hospital stay >30 days ($p=0.02$) and in non-white infants (0.06)
- Most common organisms: Group B strep, *E. coli*, *S. viridans*
- Top reasons for readmissions: pulmonary (19%), systemic (vital sign abnormalities, sepsis) (17%), and gastrointestinal (13%)

Conclusions

- The readmission rate among this group of neonates is on par with those seen in larger pediatric populations with broader age ranges, representing significant morbidity and hospitalization
- Since approximately 50% of infants born in the United States are supported by Medicaid, this leads to increased federal payments for infant healthcare
- Further research on rate of readmissions throughout childhood to understand overall healthcare utilization from this population
- Programs should be created to target populations with high rates of readmissions
- Limitations: patients receiving care in neighboring states, small sample size, variability in accuracy of ICD coding

Legionnaire’s Disease - A Part of Hurricane Henri’s Legacy?

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Introduction

Multiple studies have established an association between heavy rainfall events and *Legionella* infections. (Table 1).
We describe an elderly lady who presented to our hospital in September with fatigue, fever, posterior chest pain and diarrhea, following exposure to flooded basement precipitated by Hurricane Henri (Figure 1)

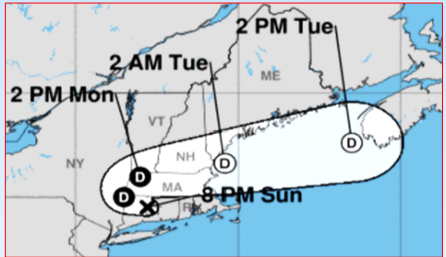
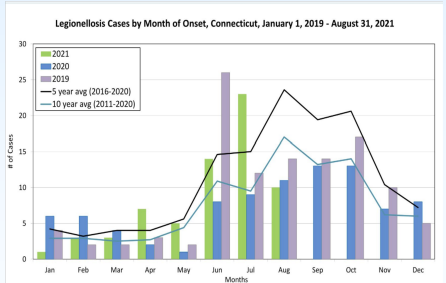


Figure 1: Regional involvement of Hurricane Henri between 08/16/21 to 08/23/21.



Cases of Legionella disease by month of onset in Connecticut.

Case Description

- A 71-year-old active smoker woman presented with a 3-day history of fatigue, fever, posterior chest pain and diarrhea.
- She had worked to evacuate an old dehumidifier in her basement that was flooded from Hurricane Henri.
- Fully vaccinated against COVID-19 and no exposure to recreational water, sick contacts, eating undercooked food, or recent use of antibiotics.

Vitals:	Results
Temperature	103.6 (39.8 C)
Pulse rate	136 bpm
Respiratory rate	26 br/min
Blood pressure	114/56
Saturations	98% on room air

❖ Exam revealed right lower lobe crackles and an observed episode of yellow, blood-tinged sputum.

Laboratory results	
White Blood Count	20.7 × 10 ⁹ /L
Bands	17%
Sodium	131 mmol/L
Potassium	3.0 mmol/L
Creatinine	0.53 mg/dL
COVID and respiratory panel	Negative
Procalcitonin	60.87ng/ml
Urine Legionella Ag	Positive

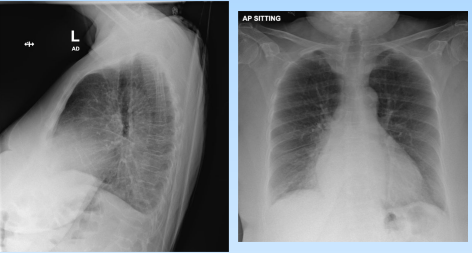


Figure .2 AP and Lateral chest X-ray, showing right lower lobe infiltrate.

- She was started on empiric vancomycin and gentamycin, as initial CXR was negative and infection source was unclear until Pneumonia treatment was initiated with azithromycin and ceftriaxone.
- Day 3 CXR confirmed Pneumonia (Figure 2),
- Patient completed 14 days of azithromycin.
- The case was reported to the Connecticut Department of Health for further investigation.
- Patient improved clinically and was discharged after 4 days.
- She was seen in the clinic 1 month after discharge and reported complete resolution of symptoms.

Study	Study Population	Key findings
Mitsui et al. (2021) Prospective Cohort	1347 patients with CAP in Japan, 2013-2018.	Frequency of <i>Legionella</i> pneumonia was significantly higher after, compared to before a heavy rainfall event (8.9% vs 3.0%, <i>P</i> = 0.02).
Hicks et al. (2007) Retrospective Chart review	234 <i>Legionella pneumonia</i> cases coincided with a heavy rainfall.	A 1 cm average increase in rainfall was associated with a 2-6% increase in legionellosis incidence. 42% of cases had a history of smoking or underlying lung disease.
Garcia-Vidal et al. (2013) Observational study	4168 immunocompetent patients with CAP ; 231 cases (5.3%) had <i>Legionella pneumonia</i> .	Average exposure to daily rainfall was higher in legionella vs non-legionella group, and a statistically significant relationship was found when comparing daily rainfall average to the <i>Legionella</i> Pneumonia group but not the non- <i>Legionella</i> Pneumonia group.

Table 1: Summary of epidemiological studies linking heavy rainfall events to rates of *Legionella* pneumophila.

Discussion

Legionnaire’s disease is a syndrome caused by *Legionella pneumophila*, a gram-negative bacterium that is commonly transmitted from large, poorly maintained water systems. Natural disasters, such as flooding create conditions to propagate *Legionella*. The highest incidence of *Legionella* infections coincides with the Atlantic hurricane season of summer and early fall. This is public health concern, with the potential to lead outbreaks or sporadic *Legionella* infection, especially in vulnerable populations like the elderly, immunocompromised and people with extensive smoking history

Conclusions

- There is an intricate association between heavy rainfall events and *Legionella* infection
- It is important to maintain a high index of suspicion for *Legionella* infection in patients who have been exposed to flood water.
- There is need for further research to identify the contributory factors and mitigation strategies for *Legionella* transmission during flooding events.

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RYAN WHITE COMPREHENSIVE CARE MODEL MARKEDLY IMPROVES RATE OF VIRAL SUPPRESSION FOR PATIENTS WITH NEW HIV DIAGNOSIS: A 10-YEAR EXPERIENCE IN NEW HAVEN, CT (2009-2018)

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Background

- There are over 3,000 people living with HIV (PWH) in New Haven, CT.
- The Ryan White (RW) HIV/AIDS program funds comprehensive care for low-income, uninsured people living with HIV.
- The HIV Care Continuum includes linkage to care, antiretroviral therapy (ART) initiation, and HIV viral suppression.
- RW services include primary medical care, medical case management (MCM), and medications.
- The relative contributions of various RW services to the optimization of the HIV care continuum remain unknown.
- The aim of this study is to evaluate longitudinal data of PWH who have been newly diagnosed with HIV between 2009 and 2018 and are Ryan White eligible in order to examine the trends and factors associated with stages of the HIV care continuum.

Methods

- Patient data were extracted using CAREWare (a HRSA-supported software program) and EPIC.
- All statistical analyses were performed using the statistical software R=4.0.2 (R Core Team, 2020) and were conducted by the Yale Center for Analytic Studies (YCAS).
- Demographic and clinical characteristics of eligible subjects were summarized by enrollment year using descriptive statistics.
- Linear regression models were fit to examine days from HIV diagnosis to first primary care visit, as well as days from HIV diagnosis to initiation of ART.
- A logistic regression model was built to study the effects of demographic and clinical characteristics on the odds of achieving viral suppression within one year after HIV diagnosis.

Results

Figure 1. Average number of days from HIV diagnosis to viral suppression by year of HIV diagnosis (among PWH who achieved viral suppression). Figure 2. Boxplot displaying average number of days from HIV diagnosis to ART initiation by year of HIV diagnosis (among PWH who initiated ART).

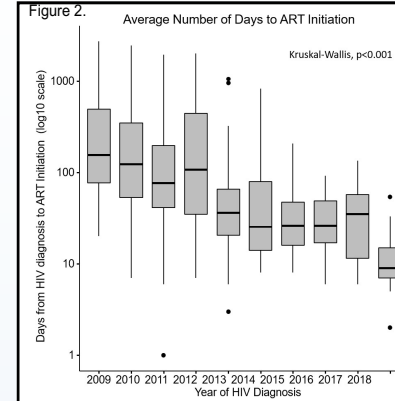
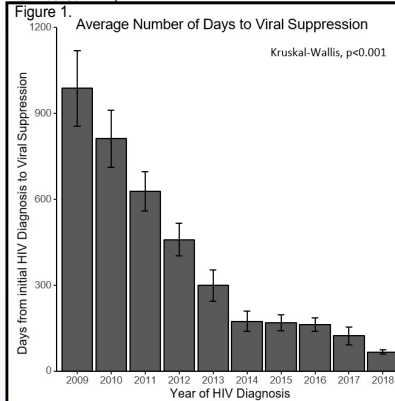


Table 1. Univariate and Multivariate Analysis of Logistic Regression Model for Probability of Achieving Viral Suppression within One Year of Diagnosis

