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Optimization of HIV clinic intake process to reduce time to viral suppression

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BACKGROUND

- There is an effort to identify mechanisms of initiating antiretroviral (ARV) therapy rapidly after diagnosis, as rapid initiation has been shown to result in the following:
  - Public health benefit
  - Improved patient outcomes
  - Potentially decreased size of viral reservoir
- In the advent of a new, multi-disciplinary intake process at the UC San Diego Owen Clinic, this study seeks to quantify the impact on mean time to initiate ARVs as well as mean time to viral suppression

METHODS

- Retrospective cohort study comparing time to initiate ARVs as well as time to viral suppression before and after a new patient intake process was implemented
- New intake process was implemented April 2018
- Clinic retention rates within both 1 and 6 months of initial visit and predictors for lack of retention in care were also evaluated

Previous Intake Process **Current Intake Process**

Visit #1

Initial clinic intake appointment

Patient meets with LVN

Patient meets with social worker, financial counselor, and clinical pharmacist

ARV therapy modified/started

Patient goes to lab

CD4 count, viral load, and other relevant labs drawn

Visit #2

Patient seen by PCP

ARV therapy modified/started

Response and tolerance to therapy assessed

Using a multi-disciplinary intake team that includes a social worker, financial counselor, and pharmacist to initiate/modify ART significantly reduced the time to ART initiation/re-initation and viral suppression.

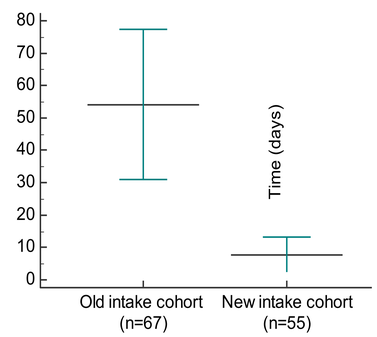
RESULTS

- 379 total patients included in the analysis
- 27 patients excluded due to moving, incarceration, or enrollment in clinical trial

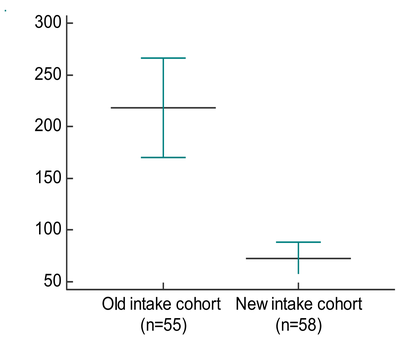
Baseline characteristics

Variable	Old Intake Cohort (n=193)	New Intake Cohort (n=186)	P-Value
Mean age – yr. (95% CI)	47 (45-49)	43 (42-45)	**0.0023**
Female sex – n (%)	19 (9.8)	19 (10.2)	0.90
Race – n (%)			
White	101 (52.3)	114 (61.3)	0.078
Black	30 (15.5)	21 (11.3)	**0.03**
Asian	6 (3.1)	10 (5.4)	0.27
Unknown	43 (22.2)	38 (20.4)	0.66
Other	13 (6.7)	3 (1.6)	**0.013**
Ethnicity – n (%)			
Non-Hispanic	133 (68.9)	128 (68.8)	0.98
Hispanic	52 (26.9)	56 (30.1)	0.50
Unknown	8 (4.1)	2 (1.1)	0.06
Psychosocial factors – n (%)			
Active psychiatric disease	81 (42.0)	67 (36.0)	0.24
Ongoing substance use	69 (35.8)	77 (41.4)	0.26
Ongoing EtOH use	60 (31.1)	95 (51.1)	**0.00008**
Intake status			
Mean CD4 count – n (95%CI)	522 (477-567)	548 (499-597)	0.43
Mean VL if viremic – copies/mL	150225	154586	0.95
Viral load <40 at intake – n (%)	106 (55.9)	99 (53.2)	0.74
On ARVs at time of intake – n (%)	126 (65.3)	130 (69.9)	0.34
Mean time since diagnosis – months	167.4	117.3	**<0.0001**
Recent HIV diagnosis (<6 months) – n (%)	20 (10.4)	43 (23.1)	**0.0008**
Newly diagnosed, ART naïve – n (%)	11 (5.7)	22 (11.8)	**0.03**

Mean time to ART initiation



Mean time to viral suppression



Secondary Outcomes	Old Intake Cohort (n=193)	New Intake Cohort (n=186)	P-Value
If on ARVs, changed ARVs at intake – n (%)	4 (3.2)	25 (19.2)	**0.00005**
If not on ARVs, started day of intake – n (%)	1 (1.5)	36 (64.3)	**<0.0001**
Returned for first PCP visit – n (%)	162 (83.9)	159 (85.5)	0.68
Returned for visit at 6 months – n (%)	143 (74.1)	133 (71.5)	0.57
No documented viral suppression in those viremic – n (%)	32 (36.8)	25 (30.1)	0.26

- Although not statistically significant, after multivariate analysis there was a trend that black patients were less likely to be retained at 6 months (p=0.053)

CONCLUSIONS

- We observed significant reductions in time to initiate ARVs and time to viral suppression using the new multi-disciplinary intake process
- The new intake process highlights the need to address financial, social, and medical issues early in the engagement process
- Retention at one and six months after intake visit was similar between the two groups and strategies to improve retention need continued evaluation
- Clinic intake processes that facilitate rapid modification and initiation of ARVs should be routine in order to more rapidly achieve viral suppression among PLWH

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