Commentary

Epidemiology Versus Picking Populist Cherries: A Commentary

David Cawthorpe[1,2]

1. Departments of Psychiatry & Community Health Sciences, Cumming School of Medicine, University of Calgary, Canada; 2. Institute for Child & Maternal Health; Alberta Children's Hospital Research Institute, University of Calgary, Canada

This commentary critically compares longitudinal studies of youth mental health trends in Canada and the United States, highlighting the strengths and limitations of various datasets and timeframes employed for analysis during COVID. Together, these studies suggest that while youth mental health indicators are worsening, meaningful interpretation requires long-term surveillance with caution against temporal bias. The findings advocate for adaptive, evidence-informed systems of care capable of supporting population needs and future crisis resilience.

Correspondence: papers@team.qeios.com — Qeios will forward to the authors

Introduction

The COVID-19 pandemic reignited global attention on youth mental health, generating an influx of epidemiological studies that sought to quantify its impact on rates of self-harm, psychiatric admissions, and related disorders among children and adolescents. While the sense of urgency was warranted, the resulting literature frequently emphasized short-term fluctuations without adequately situating these findings within longer-term population trends[1]. This raises critical methodological concerns about the temporal anchoring of analyses and the risk of drawing conclusions that may misrepresent broader epidemiological patterns. In the context of complex health systems strained by longstanding limitations, it is tempting—but potentially misleading—to isolate COVID-19 as a unique explanatory variable without a robust temporal baseline.

This commentary explores the contrast between studies that adopt short observational windows and those that engage with longitudinal data sets spanning over a decade. By comparing analyses from both Canada and the United States, this paper demonstrates how time base selection, system context, and

interpretation practices can yield divergent conclusions. The term "picking cherries" in the title signals a broader epistemological issue: when evidence is selected or framed without due regard to the full scope of available data, the resulting narrative may unintentionally fuel moral panic or justify institutional inertia under the guise of crisis responsiveness. The implications of such analytic bias are far-reaching—not only in research, but in policy and system design. This commentary advocates for the use of long-term, contextually grounded epidemiological analyses as a foundation for sustainable mental health system reform and disaster preparedness planning.

The Evidence

Cummings et al.[2] analyzed trends in mental health diagnoses among publicly insured U.S. children from 2010 to 2019, revealing a significant overall increase, particularly in depressive, anxiety, and trauma-related disorders, with disparities across demographic subgroups. Using administrative claims data, the study's longitudinal design offers a robust decade-long view of evolving patterns in youth mental health, though it remains constrained by limitations inherent in diagnostic coding and lack of clinical context[2].

In contrast, Cawthorpe[3] analyzed over a decade (2011–2022) of administrative data from Alberta, Canada, specifically focusing on self-harm diagnoses in children and adolescents. Contrary to shorter-term COVID-era studies, including Park et al.[4] and Leeb et al.[1], Cawthorpe found that while there were increases in self-harm diagnoses during the pandemic, these were not unprecedented. In fact, similar or higher levels of self-harm were observed in several pre-pandemic years, challenging the narrative that COVID-19 uniquely and dramatically intensified youth self-harm. This insight highlights the importance of a longer-term baseline in assessing temporal trends and cautions against over-attributing changes to the pandemic without considering prior fluctuations[3]. A perspective also shared by Kapur et al.[5].

Park et al.[4], using the same Alberta data source but a limited timeframe (2016–2021), focused on psychiatric inpatient admissions among youth and reported a 29% increase during the pandemic. However, the narrower time window may have amplified the perceived COVID effect by excluding earlier peaks and natural variations seen in the broader data reviewed by Cawthorpe[3]. Similarly, the Europe PMC (2021) study documented pandemic-related increases in pediatric eating disorder visits using emergency department data but lacked the longitudinal depth to contextualize those increases against pre-pandemic baselines.

