

# Impact of COVID-19 Pandemic on the Mental Health of Children and Adolescents: Analysis of a Consultation-Liaison Psychiatry Service

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## Introduction

The coronavirus disease 2019 (COVID-19) pandemic and risk mitigation measures have contributed to a co-occurring psychiatric epidemic [1]. Children and adolescents have been particularly impacted, with disruptions in continuity of learning and health care [2]. Psychological stressors such as fear of infection, boredom, decreased socialization, supply shortages and incomplete information can contribute to low mood, irritability, insomnia, and emotional exhaustion [3]. The Loyola University Medical Center (LUMC) Consultation-Liaison Psychiatry Service [CLPS] (Maywood, IL) has anecdotally observed an increase in pediatric hospitalizations during the COVID-19 pandemic for psychiatric conditions. Therefore, we designed a study to identify and analyze data regarding the total number of CLP consult requests, patient presentations to the emergency room (ER), and admissions to the Pediatrics floor and Intensive Care Unit (PICU) for psychiatric-related conditions.

## Objectives

Quantify the impact of the COVID-19 on pediatric mental health in the consult-liaison setting at a large academic medical center.

## Methods

This study was approved by the Loyola University Medical Center Institutional Review Board.

A retrospective chart review was completed for all Pediatric (0-18 years) Emergency Room (ER) visits, Pediatric Floor admissions, and Pediatric Intensive Care Unit (PICU) admissions related to mental health at Loyola University Medical Center. These encounters were identified using ICD-9 diagnostic coding for the dates of March 2019-February 2020 (pre-pandemic) and March 2020-February 2021 (pandemic).

The total number of encounters prior to the pandemic and during the pandemic were then compared. Specifically, we analyzed the impact of the COVID-19 on PICU admission rates related to psychiatric conditions.

## Results

Table 1: Total Pediatric (0-18 years) Encounters Prior to (March 2019-February 2020) and during COVID-19 Pandemic (March 2020-February 2021)

| Date           | Total Encounters | Total Inpatient | Total Inpatient PICU | Total Inpatient ED | Total Observations | Total Observations ICU | Total Observations ED | Total ED Only |
|----------------|------------------|-----------------|----------------------|--------------------|--------------------|------------------------|-----------------------|---------------|
| March 2019     | 3679             | 223             | 33                   | 51                 | 2464               | 10                     | 44                    | 992           |
| April 2019     | 3394             | 275             | 59                   | 69                 | 2238               | 11                     | 56                    | 881           |
| May 2019       | 3398             | 247             | 49                   | 55                 | 2292               | 8                      | 63                    | 859           |
| June 2019      | 2982             | 233             | 48                   | 63                 | 1984               | 4                      | 63                    | 765           |
| July 2019      | 2904             | 257             | 36                   | 73                 | 1968               | 5                      | 56                    | 679           |
| August 2019    | 3239             | 283             | 40                   | 79                 | 2057               | 10                     | 41                    | 899           |
| September 2019 | 3250             | 219             | 45                   | 53                 | 1889               | 14                     | 67                    | 1142          |
| October 2019   | 2766             | 248             | 53                   | 53                 | 1682               | 23                     | 61                    | 836           |
| November 2019  | 3070             | 227             | 49                   | 61                 | 1958               | 6                      | 47                    | 885           |
| December 2019  | 3744             | 293             | 77                   | 77                 | 2238               | 5                      | 65                    | 1213          |
| January 2020   | 3487             | 283             | 58                   | 61                 | 2122               | 9                      | 60                    | 1082          |
| February 2020  | 3391             | 255             | 50                   | 70                 | 2180               | 18                     | 71                    | 956           |
| March 2020     | 2103             | 242             | 42                   | 51                 | 1196               | 17                     | 47                    | 665           |
| April 2020     | 717              | 189             | 35                   | 25                 | 334                | 18                     | 20                    | 194           |
| May 2020       | 1009             | 233             | 47                   | 38                 | 475                | 38                     | 30                    | 301           |
| June 2020      | 1122             | 198             | 42                   | 28                 | 572                | 24                     | 24                    | 352           |
| July 2020      | 1777             | 226             | 40                   | 54                 | 1127               | 19                     | 31                    | 424           |
| August 2020    | 1619             | 250             | 40                   | 56                 | 917                | 27                     | 40                    | 452           |
| September 2020 | 1424             | 234             | 43                   | 53                 | 774                | 4                      | 37                    | 416           |
| October 2020   | 1575             | 227             | 51                   | 57                 | 928                | 6                      | 31                    | 420           |
| November 2020  | 1372             | 207             | 43                   | 48                 | 772                | 15                     | 24                    | 393           |
| December 2020  | 1000             | 185             | 46                   | 45                 | 481                | 28                     | 29                    | 334           |
| January 2021   | 1049             | 197             | 37                   | 28                 | 500                | 8                      | 30                    | 352           |
| February 2021  | 1012             | 190             | 43                   | 41                 | 494                | 5                      | 28                    | 328           |

- Total number of pediatric ED visits significantly declined from March to June 2020 (outset of COVID-19 Pandemic).
- At the outset of the COVID-19 pandemic, the percent of total encounters resulting in inpatient and PICU admissions were higher than pre-pandemic percentages.

Table 2: PICU Admissions for Psychiatric Conditions Prior to and during COVID-19 Pandemic

| PICU Admissions Prior COVID-19 Pandemic (March 2019-February 2020):   |     |
|---|-----|
| Admissions for patients with psychiatric history, hospitalized for non-psych conditions (i.e. DKA, infection, accidental trauma etc): | 108 |
| Admissions for intentional ingestion:   | 25  |
| Admissions for intentional gun violence:  | 0   |
| Admissions for hanging:   | 1   |
| Admissions for NMS/catatonia:   | 1   |
| Admissions for abuse:   | 0   |
| PICU Admissions During COVID-19 Pandemic (March 2020-February 2021):  |     |
| Admissions for patients with psychiatric history, hospitalized for non-psych conditions (i.e. DKA, infection, accidental trauma etc): | 110 |
| Admissions for intentional ingestion:   | 44  |
| Admissions for intentional gun violence:  | 2   |
| Admissions for hanging:   | 1   |
| Admissions for NMS/catatonia:   | 3   |
| Admissions for abuse:   | 6   |

- Rates of intentional ingestions leading to PICU admission and consult-liaison requests nearly doubled from the time prior to the pandemic to the time during the pandemic.

## Conclusion

During the COVID-19 pandemic, routine ER visits for mild to moderate mental health crises declined, but in a sub-group of patients, there appears to be a pandemic related psychiatric decompensation leading to higher number of intentional ingestions and related PICU admissions.

## References

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