Variable		Univariate Analysis			Multivariate Analysis		
		OR	95% CI	p-value	OR	95% CI	p-value
Year of Diagnosis	Year of Diagnosis	2.3	1.92 – 3.0	<0.001	2.04	1.59 – 2.73	<0.001
Gender (R: Female)							
	Male vs. Female	0.99	0.54 – 1.79	0.98			
	Other vs. Female	1.7	-1.6 – 3.6	0.66			
Age at Diagnosis	Age at Diagnosis	0.99	0.97 – 1.01	0.43			
Race (R: White)							
	Black vs. White	1.3	0.71 – 2.23	0.42			
	Other vs. White	3.8	1.77 – 9.03	<0.001			
AIDS at Diagnosis (R: No)	Yes vs. No	0.76	0.44 – 1.34	0.34			
HIV Risk Factor (R: Heterosexual)							
	MSM vs. Heterosexual	1.1	0.66 – 1.90	0.67			
	Other vs. Heterosexual	0.66	0.22 – 1.88	0.43			
Initial CD4+ (cells/mm3)	Initial CD4+ Count	1	1.00 – 1.00	0.60			
Use of Medical Case Management Services (R: No)	Yes vs. No	7.4	4.06 – 13.46	<0.001	1.73	0.70 – 4.23	0.23
Single or Multiple Pill Initiated (R: Multiple)	Single vs. Multiple	2.4	1.31 – 4.48	0.0048	1.26	0.35 – 4.61	0.73
ART Class (R: INSTI)							
	NNRTI vs. INSTI	0.21	0.11 – 0.38	<0.001	0.96	0.31 – 2.94	0.95
	Other vs. INSTI	0.22	0.08 – 0.55	0.0012	1.63	0.4 – 6.77	0.49
Time from Diagnosis to ART Initiation	Duration	1	0.996 – 0.998	<0.001	1	1.00 – 1.00	0.01
Time from Diagnosis to First PC Visit	Duration	0.99	0.985 – 0.995	<0.001	1	0.99 – 1.00	0.53

Discussion

- There was a total of 386 individuals included in the study. The primary reason for exclusion was initiation of ART before linkage to care (due to missing data or ART initiation in inpatient setting).
- 22.5% of patients diagnosed with HIV in 2009 presented with AIDS at diagnosis, compared to 3.6% of patients diagnosed in 2018, suggesting improvements in early HIV diagnosis.
- The proportion of patients diagnosed with HIV in 2009 who achieved viral suppression (<200 copies/mL) within one year of diagnosis was 2.5%, compared to 85.7% of patients diagnosed with HIV in 2018.
- Patients diagnosed in later years had significantly higher odds of achieving viral suppression within one year of diagnosis ($p < 0.001$).
- Use of MCM services, earlier linkage to care, and earlier ART initiation were significantly associated with increased odds of achievement of viral suppression within one year of diagnosis ($p < 0.001$).
- Single-pill ART regimen and INSTI ART regimen were significantly associated with increased odds of viral suppression within one year of diagnosis in univariate analysis.
- One major limitation is that CAREWare may not account for transitions or care or clinic relocations.

Conclusions

- Among RW funded programs, longitudinal improvements over ten years in ART initiation and viral suppression were observed and highlight the effectiveness of its comprehensive care model. Further study of the essential components promoting these care outcomes is needed.
- There is increasing potential for RW programs to adopt Rapid ART Start models given their availability of comprehensive care services.

Introduction

- Diphtheria, caused by the gram-positive bacillus *Corynebacterium diphtheriae*, usually causes respiratory disease.
- Diphtheroids when isolated in laboratory cultures, are often regarded as contaminants. However, *C. diphtheriae* can cause invasive infections such as septic arthritis, osteomyelitis and infective endocarditis (IE). IE caused by the non-toxicogenic strain of *C. diphtheriae* is uncommon; nonetheless, it has been increasingly reported.
- We present a case of non-toxicogenic *C. diphtheriae* endocarditis in an immunocompromised patient to highlight the importance of recognizing the pathologic significance of this organism.

Case presentation

- A 62-year-old immunocompromised female with common variable immunodeficiency on monthly intravenous immunoglobulin infusions and insulin dependent type 2 diabetes mellitus presented with acute onset of fever and weakness.
- Her other past medical history includes Idiopathic Thrombocytopenic Purpura (ITP) on daily prednisone and chronic wound on the left foot with secondary osteomyelitis on chronic suppressive antibiotic therapy with several admissions over the last year for polymicrobial left foot wound infection. During one of these admissions, the left foot wound culture grew diphtheroids. The last admission was one month prior to this presentation during which blood cultures grew diphtheroid not JK which was considered a contaminant.

Examination

- Vitals: hemodynamically stable
- Physical exam: No rash, peripheral stigmata of IE, or heart murmurs, Charcot foot deformity bilaterally with the left midfoot notable for a large lateral fully granular wound with a positive probe to bone test and no active drainage or malodor.

Evaluation

- WBC count: 13.6K
- Blood cultures grew Diphtheroid not JK.
- Left foot MRI: osteomyelitis involving the distal tibia, talus, calcaneus, the cuboid bone and fifth metatarsal (Figure 1).
- Bone cultures of the distal left tibia grew *Staphylococcus epidermidis*
- Transesophageal echocardiogram (TEE): a mobile 2.1 x 1 cm echo-density attached to the lateral aspect of the right atrium (Figure 2) which could represent a thrombus or vegetation.

Treatment

- She was diagnosed with right sided *Corynebacterium* endocarditis and treated with intravenous vancomycin.
- However, she had worsening leukocytosis, which was thought to be due to lack of source control rather than antibiotic failure.
- After a multidisciplinary discussion, the patient underwent below knee amputation of the left lower extremity with subsequent clearing of her blood cultures.
- After a 6-weeks course of Vancomycin, follow up TEE did not reveal vegetation or thrombi (Figure 3).



Figure 2. Mobile 2.1 x 1 cm echo-density attached to the lateral aspect of the right atrium



Figure 3. Follow up TEE after antibiotic treatment

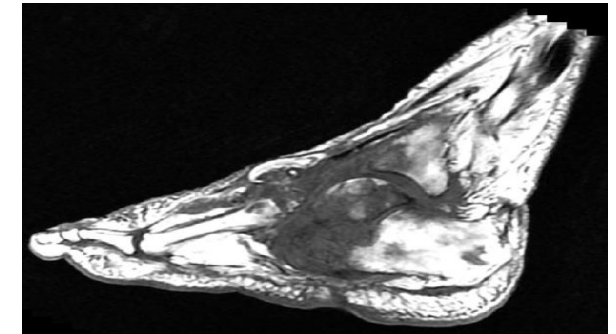


Figure 1. Osteomyelitis involving the distal tibia, talus, calcaneus, the cuboid bone and fifth metatarsal.

Discussion

- The current vaccine against diphtheria contains the toxoid so it protects only against the toxigenicity but not against the invasiveness of non-toxicogenic *C. diphtheriae*.
- Despite the effectiveness of the vaccines, life-threatening invasive infections caused by *Corynebacterium diphtheriae* related to non-toxicogenic strains are emerging, especially in developing countries and in populations with greater vulnerability such as immunocompromised patients.
- Thus, infections can occur in an immunized population. A high level of suspicion and an open mind regarding uncommon causes of infections would result in earlier diagnosis of the disease and prevent delay in initiation of antibiotic treatment.

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Thornton Posters

- | | | |
|------------------------------|----------|--|
| ☐ T-1 | Hao, | <i>BPA reminder for HEP C Screening in HIV</i> |
| ☐ T-2 | Gleeson, | <i>Infectious Disease Diversity, Equity, Antiracism(ID2EA)</i> |
| ☐ T-3 | Lynch, | <i>Dialysis Infection Control Survey for COVID-19</i> |
| ☐ T-4 | Stevens, | <i>Survey Organ Donation and Transplantation in HIV+ CT</i> |
| ☐ T-5 | Brooks, | <i>Improving HIV/HEP C Testing @SUDs</i> |

Background

In persons living with HIV, annual screening for hepatitis c (HCV) infection is recommended for all persons who inject drugs and for men who have condomless sex with men (MSM).

This project studied a risk-based screening strategy using our EPIC electronic medical record (EMR)'s-clinical decision support (CDS) tool called the Best Practice Advisory (BPA) to identify persons who would qualify for annual HCV screening.

We hypothesized that using reminder BPAs during a clinical encounter could increase HCV screening in those identified at risk.

Methods

Project Sites: 2 Yale New Haven hospital Infectious Disease clinics
Project Period: Aug 12, 2019- March 12, 2020

We employed 3 BPAs.

Rooming-in BPAs

- Fill out sexual orientation/gender identify (SOGI) form
- Fill out drug use screen (NIDA)

Decision support BPA for clinician

- Triggered if HCV risk factors identified: sexual risk (MSM or transfemale), or drug screen was positive for cocaine, methamphetamine, or opiates; has HIV diagnosis and no HCV testing in past year
- BPA contained link to order HCV test

Data Collection

Using EMR based reports, we monitored use of the BPAs including (Completion rate for the SOGI and NIDA screen) and compared rates of HCV screening during the project period and the year prior.

Risk Based Screening of Hepatitis C in persons with HIV

Authors: Ritche Hao, MD; Merceditas Villanueva, MD; Ralph Brooks
Yale School of Medicine, New Haven, CT



HCV Screening BPA

Discussion

- The SOGI and drug screen BPAs helped gather information about risks for HCV acquisition
- The HCV screen BPA helped increase HCV screening rates
- Sexual risk contributed to the highest number of persons identified by the BPA for screening
- In this group, we identified persons who had prior HCV or had cleared their HCV but not active HCV

Conclusions

In conclusion, the BPA was successfully adopted by the clinic staff, helped identify patients at ongoing risk for HCV and increased HCV screening rates.