When examining in Figure 1 the specific variances by quarter from 2010-2022 to mental health services with the rate of the presenting problem of self-harm during the pandemic was lower than in previous years and back to pre-COVID rates by the fourth quarter (Q4). The inset examines the ever-increasing rates of predominantly regional inpatient admissions over the same time period. There had been a downward trend in self-harm presentations since the peak after and perhaps due to the 2012 provincial flood, but the more regular, if not geographically remote wildfires in recent more years did not seem to be accompanied by an associated increase in self-harm presentations. Here is the base problem. It does not matter the sophistication of an analysis if the time base does not represent the served population.
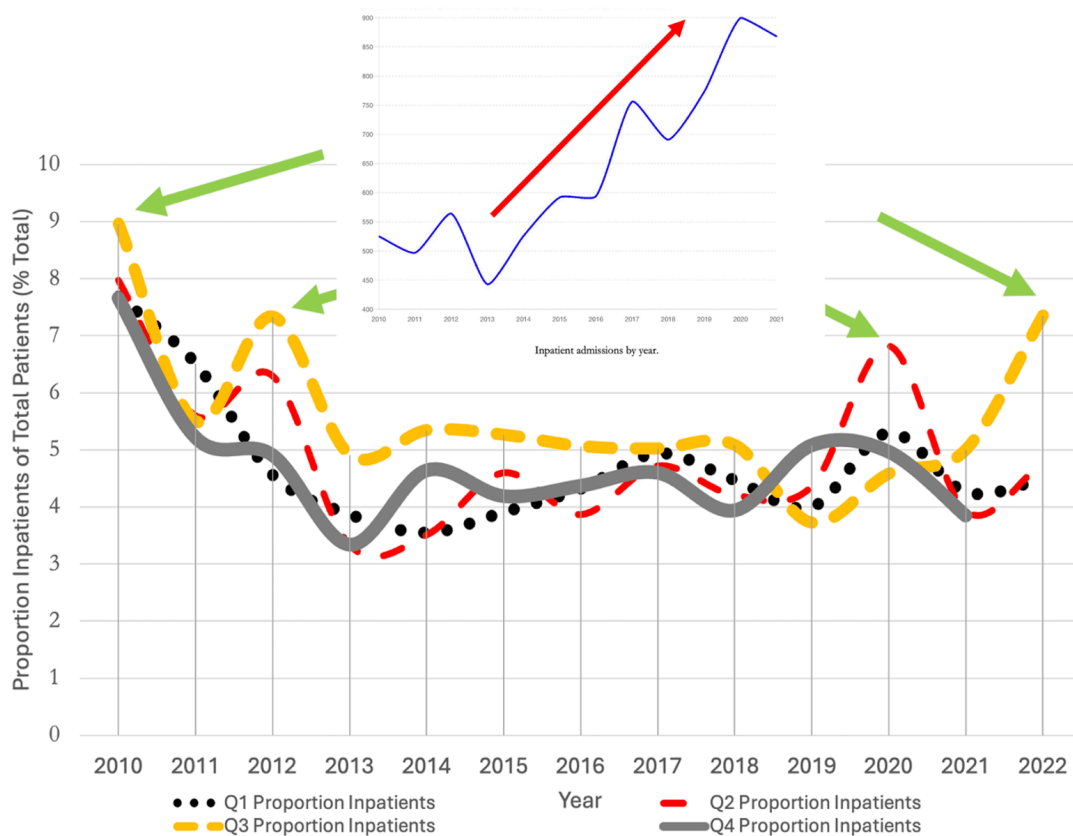

Figure 1. Proportions of inpatient admissions for self-harm by quarter by year. Inset: Raw data Inpatient admissions per year [With permission [3]: [6]].
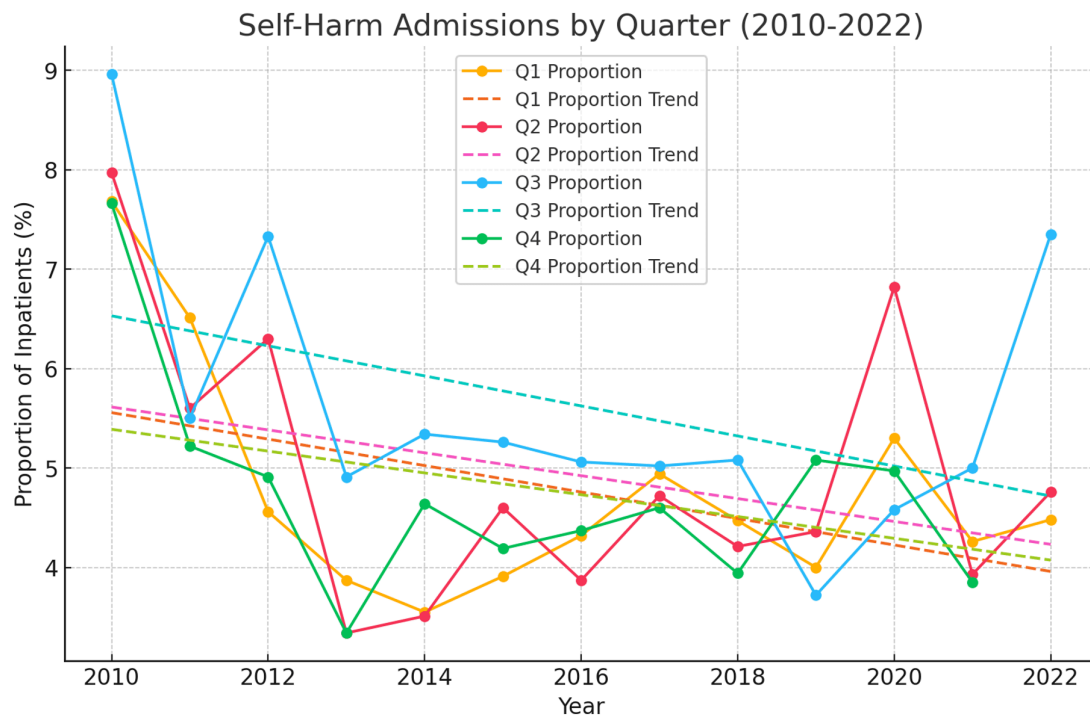
Figure 2. Best Fit Trends of Self-Harm Admissions by Quarter by Year. [With permission [3]].

