

# DR. TOM WARSHAWSKI

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# Child Maltreatment (CM) and SUD

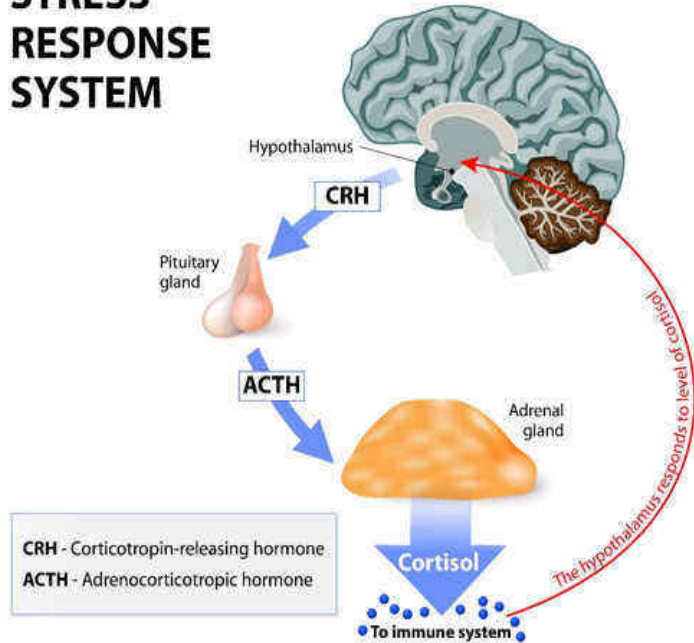
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- CM is associated with alterations in brain structure and function
  - Glucocorticoid sensitive structures are modified (PFC, amygdala, hippocampus, corpus callosum)
  - Pathways conveying the aversive experience are affected
  - Enhanced threat response (amygdala) and diminished reward sensitivity (striatal)
- Gender as well as type and timing of CM matters
- **Childhood maltreatment may trigger neurodevelopmental changes which amplify teen susceptibility for substance use disorders**
- SUD rarely result from voluntary hedonistic choices but commonly stem from a combination of CM, concurrent MH conditions and drug induced brain impairment

# HPA AXIS IN STRESS AND TRAUMA

## CHILDHOOD

### STRESS RESPONSE SYSTEM

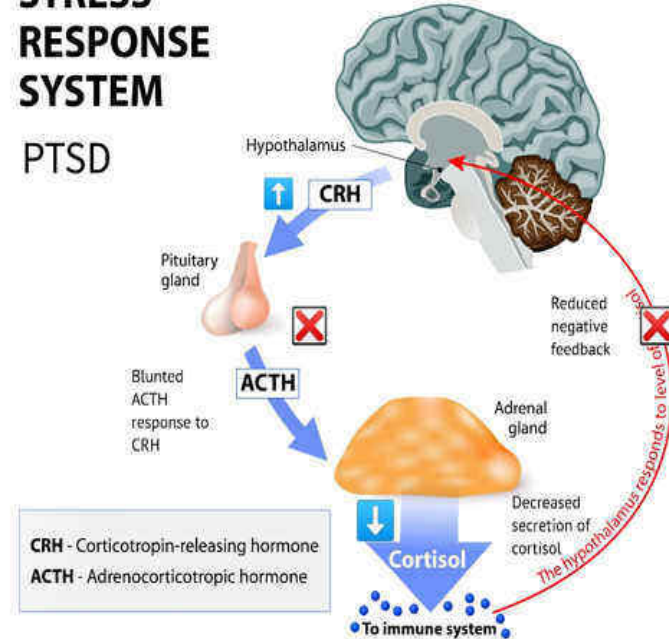


Stress releases CRH from the hypothalamus which in turn releases ACTH from the anterior pituitary. ACTH stimulates release of cortisol from the adrenal cortex. Cortisol exerts a negative feedback control of the HPA axis.

## ADOLESCENCE

### STRESS RESPONSE SYSTEM

#### PTSD



In PTSD there is dysregulation of glucocorticoid signalling with sensitised negative feedback of the HPA axis resulting in increased CRH and blunted ACTH responses to CRH which results in reduced cortisol secretion.

# Child Maltreatment (CM) and SUD

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# Puberty and Socioemotional Control

E.H. Telzer / *Developmental Cognitive Neuroscience* 17 (2016) 57–67

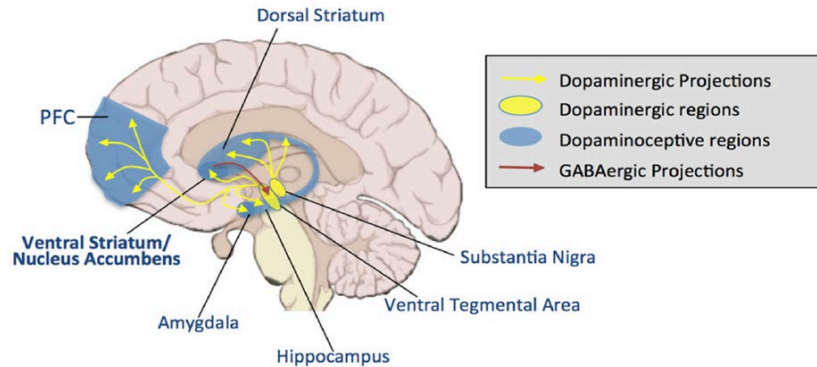


Fig. 1. Dopaminergic pathways in the brain.

