



Preventive Cardiovascular/Metabolic Health Screening in an HIV+ Cohort by Type of Primary Care Model



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Introduction

- The HIV epidemic has evolved to include an older population with increased rates of non-communicable diseases (NCDs)
- The best model of care for prevention of NCDs for Persons Living with HIV/AIDS (PLWHA) has not yet been determined
- We sought to examine if primary care model affects the quality of preventive NCD care for PLWHA**

Methods

Cohort Development:

- Partner's HealthCare System (PHS) HIV cohort
 - Inclusion: age ≥18 and active PHS primary care in 2012, with ≥1 visits to Infectious Disease or Generalist provider

Exposure Classification:

- Primary care model defined by provider visits during 2011-2012
 - Infectious Disease Provider only (ID)
 - Generalist Provider only (Generalist) or
 - Infectious Disease and Generalist Providers (ID/Generalist)

Outcomes:

- Preventive screening completion in 2012 determined by laboratory, structured field and text electronic medical record data
 - Hypertension (HTN)
 - Obesity
 - Hyperlipidemia (HL)
 - Diabetes (DM)

Analysis:

- ANOVA/Wilcoxon or Fisher's exact/Chi Squared tests for comparing patient characteristics
- Univariate and multivariate GEE regression analyses clustered by the provider with most visits for each outcome
- Subgroup analysis
 - 2 visits in 2012 ≥90 days apart (IOM definition of retention)

Results

Table 1: Cohort Demographics and Clinical Data

Total: n=1565*	ID n=875	Generalist n=90	ID/Generalist n=600	P value
Age: Mean (SD)	49.9 (9.8)	47.1 (11.6)	50.4 (10.1)	0.06
Male	677 (77.4%)	57 (63.3%)	378 (63.0%)	<0.0001
Race: White	490 (56.9%)	31 (34.4%)	254 (43.4%)	<0.0001
Black	224 (26.0%)	22 (24.4%)	216 (36.9%)	
Hispanic	121 (14.1%)	36 (40.0%)	100 (17.1%)	
Other	26 (3.0%)	1 (1.1%)	15 (2.6%)	
English Language	814 (93.0%)	54 (60.0%)	519 (86.5%)	<0.0001
Household Income by Statewide Median:				0.01
< \$64,373	516 (60.6%)	69 (77.5%)	371 (62.7%)	
≥ \$64,373	336 (39.4%)	20 (22.5%)	221 (37.3%)	
Median 2012 Visits (IQR)	4 (3-6)	5 (3-6)	6 (4-9)	<0.0001
IOM Retention Criteria	773 (88.3%)	85 (94.4%)	578 (96.3%)	<0.0001
Median Recent CD4 (IQR)	583 (384-795)	561 (349-840)	576.5 (390-802)	0.80
Most Recent VL <400	726 (89.3%)	65 (79.3%)	484 (87.7%)	0.03
ART Use	853 (97.5%)	87 (96.7%)	575 (95.9%)	0.22
Median Weighted Charlson (IQR)	8 (7-10)	7 (6-10)	9 (7-11)	<0.0001

*n=1565 except for Median Household Income n=1533, Viral Load: n=1447, Most Recent or Nadir CD4 : n=1452

Table 2: Screening Sample Size and Frequencies

	n	ID	Generalist	ID/Generalist
Hypertension Screen	1565	872 (99.7%)	90 (100%)	599 (99.8%)
Obesity Screen	1565	767 (87.7%)	78 (86.7%)	556 (92.7%)
Hyperlipidemia Screen	1565	491 (56.1%)	73 (81.1%)	366 (61.0%)
Diabetic Screen	1222	322 (44.5%)	31 (43.7%)	172 (32.8%)

