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Background

- Hospitalizations for Young Adults (YA) with Type 1 Diabetes (T1D) have increased by 40% in the US in the last decade
- Largely attributable to admissions for DKA and severe hypoglycemia
- Highest risk of hospitalization occurs during transition from pediatric to adult care
 - Decreased clinic attendance
 - Prolonged transfer time from pediatric to adult care
 - Personal and social constraints of young adulthood
 - Gaps in health insurance

Objectives

- Supporting Emerging Adults with Type 1 Diabetes (SEAD) Program developed in 2018
- Comprehensive program dedicated to caring for YA with T1D
- We examined whether the SEAD program impacted diabetes-related hospitalizations over time
- Compared young Adults with T1D in SEAD endocrine care versus non-SEAD endocrine care

Methods

- Inclusion Criteria**
 - Young adults, age 18-35 years
 - Diagnosis of T1D
 - Jan 2019-Dec 2022
- Study Design:** Prospective Cohort (Exposure: SEAD), Non-RCT design
- Outcomes:** Diabetes Related Hospitalizations
Incidence of Hospitalizations
Days spent in hospital
- Data Source:** Electronic Medical Record
- Analysis:** Cox proportional hazards model to compare incidence of hospitalization, Logistic regression to compare hospitalization days

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Results

Table 1. Participant characteristics

Mean ± SD n (%)	All (n=416)	SEAD (n=244)	Non-SEAD (n=172)	p-value
Age (yrs)	25.6 ± 4.5	24.0 ± 4.2	27.9 ± 3.9	<0.0005
Sex (F)	80 (46.5%)	117 (48.0%)	197 (47.4%)	0.772
Race-Ethnicity				0.009
Hispanic	193 (46.4%)	117 (48.0%)	76 (44.2%)	
Non-Hispanic Black	121 (29.1%)	58 (23.8%)	63 (36.6%)	
Non-Hispanic White	42 (10.1%)	32 (13.1%)	10 (5.8%)	
Other	60 (14.4%)	37 (15.2%)	23 (13.4%)	
Insurance				<0.005
Public	208 (50.0%)	101 (41.4%)	107 (62.2%)	
Commercial	205 (49.3%)	142 (58.2%)	63 (36.6%)	
HbA1c (%)	9.2 ± 2.3	9.2 ± 2.4	9.1 ± 2.2	0.624

Incidence of Hospitalization

- 20% reduction** in incidence of hospitalizations for SEAD vs non-SEAD: HR 0.800 [0.636, 1.007], adjusted for age, sex, race-ethnicity, psychiatric illness, history of DKA (Figure 1)
- Baseline A1c $\geq 9\%$: **34% reduction** in incidence of hospitalizations for SEAD vs non-SEAD: HR 0.66 [0.49, 0.88]