Results

SOGI and Drug Screen Completion Rates

Drug Screen	69%
Sexual Orientation	82%
Gender Identity	78%

HCV Testing

Total Ordered	239
Attributable to BPA	139 (58%)

Risk breakdown (N=139)

Sexual Risk	99 (71.2%)
Drug Screen	30 (21.5%)
Both	10 (7.2%)

HCV Testing Results (N=139)

HCV ab negative	127 (91%)
HCV ab positive	12 (9%)
HCV PCR positive	0

HCV Testing comparison	Year Prior	Project Period
	109	239
119% increase in testing 139 (58%) attributable to the HCV screening BPA		

Introduction

Systemic racism and inequities within the health care system have adverse effects on health and outcomes. Innovative programs that educate health care workers about racism and the structural elements that lead to health inequities are critical in helping them translate this knowledge into equitable care.

Methods

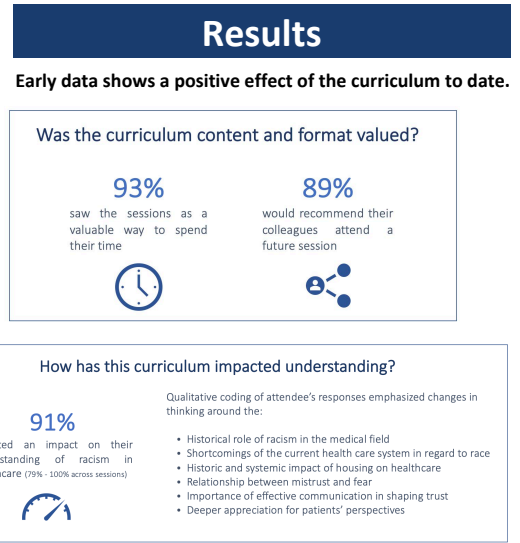
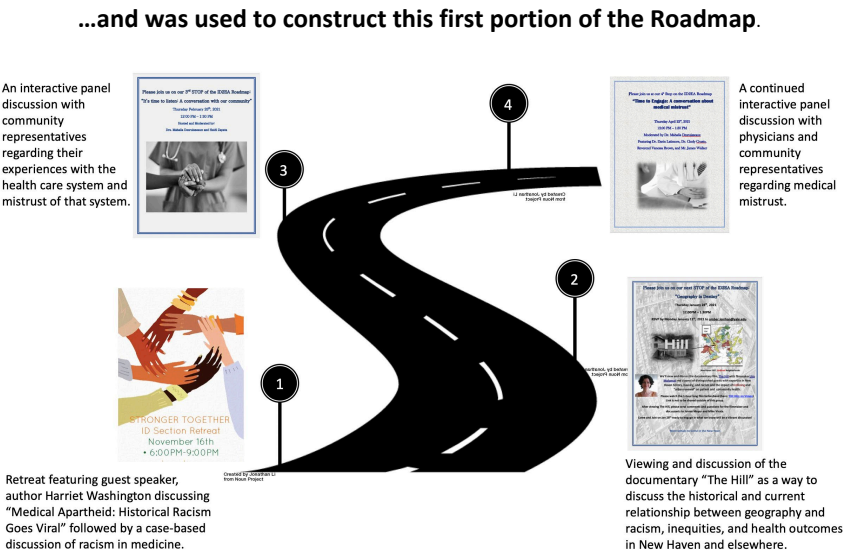
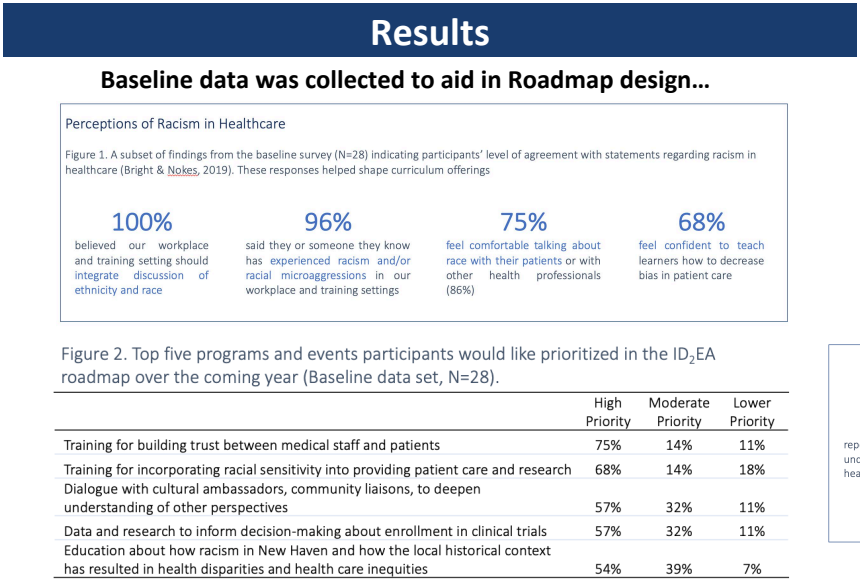
WHO
The Infectious Disease (ID) Section faculty and experts from Yale’s Poorvu Center for Teaching and Learning created a curriculum for ID faculty and fellows at Yale-New Haven Hospital.

WHAT
An “Infectious Disease Diversity, Equity, and Anti-Racism (ID2EA)” curriculum was designed as a “roadmap” with sessions (“roadmap stops”) that each focus on a different aspect of diversity, equity, and anti-racism.

HOW
A baseline survey was used to gauge knowledge, attitudes, and skills regarding diversity, equity, and racism in health care. This was also used to identify topics of interest that participants would like addressed in the curriculum. Roadmap stops were designed based on these needs and interests, with events featuring special guests to address specific topics. Planned evaluations were given prior to the first event and after each subsequent event to guide curriculum development and monitor curriculum feasibility, acceptance, and effectiveness.

Results

Baseline surveys of the ID section identified topics of highest priority to the curriculum participants. Roadmap stops were designed based on these needs and interests. Evaluations from each session show positive shifts in attendees’ understanding and empowerment to work towards equity (see figures for detailed results).



Conclusion

Constructing and evaluating a diversity, inclusion, and anti-racism curriculum is feasible, acceptable, and could empower health care professionals to provide more equitable care.

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Abstract

Background: Patients receiving hemodialysis (HD) for chronic kidney disease are at high risk for severe COVID-19. During 2021, frontline workers in HD centers were challenged with implementing new infection control measures for COVID-19, following published guidance from the Centers for Disease Control and Prevention (CDC). In April 2021, the Connecticut Department of Health (CT DPH), in partnership with UConn School of Medicine, assessed continued learning needs pertaining to infection prevention and control among HD staff.

Methods: We surveyed employees of CT HD centers about current infection prevention practices to assess areas where statewide infection prevention initiatives might be needed, including HD staff development needs. The survey was distributed to HD center employees electronically and by mail for voluntary and anonymous participation. Data collected pertained to staff demographics, training, screening and triage, cohorting of patients, COVID-19 testing, personal protective equipment, COVID-19 vaccine, and CT DPH support was collected.

Results: 108 responses were received, representing 41 of CT's 51 HD centers. Of the respondents, 42.9 % were nursing staff. 107 respondents reported receiving some training specific to COVID-19. 94 respondents indicated that they will get or have received the COVID-19 vaccine. Many respondents requested that CT DPH provide further training through various modalities and assist with acquiring PPE (Tables 2 and 3). The most frequently requested modality of infection control training was virtual, requested by 24 respondents.

Conclusion: HD staff reported high levels of awareness and adherence with CDC COVID-19 guidance and high uptake of COVID-19 vaccines. Protocols were consistent with CDC guidance at the time of survey distribution. This study identified potential HD center staff training needs for the CT DPH Healthcare-Associated Infections Program. When planning statewide prevention efforts, a needs assessment can identify setting-specific needs for public health action. State health departments can be important resources for HD centers in assessing infection prevention practices and providing guidance and support for infection prevention.

Background

- In the state of Connecticut, approximately 6,392 individuals are on dialysis for life-sustaining treatment [1, 2].
- Patients undergoing dialysis treatment are at an increased risk for Healthcare-Associated Infections (HAIs) including an increased risk of mortality due to COVID-19. To reduce rates of HAIs among dialysis patients it is essential to maintain systematic surveillance of dialysis related infections [3].
- Connecticut Hemodialysis Centers have been responsible for implementing COVID-19 infection control measures independent of the Connecticut Department of Health (CT DPH).
- The Center for Disease Control (CDC) has published guidelines outlining appropriate steps to prevent the spread of COVID-19 within hemodialysis centers, suggested testing protocols for staff and patients, and appropriate steps to take should a patient test positive for COVID-19.

Goals

- Perform a needs assessments for the healthcare workforce in Connecticut hemodialysis centers to
- Identify infection control protocols in place at hemodialysis centers in Connecticut.
 - Determine current Personal Protective Equipment (PPE) supply status in hemodialysis centers

- Assess COVID-19 vaccine stance among the healthcare workforce.
- Investigate manners in which CT DPH may provide assistance to hemodialysis centers in the prevention of the spread of COVID-19.

In order to help fill knowledge gaps in infection control and better respond to the needs of the healthcare workforce.

Methods

- The survey was delivered electronically using CT DPH Survey Monkey and on paper by mail to all Connecticut Hemodialysis Center Leadership who distributed survey to all employees.
- Survey was voluntary and all responses anonymous.
- Inclusion criteria:
 - All surveys completed and returned by those employed by CT Hemodialysis Centers as a member of the healthcare workforce.
- Healthcare Workforce included but not limited to:
 - Nephrologists, physician assistants, nursing staff, dietitians, social workers, patient care technicians, biomedical technicians, office and clerical staff and security staff.
- Descriptive analysis of returned surveys was performed.

