

Prevention Science



The Foundation for Health Education and Health Promotion

Introduction

Trainer



Workforce
Development
Coordinator



Montana Prevention
Certification Board



Learning Outcomes

Prevention Science

- Key concepts and goals
- Prevention Science theories
- Community change



D.A.R.E.

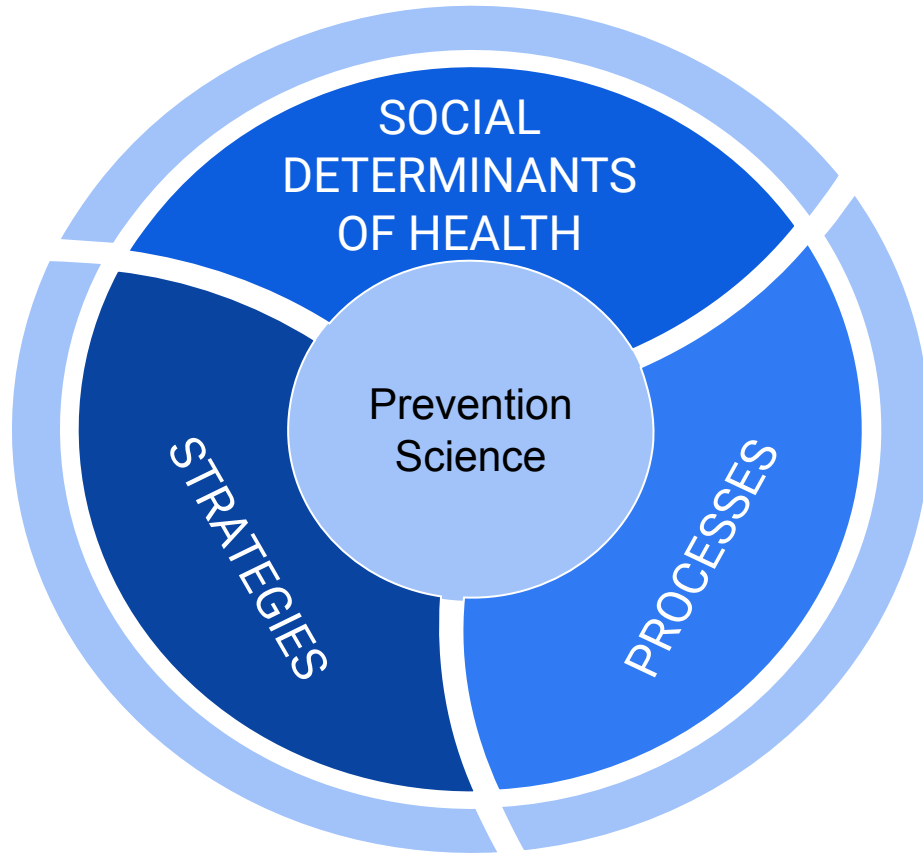


Prevention Science

The study of human development and social ecology as well as the identification of factors and processes that lead to positive and negative health behaviors and outcomes.

Prevention is the application of early intervention strategies and activities to educate and support individuals and communities in reducing the impact of drug use and misuse, and the development of substance use disorders.







GOAL of Prevention Science



IMPROVE PUBLIC HEALTH



Assessing effectiveness
of interventions



Optimal means of
distribution





All pictures and faces of youth shared with permission

What are we
preventing?



