Linking Island Health Data to the Victoria Healthy Youth Survey

Long Term Health Risks Associated with Substance Use in Adolescence and Young Adulthood

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island health

V-HYS
Victoria Healthy Youth Survey

Bonnie Leadbeater, PhD

Gabriel J. Merrin, PhD

Clea M. B. Sturgess

PROTOCOL SYNOPSIS

Proposal: Link Island Health data to the existing Healthy Youth Survey to explore encounters with health services and long-term health outcomes

VICTORIA HEALTHY YOUTH SURVEY

Representative Sample of Greater Victoria Region

- Youth recruited in 2003 using random digit dialing of 9,500 private telephone listings

- 1,036 eligible households were identified (12 - 18 years old)

- 662 adolescents & their parents (64%) agreed to participate

INTERVIEWS

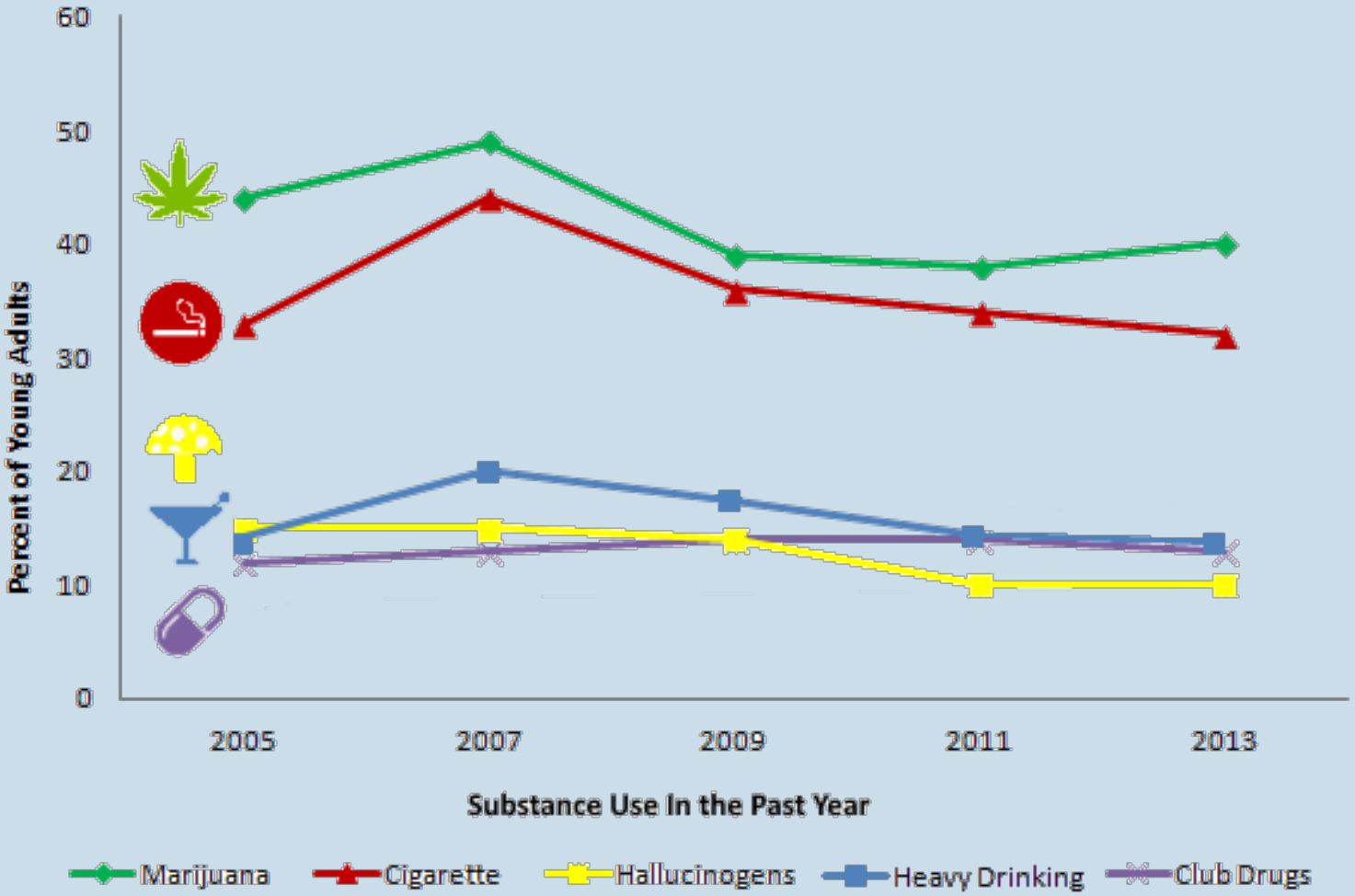
- Data were collected bi-annually over ten years in individual face-to-face interviews in youths' homes by trained research assistants