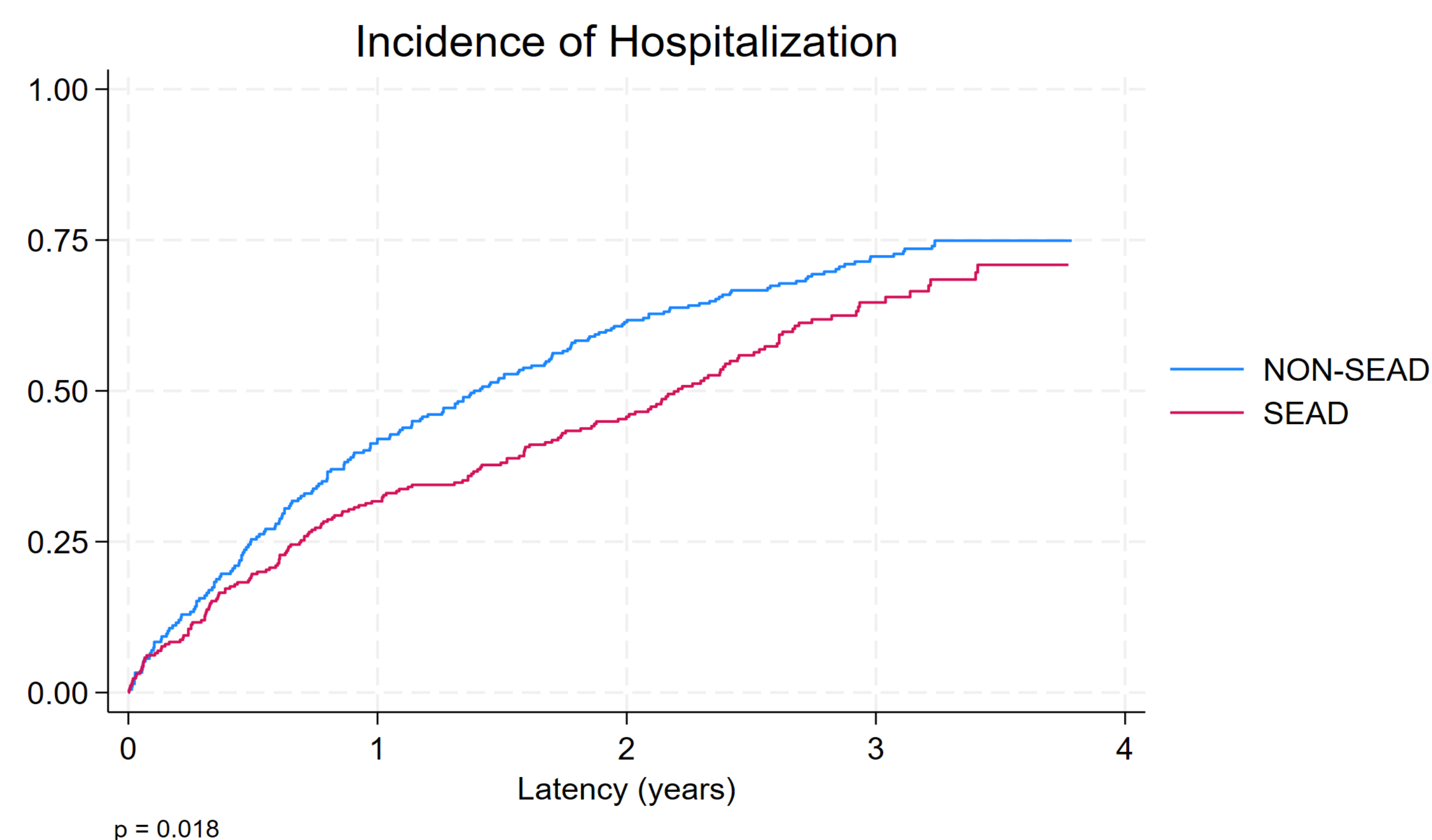


Figure 1: Incidence of Hospitalization of SEAD vs Non-SEAD

Table 2. Incidence of Hospitalization

SEAD vs. non-SEAD HR [95% CI]	Hazard Ratio	Hazard Ratio Baseline HbA1c $\leq 9\%$	Hazard Ratio Baseline HbA1c $>9\%$
Crude	0.754 [0.605, 0.939]		
Adjusted*	0.800 [0.636, 1.007]	1.06 [0.73, 1.54]	0.66 [0.49, 0.88]

*Adjusted for: age, sex, race-ethnicity, language, history of ketoacidosis, and history of psychiatric illness

Hospital Days per Year

- Reduction in Hospital Days per year of 0.5 days for SEAD vs non-SEAD: -0.49 [-0.64, -0.35], adjusted for age, sex, race-ethnicity, language, psychiatric illness, history of DKA

Hospital Days per Year	Non-SEAD (n=221)	SEAD (n=152)	Difference
Crude	1.66 [1.55, 1.77]	1.11 [1.03, 1.20]	-0.55 [-0.69, -0.40]
Adjusted*	1.62 [1.50, 1.73]	1.12 [1.04, 1.21]	-0.49 [-0.64, -0.35]

*Adjusted for: age, sex, race-ethnicity, language, history of ketoacidosis, and history of psychiatric illness

Table 3. Hospital Days per year in SEAD vs Non-SEAD

Conclusions

- Young adults receiving care in SEAD versus non-SEAD
 - 20% less likely to be hospitalized
 - Spend less days in hospital
 - More pronounced benefit for high-risk young adults (Baseline HbA1c $\geq 9\%$)
- Improvement in hospitalization outcomes could have long-term impacts on longitudinal YA outcomes and overall cost effectiveness.