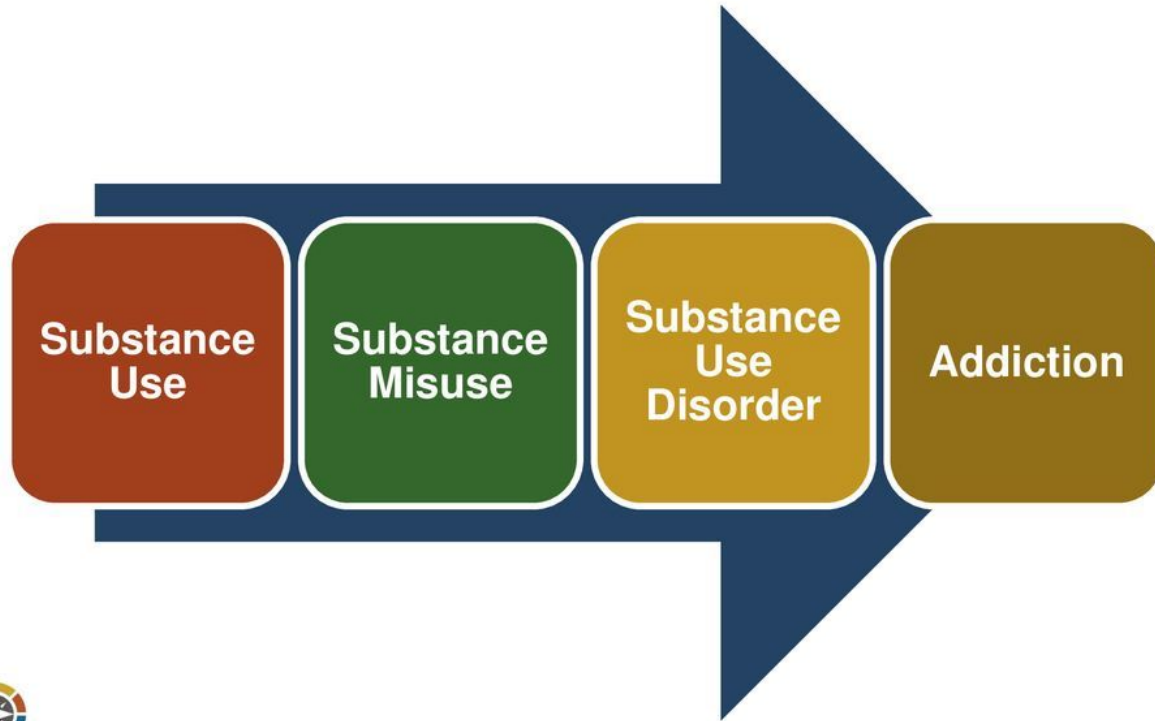
Substance Use Disorder

A chronic, relapsing brain disease that is characterized by compulsive substance seeking and use, despite harmful consequences.

It is considered a disease because:

- It alters the normal function of a body part, organ, or system
- Has characteristic syndromes, or set of symptoms and signs

Progression of use



Importance of Substance Use Prevention

- Help people to avoid or delay initiation of substance use
 - Avoid development of substance use disorders, dependence
 - Evidence-Based prevention addresses other problem behaviors
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Psychopharmacology and Prevention

Pharmacology: The field that studies drug effects on living systems

Psychopharmacology tells us:

- How substances work in the brain
- Where and how they produce their effects
- The negative consequences of their actions
- Who is vulnerable to a substance use disorder



Psychoactive Substances

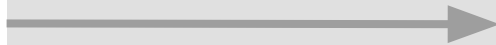
- Affects feelings, perceptions, thought processes, and/or behavior
 - Exert effects by altering the functioning of the central nervous system
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Blood Brain
Barrier