Diffuse temporal cortical changes (temporoparietal junction, anterior temporal cortex)

– social cognition and peer relations

- Puberty triggers non linear decrease in grey matter with linear increase in white matter
  - pruning plus improved signaling
- Changes stabilizes in early 20s
- Puberty brings a shift in social affiliation from parents to peers, peer influence peaks in mid adolescence then wanes in adulthood
- **CM adversely affects tracts involved in self-awareness and self-referential thinking**

# Puberty and Socioemotional Control

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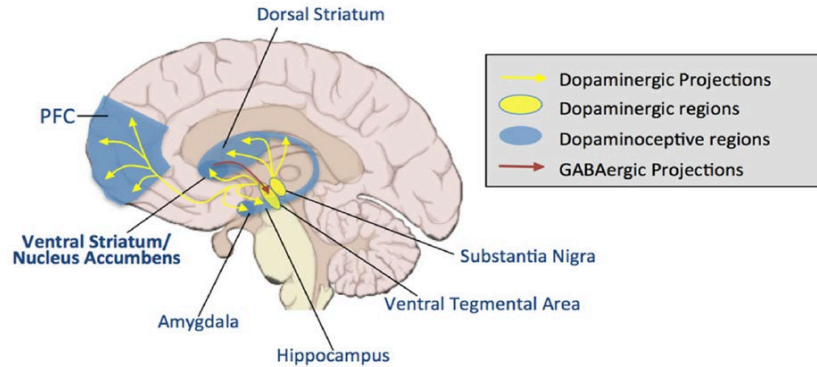


Fig. 1. Dopaminergic pathways in the brain.

Basal Ganglia (VS and Nac) - motivation to pursue rewards, novel situations and intense sensations

- Puberty brings marked decrease in volume secondary to pruning
- fMRI activity suggests increasing efficiency and influence
- Puberty associated with sensation seeking, immediate gratification and risk taking
- **CM associated with impaired reward processing**

Rudolph MD et al. *At risk of being risky: The relationship between "brain age" under emotional states and risk preference.* *Dev Cog NeuroSc.* 24 (2017) p 93-106

# Puberty and Socioemotional Control

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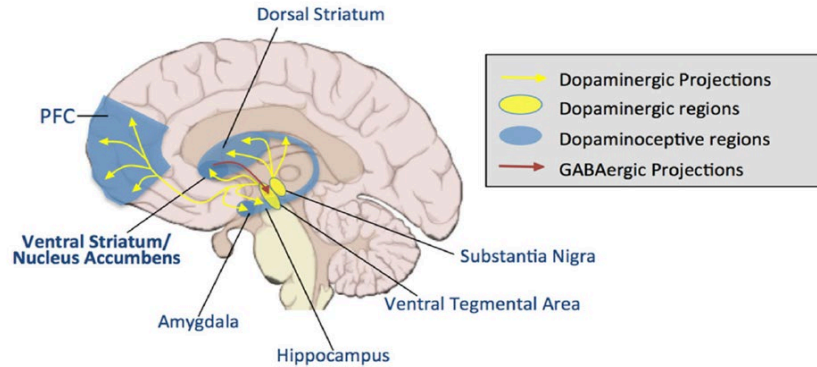


Fig. 1. Dopaminergic pathways in the brain.

Amygdala & Hippocampus - emotion, anxiety, fear and depression & memory

- Puberty induces marked increase in volume + increased cortical connections
- Puberty brings an increased influence of emotion on decision making - diminishes in adulthood
- **CM associated with amygdala & hippocampus dysregulation and hyper responsiveness**

*Blakemore SF, Robbins TW. Decision making in the adolescent brain. Nature Neuroscience. Vol 15: 9 Sept 2012, 1184-1190*

# Cognitive Control

E.H. Telzer / *Developmental Cognitive Neuroscience* 17 (2016) 57–67

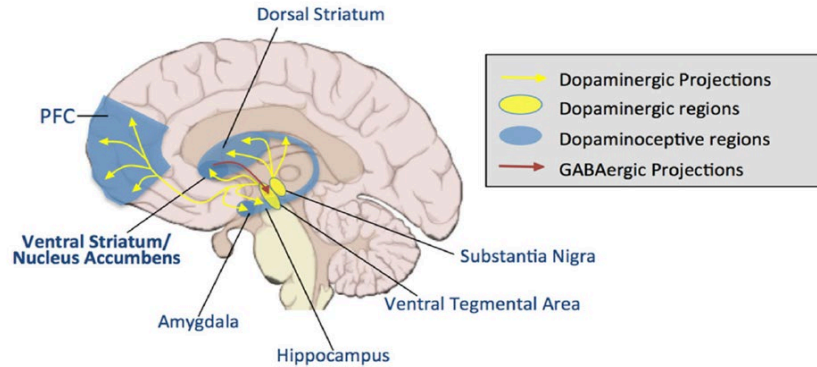


Fig. 1. Dopaminergic pathways in the brain.

