CFAR University of Miami

Session: P-45. HIV: Epidemiology and Screening

Background. HIV is a risk factor for Cardiovascular Disease (CVD), and CVD is the leading cause of mortality among Hispanics (H). Hispanics in the US are disproportionately affected by HIV with higher rates of HIV related morbidity and mortality, as well as adverse CVD outcomes. This study sought to identify early markers of CVD risk among Hispanics living with HIV.

Methods. Interim analysis of 38 H and non-Hispanics (NH) people living with HIV (PLWH), stable on antiretroviral regimen, 30-50 years of age, without previously detected CVD. Demographics, CD4 T cells, HIV RNA viral load, traditional early markers of CVD risk were collected. CVD risk markers were obtained with non-invasive tools: epicardial adipose tissue (EAT) thickness was assessed by echocardiogram; arterial stiffness was assessed by applanation tonometry sequentially at the carotid, femoral and radial arteries (including central augmentation index - AI, peripheral AI, radial pulse wave velocity - PWV, and femoral PWV). The Framingham Coronary Event Risk Score (FCER) was calculated for each subject. Descriptive and linear regression analysis for predictors of FCER measures were age adjusted.

Results. Among the 38 participants enrolled the mean age was 42 years, 80% male, H 76%, NH 24%, Black 16%, with mean BMI of 26.7. 45% met clinical criteria for metabolic syndrome: high waist girth 24%, high blood pressure 18%, high Fasting Glucose 16%, high total cholesterol 21%, high triglycerides 26%, low HDL 45%, high LDL 18%, high TC/HDL ratio 68%. The mean EAT was 3.8 mm, mean central AI 20.2 %, mean peripheral AI 73%, mean femoral PWV 28.8 m/s, mean radial PWV 8.7 m/s. Older age was associated with greater central AI (r = 0.37, p = .01) and peripheral AI (r = 0.38, p = .01) but not with increased EAT. Regression analysis predicting FCER relationships showed radial PWV as an independent predictor of increased FCER (r = 0.36, p < .05).

Conclusion. Risk factors leading to CVD are common among this group of PLWH and radial PWV is a moderate predictor of increased FCER. Although measures of arterial stiffness are available, they are not routinely used to assess CVD risk. Further studies should evaluate the use of noninvasive methods for diverse PLWH, to prevent the development of CVD.

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964. Opt-Out HIV- Hepatitis C (HCV) Testing at a Primary Care Resident Clinic in Columbia, SC: Who Gets Tested and Who Opts Out of Testing?

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Session: P-45. HIV: Epidemiology and Screening

Background. South Carolina (SC) remains one of the most heavily affected states for both HIV and HCV infections. Males account for the majority of cases. Implementation of universal opt-out testing has improved screening rates but not much has been published describing the characteristics of those who opt out of testing. This becomes important as 10-50% of patients have opted out in previous studies.

Methods. Between February and August 2019, we conducted a quality improvement (QI) project which implemented opt- out HIV-HCV testing at a single primary care resident clinic in SC with the primary aim of increasing screening rates for HIV-HCV by 50%. Secondary aims included describing the demographic characteristics of the opt-out population. Persons were considered eligible for testing if they were between the ages of 18-65 years for HIV and 18-74 years for HCV. This was prior to the USPSTF 2020 guidelines which recommend HCV screening for adults aged 18-79 years. A retrospective chart review was used to obtain screening rates, opt status and demographic data. Logistic regression and the firth model were used to determine linkages between categorical variables. We present 3-month data.

Results. 1253 patients were seen between May 1, 2019- July 31, 2019 (See Table 1). 985 (78%) were eligible for HIV testing. 482 (49%) were tested for HIV as a result of our QI project and all tests were negative. 212 (22%) of eligible patients opted out of HIV testing. Males were 1.59 times more likely to opt out (p=0.008). (see Table 2,3)

Regarding HCV, 1136 (90.7%) were deemed eligible for testing. 503 (44%) were tested for HCV as a result of our QI project. 12 (2.4%) were HCV antibody positive with viremia. 11 (90%) of antibody positive with viremia cases were in the 1945-1965 birth cohort (see Table 4). 244 (21%) opted out of HCV testing. Males and persons without a genitourinary chief complaint were more likely to opt out (p=0.02).