Results

Table 1: Demographics

Current Role	Responses
Nephrologist	0.00% 0
Physician Assistant	0.00% 0
Nursing Staff	42.86% 45
Dietitian	6.67% 7
Social Worker	8.57% 9
Patient Care Technician	15.24% 16
Biomedical Technician	0.95% 1
Office and Clerical Staff	1.90% 2
Custodial Staff	0.00% 0
Security Office	0.00% 0
Administrative Staff	7.62% 8
Management	16.19% 17
Other (please specify)	3.8% 4

Table 2: CT HD Center Staff Training, Screening Protocols and CT DPH Opportunities for Aid

Specific Training Provided Related to COVID-19		
Masking	105	97.2 %
When and how to wash your hands	104	96.3 %
How to prevent spread when you sneeze and cough	103	95.4 %
Identification and isolation of patients with possible COVID-19	103	95.4 %
Monitoring and management of Health Care Staff potentially exposed to COVID-19	97	89.8 %
Putting on and taking off Personal Protective Equipment (PPE)	101	93.5 %
Effective and timely communication	95	88.0 %
None	1	0.9 %
Is everybody entering the facility screened for symptoms and exposures to COVID-19?		
Yes	104	98.1 %
No	2	1.9 %
Does the facility have signs posted at the entrances with information regarding COVID-19?		
Yes	108	100%
No	0	0%
How can Connecticut Department of Health help?		
In person training on effective source control and infection control	12	20.0 %
Virtual training on effective source control and infection control	24	40.0 %
Written training on effective source control and infection control	16	26.7 %
Aid with obtaining PPE	20	33.3 %
Other (please specify)	15	25.0 %

Table 3: Infection Control Measures

	Never	Rarely	Sometimes	Usually	Always	N/A
All patients are kept 6 feet apart at all times (during treatment or in the waiting room).	0 (0.00 %)	1 (0.95 %)	11 (10.48 %)	48 (45.71 %)	45 (42.86 %)	
Suspected and confirmed COVID-19 patients are dialyzed in a designated room with a closed door.	1 (0.96 %)	2 (1.92 %)	3 (2.88 %)	4 (3.85 %)	79 (75.96 %)	15 (14.42 %)
Suspected and confirmed COVID-19 patients are dialyzed at one end of the facility away from the main flow of traffic but not in a designated room.	37 (35.92 %)	3 (2.91 %)	6 (5.83 %)	4 (3.88 %)	26 (25.24 %)	27 (26.21 %)
Suspected and confirmed COVID-19 patients are dialyzed with dedicated staff.	5 (4.72 %)	1 (0.94 %)	6 (5.66 %)	17 (16.04 %)	67 (63.21 %)	10 (9.43 %)
The staffing ratio and acuity of patients makes it difficult to care for both COVID-19 positive patients and COVID-19 negative patients.	10 (9.62 %)	14 (13.46 %)	28 (26.92 %)	8 (7.69 %)	21 (20.19 %)	23 (22.12 %)

Table 4: COVID-19 Vaccine

	Will you get/have you gotten the COVID-19 vaccine?
Yes	94 (90.38%)
No	4 (3.85%)
Undecided	6 (5.77%)

Discussion

- This needs assessment has important implications for future programs in CT HD Centers by identifying potential HD center staff training needs for the CT DPH HAI Program to target.
- HD staff have a high level of awareness and have demonstrated consistent adherence to CDC COVID-19 guidance and a high uptake of COVID-19 vaccines.
- The study aimed to target all healthcare workers within CT HD Centers. However, nearly 50% of respondents identified themselves as nursing staff. The knowledge and training of nursing staff may vary from that of the nonclinical staff. Future needs assessments should seek to better assess the needs of a wider variety of healthcare workers.
- Additional assessments are needed to assess the success of any future programs aimed at providing an extension of training for CT HD Center Staff.

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Assessing Attitudes Regarding Organ Donation and Reception in HIV Positive Individuals in Connecticut

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Abstract:

Organ donation among HIV+ individuals was made possible through the HOPE Act which was passed in 2013. This study aimed to explore understanding of this law among HIV+ individuals and gauge attitudes towards organ donation, expanding on previous research conducted in Baltimore, Maryland in 2016. This study included 81 HIV+ patients at the UConn clinic, and the survey assessed domains including: understanding of the HOPE Act, attitudes towards organ donation and reception for both HIV-positive and negative organs, HIV-related data, and demographic information. The surveys demonstrated that patient's were largely unaware of the HOPE Act and few were registered as organ donors, but a majority indicated that they would be willing to become deceased organ donors and would consider accepting an HIV+ organ if in need.

Background

- The first HIV+ to HIV+ transplant occurred in March 2016 at Johns Hopkins
- As of December 2020, 24 hospitals had performed a total of 223 transplants in HIV+ recipients (170 kidney and 53 liver)
- Locally to Connecticut, Yale New Haven Hospital is among the 36 transplant centers nationally that are approved by the HOPE Act for HIV+ to HIV+ transplants
 - Specifically approved for kidney and liver transplants
- Prior research was conducted at Johns Hopkins, Baltimore, MD, in 2016, which demonstrated limited understanding of the HOPE Act among HIV+ populations; 24.6% knew about the HOPE Act and 21.1% were registered as donors.

Methods

- The study was conducted in Farmington, CT, at the UConn HIV clinic
- Data collection occurred from June - November 2020
- A convenience sample of HIV+ patients who were at least 18 years old presenting to the clinic were invited to participate
- A close-ended survey tool developed by Johns Hopkins in 2016 was administered orally either in-person or over the phone, per patient preference
- Data was entered into Microsoft Excel and imported into SPSS v.22. This data was used to produce descriptive statistics

HOPE
IN ACTION

Rationale and Objectives

- There are currently over 106,000 people on the national transplant waiting list
- An estimated 17 people die each day in the United States waiting for organ transplant
- Improved use of HIV+ to HIV+ transplants not only allows access to transplants for HIV+ patients, but may improve access of organs for HIV-negative recipients.
- Objectives of this study:
 - Determine level of patient familiarity with the HOPE Act
 - Assess the current percentage of HIV+ patients at the UConn HIV Clinic who are registered organ donors
 - Gauge attitudes of patients towards HIV+ organ donation and reception

Results

- 81 participants completed the survey of which 64.2% were male
- Age range was 24 to 85 and mean participant age was 52.8
- 84% of participants reported that they believed there was a current shortage in organs for transplantation in the United States
- 90.1% thought HIV+ to HIV+ organ donation should be studied in research
- 7.4% reported having previously heard of the HOPE Act
- 67.9% thought HIV+ to HIV+ organ donation would decrease discrimination against individuals with HIV
- If in need of an organ donation, 77.8% of respondents indicated that they would consider accepting an HIV+ organ
- 84% indicated that they were not currently registered organ donors, but 71.6% reported they would either "probably" or "definitely" be interested in becoming a deceased organ donor, with 37.0% indicating interest in becoming a living organ donor

Conclusions and Future Directions

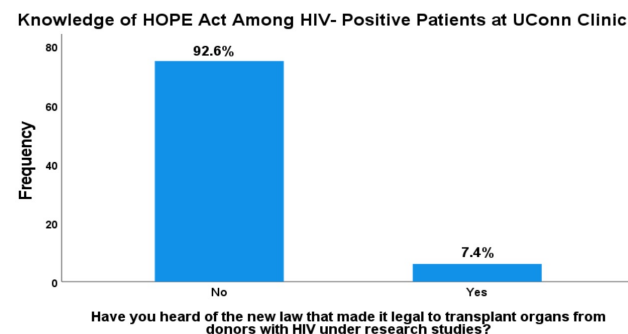
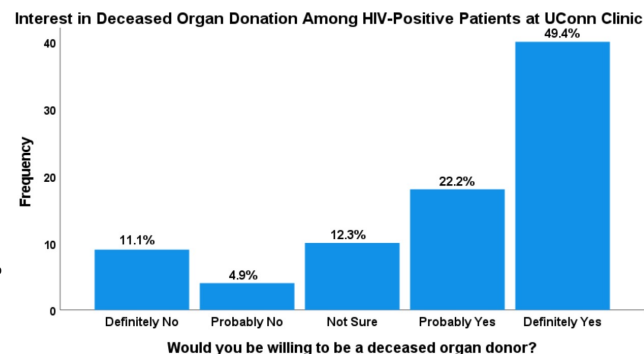
- HIV+ patients attending the UConn HIV Clinic are largely unaware of the HOPE Act
- A majority of surveyed individuals indicate that they would be willing to be a deceased organ donor, but only 16% were currently registered organ donors
- There is an opportunity to increase awareness of the HOPE Act among HIV+ patients and provide information about the process of registering as an organ donor
- Future research might include:
 - Gauging knowledge and attitudes towards the HOPE Act among patients in other parts of the country
 - Gauging knowledge of the HOPE Act among providers

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Improving HIV and HCV routine testing in substance use disorder (SUD) programs

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Yale School of Medicine AIDS Program

Background

- An estimated 20% of persons with HIV (PWH) nationwide are HCV coinfectd
- Opioid Use Disorder (OUD) is one of several potential shared transmission routes
- Substance use disorder (SUD) treatment programs connect difficult to reach vulnerable populations to care providers, but HIV and HCV testing rates are often low

Methods

- Aim: Improve HCV micro-elimination in persons with HIV/HCV co-infection and address racial care disparities
 - Expand testing and improve linkage to care in our clinical partners via best practices
- 2 SUD programs: Bridgeport (SUD A) / New Haven (SUD B)
 - Both had low 12-month retrospective HIV and HCV testing
- Goal:
 - Evaluate existing organizational practices impacting HIV and HCV testing
 - Identify and address site-specific barriers and facilitators using rapid mixed methods nominal group technique (NGT) sessions
 - Implement best practices around HIV / HCV testing