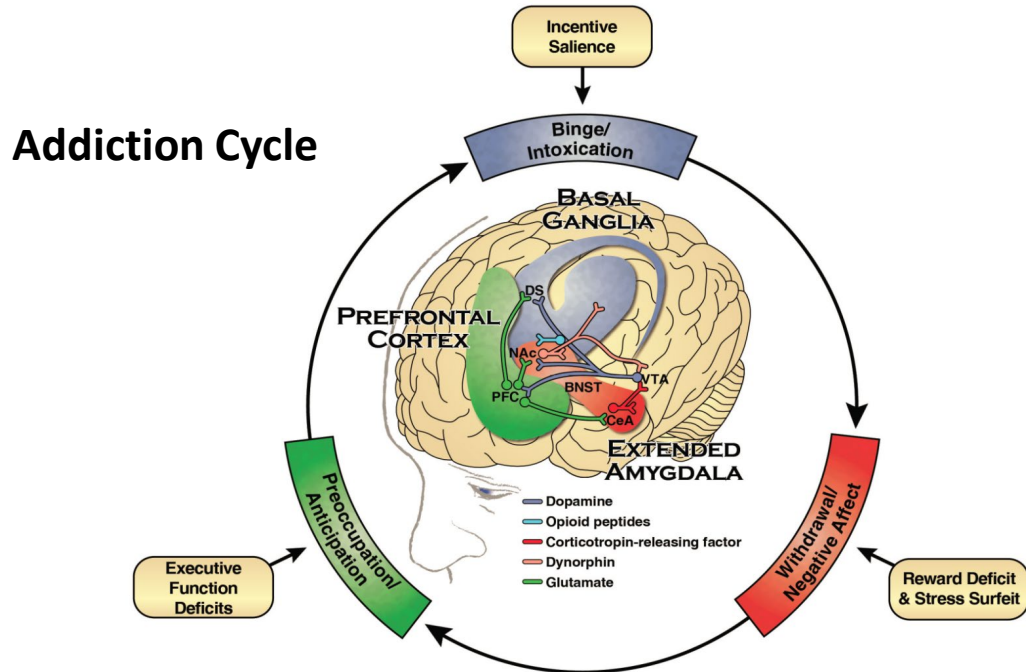
Prefrontal Cortex (PFC)- executive control, impulse and response inhibition, attention regulation, emotional regulation and planning

- Largely independent of pubertal hormones
- **CM reduced volume and hyporesponsiveness**



# Neurobiology of Substance Use, Misuse and Addiction

*The Surgeon General's Report on Alcohol, Drugs, and Health*. Washington, DC: HHS, November 2016



CM enhances adolescent vulnerability to SUD

# DR. EVA MOORE

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# Trauma gets under your skin: Trauma, Attachment, Resiliency & Youth Substance Use