Large
Molecule



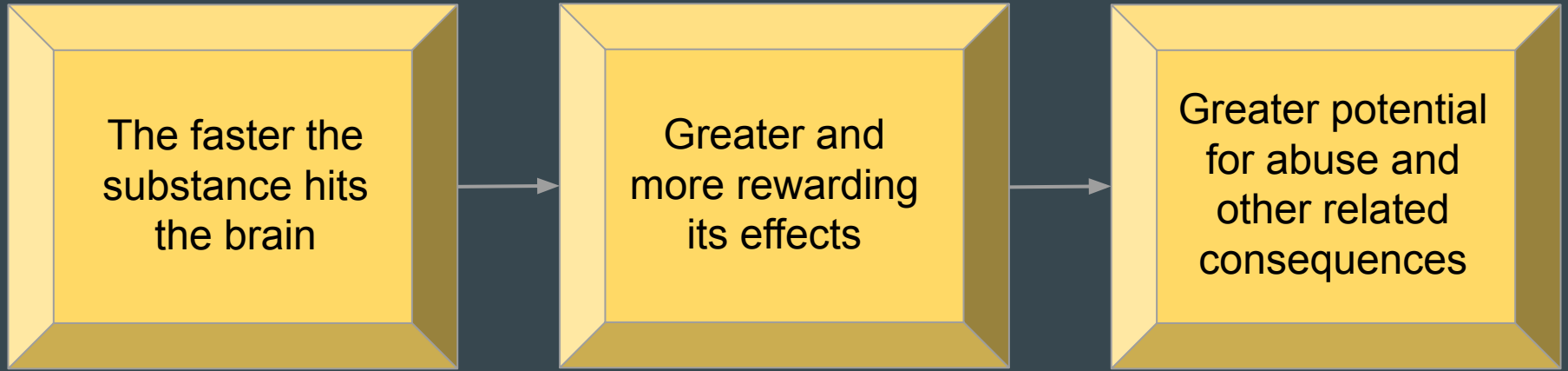
Small
Molecule



Effects of Psychoactive Substances

MOOD	THOUGHTS	SENSORY PERCEPTIONS	BEHAVIORS
<ul style="list-style-type: none">● Alert● Relaxed● More depressed● Less depressed● Irritable/angry● Sociable● “Happy”● More sexual● Less sexual● Fearful	<ul style="list-style-type: none">● Racing thoughts● Inability to make plans/decisions● Distorted perceptions● Increased clarity of thought● Paranoid● Poor judgment	<ul style="list-style-type: none">● Perceptual distortions● Changes in temperature perception● Changes in pain perception	<ul style="list-style-type: none">● Decreased or increased activity● Increased risk-taking; dangerous activities● Behavior not in line with personal values● Aggression or violence● Passivity● Increased or decreased sexual behavior

Speed of Action



FASTEST to SLOWEST

Smoking:
7-10
seconds

Intravenous:
15-30
seconds

Injecting in
the muscle or
under skin: 3-
5 minutes

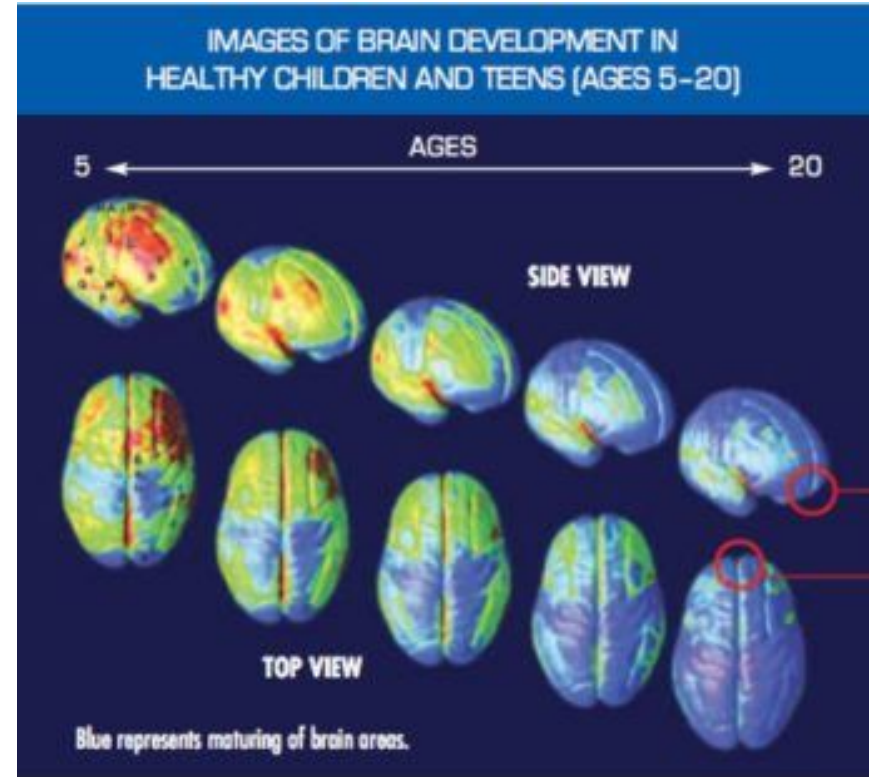
Mucous
membrane
absorption
and snorting:
3-5 minutes

Swallowing:
20-30
minutes

Absorbed
through the
skin: slowly
over a long
period

Adolescence: A Critical Time

Early use of drugs increases a person's chances of becoming addicted.



Why Are Drugs So Hard to Quit?



Why doesn't everyone who tries become addicted?

- Vulnerability to addictions differs from person to person
- Abuse and addiction depends on both biological and environmental factors

Epidemiology

Epidemiology is the study of the distribution and determinants of health-related states or events (including disease).