- Extra privacy was provided for sensitive questions (e.g., mental health, sexuality, substance use, aggression)

Participants Interviewed Across 10 Years

Time 1	Time 2	Time 3	Time 4	Time 5	Time 6
2003	2005	2007	2009	2011	2013
N = 662	*N* = 578 (87%)	*N* = 539 (81%)	*N* = 459 (70%)	*N* = 463 (70%)	*N* = 477 (72%)
48% males	47% males	45% males	44% males	46% males	45% males
12 to 18 years	14 to 20 years	16 to 22 years	18 to 24 years	20 to 26 years	22 to 28 years

SUBSTANCE USE

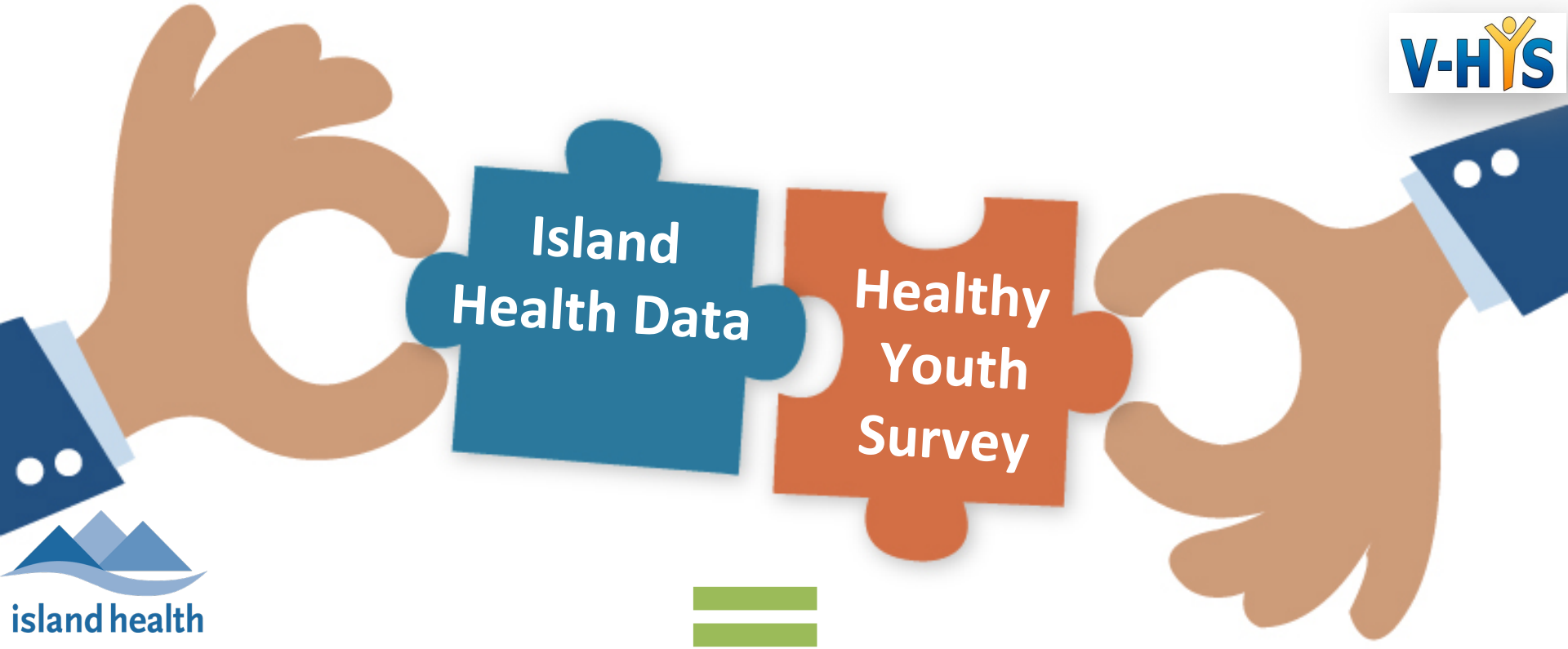


SUBSTANCE USE IN CANADA

The current federal cannabis policy “lacks comprehensive, high-quality research in many areas, and that evidence is often non-existent, incomplete and inconclusive on many issues associated with cannabis consumption”