UBC Continuing Professional Development

Eva Moore, MD, MSPH, FAAP

Adolescent Medicine Pediatrician

University of British Columbia

BC Children's Hospital, Vancouver BC

February 9, 2023

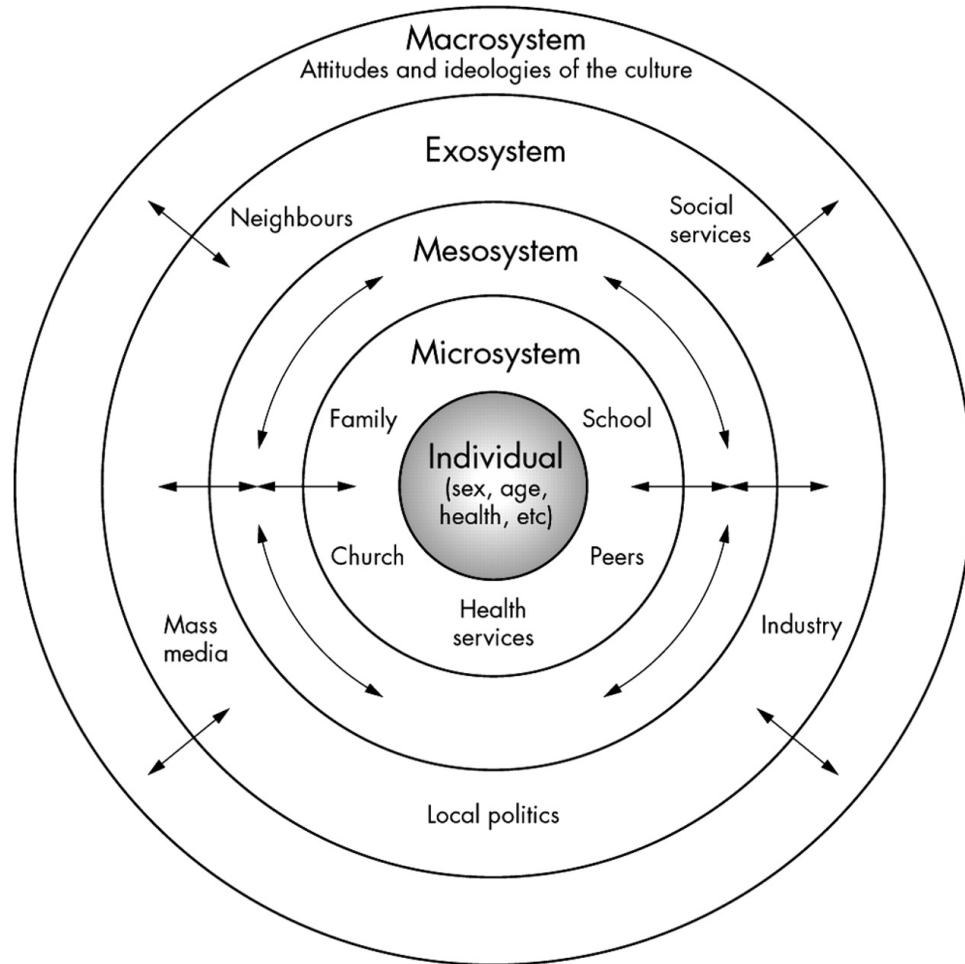






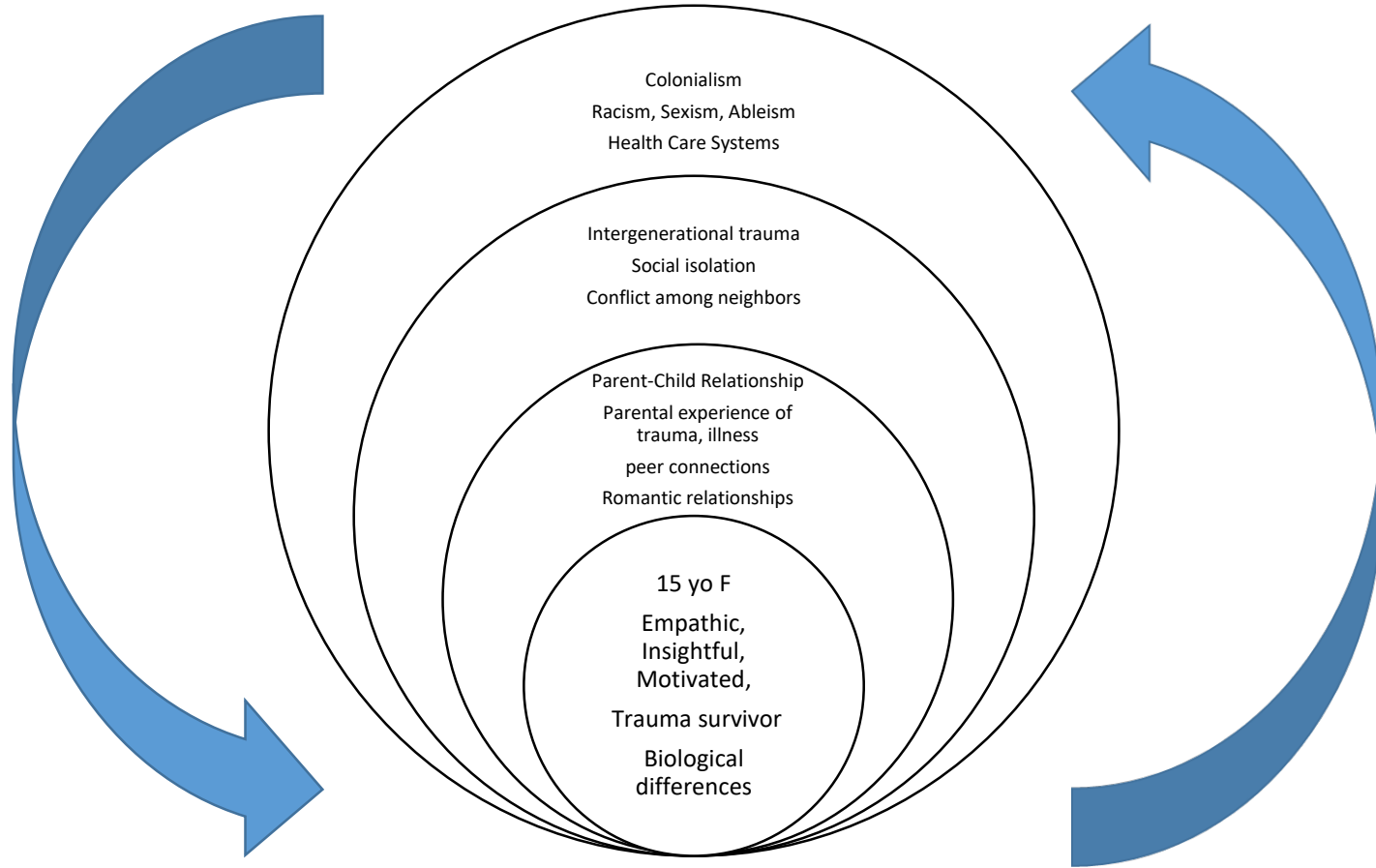
How do we provide youth centered, family-involved, trauma-informed, community-engaged, culturally relevant, collaborative care in a clinical setting?





Bronfenbrenner; Ecological Systems Theory





Bronfenbrenner; Ecological Systems Theory





# 7 Positive Childhood Experiences;



Photographs with permission by Kent Danielson, 2022

## Before age 18:

1. Able to talk with my family about my feelings.
2. Felt that my family stood by me during difficult times.
3. Enjoyed participating in community traditions.
4. Felt a sense of belonging in high school.
5. Felt supported by friends.
6. Had at least two non-parent adults who took a genuine interest in me.
7. Felt safe and protected by an adult in my home.