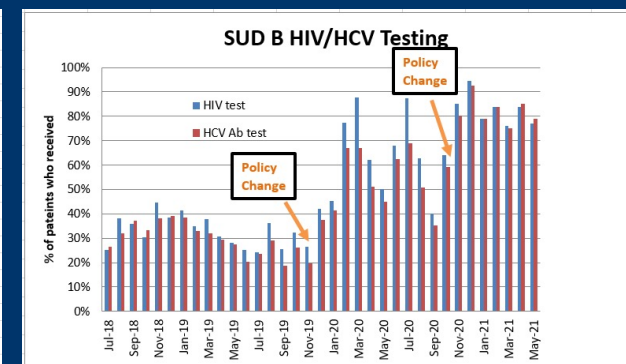
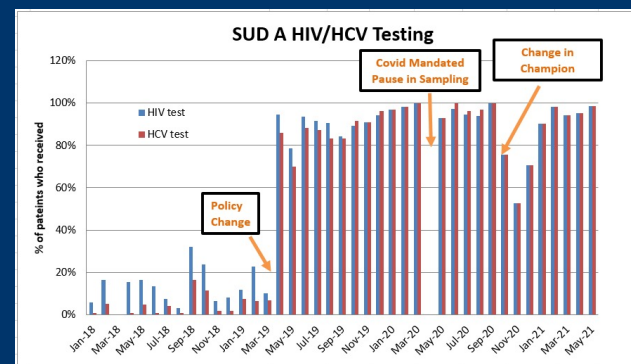
Results

- Dec 2018 NGT with partners identified facilitators including:
 - Bundled testing orders
 - On-site testing
 - Leadership role of the change champion
- Specific barriers and facilitators varied by site
- After implementing process changes both SUD programs saw significant improvements in testing

Conclusions

- HIV and HCV testing within SUD programs can be improved through formal assessment of barriers and implementation of facilitators (change opportunities)
- Recommendations:
 - Update policies and procedures to improve testing
 - Streamline laboratory testing processes
 - Ensure accountability by using a change champion
 - Educate SUD program staff about the importance of testing

Formal reviews of SUD program HIV and HCV testing processes and addition of best practices improves rates.



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Additional Results and Findings

Sample Results of Dec 2018 NGT Session
[Participants voted ("P"s below) on biggest contributors to A & B.]

A. What gets in the way of doing routine HCV screening?	B. What would need to change in your organizational setting to implement routine HCV screening?
1. Clinical memory 2. Voluntary testing vs routine P 3. Education for staff P 4. Education for patients (prioritization) PPP 5. Patient refusal P 6. Insufficient staffing PP 7. Intake process P 8. Lack of bundling testing PPPPP 9. Timing (length of results) 10. Language barrier PP 11. Cost concerns P	1. Hire more staff PP 2. Confidential space PP 3. Change policy for bundling PPP 4. Education to change clinical culture (cross training) PPP 5. Quality improvement to monitor PP 6. Comprehensive HCV screening/referral protocol PPPPPP

SUD Program A: Inadequate policies and procedures (Barrier)

- Administration released updated procedures / protocols and appointed a champion based on NGT recommendations (Implemented facilitator, Mar 2019)
- Clinical champion rolled out bundled HIV/HCV testing as part of routine admission bloodwork. Clients can still opt-out, but few do. (Implemented facilitator, Apr 2019)

SUD Program B: Specimen collection limitations (Barrier)

- (e.g. timing and location of collection at clinical intake, lack of reflex PCR testing)
- Improved attention to missed intake collections, increased follow-up (Implemented facilitator, Dec 2019)
- Change when and where intake blood is sampled (e.g. at start vs. end of Physical exam) (Imp facilitator, Nov 2020)

	SUD A		SUD B	
Mean (# or %)	Before Change	After Change	Before 1 st Change	After 2 nd Change
Monthly Clients (#)	112	68	140	94
HIV Testing (%)	13%	90%	33%	83%
HCV Testing (%)	4%	90%	30%	82%

Acknowledgements

- Project ConnQuER HEPC team & partners
- Health Resources and Services Administration (HRSA)
- SUD program champions: Lynn Madden, Jeanette Teltraut, Bob Freeman, William Brunson, Linda Allen, Cathy Fowles, Tania Gonzalez-White

Disclosure Information

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Andriole Posters

- ☒ ~~A – 1 Siniscalchi, If You Hear Hoofbeats, it May Be Zebras. Syndromic Surveillance CT~~
- ☐ A – 2 Fitzsimons, Candidemia Surveillance in CT: Candidemia in the time of COVID-19
- ☐ A – 3 Brothers/Villanueva, Attitudes about HCV Rx with DAAs in PWH who delay or refuse treatment
- ☐ A – 4 Wegener/Villanueva CT HCV Cascade of Care for HIV/HEP-C Co-Infected Persons

- BACKGROUND:**
- Candidemia, a bloodstream infection caused by *Candida* yeast, is associated with significant morbidity and mortality, especially among critically ill patients.
 - COVID-19 is known to be associated with high hospitalization rates and increased critical care requirements.
 - We analyzed data from incident Candidemia case reports collected through statewide active surveillance during March 2020-July 2021 to describe the characteristics of Candidemia arising after COVID-19 infection.
- METHODS**
- SARS-CoV-2 test status was determined for incident adult Candidemia cases using medical record review and cross matching with statewide COVID-19 surveillance data.
 - Medical records were abstracted to collect demographics, underlying conditions, inpatient exposures and outcome.
 - Age adjusted incidence rates were calculated using population denominators from 2015 census estimates and standardized to the 2000 U.S. census.
- RESULTS**
- Surveillance identified 94/292 adult Candidemia cases with a positive COVID-19 test 90 days prior to their incident Candidemia culture (post COVID).
 - Among post COVID cases the mean age was 65 years (range 35-97) and 60% were male.
 - Overall age adjusted incidence was 2.1/100,000.
 - Age adjusted rates were highest for Hispanics (6.5) followed by non-Hispanic Blacks (5.5) and non-Hispanic Whites (1.1).
 - Among cases with a complete case report (88/94):
 - 50 % had >2 underlying medical conditions (range 1-9) of which obesity (51%) and diabetes (36 %) were most common.
 - 88% had an admission to the ICU
 - 81% had an endotracheal tube
 - 64% had a urinary catheter
 - 89% had systemic antimicrobials, prior to incident culture
 - 67% had systemic steroids prior to incident culture
 - Among cases who survived to discharge 31/88:
 - Mean length of stay was 51.7 days (range 4-157).
 - C. albicans* was most frequently isolated (54.5%), followed by *C. glabrata* (26%)

Megan Fitzsimons
Connecticut Emerging Infections Program
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Candidemia Surveillance in CT: A First Look at Candidemia Following COVID-19 Infection

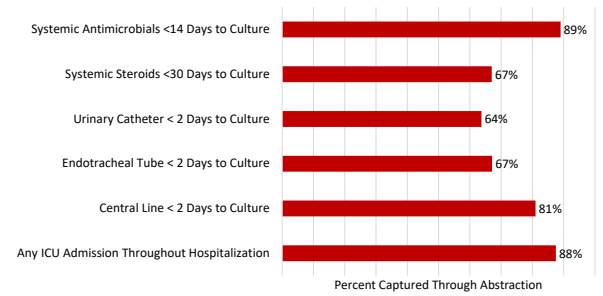
M. Fitzsimons BPH¹, H. Kayaoglu BPH¹, P. Clogher MPH¹, J. Meek MPH¹, V. Leung MD MPH^{1,2}
Connecticut Emerging Infections Program¹, Connecticut Department of Public Health²

Post COVID-19 candidemia strikes males, older individuals and racial/ethnic minorities

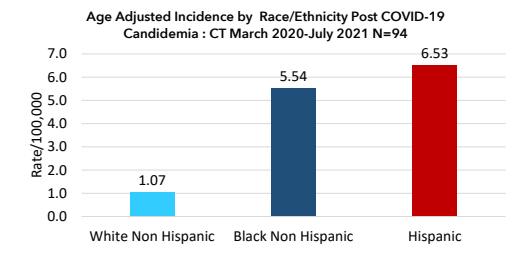
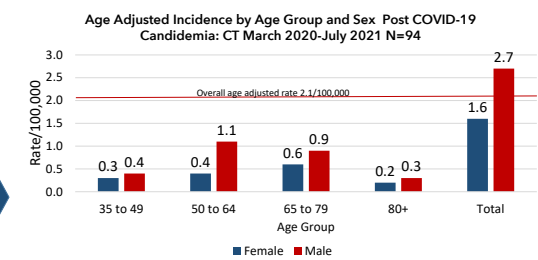
Characteristics of Post COVID-19 Candidemia Cases with Complete Case Review, CT March 2020-July 2021 N=88

	n=88		Cases		Age		Length of Stay Among Those Surviving to Discharge (n*)		≥2 Underlying Conditions		Obesity (BMI ≥ 30)		Diabetes	
	N	%	Mean (years)	Range	Mean (days)	n*	Range	N	%	N	%	N	%	
Female	35	40%	67	(35-91)	35.1	8	(4-62)	26	74.3	15	42.9	15	42.9	
Male	53	60%	64	(38-97)	57.7	22	(6-157)	21	39.6	30	56.6	17	32.1	
Overall	88	100%	65	(35-97)	51.7	30	(4-157)	47	53.4	45	51.1	32	36.4	

Hospitalization Characteristics Identified through Medical Record Abstraction: N=88

