

Average Time to Initiation of Antiretroviral Therapy in Newly Diagnosed HIV Patients

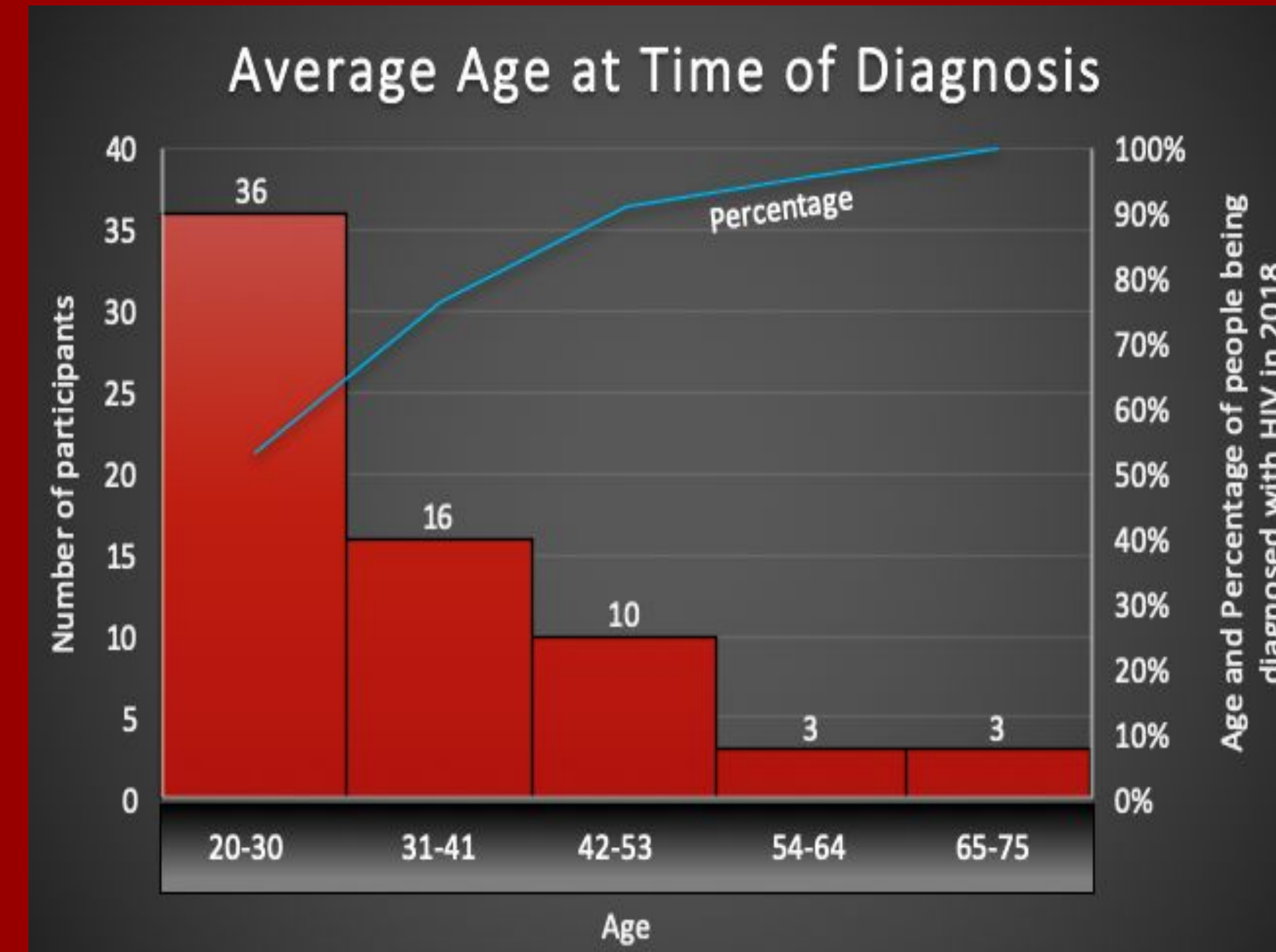
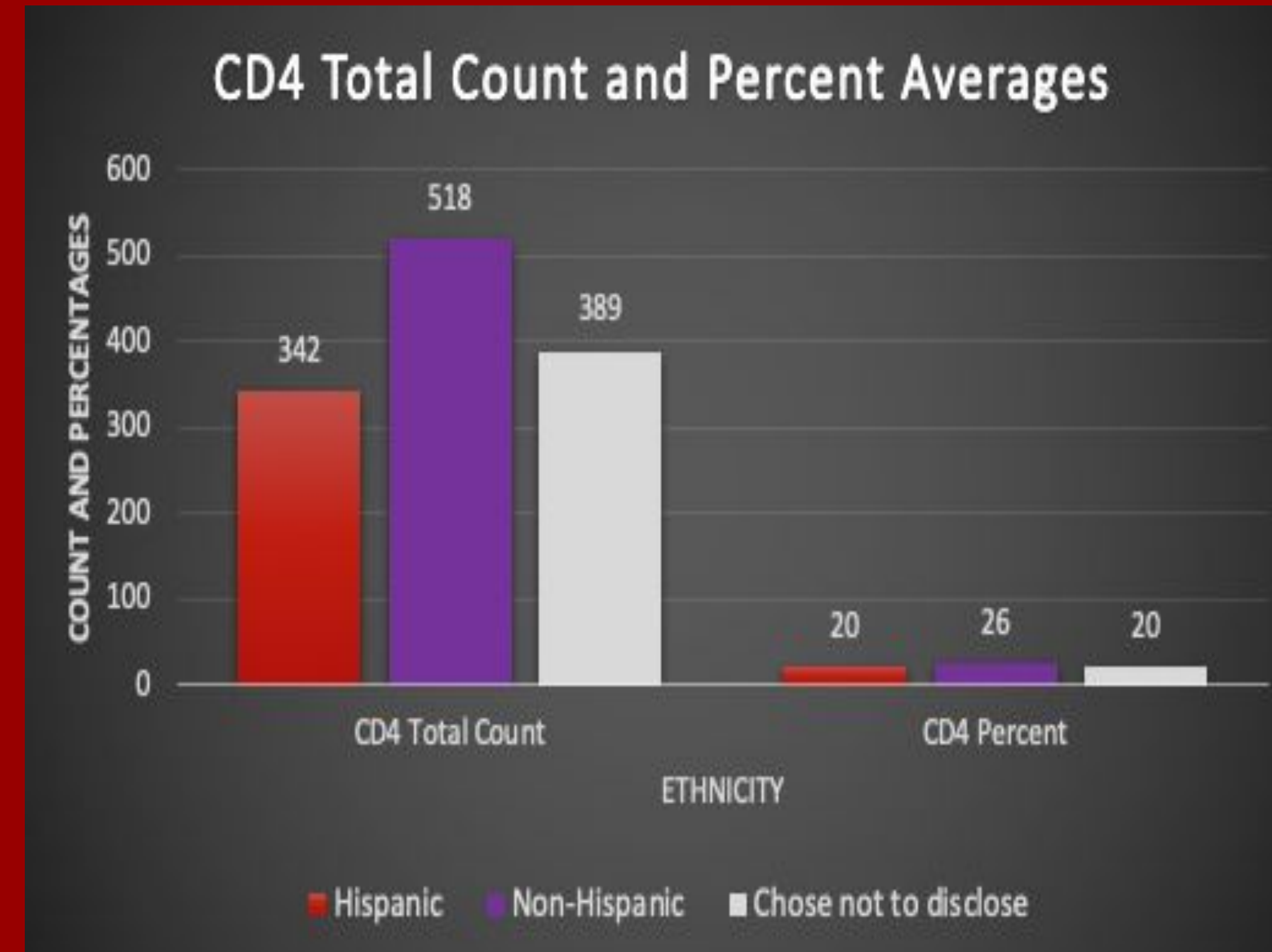
Beck Brienna, PA-S Gwilliam Vannina, PA-S Fernandez Bernardo, PA-S Yochem Eric, PA-S | University of Utah Infectious Disease Clinic 1-A, Lombardi Dana, PA-C, MPAS, BSN Valentin Virginia, DrPH, PA-C, Department of Family and Preventive Medicine, Division of Physician Assistant Studies