- MT COVID-19 Cases
- Montana Situation Update
- Current Information
- EOC Status
- MT Dept. of Public Health
- Global Outbreak Dashboard
- CDC
- Travel Info
- WHO
- Community Planning

Total Confirmed Cases

7,509

93 New Cases

Total Confirmed, New Daily, Active Cases by County

Flathead County Cases

611 Total | 12 New | 114 Active

Yellowstone County Cases

2,094 Total | 12 New | 989 Active

Cascade County Cases

293 Total | 11 New | 106 Active

Roosevelt County Cases

43 Total | 8 New | 10 Active

Gallatin County Cases

1,078 Total | 7 New | 38 Active

Hill County Cases

88 Total | 6 New | 38 Active

Sanders County Cases

37 Total | 6 New | 16 Active

Big Horn County Cases

669 Total | 4 New | 137 Active

Missoula County Cases

436 Total | 4 New | 44 Active

Dawson County Cases

47 Total | 3 New | 16 Active

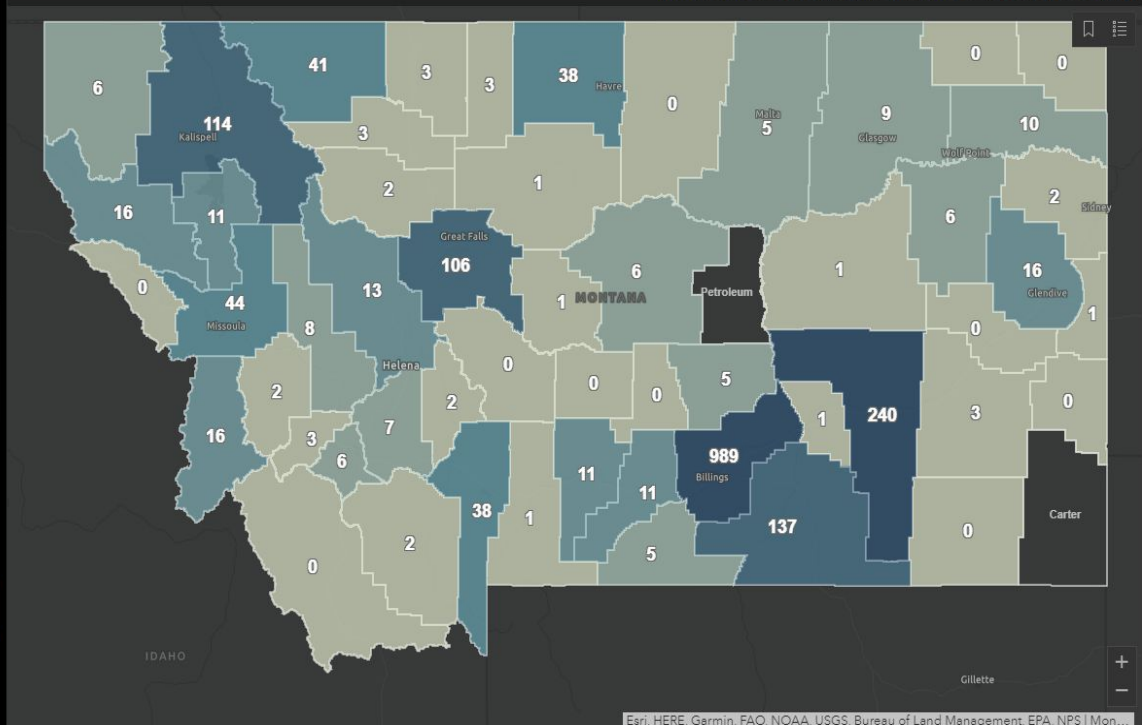
Ravalli County Cases

110 Total | 3 New | 16 Active

Silver Bow County Cases

415 Total | 3 New | 16 Active

Montana Coronavirus Active Cases by County



Active Cases | Cumulative Confirmed Cases

Updates are made by 10:00 a.m. daily. Information is reported based on the previous day. It is highly likely that the information on this dashboard and map will change based on further public health investigation. To learn more about the information on this map and dashboard: [More Information](#). For information on demographics and nonresidents, [click here](#). Source Data: [Montana Department of Health & Human Services](#), [Montana State Library](#). Date and time of last update: 9/1/2020, 9:55:41 AM.

