

# Admission Rate of Patients with Most Common Psychiatric Disorders during the 2020 COVID-19 Pandemic

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## Background

With the onset of the COVID-19 pandemic, emergence of stay-at-home orders, and general societal fears of infection, people in all parts of the world have been displaced into their own homes. This sudden exodus from places of work, school, and congregations ultimately boils down to an altering of an individual's routine. As creatures of habit, a change in activity and space may result in a change in neural and chemical pathways, manifesting as psychiatric pathology. It becomes readily apparent that this will not be the last global microbial threat for our species. Thus, it is prudent to take this opportunity to determine the possible extent of mental distress a pandemic can cause and its taxing nature on certain divisions of our healthcare system.

## Objective

The aim of this study is to determine if the COVID-19 pandemic caused an increase in detected psychiatric illness over all cause admissions within the emergency department, psychiatric unit, clinics, and medical units. This may allow us to determine the need for psychiatric care in settings of future pandemics with stay-at-home orders.

## Methods

Retrospective population-based study across the South Atlantic Division of HCA which served 1.9 million patients in 2019.

Random sample of 69,024 patient encounters with psychiatric related ICD-10 codes were gathered from the 2020 calendar year, and compared against the 2019 calendar year

- Calculated odds ratios, confidence intervals, and descriptive statistics based on earliest clinical location for all patients.
- Ran statistics by clinical location and type of psychiatric diagnosis to determine the shifts in admission patterns to elucidate where and when patients were most likely to seek psychiatric care.

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## Results

### Psychiatric Admission Rates for 2019 and 2020: Comparing Diagnostic Categories and Settings

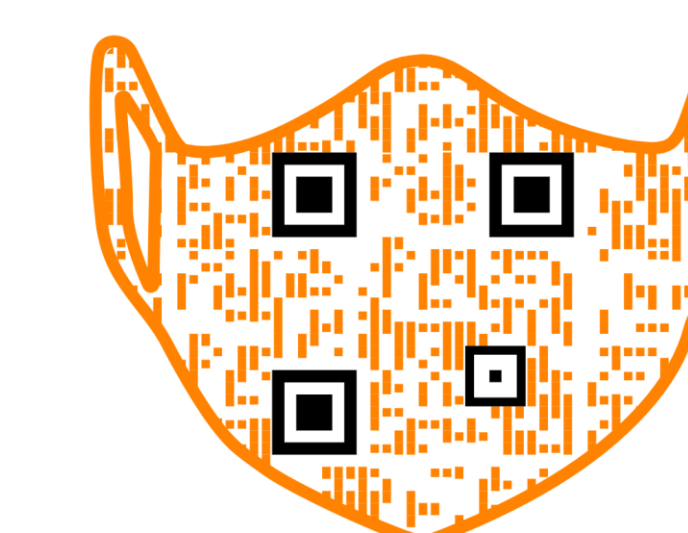
Categories: (All Patients diagnoses; n=39,677) (All Emergency Diagnoses; n = 31,436) (All Inpatient Diagnoses; n= 7,253)	Overall	2019	2020	OR (95% CI)
Any Psych Diagnosis	13,488 (33.89%)	7,260 (33.28%)	6,188 (34.64%)	1.06 (1.02-1.11)
Mental disorders due to known psychological conditions	904 (2.28%)	440 (2.02%)	464 (2.60%)	1.30 (1.14-1.48)
Schizophrenia, schizotypal, delusional, and other non-mood psychotic disorders	589 (1.48%)	285 (1.31%)	304 (1.70%)	1.31 (1.11-1.54)
Mood (affective) disorders	2,984 (7.52%)	1,584 (7.26%)	1,400 (7.84%)	1.09 (1.01-1.17)
Homicidal ideations	63 (0.16%)	26 (0.12%)	37 (0.21%)	1.74 (1.05-2.87)
Mental disorders due to known psychological conditions Primary Psych Diagnoses	57 (0.14%)	23 (0.11%)	34 (0.19%)	1.81 (1.06-3.07)
Suicidal ideations Primary Psych Diagnoses	134 (0.34%)	61 (0.28%)	73 (0.41%)	1.46 (1.04-2.06)
Anxiety, dissociative, stress-related somatoform, and other nonpsychotic mental disorders Admitting Psych Diagnoses	17 (0.04%)	5 (0.02%)	12 (0.07%)	2.93 (1.03-8.32)
Schizophrenia, schizotypal, delusional, and other non-mood psychotic disorders	257 (0.82%)	111 (0.64%)	146 (1.04%)	1.63 (1.27-2.09)
Mood (affective) disorders	1,353 (4.30%)	692 (3.98%)	661 (4.70%)	1.19 (1.07-1.33)
Anxiety, dissociative, stress-related somatoform, and other nonpsychotic mental disorders	1,148 (3.65%)	599 (3.45%)	549 (3.90%)	1.14 (1.01-1.28)
Schizophrenia, schizotypal, delusional, and other non-mood psychotic disorders Primary Psych Diagnoses	96 (0.31%)	40 (0.23%)	56 (0.40%)	1.73 (1.15-2.60)
Suicidal ideations Primary Psych Diagnoses	127 (0.40%)	57 (0.33%)	70 (0.50%)	1.52 (1.07-2.16)
Mental disorders due to known psychological conditions	615 (8.48%)	288 (7.36%)	327 (9.79%)	1.37 (1.16-1.61)
Homicidal ideations	40 (0.55%)	15 (0.38%)	25 (0.75%)	1.96 (1.03-3.72)

## Discussion

- The data partially reflects our initial hypothesis that admission rates would fluctuate during the defined study dates, a decrease in admission rates would be observed during the COVID-19 pandemic, however an increased rate in psychiatric encounters in acute care facilities. A better understanding of the comprehensive impact of a pandemic, including the effect of the disease itself, quarantines, and social climates can help better inform healthcare leaders, policy makers, and other authorities about groups of patients who are at risk for undertreatment for mental illness.
- Repurposing of psychiatric resources during such crises should be more carefully considered.
- The study can be furthered by exploring psychiatric outpatient settings, and reviewing longer term consequences beyond the 2020 calendar year.

## Conclusion

- Our results show that among all patients, a diagnosis of any psychiatric disorder was slightly more likely in 2020 than 2019. This included the categories related to schizophrenia, mood disorders, anxiety, and also suicidal and homicidal ideations.
- Findings were noted with an overall low occurrence for each category. Interpretation of the data showed more significant changes in the inpatient settings followed by emergency room settings.
- No significant changes were observed in nonpsychiatric outpatient center, however the sample size was extremely limited, n=681. No significant changes were observed in nonpsychiatric surgery centers. No negative correlations were observed.



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