Figure 2 shows the trendlines in addition to the raw data from 2010-2022. If one attributes the 2012. If one could (and one cannot) causally attribute the peaks in 2012 to the provincial flood and in 2020 to COVID, another equally acceptable interpretation of the 'lack of preparedness of the health system' in 2020. This begs the question: Why was one disaster not enough to develop a generalized disaster strategy that might have negated or at least reduced the 2020 COVID peak?

In fact, the 2010 cut point illustrates the limits and influences the start and finish points of trending slope lines. Without graphic raw data or with a 2016 or more recent cut point, the weakness of the overall system of care would not have been revealed. Perhaps this influenced the cut point selection in the paper using the same data or given no plan since the last provincial disaster (or differences in information systems over time), the researchers and analysts forgot had these data.

McCluskey et al.'s[7] study of PICU admissions for self–harm and suicide behaviors across 69 U.S. PICUs corroborates these findings. The authors reported that the median quarterly number of PICU admissions for self–harm (310) and suicide deaths (416) during the pandemic remained stable compared to pre–pandemic levels (315 and 429, respectively). However, the ratio of self–harm admissions to all–cause PICU

admissions increased, driven by a significant decline in all-cause PICU admissions early in the pandemic. This elevated ratio may have contributed to the perception of a surge in critical care needs for mental health conditions, despite stable absolute numbers of admissions for self-harm and suicide[6].

Discussion

The disparity between short and long time-base findings underscores the importance of contextualizing mental health data. Short time-base studies capture acute responses to crises but risk overstating trends due to limited scope.

A useful point of comparison emerges when examining Miron et al.[8] study alongside Cummings et al.[2]. Both use U.S. national-level administrative data to explore diagnostic trends among children and adolescents over a decade. Miron et al.[8] analyzed suicide trends in youth aged 10 to 24 from 2000 to 2017, highlighting a disturbing rise in suicide rates, particularly among young females. Cummings et al.[2] identified increasing rates of mental health diagnoses, with depressive and trauma-related disorders being especially pronounced in older adolescents. Cummings et al.[2] emphasized racial and ethnic disparities and underscored the need for enhanced access to mental health services, prevention strategies, and public health policy responses. Together, they provide converging evidence of a worsening youth mental health landscape in Canada and the United States, reinforcing the urgency of system-level interventions grounded in long-term population data. In the Canadian context, this is echoed by Melathopoulos and Cawthorpe[6], who demonstrated how redesigning and measuring mental health service system utilization—through centralized intake and coordinated pathways—permitted measurement of marginal increases in per capita utilization patterns in child and adolescent mental health care in relation to status quo investments and substantial effect in relation to innovative system changes[9], offering evidence that measured structural reforms can shape demand to occasionally improve efficiency across the system.

Conclusion

In conclusion, while all studies point to increasing concerns regarding youth mental health, especially regarding self-harm and internalizing disorders, Cawthorpe[3] and Cummings et al.[2] leverage long-term data to critically evaluate whether recent increases represent an unprecedented public health crisis or a continuation of prior trends. The critique underscores the methodological limitations of shorter-term

analyses and highlights the risk of misinterpreting natural fluctuations as pandemic-specific phenomena, a source of moral panic from misappropriation of cause leading and associated investment that supports institutional inertia. What is called for is an adaptive evolution toward sustainable integrated systems of care and disaster preparedness.

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Declarations

Potential competing interests: No potential competing interests to declare.