(The Canadian Task Force on Cannabis Legalization and Regulation, 2016)

LINKING ISLAND HEALTH DATA



Longitudinal Health Outcomes!

OBJECTIVES

1. To examine associations between early adolescent substance use and longitudinal patterns of service and program utilization (e.g., Mental Health and Substance Use programs).

2. To identify differential patterns of service and program utilization and their associations with long-term health outcomes (e.g., Cardio Vascular Disease, Lung failure, Depression, Comorbidities).

3. To develop a screening tool that identifies and flags adolescents that are on substance use trajectories associated with long term health risks.

4. Through targeted and individualized early intervention, help reduce health care costs by mitigating the long-term adverse health effects associated with early adolescent patterns of substance use.

RESEARCH QUESTIONS

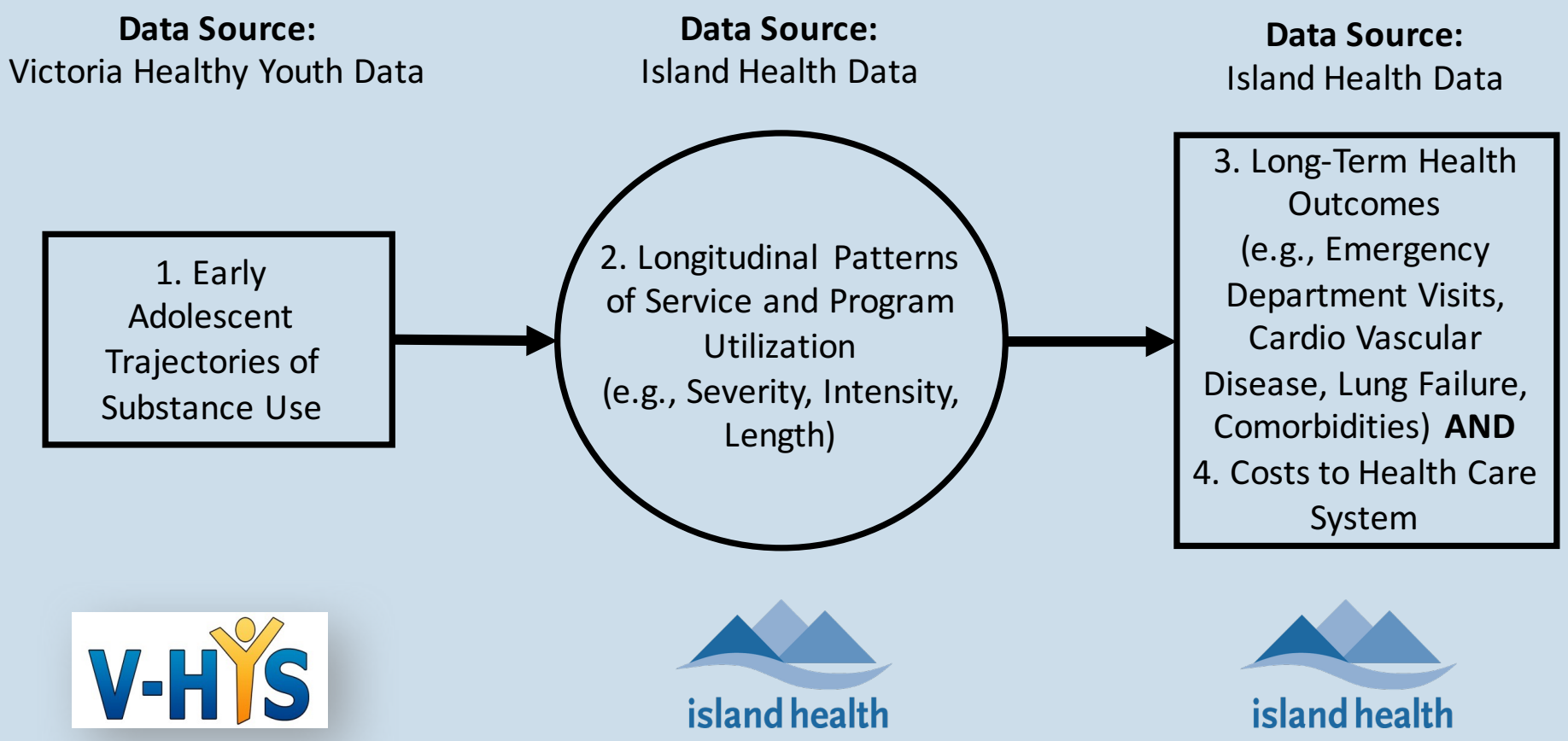
1. Do early adolescent trajectories of substance use predict differential patterns of service and program utilization (e.g., Mental Health and Substance Use programs)?