Table 1: Demographic characteristics of the population seen at the internal medicine resident clinic between May- July 2019

		Number of patients seen (n=1253)	Percentage (%)		
Characteristic					
Age group	18-29	87	6.9		
	30-39	141	11.3		
	40-49	179	14.3		
	50-59	351	28.0		
	60-69	338	27.0		
	>70	157	12.5		
	Mean age =54 (14.32)				
Sex	Male	425	33.9		
	Female	828	66.1		
Race	White	231	18.4		
	Black	958	76.5		
	Hispanic	39	3.1		
	Asian	6	0.5		
	Other	19	1.5		
Insurance Status	Insured	429	81		
	Uninsured	103	19		

Table 2: Relationship between demographic variables and the odds of being tested for HIV or HCV within the last 12 months. Logistic Model.

			Test	ed for HIV	Tested for HCV				
		OR	LCL	UCL	P.Value	OR	LCL	UCL	P.Value
Age Group	30-39	1.417	0.815	2.469	0.217	1.631	0.943	2.837	0.081
	40-49	0.814	0.477	1.386	0.45	1.054	0.62	1.798	0.845
	50-59	1.039	0.632	1.705	0.879	1.259	0.769	2.07	0.36
	50-59	0.775	0.477	1.273	0.315	1.239	0.755	2.039	0.397
	>70	0.168	0.088	0.312	<0.001	0.443	0.248	0.786	0.005
Sex	Male	0.805	0.628	1.032	0.087	0.908	0.712	1.156	0.433
Race	Black	4.383	0.663	85.871	0.186	0.91	0.162	5.087	0.911
	White	3.923	0.584	77.415	0.224	0.727	0.127	4.12	0.706
	Hispanic	3.482	0.469	71.724	0.284	0.872	0.139	5.402	0.878
	Other	1.568	0.179	34.564	0.714	0.218	0.027	1.626	0.134
Insurance	Uninsured	1.175	0.881	1.569	0.273	0.969	0.729	1.289	0.831
Visit Type	New Visit	0.913	0.665	1.252	0.573	0.929	0.681	1.267	0.643
Chief complaint	*Non-GU	0.545	0.389	0.757	< 0.001	0.646	0.467	0.89	0.008

OR- Odds Ratio, LCL- lower confidence limit, UCL- upper confidence limit, *Non genitourinary chief complaint at that visit

Table 3: Relationship between demographic variables and the odds of opting out of testing for HIV or HCV. Firth Model.

		Opt out of testing for HIV				Opt out of testing for HCV				
		OR	LCL	UCL	P.Value	OR	LCL	UCL	P.Value	
Age Group	30-39	0.60	0.29	1.23	0.161	0.48	0.23	0.98	0.044	
	40-49	1.34	0.69	2.64	0.392	1.05	0.55	2.03	0.894	
	50-59	0.84	0.45	1.60	0.585	0.61	0.33	1.14	0.121	
	50-59	0.74	0.38	1.44	0.371	0.67	0.36	1.26	0.221	
	>70	0.81	0.00	16.09	0.897	0.68	0.31	1.48	0.331	
Sex	Male	1.59	1.13	2.24	0.008	1.47	1.07	2.00	0.017	
Race	Black	0.37	0.03	4.86	0.413	2.79	0.26	381.90	0.452	
	White	0.67	0.05	8.95	0.740	4.14	0.37	568.80	0.284	
	Hispanic	0.54	0.03	8.51	0.641	3.21	0.24	462.36	0.419	
	Other	0.56	0.03	9.32	0.669	5.97	0.40	894.83	0.216	
Insurance	Uninsured	1.02	0.69	1.50	0.923	1.13	0.77	1.64	0.529	
Visit Type	New Visit	1.01	0.66	1.54	0.967	0.87	0.57	1.31	0.517	
Chief complaint	*Non-GU	1.98	1.25	3.23	0.003	1.64	1.08	2.55	0.021	

OR- Odds Ratio, LCL- lower confidence limit, UCL- upper confidence limit, *Non genitourinary chief complaint at that visit

Conclusion. Although implementation of routine HIV-HCV opt-out testing led to increased screening rates for both HIV and HCV, roughly 1 in 5 eligible patients chose to opt out of testing. Males were more likely to opt out despite accounting for the majority of newly diagnosed HCV cases. Future studies investigating drivers for opting-out in the male population could improve testing and assist with early diagnosis.

Table 4: Characteristics of patients newly diagnosed with HCV positive with viremia.