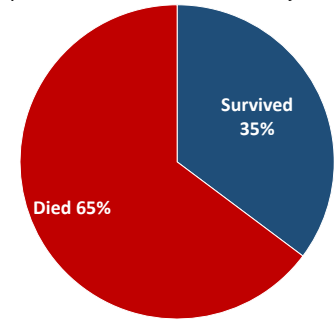


Mortality among post COVID-19 candidemia cases is high



Most post COVID-19 candidemia cases had long hospital stays, received systemic antimicrobials before culture, had invasive devices and needed ICU care

Outcome at Discharge for Post COVID-19 Candidemia Cases With Complete Case Review: CT March 2020-July 2021: N=88



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Sarah Brothers^{1,2}, Elizabeth DiDomizio², Lisa Nichols², Ralph Brooks², Merceditas Villanueva²

¹ Pennsylvania State University, University Park, PA ²Yale University School of Medicine, New Haven, CT

Background

- Approximately 25% of people living with HIV (PLWH) are co-infected with hepatitis C (HCV) in the United States
- HIV/HCV co-infection accelerates liver disease progression
- DAA treatment for HCV is highly effective (>95% cure rates), well tolerated, can be administered for short courses (8-12 weeks for most)
- DAA treatment is equally effective for HIV/HCV co-infected persons as it is for people with HCV mono-infection
- Less than 30% of HIV/HCV co-infected people have initiated HCV treatment
- The goal of this study is to examine the barriers and facilitators to DAA treatment for HIV/HCV co-infected persons who delay or refuse DAA treatment

Methods

- Semi-structured qualitative interviews with 21 people who lived in Connecticut, had a confirmed HIV and HCV diagnosis, and delayed treatment for HCV for at least one year after diagnosis

Participant Characteristics

Gender	n
Male	10
Female	11
Race/Ethnicity	n
Black/African American	10
Puerto Rican	5
White	5
Native American	1
Age	Mean
Range: 39 to 70 years	59
LGBTQ?	n
Yes	1
No	20

Participant Characteristics

History of injection drug use?	n
Yes	15
No	6
Years since diagnosis	Median
HIV	25
HCV	15
Currently untreated for HCV?	n
Yes	9
No (DAA treatment last 12 months)	12

Results: Selected Quotes From Interviews

Individual level barriers: Substance Use

"Whenever you take the pill for the hepatitis, you can't drink or nothing. You can't do drugs. If you drink or do drugs, you gonna get sick, a lot of people told me."

Individual level barriers: Not Prioritizing HCV Treatment

"I'm trying to get my HIV stuff under control. I guess I should [get treated for HCV], but I just need to get one thing under control at a time."

Interpersonal Level Barriers: Peer-received Information

"I was like, 'hell no. I'm not taking that.' Because I look back on people that I knew in the past who were receiving treatment for hep C and the name of the treatment was interferon."

Interpersonal Level Barriers: Peer-received Information

"I said, 'It's easy.' Because she don't really like taking pills. I said, 'All you got to do is take one pill a day, that's it.'"

Institutional Level Barriers: Inconsistent Provider Relationship

"I had a problem in that clinic, every month that I used to come to the clinic, every month was a different doctor. It was like the whole New Haven knew that I was HIV."

Institutional Level Facilitators: Stable Provider Relationship

"The one I got now is the one that really convinced me to do it. She told me the long-term effect that it could have if I don't.... And, because she's a straight-up lady I said, 'Oh okay, fine.'"

Structural Level Barriers: Treatment Cost

"I just want to be where I'm stable and going to commit to it, because insurance will only pay for it once."

Structural Level Facilitators: Adherence Support

"At first, I wasn't too sure about it [DAA treatment] because sometimes I'm not med adherent but I have a med box now so I'm good with everything."

Discussion

Social-ecological Level	Barriers	Facilitators
Individual	Active substance use	- Increased provider literacy that substance use is not a contraindication for DAA treatment - Increased patient literacy on DAA treatment safety and efficacy during active substance use
	Not prioritizing HCV treatment	Provider discussions about importance of HCV treatment
	Fear of side effects and interactions	Provider discussions about side effects and interactions
Interpersonal	Peer-received information on interferon treatment	- Peer-received information DAA treatment - Provider-received information on differences between Interferon treatment and DAA treatment
Institutional	Transitory provider relationships	Stable and trustworthy provider relationships with longitudinal discussions about benefits and side effects of DAA treatment
	Distrust of media messaging	Provider discussions of side effects and treatment efficacy
Structural	Treatment cost	Provider discussion that patient was deserving of DAA treatment
	Need adherence support	Implement adherence support such as DOT, automated reminders

Conclusions

- To increase DAA uptake among HIV/HCV co-infected persons: provide HCV-treatment adherence, increase DAA treatment knowledge, remove access barriers for persons who actively use substances, and encourage patients who have successfully completed treatment to share their experiences with their peers.
- The design of future interventions could benefit from centering the needs and concerns of persons with lived experience with HIV and HCV.

**BACKGROUND:**

- Approximately 25% of those with HIV are coinfecting with HCV
- Current treatment cascades focus on HCV mono-infected patients and based on multiple data sources, not surveillance
- Using expanded surveillance capacity and validated HIV matching algorithms, we created an HCV CoC for HIV/HCV coinfecting persons in CT

METHODS:

Surveillance databases used: CTEDSS (HCV) and eHARS (HIV) [Fig1]

- eHARS timeframe: Prevalent HIV Labs up to 12/31/2019
- Three HCV approaches studied:
 - Long Term CoC:** All CTEDSS entries ever recorded (1/1/1994 to 1/1/2020)
 - Short Term CoC:** All CTEDSS entries ever with labs from 1/1/2016 to 12/31/2019.
 - ELR Short Term CoC:** All HCV surveillance entries with ELR labs between 1/1/2015 to 12/31/2019
- Coinfected lists generated by matching CTEDSS and eHARS
- HCV CoC status assessed using standardized surveillance case definitions

Table 1. HCV Laboratory Disposition Definitions

Disposition	Reported Laboratory Sequence
AB- only	One or more AB negative only result
AB+ only	One or more AB positive only result
PCR+ Only	One or more PCR positive only result
AB+, PCR+	AB positive results with one or more sequential PCR positive result
AB+, PCR+, PCR-	AB positive results with one or more sequential PCR positive result, then one or more sequential PCR negative result
PCR+, PCR-	One or more PCR positive result then one or more sequential PCR negative result
PCR- Only	One or more PCR negative only result
AB+, PCR-	AB positive result with one or more sequential PCR negative result with no PCR positive results
Equivocal	non-sequential multiple AB positive, PCR positive, and PCR negative results
AB	Antibody
PCR	Polymerase chain reaction
+	Positive test result
-	Negative test result

RESULTS AND DISCUSSION:

- Baby-boomers, males, persons of color, and PWID along with a majority having undetectable HIV VL levels. (**Table 2**)
- SVR rates ranged from 37.1% to 69.2% (**Figure 1**)
 - 2016 HCV case definition change (increased HCV PCR testing)
 - Enhanced CTEDSS electronic lab interface with ability to recording serial negative PCRs
 - Enhanced DAA availability (improved treatment adherence)
 - Increase use of reflex PCR testing
- We believe using more updated surveillance data better represents the current coinfecting population
- Persons significantly more likely to achieve SVR were baby-boomers and those with HIV viral suppression (**Table 3**)
- Persons less likely to achieve SVR were Black and Hispanic, females, and persons with heterosexual HIV transmission. (**Table 3**)
- This CoC functions as a "report card" showing the SVR status of the target population who are current state residents

Laboratory Surveillance-Based Approach to Creating a State-Level HCV Cascade

of Care for HIV/HCV Co-Infected Persons: a Cross-Sectional Study

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We successfully developed a laboratory surveillance-based approach to creating a statewide HCV Cascade of Care (CoC) for HIV/HCV co-infected individuals Living in CT

Figure 1. Comparison of Cascades of Care (CoC) Using Different HCV Surveillance Database Timeframe Constraints

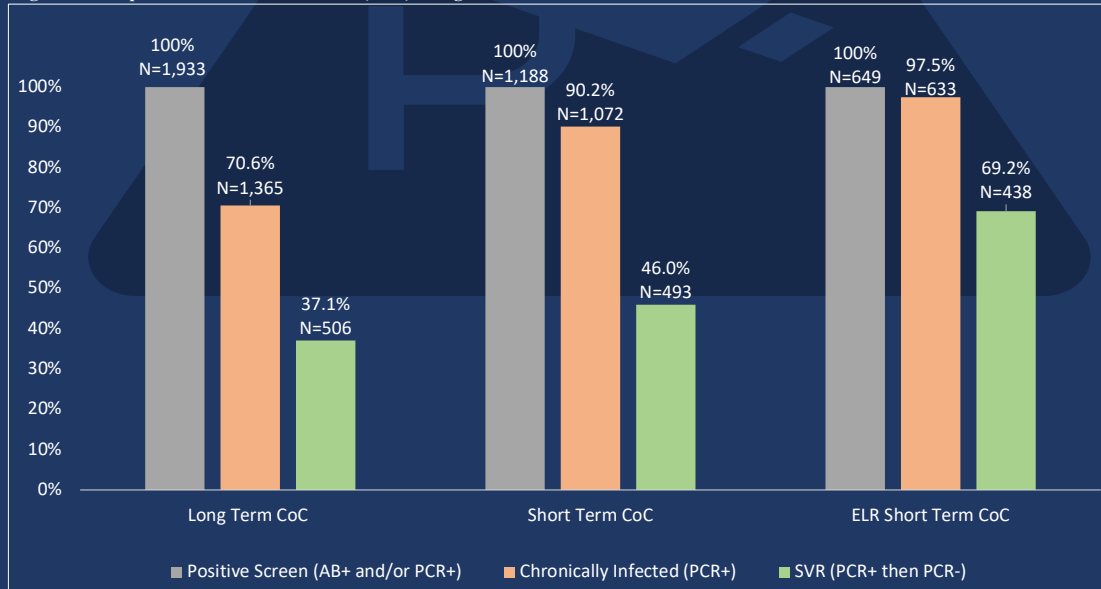
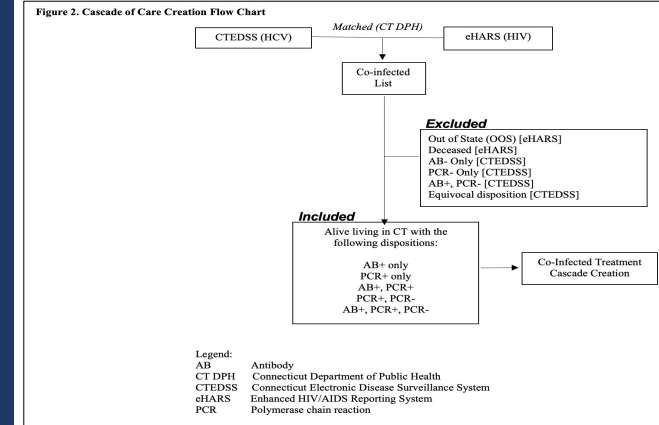
**ADDITIONAL RESULTS:**