2. What are the longitudinal patterns of intensity, severity, and length of service and program utilization?

3. How are long-term health outcomes associated with differential patterns of service and program utilization (e.g., Emergency Department Visits, Cardio Vascular Disease, Lung failure, Comorbidities)?

4. What are the associated costs to the Health Care System?

Conceptual Model



STUDY APPROACH

Phase 1 – Obtain consent from HYS participants and link data

Phase 2 - Exploratory Analysis: Descriptive statistics of service/program types and utilization amounts. Compare uses by demographic and substance use information

Phase 3 – Longitudinal Models: (1) Longitudinal trajectories of Substance use; (2) Profiles/patterns of program utilization and predictors of program utilization; (3) Longitudinal health outcomes; (4) Associated health care costs to province

Phase 4 - Leveraging empirical evidence, develop screening tool that identifies and flags problematic patterns of substance use during adolescence

Phase 5 – Testing and updating screening tool to ensure utility. Continue to learn more about health outcomes over time

DESIGN & METHODOLOGY

Defining the Cohort

VHYS Participants

Ages 12 - 18 in 2003

Ages 22 - 28 in 2013

Sample size, power considerations

N = 662

Are there enough of the HYS sample utilizing Island Health programs and services?

Statistical Approach

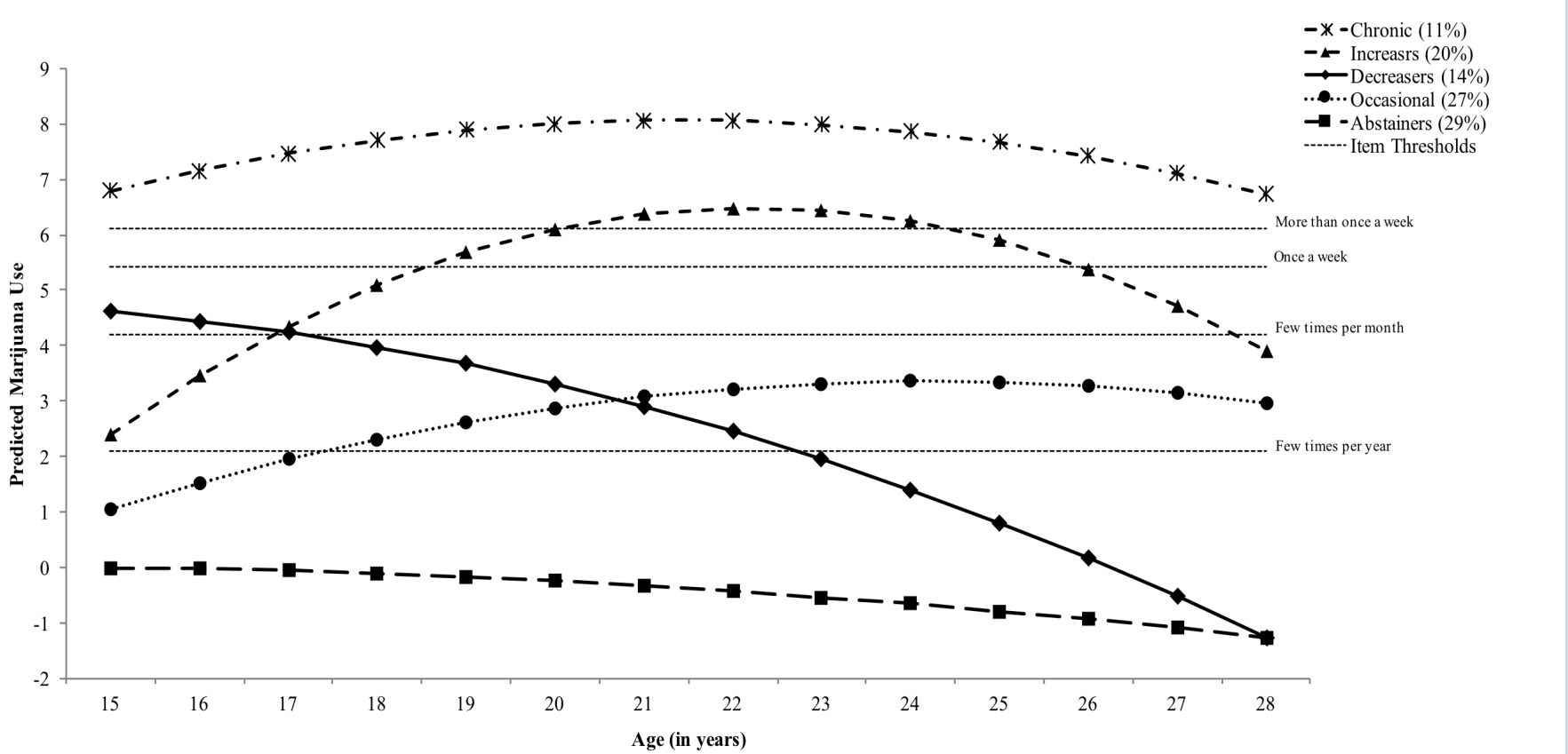
Use Latent Class Analysis (LCA) and Growth Modeling strategies to identify early patterns and longitudinal trajectories of polysubstance use

Use Growth Mixture Modeling (GMM) to identify longitudinal patterns of severity and intensity of service and program utilization

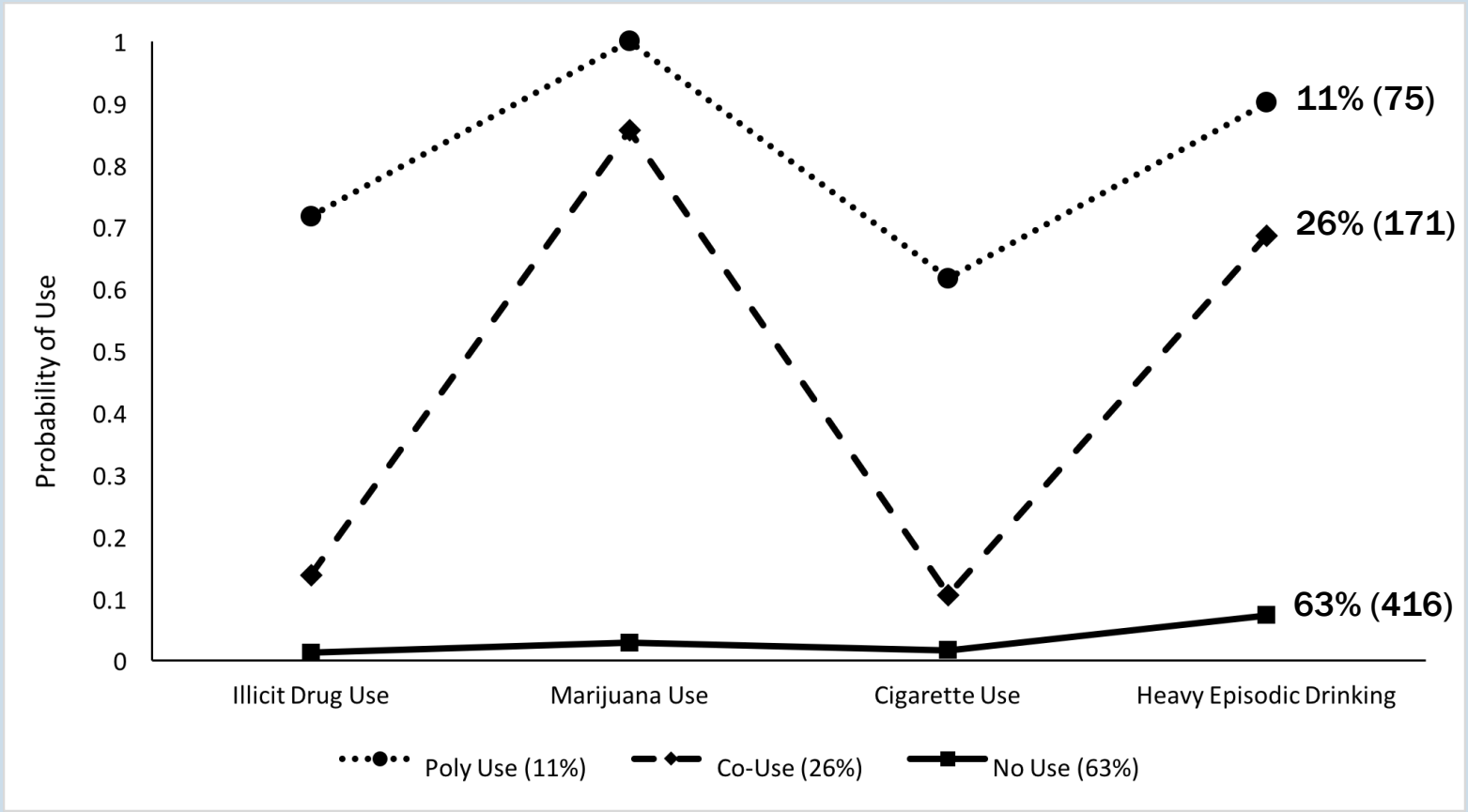
Use survival analysis to predict time to first adverse health outcomes (e.g., Cardio Vascular Disease), and growth modeling to examine longitudinal patterns of reoccurring health complications (e.g., Commodities)