Number	Age	Sex	New vs Follow up visit	GU complaint	Linked to care	Insured	Race	LFTs	HCV viral load
1	54	F	FU	Y	Y	Y	В	cirrhosis	705,254
2	63	м	FU	N	Y	Y	В	elevated	2653274
3	61	F	New	N	Y	Y	В	elevated	4173702
4	63	M	New	N	N	Y	В	elevated	688081
5	56	м	FU	N	Y	N	В	normal	1493593
6	65	F	FU	N	Y	Y	В	normal	42314
7	58	м	New	N	N	Y	В	normal	42613275
8	64	F	New	Y	N	Y	W	cirrhosis	9221403
9	62	м	New	N	N	N	В	normal	539974
10	40	м	New	N	Y	N	W	normal	1640128
11	57	м	FU	N	N	N	W	normal	156633
12	70	F	FU	N	Y	Y	В	normal	1222834

F- Female, M- Male, FU- Follow Up, GU- genitourinary, Y- Yes, N- No, B -Black, W-White

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965. Partnering with State Health Departments: A Road Map for Collaboration Using Public Health Enhanced HIV/AIDS Reporting System (eHARS)

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Session: P-45. HIV: Epidemiology and Screening

Background. Academic and public health partnerships are a critical component of the Ending the HIV Epidemic: A Plan for America (EHE). The Enhanced HIV/AIDS Reporting System (eHARS) is a standardized document-based surveillance database used by state health departments to collect and manage case reports, lab reports, and other documentation on persons living with HIV. Innovative analysis of this data can inform targeted, evidence-based interventions to achieve EHE objectives. We describe the development of a distributed data network strategy at an academic institution in partnership with public health departments to identify geographic differences in time to HIV viral suppression after HIV diagnosis using eHARS data.

Distributed Data Network



Methods. This project was an outgrowth of work developed at the University of Alabama at Birmingham Center for AIDS Research (UAB CFAR) and existing relationships with the state health departments of Alabama, Louisiana, and Mississippi. At a project start-up meeting which included study investigators and state epidemiologists, core objectives and outcome measures were established, key eHARS variables were identified, and regulatory and confidentiality procedures were examined. The study methods were approved by the UAB Institutional Review Board (IRB) and all three state health department IRBs.

Results. A common data structure and data dictionary across the three states were developed. Detailed analysis protocols and statistical code were developed by investigators in collaboration with state health departments. Over the course of multiple in-person and virtual meetings, the program code was successfully piloted with one state health department. This generated initial summary statistics, including measures of central tendency, dispersion, and preliminary survival analysis.

Conclusion. We developed a successful academic and public health partnership creating a distributed data network that allows for innovative research using eHARS surveillance data while protecting sensitive health information. Next, state health departments will transmit summary statistics to UAB for combination using meta-analytic techniques. This approach can be adapted to inform delivery of targeted interventions at a regional and national level.

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966. Pregnancy Outcomes and Engagement in HIV Care for Pregnant Women Living with HIV in Rhode Island 2012-2019

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Session: P-45. HIV: Epidemiology and Screening

Background. Prevention of mother to child transmission (PMTCT) of Human Immunodeficiency Virus (HIV) requires a comprehensive approach and understanding the cultural backgrounds of pregnant women living with HIV (PWLH). In Rhode Island (RI), 70% of women newly diagnosed with HIV are foreign-born (FB) despite only representing 14% of RI's population. Understanding the similarities and differences of pregnancy characteristics and engagement in postpartum HIV care between United States born (USB) and FB women is needed to ensure PWLH remain engaged in care and that appropriate resources are provided to all women with HIV in our state to maintain successful PMTCT of HIV.

Methods. A retrospective review of pregnant women living with HIV and their HIV-exposed infants evaluated in our hospital system were analyzed from 2012-2019. Clinical data were derived from medical records. Association between country of origin and sociodemographic, clinical, or lab variables were evaluated using chi-square test.

Results. A total of 72 pregnancies in 64 PWLH were included. Median # of pregnancies were 9 per year, median age at delivery 33 years, 54% of PWLH Black or African American, 33% Hispanic; 67.1% FB, most (56%) from Sub-Saharan Africa. Sixty-one % (n=42) with detectable (> 20 copies/mL) viral load (VL) during pregnancy, 23% (n=15) at delivery, only 1 VL > 200 at delivery. Pregnancy complications seen in 51%, 60% delivered vaginally; most (74%) at term. Engagement in postpartum HIV care declined from 71% at 6 months to 37% at 24 months. There was also decline in engagement in HIV care for the HIV exposed infants- 89% presented to the initial visit their children, from 89% attending the initial visit to 69% attending their last. DCYF involvement was more likely to occur in USB women compared to FB (P < 0.05). Other comparisons between FB & USB women including adherence to care were insignificant.