<https://jamanetwork.com/journals/jamapediatrics/fullarticle/2749336>

# Attachment

- Unconditional support and acceptance
- Non-judgmental support, but not indifference
- Remain available even when the youth says you're not needed
- Be reliable, even if the youth are not reliable
- Recognize change happens in the context of relationships
- Avoid “discharging” a patient for non-compliance
- Avoid cutting a person off from services



Stigma, recurrent trauma



# Stigma: Changing the language

*“She refuses to attend any counselling to address the concerns around mental health. She refuses to attend residential treatment to address concerns around addictions. She refuses to engage with the MCFD social worker at this time to discuss planning.”*

*“At this time of her life, she’s tired of professional help and wants to be empowered about who she allows into her life.”*

## Horizontal Relationships



## Knowledge Support



## Bridging Trust



## Empowerment



Eva Moore, MD, MSPH

Adolescent Medicine Pediatrician

BC Children's Hospital

Division of Adolescent Health & Medicine

University of British Columbia

[Eva.moore@cw.bc.ca](mailto:Eva.moore@cw.bc.ca)



- Look beyond risk factors
- Learn about someone as an individual and as a member of their family, neighborhood and community
- Change happens in the context of relationships
- Don't underestimate the power to make a real difference in the lives of adolescents

# COLLEEN SALTER

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# Engaging with First Nations Youth

Colleen Salter, BScN MA  
Director, Mental Wellness Clinical Services  
First Nations Health Authority

Proudly and gratefully living on  
Kwakwaka'wakw traditional territory



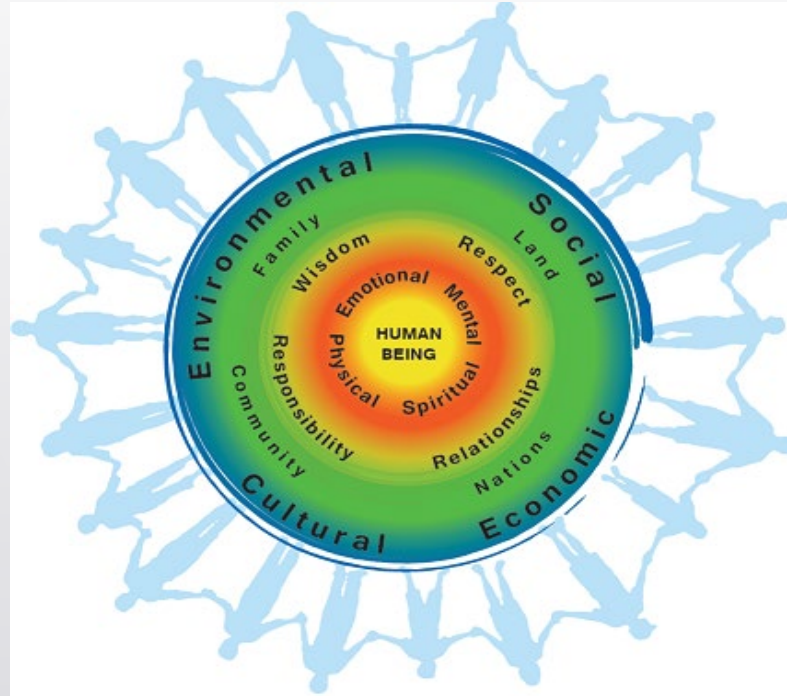


## BC First Nations

- 5 Regions
- 200 plus communities
- Great diversity in culture
- Indigenous by definition; distinctions-based language

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# First Nations Perspective on Health and Wellness





# INTERGENERATIONAL TRAUMA & COLONIZATION

- Presents in a multitude of ways including fears, anger, lack of engagement
- How are youth affected?
- The impacts are long lasting and embedded – also not as 'historic' as most believe
- We must understand how this affects relationships in health care
- Loss of culture, land rights, language, family, safety and freedoms

# Youth Empowerment is Key

**YOUTH EMPOWERMENT through EDUCATION**

**HEALTH:**

- EDUCATION about COLONIZATION + TREATY + RACISM ... ~~MMIWG~~
- HOLISTIC APPROACHES
- WELLNESS IS HELPING US BREAK CYCLES
- LAND BASED HEALING ... IS HARM REDUCTION!
- MENTAL HEALTH ED FOR EVERYONE INCLUDING COPING SKILLS

**WE NEED:**

- ACCESS to TRADITIONAL HEALING for YOUTH
- HEALTHY CONNECTIONS: MENTORS, ELDERs + PEERS

**HEALTHY CONNECTIONS:**

- LAND BACK SUPPORTS MY PEOPLE + HEART
- ALL AGES SHOULD LEARN INDIGENOUS HISTORIES

**Where can we go to get this support and knowledge:**

- social media is effective, and, some youth don't have phones. Can use websites/hashtags instead that can be accessed through schools.
- Facebook to help get connected.
- Health Centres
- Places to do online cultural workshops (eg beading)
- Aboriginal liaisons in schools can be helpful (and also don't make it a language deal). Focus on