Table 2: Demographic Description of each Cascade of Care

Variable	Category	Long Term CoC [N=1,933] (%)	Short Term CoC [N=1,188] (%)	ELR Short Term CoC [N=649] (%)
Birth Cohort	Baby-Boomer ^a	1,386 (71.7)	816 (68.7)	438 (67.5)
	Younger	547 (28.7)	372 (31.3)	211 (32.5)
Gender	Male	1,322 (68.4)	843 (71.0)	459 (70.7)
	Female	611 (31.6)	345 (29.0)	190 (29.3)
Race/Ethnicity	White	496 (25.7)	283 (23.8)	158 (24.3)
	Black	625 (32.3)	421 (35.4)	212 (32.7)
	Hispanic	786 (40.7)	469 (39.5)	274 (42.2)
HIV Transmission Mode	Heterosexual	25 (1.3)	15 (1.3)	5 (0.8)
	MSM ^b	224 (11.6)	125 (10.5)	60 (9.3)
	PWID ^c	172 (8.9)	107 (9.0)	45 (6.9)
	MSM and PWID	1,357 (70.2)	854 (71.9)	487 (75.0)
	Other/Unknown	73 (3.8)	45 (3.8)	28 (4.3)
HIV Viral Load Level	High (>10,000)	107 (5.5)	57 (4.8)	29 (4.5)
	Low (200-10,000)	95 (4.9)	60 (5.0)	29 (4.5)
	Undetectable (<200)	97 (5.0)	66 (5.6)	36 (5.5)
		1,741 (90.1)	1,062 (89.4)	584 (90.0)

a. Born between 1945-1965

b. Men who have sex with men

c. Person who injects drugs

Table 3: Unadjusted Odds Ratios for those Identified as Chronically Infected who Achieved SVR

Variable	Category	n/N (%)	OR	95% CI	n/N (%)	OR	95% CI	n/N (%)	OR	95% CI
Birth Cohort	Baby-Boomer ^a	367/968 (37.9)	1.13	0.89, 1.45	358/743 (48.2)	1.56	1.16, 2.08	317/426 (74.4)	2.54	1.70, 3.81
	Younger	129/397 (35.0)	Ref	Ref	135/329 (41.0)	Ref	Ref	121/207 (58.5)	Ref	Ref
Gender	Male	367/968 (37.9)	1.17	0.92, 1.49	358/743 (48.2)	1.03	0.76, 1.36	318/447 (71.0)	1.35	0.90, 2.03
	Female	139/403 (34.5)	Ref	Ref	135/301 (44.9)	Ref	Ref	120/186 (64.5)	Ref	Ref
Race/Ethnicity	White	132/333 (39.6)	Ref	Ref	128/253 (50.6)	Ref	Ref	108/155 (69.7)	Ref	Ref
	Black	163/468 (34.8)	0.76	0.57, 1.03	160/386 (41.5)	0.64	0.43, 0.95	140/209 (67.0)	0.65	0.40, 1.06
	Hispanic	205/548 (37.4)	0.90	0.67, 1.20	199/420 (47.4)	0.92	0.67, 1.27	187/265 (70.6)	1.13	0.70, 1.80
	Other	6/20 (30.0)	0.59	0.22, 1.56	6/13 (46.2)	0.71	0.23, 2.18	*	*	*
HIV Transmission Mode	Heterosexual	48/147 (32.7)	Ref	Ref	47/106 (44.3)	Ref	Ref	43/60 (71.7)	Ref	Ref
	MSM ^b	38/114 (33.3)	0.94	0.56, 1.62	37/83 (44.6)	1.05	0.57, 1.96	32/43 (74.4)	1.28	0.47, 3.45
	PWID ^c	37/987 (37.6)	1.20	0.82, 1.75	361/794 (45.5)	1.05	0.69, 1.61	322/475 (67.8)	0.76	0.40, 1.45
	MSM and PWID	24/54 (44.4)	1.59	0.82, 3.09	23/43 (53.5)	1.54	0.73, 3.25	18/27 (66.7)	0.84	0.29, 2.45
	Other/Unknown	25/61 (39.7)	1.34	0.72, 2.49	25/46 (54.4)	1.58	0.77, 3.22	23/29 (82.1)	1.80	0.56, 5.75
HIV Viral Load Level	High (>10,000)	10/62 (16.1)	Ref	Ref	9/50 (18.0)	Ref	Ref	8/27 (29.6)	Ref	Ref
	Low (200-10,000)	21/75 (28.0)	2.07	0.89, 4.83	21/61 (34.4)	2.47	1.00, 6.09	18/36 (50.0)	2.54	0.86, 7.51
	Undetectable (<200)	475/1,228 (38.7)	3.33	1.67, 6.64	463/961 (48.2)	4.31	2.06, 9.02	412/570 (72.3)	6.22	2.61, 14.80

a. Baby-boomer includes 33 (1.4%) cases that were older for the Long Term CoC, 35 (1.4%) for the Short Term CoC, and 1 (1.1%) for the ELR Short Term CoC

b. Men who have sex with men

c. Person who injects drugs

d. n is the number of those identified as SVR and N is the number of those identified as chronically infected

e. Odds ratio

f. 95% confidence interval

* Numbers suppressed due to low counts

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Friedland Posters

❑ *F – 1 Grammatico,*

HIV PrEP in Bars in South Africa

❑ *F – 2 Tuan,*

PrEP Readiness in Liberia

HIV Pre-Exposure Prophylaxis (PrEP) at Alcohol Venues in Rural South Africa

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BACKGROUND

 South Africa is home to the largest HIV epidemic in the world, with 7.7 million people living with HIV



Good progress towards 90/90/90 goals is being made, but gaps in cascade remain (especially prevention).



Alcohol use disorder complicates engagement in the care cascade. Alcohol based venues ("shebeens") are informal social settings with high prevalence of risk behaviors.



Shebeens are an ideal place to engage young people for prevention.

METHODS



All male community health worker team recruited shebeen patrons for comprehensive health screening including HIV test



Patrons **without HIV** that were eligible for PrEP were offered study enrollment



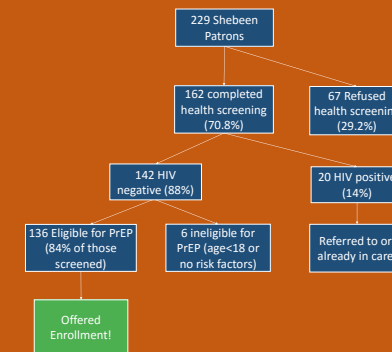
Participants completed AUDIT scale, with hazardous alcohol use defined as ≥ 6 for women and ≥ 8 for men



All study visits, including follow-up visits, were conducted in mobile clinic

Male sex, increased median # of sex partners, and "never" having attended clinic predicted PrEP uptake. Hazardous alcohol use was not a barrier to uptake.

Summary of Shebeen Testing, February - November 2020



Characteristics of Patrons Eligible for PrEP (n = 136)

	Non-initiators (n=99)	PrEP Initiators (n=37)	p value	Unadjusted Odds Ratio, 95% CI
Median Age (IQR)	30.00 (19)	26 (10)	0.035	0.92 (0.88 – 0.97)
Male Sex	74 (74.7%)	34 (91.9%)	0.028	3.83 (1.1 – 13.6)
% Employed	29.3%	32.4%	0.72	
% Marijuana User	12.1%	18.9%	0.3	
% Smoker (cigarettes)	53.5%	54.0%	0.96	
Median AUDIT Score (IQR)	10 (8)	11 (9.5)	0.46	
% Hazardous Drinker	72.4%	70.3%	0.80	
Inconsistent Condom Use	91%	94.6%	0.48	
% with STI symptoms	5.05%	8.1%	0.50	
Median # of sex partners in last month (IQR)	1.0 (0)	1.0 (1)	0.04	1.6 (0.93 – 2.89)
Median # of lifetime sex partners (IQR)	8.00 (6)	12.00 (6.5)	0.021	1.1 (1.01 – 1.12)
% Never attended clinic	51.5%	73.0%	0.024	2.54 (1.13–5.80)



PHU, personal photos, all used with permission of study team. Participants are not shown.

