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## INTRODUCTION

- In November 2018, the US Preventative Service Task Force (USPSTF) advised screening for Alcohol Use Disorder (AUD) in primary care settings for all adults.<sup>1</sup>
- The Alcohol Use Disorders Identification Test (AUDIT) was implemented as a new standard of care for AUD screening among HIV patients undergoing routine, outpatient care in the HIV clinic at Beaumont Hospital in Royal Oak, Michigan.

## OBJECTIVES

- Analyze the relationship between AUDIT scores and age, CD4 count, and HIV Viral Load.
- We hypothesized that “At-Risk” drinking would have no association with age, but would be associated with decreased CD4 count and increased HIV Viral Load.
- Beaumont Hospital Royal Oak IRB approved this study.

## METHODOLOGY

- Between February 5, 2019 and March 10, 2020, all HIV patients receiving outpatient treatment at Beaumont Hospital’s HIV clinic were provided an AUDIT paper form (Figure 2) at each visit.
- Due to the local COVID-19 surge, in-person clinic visits were discontinued and thus AUDIT forms were not completed.
- A total of 161 AUDIT forms were completed during this time period. Of those, 135 were included in the analysis (18 female, 117 male), as 26 AUDIT forms were excluded due to incomplete corresponding lab work.
- Statistical analysis between AUDIT scores and lab work was only performed if both were completed within 30 days of each other.
- Definitions: “At-Risk” drinking (per HHS):<sup>2</sup>**
  - Men (aged 18-60) screened positive for “At-Risk” drinking if they scored 8 or higher.
  - Men (older than 60) and women of all ages screened positive for “At-Risk” drinking if they scored 4 or higher.
- Analysis between groups was made using T-Tests, Chi-Square tests, and odds ratios, with corresponding 95% Confidence Intervals.

## RESULTS

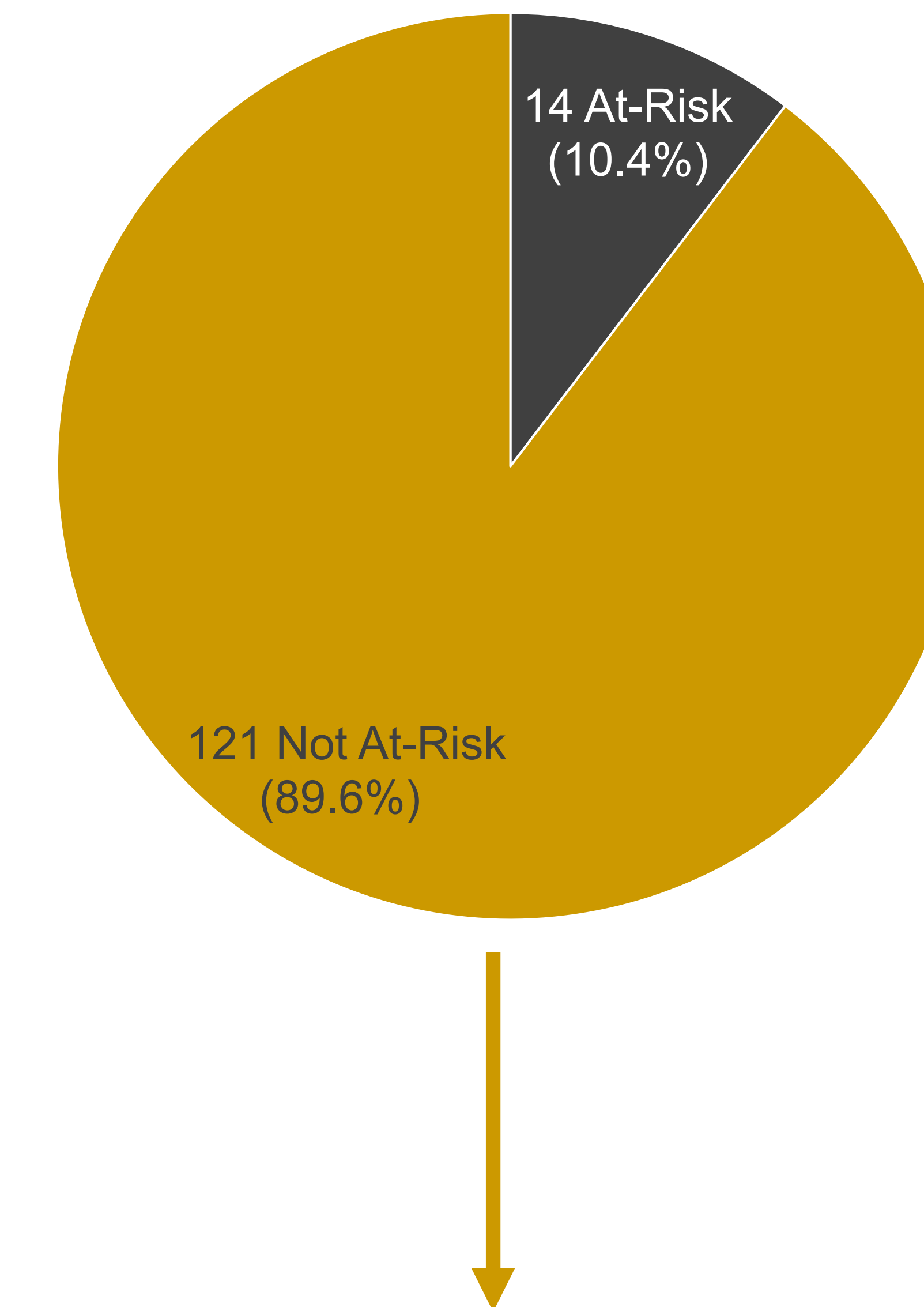
**Table 1:** Descriptive Statistics from all 135 Patient Encounters

