

Review Article

The impact of the COVID-19 pandemic on psychiatric morbidity and emergency mental health presentations in Ireland: a systematic review

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Abstract

Objectives: To examine the impact the COVID-19 pandemic in Ireland on symptoms and functioning in individuals across a range of mental health disorders.

Methods: A systematic bibliographic search of case reports, cross-sectional and longitudinal studies was conducted between March 12th, 2020, and December 20th, 2024, among studies evaluating the impact of the COVID-19 pandemic on symptoms and functioning for individuals with pre-existing mental health disorders and for those who presented with self-harm or died by probable suicide in the Republic of Ireland. Studies were independently screened by two reviewers according to inclusion and exclusion criteria, with selected variables extracted and summarised. Risk of bias assessments and narrative synthesis of included studies were conducted.

Results: Twenty-eight studies met inclusion criteria. Findings were heterogeneous and disorder specific. An increase in presentations of self-harm, anxiety disorders, and eating disorders to child and adolescent mental health services and emergency departments was noted, with relative stability of symptoms in other cohorts including bipolar disorder and treatment-resistant schizophrenia. Significant symptom deterioration, with poor quality of life and functioning was demonstrated in individuals with emotionally unstable personality disorder both cross-sectionally and longitudinally.

Conclusions: Most people with pre-existing mental disorders did not experience significant exacerbation associated with the pandemic, with exception of those with eating disorders and EUPD.

Keywords: Anxiety disorders; COVID-19 pandemic; eating disorder; emotionally unstable personality disorder (EUPD); self-harm; systematic review

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Introduction

The first case of COVID-19, the infectious disease associated with SARS-CoV-2 was identified in Ireland on February 29th, 2020, with the World Health Organisation (WHO), declaring COVID-19 a global pandemic on March 11th, 2020 (Yuki *et al.* 2020). Robust public health restrictions were subsequently enforced in many countries, including Ireland, to mitigate the potential impact of the COVID-19 pandemic on health service delivery. Restrictions of varying severity were in place for almost two years (based on the advice of the National Public Health Emergency Team (NPHET), with the most stringent of these implemented for approximately half of this time. These included social gatherings of no more than six people, a ban on indoor dining, a restriction on people's movements to within five kilometres of their

home and the closure of many facilities deemed as “non-essential” including those attended by individuals with both physical and mental health disorders such as day and training centres. Consequently, many therapeutic interventions normally available for individuals with mental health difficulties both within and outside mental health services were unattainable including group psychotherapeutic activities during this time. Where such services continued, most had to adapt to a range of public health measures, with for example face-to-face interactions often replaced by tele-consultations (Kopelovich *et al.* 2021; Li *et al.* 2021). Social isolation, a putative risk factor for a variety of mental disorders (Beutel *et al.* 2017) was expected to place an additional strain on mental health services with the President of the Royal College of Psychiatrists in the United Kingdom warning of a “tsunami” of referrals to mental health services (Torjesen 2020).

The impact of these prolonged periods of restrictions and lockdowns for individuals' mental well-being is somewhat unclear with contrasting data available to date. For example, early research

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documented an initial increase in the prevalence of anxiety and depressive symptoms amongst individuals attending mental health services and in general population cohorts during 2020 (Santomauro *et al.* 2021), although this was not a universal finding (Plunkett *et al.* 2021; McLoughlin *et al.* 2022), with longer-term veracity of this assertion challenged on the grounds that data were collected during the nascent phase of COVID-19 (early 2020), with anxiety symptoms related to an acute stress reaction or “shock effect” (Sun *et al.* 2024). A number of longitudinal studies conducted in Ireland have noted a relatively low level of symptoms and a modest impairment on functioning for individuals with pre-existing, anxiety, bipolar and psychotic disorders 6, 12, 24 and 48 months after the onset of the COVID-19 pandemic respectively (McLoughlin *et al.* 2023; McLoughlin *et al.* 2022; Rainford *et al.* 2023; Hennigan *et al.* 2021; O’Gorman *et al.* 2024; O’Mahony *et al.* 2024). However, significant individual variation has been noted within these studies, with studies including individuals diagnosed with emotionally unstable personality disorder (EUPD) demonstrating significant symptomatology (anxiety and depressive symptoms) at baseline and at several follow-up time periods with impaired functioning and reduced quality of life additionally noted (McLoughlin *et al.* 2022; O’Gorman *et al.* 2024; O’Mahony *et al.* 2024).