Recovered **5,459**

Total Deaths **105**

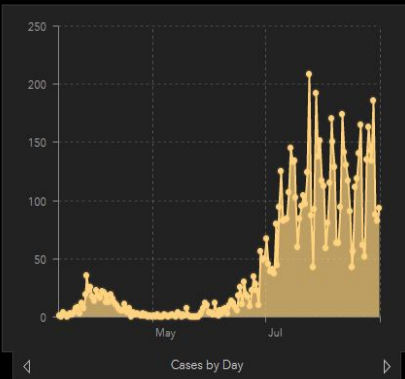
Active **1,945**

Active Hospitalizations **140**

Total Tests **252,296**

New Tests: 2,058

Total Hospitalizations **447**



Substance Use Epidemiological Research

Issues Addressed:

- Extent of substance use within a well-defined population and time period
 - Nature and pattern of substance use
 - Characteristics of those persons who use substances
 - Trends of substance use over time and the changing characteristics of the affected populations
-

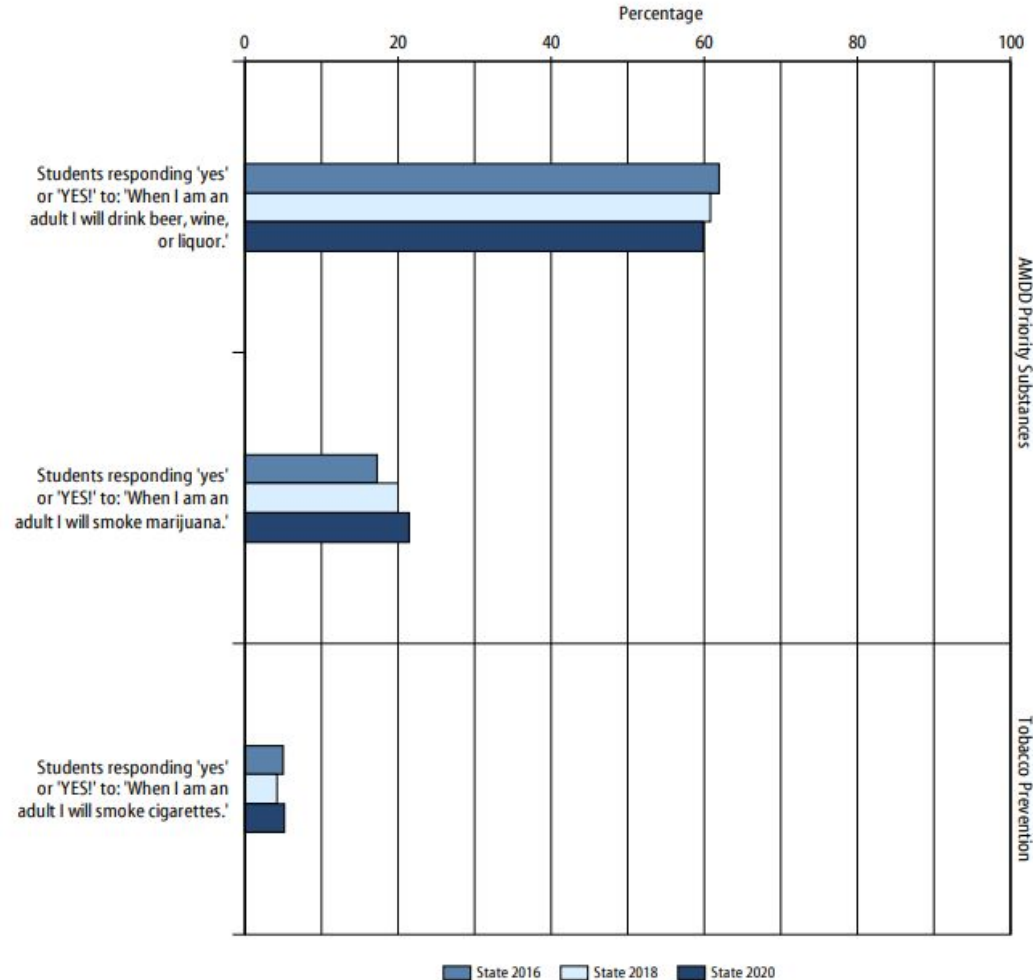
Substance Use Epidemiological Research

Issues Addressed:

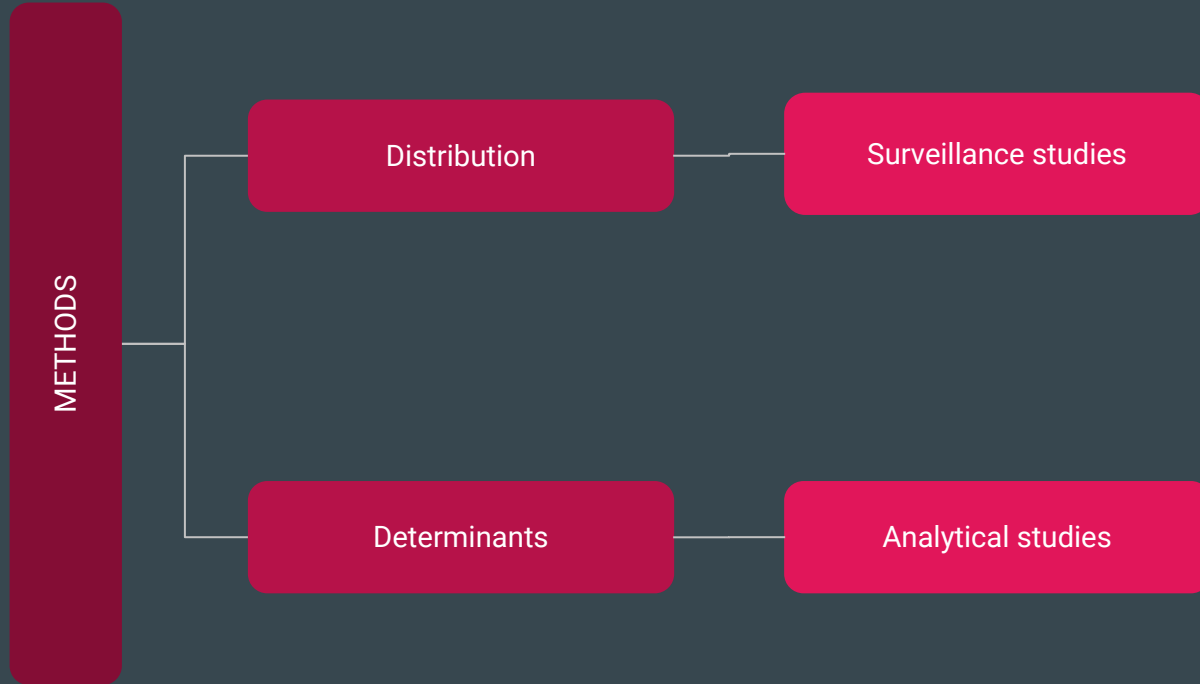
- Factors that predispose to the initiation of substance use
 - Factors that protect vulnerable populations from initiating
 - Impact of socioeconomic and biological factors on the individual, family, community, and society
 - Inform effective intervention approaches
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Occurrence