	<b>Mean</b> (Standard Deviation)	<b>Median</b> (Interquartile Range)	<b>Range</b> (Minimum to Maximum Value)
<b>Age (years)</b>	47.90 (12.05)	49 (37-58)	(23 to 72)
<b>Cumulative AUDIT</b>	2.70 (3.47)	2.00 (0-4)	(0 to 28)
<b>Absolute CD4 Count (mil/L)</b>	627.45 (339.66)	600 (368-806)	(28 to 1,794)
<b>HIV Viral Load (copies/mL)</b>	4.60x10 <sup>4</sup> (4.95x10 <sup>5</sup> )	0 (0)	(0 to 5.70x10 <sup>6</sup> )

**Figure 2:** 10-Question AUDIT Form Completed by Patients<sup>2</sup>

Questions	0	1	2	3	4
1. How often do you have a drink containing alcohol?	Never	Monthly or less	2 to 4 times a month	2 to 3 times a week	4 or more times a week
2. How many drinks containing alcohol do you have on a typical day when you are drinking?	1 or 2	3 or 4	5 or 6	7 to 9	10 or more
3. How often do you have 5 or more drinks on one occasion?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
4. How often during the last year have you found that you were not able to stop drinking once you had started?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
5. How often during the last year have you failed to do what was normally expected of you because of drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
6. How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
7. How often during the last year have you had a feeling of guilt or remorse after drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
8. How often during the last year have you been unable to remember what happened the night before because of your drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
9. Have you or someone else been injured because of your drinking?	No		Yes, but not in the last year		Yes, during the last year
10. Has a relative, friend, doctor, or other health care worker been concerned about your drinking or suggested you cut down?	No		Yes, but not in the last year		Yes, during the last year
<b>Total</b>					

**Figure 1:** At-Risk vs. Not-At-Risk Patient Encounters



**Table 2:** At-Risk vs. Not At-Risk Patient Encounters

	<b>At-Risk</b> (n = 14)	<b>Not At-Risk</b> (n = 121)	<b>P-Value</b>
<b>Age</b> (Standard Deviation)	54.93 (11.04)	47.08 (11.94)	<b>0.0205</b>
<b>Absolute CD4 Count</b> (Standard Deviation)	590.1 (192.7)	631.8 (353.2)	0.4987
<b>HIV Viral Load</b> (Standard Deviation)	13.07 (28.71)	5.14x10 <sup>4</sup> (5.23x10 <sup>5</sup> )	0.2865

**Table 2:** Men (aged 18-60) screened positive for “At-Risk” drinking if they scored 8 or higher. Men (older than 60) and women of all ages screened positive for “At-Risk” drinking if they scored 4 or higher.

## DISCUSSION

- In our clinic cohort, patients who were classified as “At-Risk” drinkers, based on AUDIT scores, were significantly older than patients who were “Not At-Risk.”
- This finding is important because identification of excess alcohol consumption in older individuals could serve as a modifiable risk factor that could improve the health of individuals living with HIV.
- There was no significant association between “At-Risk” drinking and CD4 count or Viral Load. This could be related to a small sample size. Nevertheless, these results help to lay the foundation toward a new standard of care in screening for AUD among HIV outpatients.
- As with all retrospective studies, limitations include only being able to demonstrate associations between variables rather than causal effects. Furthermore, data collection was halted in March 2020 as a result of the COVID-19 pandemic, which prevented patients from completing the AUDIT form during in-person visits.
- This quality improvement initiative could be further improved by incorporating the AUDIT form into the electronic medical records (EMRs) as a self-administered questionnaire, to enable its completion during virtual encounters or prior to appointments.

## CONCLUSIONS

- These findings suggest a statistically significant association between increased age and “At-Risk” drinking, but no significant association between “At-Risk” drinking and CD4 count or HIV Viral Load.
- Future interventions include incorporating the AUDIT form into patient EMRs, so that AUD screening could continue in the setting of tele-health appointments.

## REFERENCES

- US Preventive Services Task Force. Screening and Behavioral Counseling Interventions to Reduce Unhealthy Alcohol Use in Adolescents and Adults: US Preventive Services Task Force Recommendation Statement. *JAMA*. 2018;320(18):1899–1909. doi:10.1001/jama.2018.16789
- U.S. Department of Health & Human Services (HHS). *Helping Patients Who Drink Too Much: A Clinician’s Guide (2005)*. Pages 10, 11. <https://pubs.niaaa.nih.gov/publications/practitioner/cliniciansguide2005/guide.pdf>

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