DISCUSSION

- Screening at alcohol venues targets a **hard-to-reach** population that engages in high risk sexual behaviors (inconsistent condom use, multiple partners) facilitated by alcohol use
- "Never attended clinic" predicted uptake, suggestive of success reaching a population that does not otherwise engage in care.
- Community-based model of PrEP care is promising
- PrEP uptake is not predicted by hazardous alcohol use; drinkers correctly perceive HIV risk?

FUTURE DIRECTIONS

- Other target populations** (AGYW, MSM) will require different strategies
- Scaling** to additional shebeens or other congregate settings
- Intervention for AUD**
- Injectable PrEP!

The authors extend their sincere gratitude to the entire team at Philanjalo NGO





A Questionnaire Assessing Attitudes and Readiness for HIV Pre-Exposure Prophylaxis (PrEP) Therapy for Community Members At-Risk for HIV Acquisition in Liberia

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Background

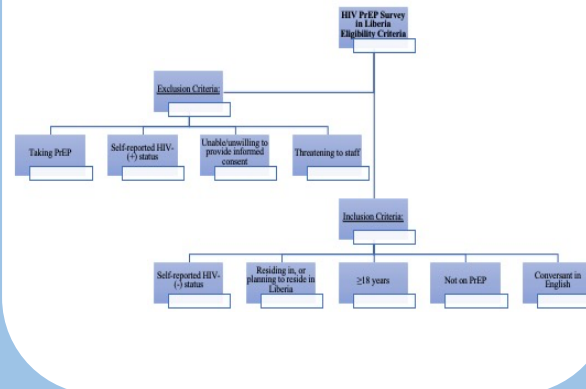
- HIV in Liberia:** Approximately 20,000 PLWH are women aged >15, with prevalence rate of 1.4 in HIV in women 15 - 49
- Notably, there is an uptrend in the proportion of PLWH in Liberia aged >15 years from 51% - 59% (from 1990 - 2019)
- PrEP in Liberia:** There is need for implementation of methods to prevent HIV transmission, especially in a young female demographic in Liberia
- We are unaware of data in Liberia regarding attitudes, readiness, barriers, & facilitators to HIV PrEP
- PrEP is not yet established in Liberia, but Ministry of Health discussions for PrEP initiation are ongoing
- Given this timeliness, we assessed attitudes & readiness for PrEP among women in Liberia

Methods

- A partnership of U.S. & Liberian Infectious Disease physicians/ trainees (attending, fellows, residents) was formed to create & conduct a cross-sectional survey for HIV(-) women in Monrovia, Liberia (March 2021-present) (**Figure 1**)
- Participants were recruited through JFK Memorial Hospital primary care, OB/GYN, & antenatal clinics
- The 152-question survey was self-administered to assess PrEP attitudes & readiness

Methods

Figure 1. HIV PrEP Survey in Liberia Eligibility Criteria



RESULTS

- Preliminary data for 1st 50 enrolled women is in **Table 1**
- Most (89%; 40/45) worried about HIV acquisition & had at least some HIV knowledge but were unaware of PrEP (81%; 39/48), yet 80% (35/44) would take PrEP if eligible
- Major potential barriers to PrEP uptake were scarce knowledge (72%; 28/39), side effect concerns (59%; 26/44), & anticipated stigma (71%; 32/45)
- Additional identified structural barriers were unemployment (66%; 31/47), lack of insurance (91%; 42/46), transportation time (70%; 16/23), & cost (65%; 15/23)
- Many received health information via radio (40%; 19/48) & text (29%; 14/48)

Table 1. Surveys Regarding Attitudes and Readiness for HIV Pre-Exposure Prophylaxis in Liberia

	n	Median
Number of Female Subjects	100% (50/50)	
Average age, in years (median)		28 (n=46)
PrEP Awareness		
•Subjects who had not heard about PrEP	81% (39/48)	
•Method of awareness of PrEP		
•Via their healthcare provider	19% (7/37)	
•Via HIV counselor	8% (3/37)	
•Subjects who reported if they were PrEP eligible, they would take it	80% (35/44)	
•Subjects who reported they would try PrEP if recommended by HCP	86% (36/42)	
•Main reason subjects would not take PrEP:		
•Not enough knowledge about side effects of PrEP	72% (28/39)	
•Subjects who stated they knew nothing about PrEP	60% (31/45)	
•Subjects who reported concerns about PrEP:		
•Side effects	59% (26/44)	
•Daily pill	18% (8/44)	
•Cost	14% (6/44)	
PrEP Perception		
•Subjects who perceived that if they took PrEP, others would think they had HIV	71% (32/45)	
•Subjects who were concerned about side effects of PrEP	93% (43/46)	
•Subjects who perceived their partner would support their use of PrEP	80% (37/46)	
•Subjects who were concerned about cost of PrEP	80% (37/46)	
PrEP Stigma Scale		
•Subjects who were concerned people would assume taking PrEP implied HIV (+) status	45% (22/49)	
•Subjects who either agreed or strongly agreed their partner would support their use of PrEP	52% (25/48)	
Sexual History		
•Average age of sexual debut, in years (median)		18 (n=40)
•Average age of initial pregnancy, in years, if applicable (median)		20 (n=31)
•Subjects who did not know HIV status of at least 1 partner in past 6 months	39% (12/31)	
•Subjects who reported prior history of STI	28% (12/43)	
•Of the reported STIs, subjects who reported history of chlamydia	25% (5/21)	
•Of the reported STIs, subjects who reported history of syphilis	42% (5/12)	
•Of the reported STIs, subjects who reported history of gonorrhea	33% (4/12)	
•Of the reported STIs, subjects who reported history of hepatitis C	8% (1/12)	
•Subjects who reported no use of contraception	84% (38/45)	
•Condom usage		
•Subjects who reported never to condom usage	26% (10/39)	
•Subjects who declined to respond with regards to condom usage	15% (6/39)	
•Subjects who reported heterosexual orientation	78% (29/37)	
•Average number of lifetime sexual partners (median)*		2 (n=37)
•Subjects who reported at least 1 sexual partner within the past month	62% (20/32)	
•Subjects with history of either receiving payment for sex or for trading sex	2% (1/48)	
Substance Use History		
•Subjects who reported alcohol use	17% (8/46)	
•Subjects who reported history of IVU	4% (2/48)	
•Subjects who reported tobacco use	0% (0/46)	
•Average AUDIT-C Self-Report Version score (median)**		1 (n=46)
•Score of 0	46% (21/46)	
•Score of 1-7 (Low risk)	48% (22/46)	
•Score of 8-12 (Risky)	7% (3/46)	
•Score of 13+ (High Risk)	0% (0/46)	
Incarceration History		
•Subjects who reported history of incarceration	7% (3/42)	
Work History		
•Subjects who reported unemployment	66% (31/47)	
Education		
•Subjects reported having at least a high school education	80% (37/46)	
Healthcare Perceptions		
•Subjects who reported they would seek healthcare provider at clinic if ill	98% (48/49)	
Healthcare Accessibility		
•Subjects who reported having healthcare insurance	9% (4/46)	
•Subjects who were concerned about cost of transportation to a healthcare facility	53% (22/45)	
•Subjects who reported it takes > 30 min. to nearest healthcare facility	47% (26/55)	
•Subjects who reported taxi as method to get to healthcare facility	53% (30/57)	
•Subjects who reported receipt of health dissemination information via radio	40% (19/48)	
•Subjects who reported receipt of health dissemination information via text	29% (14/48)	
•Subjects who reported the best place to reach women at risk for HIV was at home	64% (29/45)	
•Subjects who reported residing in an urban location	86% (36/42)	
•Subjects who reported residing in a suburban location	10% (4/42)	
•Subjects who reported residing in a rural location	2% (1/42)	
HIV Knowledge		
•Subjects reported concern about acquiring of HIV	89% (40/45)	
•Knowledge of HIV, as reported by subject		
•Nothing	79% (34/43)	
•A little	21% (9/43)	
•Some	12% (5/43)	
•A lot	26% (11/43)	
•A great deal	12% (5/43)	
•Affirmative response with regards to HIV knowledge without graded response listed	5% (2/43)	
•Subjects reported knowledge that condom use reduced risk of HIV transmission	93% (42/45)	
•Subjects who reported HIV is treatable	60% (27/45)	
Perception of PrEP Use, HIV, Sex		
•Subjects who felt PrEP reduced risk of HIV	88% (36/41)	
•Subjects who reported PrEP is a daily medication	61% (25/41)	
•Subjects who reported they would share information with others about why they are taking PrEP	82% (32/39)	
•Subjects who preferred to go alone to obtain PrEP	43% (18/42)	
Medical Compliance		
•Subjects who reported adherence to routine medical care	65% (28/43)	
•Subjects reported yes to ability to remember to take medications daily	55% (23/43)	
•Subjects who reported reason for not taking medications was not remembering to take them	69% (27/39)	
•Subjects who felt they could go to clinic for monthly refill	79% (34/43)	
Safety		
•Subjects who reported feeling safe in home	95% (42/44)	
•Average HITIS Domestic violence screening score reported (median)***		4.5 (n=43)

Conclusions

- A global health educational partnership was established to implement the 1st evaluation of attitudes & readiness for PrEP among young women in Liberia, given timeliness of imminent PrEP roll-out
- Though the sample is small with limited generalizability, data collection is active; preliminary data shows this is an opportune moment for PrEP implementation among women who could benefit, given healthcare engagement & HIV acquisition concerns
- Education regarding PrEP's role in HIV prevention & side effects would enhance PrEP uptake
- Given receptiveness to health messaging via radio & text, there is contextual support for mHealth interventions
- It is critical to address barriers to optimize PrEP uptake for young women in Liberia

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