Results

Figure 1: Unadjusted Comparative Outcomes: ID only reference

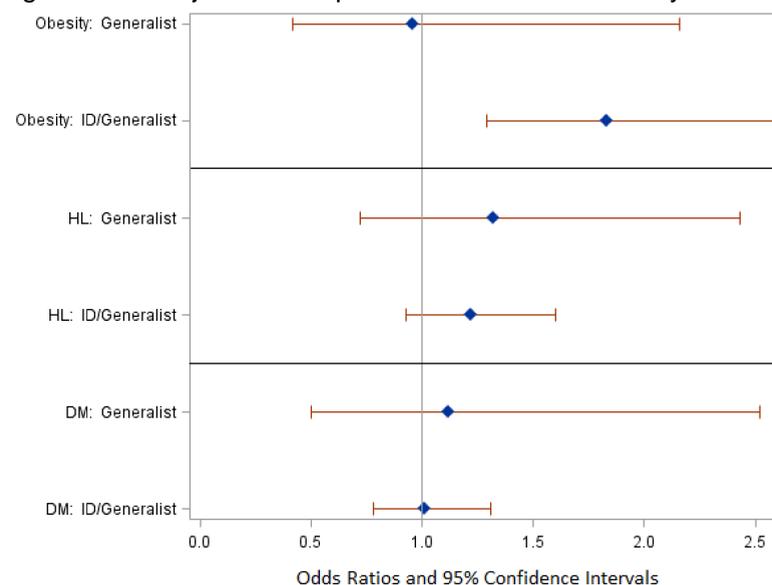
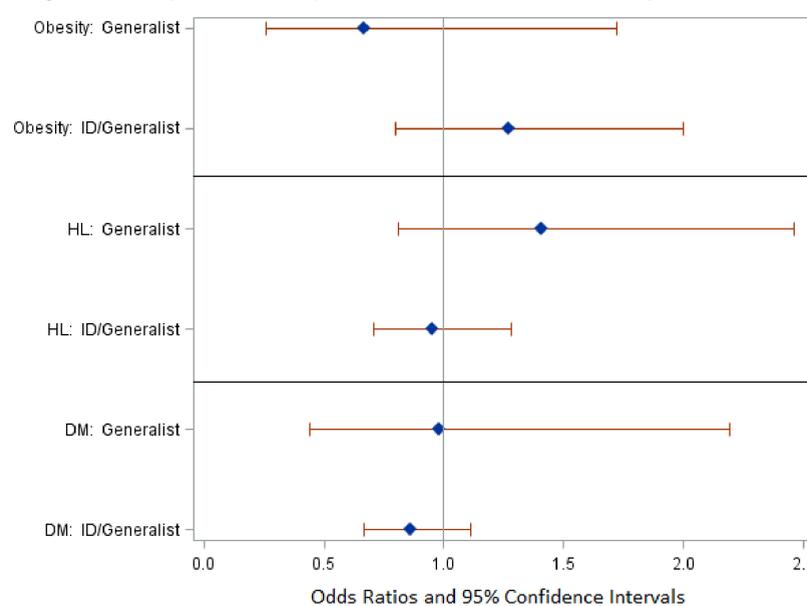


Figure 2: Adjusted Comparative Outcomes: ID only reference*



*Adjusted for age, sex, race, English language, median household income, 2012 clinical visits, CD4 count, VL suppression, and weighted Charlson score

Results

- ID provider only (n=875) was the most common care model followed by ID/Generalist model (n=600), and Generalist only model (n=90)
- ID only patients were more likely to be white, male, and English speaking and had lower IOM-defined retention
- The ID/Generalist group was more likely to be black and have more comorbidities and clinic visits
- The Generalist only group was more likely to be Hispanic and have lower virologic suppression rates despite similar ARV use
- NCD screening rates did not differ between primary care model groups after adjusting for demographic and HIV-related clinical characteristics

Conclusions

- ID providers only models screened for NCDs at similar rates as Generalist only or ID/Generalists primary care models
- Further studies of other health care systems may elucidate optimal models of care to prevent NCDs in HIV-infected populations
- Rates of virologic suppression were lower in patients managed only by Generalists despite similar use of ARVs
- Additional studies are planned to assess HIV related quality of care metrics that include process, screening, and outcome measures

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