HEARTSMAP CME – MOOD

<table>
<tr><td>HEARTSMAP Domain</td><td colspan="2">Mood</td></tr>
<tr><td>Number of articles</td><td colspan="2">4</td></tr>
<tr><td>General Theme</td><td colspan="2">Clinician Bottom Line</td></tr>
<tr><td>Street-involvement:
• Street-involved youth are vulnerable to mental health disorders, with underlying mental illness being one of the risk factors for street-involvement. (Level of Evidence: II.1)</td><td colspan="2" rowspan="3">• Take a comprehensive mental health history of the following type of youth, given the higher risks of developing mental health concerns:
○ Street-involved youth
▪ See article #1
○ LGBTQ youth
▪ See article #2
○ Truant youth
▪ See article #3
• Connect them to appropriate mental health resource if risks are identified.</td></tr>
<tr><td>LGBTQ and sexual minority
• LGBTQ youth are at greater risk of initiating substance use at an earlier age, perhaps as a way of self-medicating for depression and in response to rejection by family and peers. Moreover, LGBTQ youth are two to seven times more likely to attempt suicide. (Level of Evidence: I.1)
• Youth of sexual minorities are at higher risk of developing mental health concerns such as depression, anxiety disorders, substance abuse, and committing suicide. (Level of Evidence: II.1)</td></tr>
<tr><td>Truancy and depression
• Truancy is strongly associated with mental health disorders such as depression and anxiety. (Level of Evidence: II.1)</td></tr>
<tr><td>Co-morbid anxiety and depression
• Youth with comorbid depression and anxiety self-reported higher anxiety and depressive symptoms than youth with anxiety alone. (Level of Evidence: II.2)
• Youth with comorbid anxiety and depression self-reported higher family dysfunction than youth with anxiety alone. (Level of Evidence: II.2)</td><td colspan="2">• Improving the family dynamic can be a potential point of intervention in reducing comorbidity of depression in youth with anxiety and in improving the treatment outcome for youth with comorbid anxiety and depression.
• See article #4</td></tr>
</table>

1. Elliott, A. (2013). Meeting the health care needs of street-involved youth: position statements and practice points. Canadian Paediatric Society. Retrieved from http://www.cps.ca/documents/position/health-care-needs-of-street-involved-youth
    a. **Objective:** to identify the risk factors and special health care needs of street-involved youth
    b. **Method:**
        i. **Population:** street-involved youth
        ii. **Design:** systematic review (MEDLINE search) of studies on street-involved youth between 1950 and 2012. Involves descriptive and ecological studies of street-involved

youth, as well as cohort and cross-sectional studies on prevalence and incidence rates of various infections in street-involved youth

iii. **Primary outcome measure:** risk factors that predispose youth to street involvement; risk factors associated with street-involvement

c. **Result:** Street-involved youth face elevated risks in physical, emotional, mental, and social domains. These teens are especially vulnerable for mental health concerns, with underlying mental illness being one of the risk factors for street-involvement. Despite the high risk in psychopathology, street-involved youth's lack of stable residence makes continuous mental health care difficult.

d. **Conclusion**: The systematic summary of various studies provides strong evidence for the elevated mental health risk in street-involved youth. Therefore, it is important to include mental health screening in the assessment of street-involved youth and connect the adolescent to an appropriate psychiatric resource.

e. **Level of Evidence**: II.1 (a systematic summary of various types of studies)

2. Adelson, S. L. (2012). Practice Parameter on Gay, Lesbian, or Bisexual Sexual Orientation, Gender Nonconformity, and Gender Discordance in Children and Adolescents. *Journal of the American Academy of Child & Adolescent Psychiatry*, *51*(9), 957–974. http://doi.org/10.1016/j.jaac.2012.07.004

   a. **Objective**: to provide a competent guideline in addressing the healthcare needs of children and adolescents of sexual minorities.

   b. **Method**:

      i. **Population:** children and youth who are of sexual minorities, including gay, lesbian, bisexual, transgender, or gender variant

      ii. **Design**: a systematic review of studies including epidemiological and cohort studies

      iii. **Primary objective measure**: odds ratios of developing mental health problems in children of sexual minorities compared to heterosexual children.