Other considerations: Use propensity weighting to adjust for age cohort differences (T1: 12 – 18). Multiple Imputation to address missing data. Use accelerated longitudinal designs using age as the measurement for time

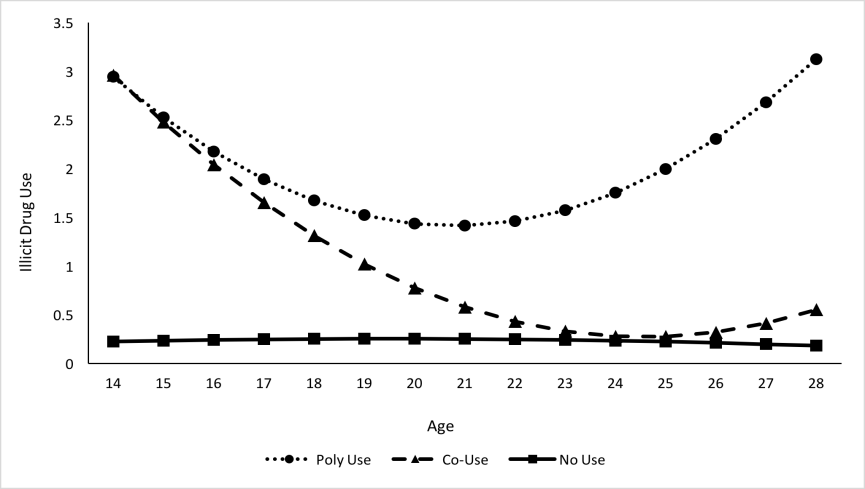
Growth Mixtures of Marijuana Use from 15 to 28 Years