**let's talk about access to clean WATER!**

**EARLY MORNING SWIMS! Hands on**

**SWEATS SMUDGES**

**LAND BACK SUPPORTS MY PEOPLE + HEART**

**ALL AGES SHOULD LEARN INDIGENOUS HISTORIES**

First Nations Health Authority  
Health through wellness

Fraser Salish Youth Council Meeting: January 2022

LIVE GRAPHIC RECORDING | Drawing Change  
SAM BRADD

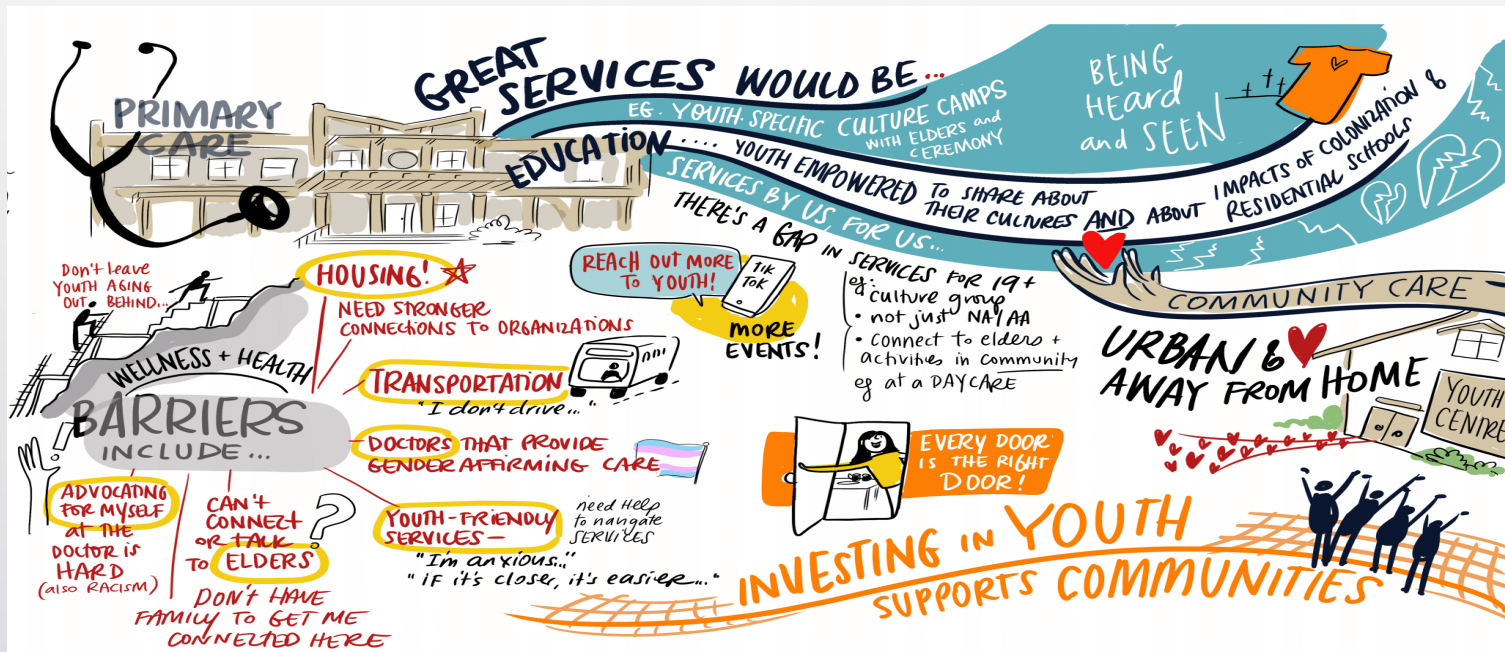


## A few Best Practices: Engaging with Indigenous Youth

- Include **FAMILY** in the Circle of Care
- Talk about their **GOALS** and what they see as **WELLNESS**
- Incorporate questions about **CULTURE AND CEREMONY** in care
- Explore **LOCAL RESOURCES** available to the youth where they live



# Investing in Indigenous Youth





## Final Thoughts:

- *Cultural Survival envisions a future that respects and honors Indigenous Peoples' inherent rights and dynamic cultures, deeply and richly interwoven in lands, languages, spiritual traditions, and artistic expression, rooted in self-determination and self-governance.*

# DR. MARTHA IGNASZEWSKI

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# Putting it All Together: Integrated Care for Youth Concurrent Disorders