Conclusion. USB PWLH are at higher risk of DCYF involvement compared to FB women. Investigation into this disparity is warranted, given the cultural and language differences between groups. Additional research to determine barriers to long-term postpartum follow up for women and their infants is urgently needed.

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967. The Association between PrEP Awareness and Behavioral, Demographic, and Socioeconomic Factors in NYC $\,$

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Session: P-45. HIV: Epidemiology and Screening

Background. Despite significant gains in the treatment of Human Immunodeficiency Virus (HIV), there are still over 38,000 newly diagnosed with the illness annually in the United States. One strategy to reduce HIV infections is Pre-Exposure Prophylaxis (PrEP) for HIV infection. PrEP involves daily oral emtricitabine/tenofovir disoproxil fumarate (FTC/TDF or Truvada*) to reduce infections in those with exposure(s) to HIV or high-risk groups. Studies have shown reduction in HIV transmission with PrEP treatment.

The objective of the study is to investigate how behavioral, demographic, and socioeconomic status (SES) influences the awareness of PrEP treatment in NYC.

Methods. Data on economic, behavioral, PrEP awareness at the UHF neighborhood level was collected by the Community Health Survey (CHS) from the New York City Department of Health and Mental Hygiene and the American Community Survey from the U.S. Census. The population is a cross-sectional telephone survey of NYC residents with landlines and mobile phones for 2016 and 2017. Household income and neighborhood poverty level were used as proxies for SES.

Sex-stratified, multivariate logistic regression model was constructed to estimate adjusted associations and determine differences in awareness of PrEP. The model controlled for age group, race, education level, men sex with men status (MSM), and having had an HIV test in the preceding 12 months.

Results. The final study sample was 5,515 and 5,761 in 2016 and 2017, respectively. In 2016 crude PrEP awareness rate was 24.3% and in 2017 it was 35.4%. In the multivariate analysis for both 2016 and 2017, PrEP awareness was independently associated with age group, education level, male MSM, and having had an HIV test in the preceding 12 months (p < 0.01). The strongest predictors of PrEP awareness were participants with a preceding HIV test in the past 12 months and males who are MSM. PrEP awareness was associated with race for males in 2016 and 2017. PrEP awareness was associated with race for women in 2016, but not 2017.

Figure 1: (left) Median household income in NYC (right) HIV diagnoses and PrEP awareness for 2016 and 2017



Conclusion. Understanding the relationship of neighborhood socioeconomic status and PrEP awareness is essential for HIV epidemiology. By monitoring PrEP awareness, HIV diagnoses, and risk factors associated with the two, public health officials better target interventions and health policy.

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968. The Impact of Opt-Out HIV Screening and Patient Navigator-Assisted Linkage to Care of Newly Diagnosed Persons with HIV in a High-Prevalence Emergency Department

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Session: P-45. HIV: Epidemiology and Screening

Background. Newark is the epicenter of the HIV epidemic in New Jersey. University Hospital, the state's only public safety net hospital, plays a critical role in identifying and linking newly diagnosed persons with HIV (PWH) to care. We previously showed that the emergency department (ED) is the most common setting for missed testing opportunities. Therefore, in 2015 we implemented a routine opt-out HIV screening and patient navigator (PN)-assisted linkage to care (LTC) protocol in the ED, and this project examined the LTC rates for newly diagnosed PWH.

Methods. We conducted an IRB-approved retrospective chart review of patients who tested positive for HIV in the ED between 2015 and 2018. Descriptive statistics were used to summarize demographic and clinical data. Univariate and multivariate regression were used to identify demographic and clinical factors associated with LTC for newly diagnosed PWH. Age, sex, and factors with $p \le 0.10$ in the univariate analysis were included in the final model.

Results. Of the 464 patients who screened positive, 123 (26.5%) were new diagnoses. The mean age was 41.0 years (SD = 13.8); 82 (67%) male; 74 (60%) black, 26 (21%) Hispanic, 7 (6%) white. The median CD4 count was 242 (IQR = 120 - 478) cells/ μ L, and 10 patients (8.1%) had acute HIV infection. Six patients (4.9%) died before LTC. Among the remaining 117 patients, PN outreach resulted in scheduled appointments at the Infectious Disease Practice for 102 (87.2%). In total, 79 (67.5%) were linked to