- Time
- Place
- Persons
- Emerging trends



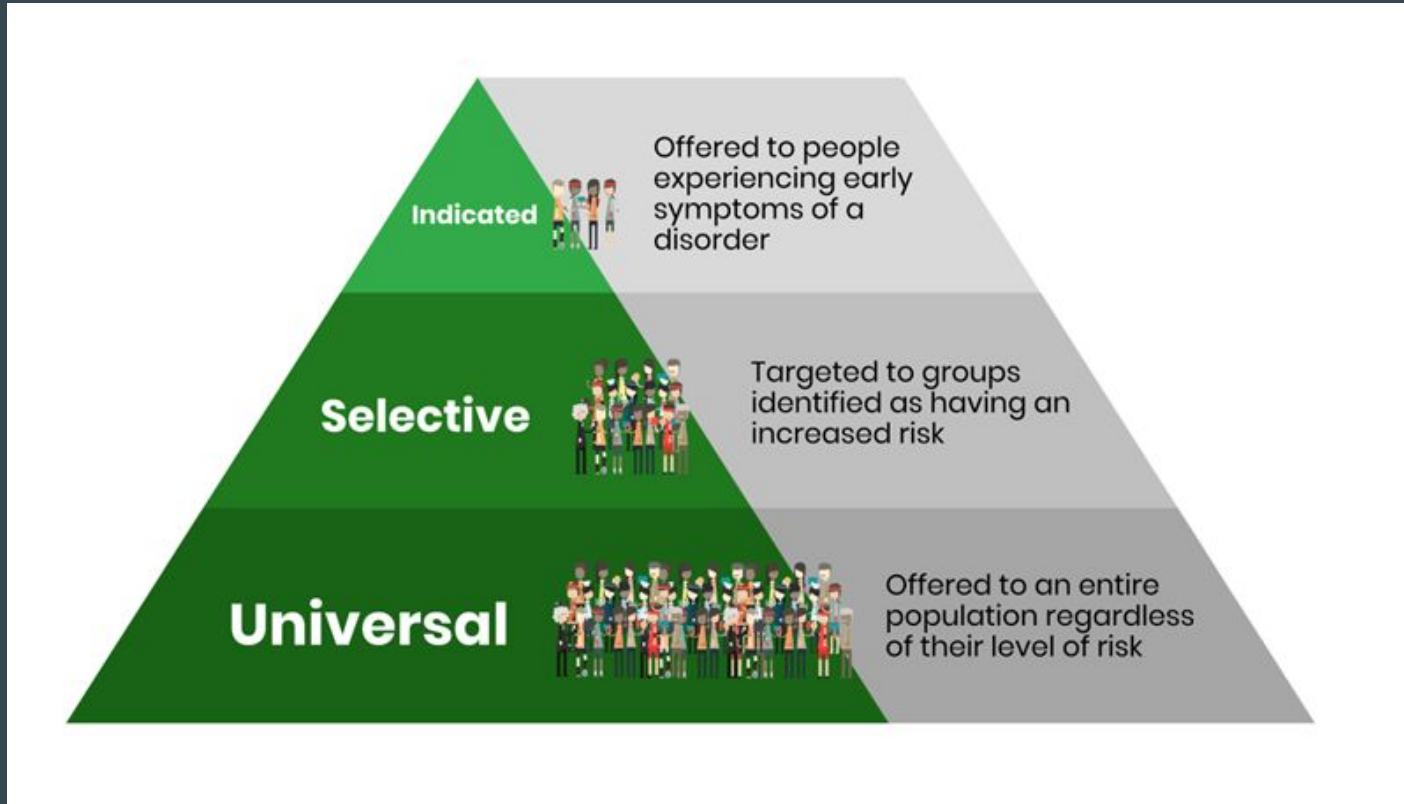
Epidemiologic Methods Contribute to Prevention



Range of Use



Classification of Prevention Interventions



Epidemiology and Prevention

To reduce or eliminate a health problem we need to:

- Treat existing cases affected by the health problem
- Prevent new cases from being affected by the health problem

What we learn:

- Substances, characteristics, determinants

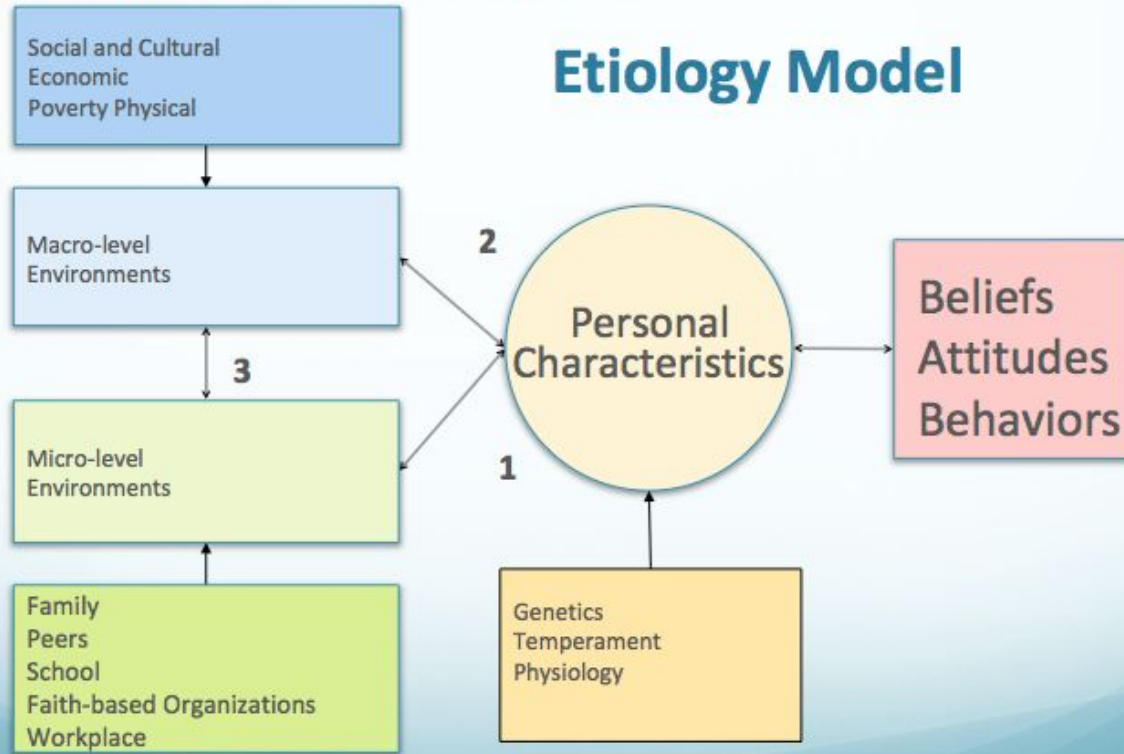
Etiology Model

Etiology is the science which deals with the causes or origin of a disease, and the factors which produce or predispose toward a certain disease or disorder.





Etiology Model



Risk and Protective Factor Theory



Risk and Protective Factors: Background

Initiation of substance use:

- David Hawkins, Richard Catalano, Janet Miller

Progression from use to abuse:

- Meyer Glantz, Roy Pickens

Risk Factors

Measures of behavior or psychosocial functioning which are found to be associated with increased likelihood to use psychoactive substances.



Protective Factors





Measures which assist in preventing the use of psychoactive substances or reduce the likelihood of developing the negative effects of risk factors associated with use.



Risk & Protective Factors

What we know

- Different age groups have different factors
 - Some factors overlap between age groups
 - Factors are correlated, cumulative, and predicative
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RISK FACTORS Risk factors increase the likelihood young people will develop health and social problems.	DOMAIN	PROTECTIVE FACTORS Protective factors help buffer young people with high levels of risk factors from developing health and social problems.
<ul style="list-style-type: none"> • Low community attachment • Community disorganisation • Community transitions and mobility • Personal transitions and mobility • Laws and norms favourable to drug use <ul style="list-style-type: none"> • Perceived availability of drugs • Economic disadvantage (not measured in youth survey) 		<ul style="list-style-type: none"> • Opportunities for prosocial involvement in the community <ul style="list-style-type: none"> • Recognition of prosocial involvement • Exposure to evidence-based programs and strategies (some are measured in youth survey)
<ul style="list-style-type: none"> • Poor family management and discipline <ul style="list-style-type: none"> • Family conflict • A family history of antisocial behaviour • Favourable parental attitudes to the problem behaviour 		<ul style="list-style-type: none"> • Attachment and bonding to family • Opportunities for prosocial involvement in the family <ul style="list-style-type: none"> • Recognition of prosocial involvement
<ul style="list-style-type: none"> • Academic failure (low academic achievement) <ul style="list-style-type: none"> • Low commitment to school • Bullying 		<ul style="list-style-type: none"> • Opportunities for prosocial involvement in school <ul style="list-style-type: none"> • Recognition of prosocial involvement
<ul style="list-style-type: none"> • Rebelliousness • Early initiation of problem behaviour <ul style="list-style-type: none"> • Impulsiveness • Antisocial behaviour • Favourable attitudes toward problem behaviour • Interaction with friends involved in problem behaviour <ul style="list-style-type: none"> • Sensation seeking • Rewards for antisocial involvement 		<ul style="list-style-type: none"> • Social skills • Belief in the moral order <ul style="list-style-type: none"> • Emotional control • Interaction with prosocial peers





Putting Science to Work for Prevention





Additional Resources

- [International Standards on Drug Use and Prevention](#) (United Nations Office on Drugs and Crime, World Health Organization)
- [Standards of Knowledge for the Science of Prevention](#) (Society for Prevention Research)
- [Applied Prevention Science International](#)

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