Martha J Ignaszewski, MD FRCPC Dipl ABPN

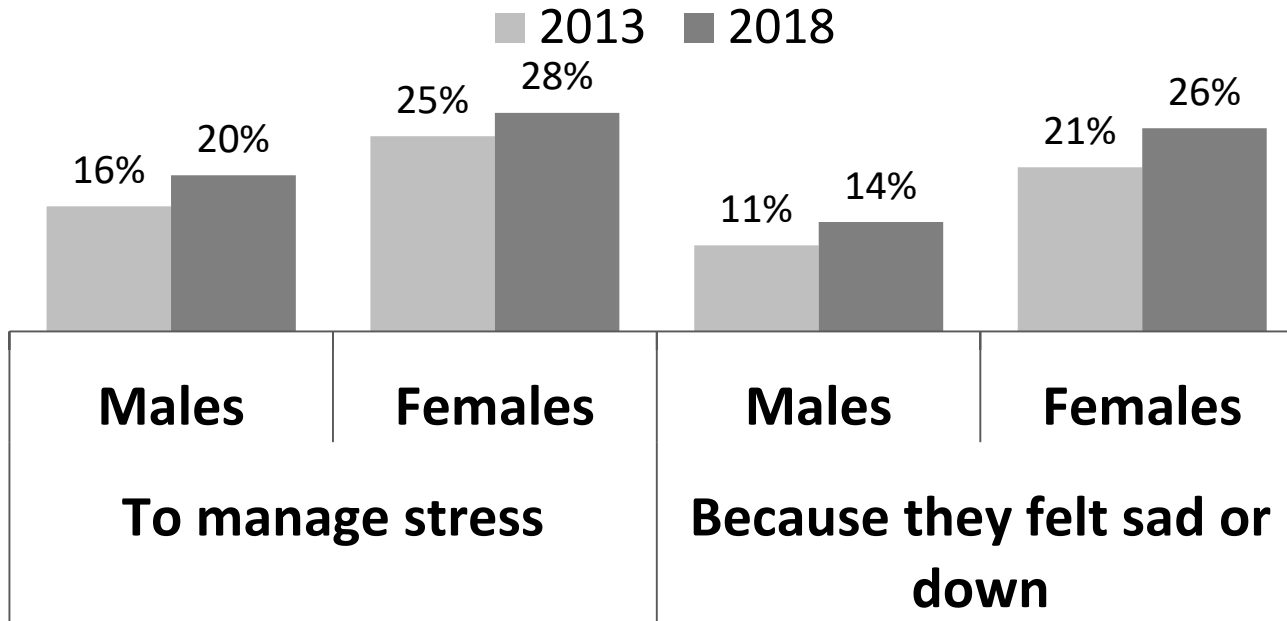
February 9, 2023

UBC CPD CYMHSU Webinar on Youth Substance Use



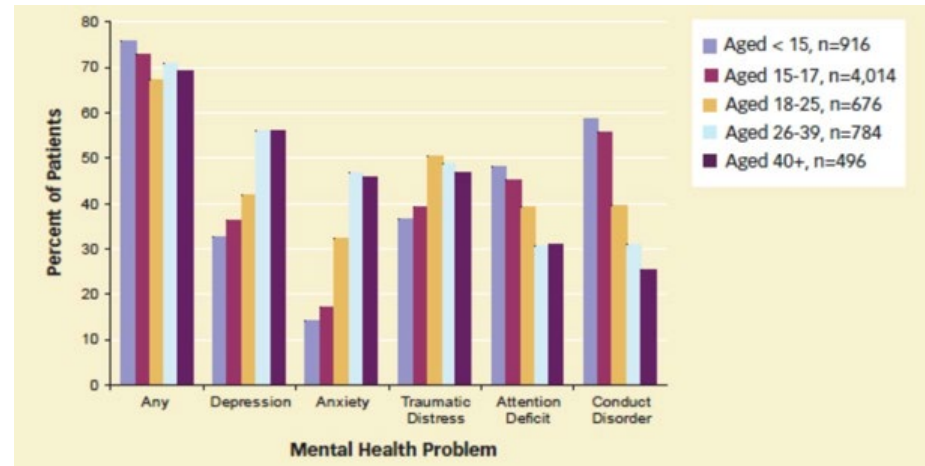
# REASONS FOR USE

- The main reasons youth used substances were to have fun, because their friends were doing it, and because they wanted to experiment.



# IN ADOLESCENTS....

- Psychiatric diagnosis co-occurs in up to 90% of adolescents in treatment for sSUDs
  - Disruptive behavior disorders: 60-80%
  - Mood disorders: 25-60%
  - Anxiety disorders: 15-45%
- Only 6-11% receive appropriate treatment