   c. **Result**: Meta-analysis of various articles show that youth of sexual minorities are at elevated risks of developing mental health concerns such as depression, anxiety disorders, substance abuse, and committing suicide.

   d. **Conclusion**: The systematic review provides concrete evidence for elevated risks of mental health concerns in LGBTQ youth. Therefore, physicians should address mental health concerns of the LGBTQ teens, and it would be helpful to connect the youth to community and professional supports.

   e. **Level of evidence**: II.1 (systematic review of various studies)

3. Vaughn, M. G., Maynard, B. R., Salas-wright, C. P., Perron, B. E., & Abdon, A. (2016). Prevalence and correlates of truancy in the US : Results from a national sample. *Journal of Adolescence*, *36*(4), 767–776.

   a. **Objective**: to identify the prevalence, sociodemographic characteristics, and mental health correlates of truancy

   b. **Method**:

      i. **Population:** 68,736 youth aged 12-17 as part of 2009 National Survey on Drug Use and Health (NSDUH).

      ii. **Design**: Cross-sectional study involving multiple self-report questionnaires that measure the rate of truancy, sociodemographic characteristics, mental health conditions, school engagement, parental involvement, and externalizing behaviours.

      iii. **Primary outcome measure:** odds ratio of externalizing behaviours and mental health concerns in youth who demonstrate truancy vs. do not.

c. **Result**: 11% of adolescents between ages 12-17 have reported skipping over the past 30 days. Youth who exhibited severe truancy (4 or more skips per month) were three times more likely to self-report depression and 2.5 times more likely to report anxiety than moderate skippers (1-3 times per month).
d. **Conclusion:** The cross-sectional study provides solid evidence based on the size and stability of the longitudinal sample, as well as the magnitude of odds ratio. Therefore, the study's conclusion is well-supported that truancy is robustly associated with mental health disorders such as depression and anxiety.
e. **Level of evidence**: II.1 (well-designed cross-sectional study)

4. O'Neil, K. A., Podell, J. L., Benjamin, C. L., & Kendall, P. C. (2010). Comorbid Depressive Disorders in Anxiety-disordered Youth: Demographic, Clinical, and Family Characteristics. *Child Psychiatry & Human Development*, *41*(3), 330–341. http://doi.org/10.1007/s10578-009-0170-9
    a. **Objective**: to observe the family characteristics of youth with co-morbid anxiety and depressive disorders.
    b. **Method:**
        i. **Population:** 200 children and adolescents aged 7-17 presenting to anxiety disorder clinic at Temple University.
        ii. **Design:** a cross-sectional design involving multiple interviews and self-reported questionnaires to measure anxiety, co-morbid depressive disorders, and family functioning.
        iii. **Primary Outcome**: statistically significant mean difference in family functionality between youth with co-morbid anxiety and depression and youth with just anxiety
    c. **Results:** 12% of youth with anxiety had co-morbid depressive disorders, which was lower than the literature value of 28 to 54% based on previous research. Compared to anxious youth without co-morbid depression (M= 22.79, SD = 5.57), youth with comorbid depression and anxiety reported significantly higher dysfunctionality on the general family functioning scale (M = 25.69, SD = 3.18). Youth with comorbid depression and anxiety also self-reported more severe anxiety and depressive symptoms than youth with anxiety alone.
    d. **Conclusion:** Given the small to moderate sample size, the cross-sectional study provides fair evidence that family dysfunction could be a risk factor in developing comorbid depression among youth with anxiety. Potentially, an intervention aimed at improving the family dynamic could mitigate the development of co-morbid depression among youth with anxiety.
    e. **Level of evidence:** II.2 (cross-sectional study with a limited sample size)

Appendix: Guide for Level of Evidence

Canadian Task Force on the Periodic Health Examination's Levels of Evidence*

Level	Type of evidence
I	At least 1 RCT with proper randomization
II.1	Well designed cohort or case-control study
II.2	Time series comparisons or dramatic results from uncontrolled studies
III	Expert opinions