I. Introduction

There were 117 new HIV infections reported in the state of Utah in 2018. Over the last decade, annual new HIV cases in Utah have remained unchanged, with ethnic minorities disproportionately affected.¹

Rapid antiretroviral therapy (ART) following HIV diagnosis can reduce co-infection and transmission while improving survival rates.^{1,2,3,4} The World Health Organization recommends starting ART within 7 days of diagnosis.⁴ Barriers to starting treatment include lack of access, cost, waiting for CD4 T lymphocyte count, race and ethnicity.⁵

The purpose of this study was to calculate the current average time, in days, to start ART in newly diagnosed HIV patients at the University of Utah Hospital infectious disease clinic 1-A, an academic health center.



II. Methods

Using the Epic electronic medical record system, independent chart review of 80 newly diagnosed HIV patients from 2018 was completed. Upon individual review of all patient charts, 12 met exclusion criteria and were removed prior to analysis.

Quantitative data was analyzed using Microsoft Excel and SPSS.

The average start time from diagnosis to start of ART was calculated. Mean start of ART was compared with patient demographic information. A two-sample t-test was used for continuous variables.

III. Results

Participants n=68 from 20 to 72 years old. Males 97%: average age 34; females 3%: average age 31.

Average time to start ART was 17 days from their first visit with a medical provider until they receive the first prescription for ART. Days to start ART by insurance: Private 13, Ryan White Program 14, Medicaid 19.

At the time of diagnosis, overall average CD4 count for participants was 473. Average CD4 counts for Non-Hispanic-Latinos and White was 518, Latinos-Hispanic CD4 was 342. Patients with CD4 count <200 average time to start ART was 12 days. Independent t Test was used to compare groups; no statistical significance was found (Refer to table 1).

IV. Discussion

Clinic 1-A has an average start date of ART of 17 days. The clinic is currently not meeting the World Health Organization (WHO) guidelines of initiation of ART in all patients within seven days from the time of diagnosis.⁴ Our findings indicate that Hispanics are presenting to clinic to receive treatment with more advanced stages of disease, with an average CD4 count of 342 compared to non-Hispanic with CD4 count of 518.

Strengths:

- Data was collected by individual chart review.
- Data accounted for most of the new HIV diagnosis in Utah.

Limitations:

- Low number of participants affected statistical value of data.

Recommendations for future research:

- Provider rationale for delaying prescriptions
- Impact of Insurance on delaying treatment
- Patient barriers regarding HIV screening and treatment

Impact: As a result this project Clinic 1-A implemented a ART initiation goal of day 1 on August 1st 2019.



Table 1. Demographics and CD4 Counts of Newly Diagnosed Patients in 2018

Measurement of CD4	Average at initial Consultation	
CD4 Count	473	24%
CD4 Count by Ethnicity	CD4 Total Count	CD4 Percent
Non-Hispanic/Latino	518	26%
Hispanic/Latino	342	26%
Chose not to disclose Ethnicity	389	20%
CD4 Count by Race	Average of Days to Start ART	
White	526	26%
Other (Hispanic/Latino)	393	22%
Type of Insurance	Average of Days to Start ART	
Private Insurance	13	
Ryan White HIV/AIDS Program	14	
Medicaid	19	
Total Average days to start ART for all patients n=68	17	
CD4 Count <200	12	
Start Day by Ethnicity	Average of Days to Start ART	
Non-Hispanic/Latino	18	
Hispanic/Latino	16	



References: 1) Utah Department of Health. Bureau of Epidemiology, Annual Report. Utah 2017 HIV Annual Surveillance Report. http://health.utah.gov/epi/diseases/hiv/aids/surveillance/HIV_2017_report.pdf Updated 2019. Accessed 03, 2019. 2) TEMPRANO ANRS Study Group, Danel C, Moh R, et al. A trial of early antiretrovirals and isoniazid preventive therapy in Africa. N Engl J Med. 2015;373(9):808-822. Available at: <http://www.ncbi.nlm.nih.gov/pubmed/26193126>. 3) Cohen MS, Chen YQ, McCauley M, et al. Prevention of HIV-1 infection with early antiretroviral therapy. N Engl J Med. 2011;365(6):493-505. Available at: <https://www.ncbi.nlm.nih.gov/pubmed/21767103>. 4) World Health Organization. Guidelines for Managing Advanced HIV Disease and Rapid Initiation of Antiretroviral Therapy. July 2017. Updated 2019. Accessed 04, 2019. <https://www.who.int/hiv/pub/guidelines/advanced-HIV-disease/en/> 5) Beer L, Bradley H, Mattson CL, et al. Trends in Racial and Ethnic Disparities in Antiretroviral Therapy Prescription and Viral Suppression in the United States, 2009-2013. J Acquir Immune Defic Syndr. 2016;73(4):446-453.