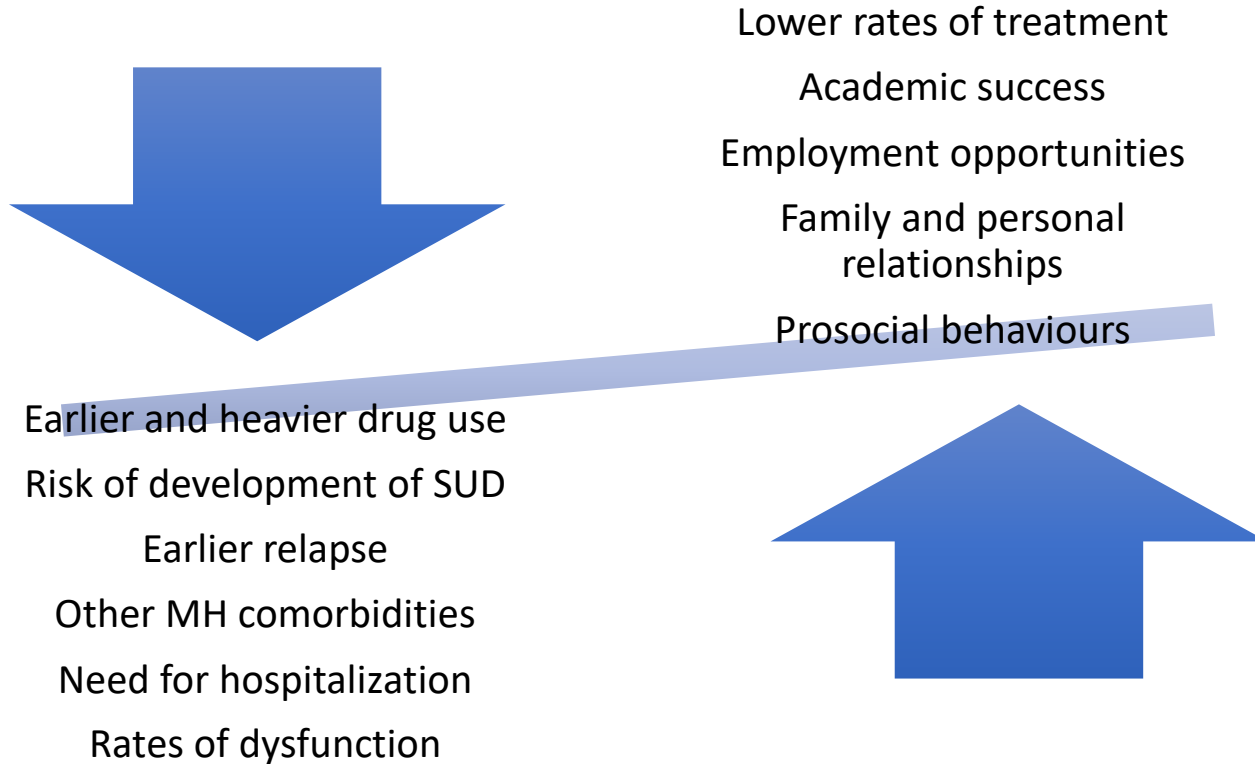


# ACES AND TRAUMA HAVE LIFELONG IMPACT



- 28% physical abuse
- 21% sexual abuse
- 40% 2+ ACES
- Each ACE increases risk of early substance use 2-4x, IV substance use 11x

# COMORBIDITY AND FUTURE OUTCOMES



# CONCURRENT DISORDERS ASSESSMENT

- Comprehensive psychiatric evaluation
  - Diagnostic assessment
  - Psychiatric review of systems
  - Mental status exam
  - Collateral information
  - Comprehensive history of alcohol, tobacco, and other drug use
- Maintain a high index of suspicion for comorbidity
- Individualize treatment to accommodate both the substance use and psychiatric diagnoses
- Know when to consult

# HOW DO WE TREAT? PSYCHOSOCIAL INTERVENTIONS

- Consider “empirically supported treatment processes” vs EBT
- Family therapy and family involvement
- Behavioral approaches
  - CBT
  - Contingency Management
  - Motivational Enhancement Therapy
  - Adolescent Community Reinforcement Approach
  - Community Reinforcement and Family Training
  - 12 Step
- Focus on skill development
  - Improved coping
  - Cognitive shifts
  - Improved communication
  - Increasing motivation
  - Positive social support and community engagement
  - Role of sober supports and peers
  - Engagement in community activities
- Combination Treatment

# POSITIVE CHILDHOOD EXPERIENCES

- Reduce adult health problems across all levels of ACEs
  - Talk to family about feelings
  - Family stood by them
  - 2 nonparent adults took a genuine interest
  - Felt safe and protected by an adult in their home

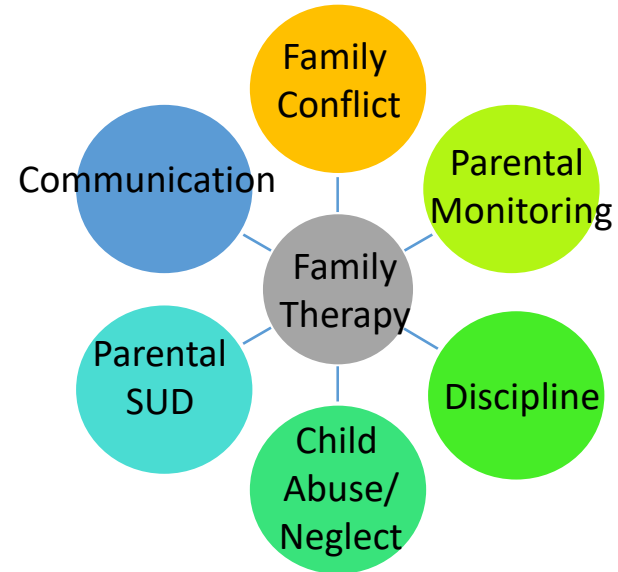




# HOW DO WE TREAT? FAMILY INVOLVEMENT

- Family therapy and family involvement
  - Multi-systemic therapy
  - Functional family therapy
  - Multidimensional family therapy
  - Brief strategic family therapy
  - Community Reinforcement and Family Training

- Focus on parental/family relationships



# HOW DO WE TREAT? PHARM

- Concurrent disorders are common
- Treatment should start immediately for both conditions
- Concurrent treatment shows higher abstinence rates (OR 1.57-1.84)
  - Recommend reduced use or abstinence with concurrent mental health treatment (therapy + prescribing)
  - Use treatments that are safe and have low potential for abuse, stop unsafe combination treatment
  - Stop medication for side effects, drug and medication interaction, inconsistent adherence, or lack of response

# QUESTIONS

- Contact
  - [Martha.ignaszewski@cw.bc.ca](mailto:Martha.ignaszewski@cw.bc.ca)