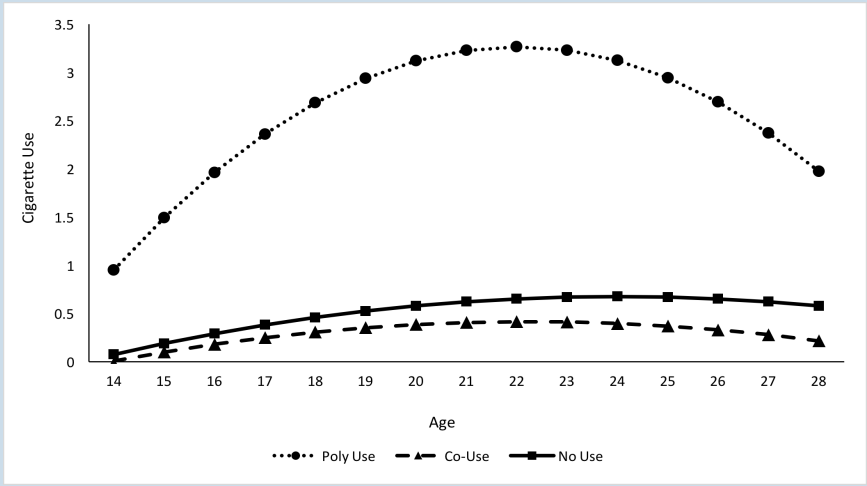


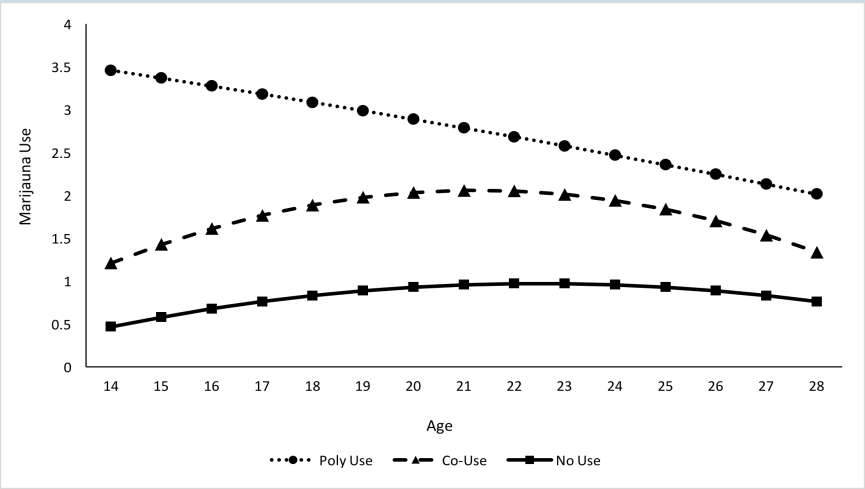
3-Class Latent Class Model of Substance Use at T1 (Ages 12 – 18)

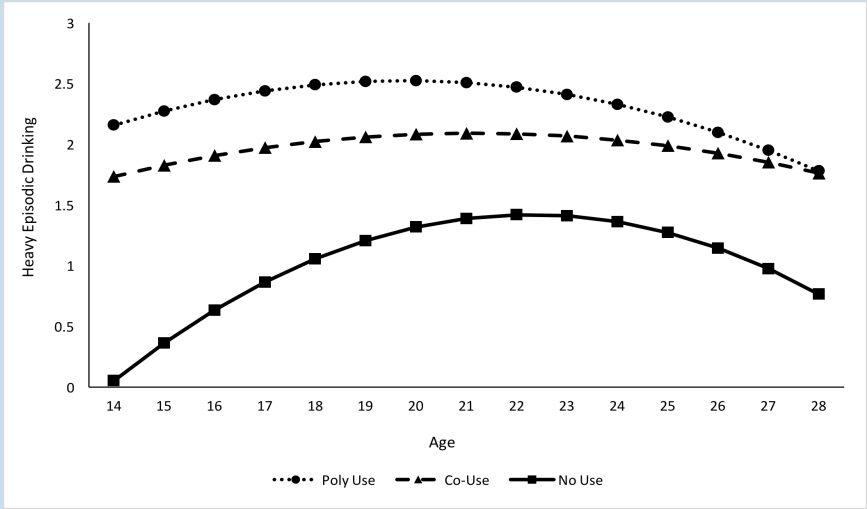


Latent Growth Models of Illicit Drug Use, Cigarette Use, Marijuana Use, and Heavy Episodic Drinking Over Time by Latent Class T2 – T6 (Ages 14 – 28)









DESIGN & METHODOLOGY

Data Elements

Mental Health Substance Use programs, Acute Care, Emergency Department Visits

Products

Develop substance use screening tool that helps doctors identify adolescents at risk for adverse long-term health outcomes who may need specific care

Thank You!