Variable findings and opinions have been noted pertaining to rates of both self-harm (Reger *et al.* 2020; McIntyre *et al.* 2021; Steeg *et al.* 2022; O’Malley *et al.* 2023) and suicide (Leaune *et al.* 2020; Pirkis *et al.* 2021; Mannix *et al.* 2024) after the onset of the COVID-19 pandemic. Some researchers have suggested that rates of self-harm in the early stages of the COVID-19 were under-reported, with individuals who did not perceive their episode of self-harm as severe enough to require immediate medical attention not presenting to hospital/emergency department(s) for support; this was further reflected by a greater lethality of method employed in those who did present with self-harm episodes (McIntyre *et al.* 2021; Kar *et al.* 2021).

As it is now over two years since the WHO declared the end of the COVID-19 global pandemic (May 5th, 2023), it is likely that attributing current symptoms to the COVID-19 pandemic would be associated with significant confounders and thus new studies ascertaining the impact of the COVID-19 pandemic on various mental health disorders or self-harm presentations are unlikely. A systematic review ascertaining the impact of the COVID-19 pandemic across a range of mental health disorders and rates of self-harm and suicide would thus be timely and potentially informative, particularly if public health restrictions are needed for a future local or global pandemic. Consequently, we aimed to conduct a systematic review examining (i) the putative impact of the COVID-19 pandemic across a range of mental health disorders in relation to both symptoms and functioning; (ii) rates of referral and presentation to mental health services and emergency departments (EDs) for probable mental health disorders, self-harm and suicidal ideation; and (iii) any potential impact of COVID-19 on suicide rates. These questions were formulated after three meetings between the authors (RVA, SL, BH) with consensus attained from all authors. Given the vast differences in health services and delivery of mental health services globally, we have included research conducted solely in Ireland in this systematic review.

Methods

Data sources and study selection

We conducted a systematic bibliographic search for studies evaluating the impact of the COVID-19 pandemic on a range of

mental health disorders, self-harm, and suicide within Ireland from the following databases: CINAHL, Medline, PsycINFO, PubMed and EMBASE. We searched for articles published between March 12th, 2020 (date NPHE first mandated public health restrictions) and December 20th, 2024 written in English, using medical subject heading key words: “COVID*” OR SARS-CoV” AND “mental health” OR “mental illness” OR “mental disorder” OR “psychiatric” OR “psychological” OR “depression” OR “depressive” OR “mania” OR “manic” OR “manic-depressive” OR “bipolar” OR “BPAD” OR “mood” OR “anxiety” OR “psychosis” OR “schizophrenia” OR “psychotic” OR “schizophreniform” OR “delusion*” OR “hallucination*” OR “OCD” OR “obsessive-compulsive” OR “obsessive compulsive” or “compulsive” OR “obsessions” OR “obsessive” OR “obsessional” OR “eating disorder” OR “anorexia” OR “bulimia” OR “binge eating” OR “bulimic” OR “personality disorder” OR “posttraumatic” OR “post-traumatic” OR “PTSD” OR “dissociative” OR “adjustment disorder” OR “suicidal” OR “suicide” OR “self-harm” OR “self-injury” OR “self-mutilation” AND “Ireland”. We also searched by hand, references from the research articles identified. The study was pre-registered on PROSPERO (ID: CRD42025626954) and conducted in accordance with “Preferred Reporting Items for Systematic Reviews and Meta-Analyses” (PRISMA) guidelines.

Prospective and retrospective cohort studies, analytical cross-sectional studies, randomised control trials, case-control studies, case series, and case reports were included in the systematic review. Studies were excluded if they (1) consisted of incomplete patient data, (2) were letters to the editor or did not include novel data in the study, (3) were conducted in individuals without a pre-existing mental health disorder or included individuals with neurodevelopmental disorders, substance use and addiction disorders, or neurocognitive disorders without the presence of other comorbid mental health disorders and (4) were conducted in another jurisdiction.

Data extraction

Titles and abstracts of articles were independently screened by two reviewers (R.V.A. and S.L.). The full texts of remaining articles were assessed according to inclusion and exclusion criteria independently by the two reviewers, utilising Covidence Software (Covidence systematic review software, Veritas Health Innovation, Melbourne, Australia. Available at www.covidence.org). Selected variables extracted included relevant outcomes (psychometric instrument measurement and qualitative comments pertaining to symptoms, functioning and quality of life), study characteristics (design, timeframe since onset of COVID-19 pandemic, psychometric instruments employed, population studies) and demographic characteristics (sample size, age and gender). Any disagreements were resolved with discussion with unresolved differences discussed with the senior author (B.H.).

Risk of bias was assessed utilising the Newcastle Ottawa Scale (NOS), which generates a score based on sample selection, comparability of groups and adequacy of exposure/outcome (Wells *et al.* 2011), with the Joanna Briggs Institute utilised for case reports (Munn *et al.* 2020).

Results

The PRISMA diagram summarising the literature search strategy is presented in Figure 1. A total of 1659 articles were identified, with 566 duplicates removed, with the remaining 1,093 screened. Seventy-eight full texts were reviewed, and 26 studies were

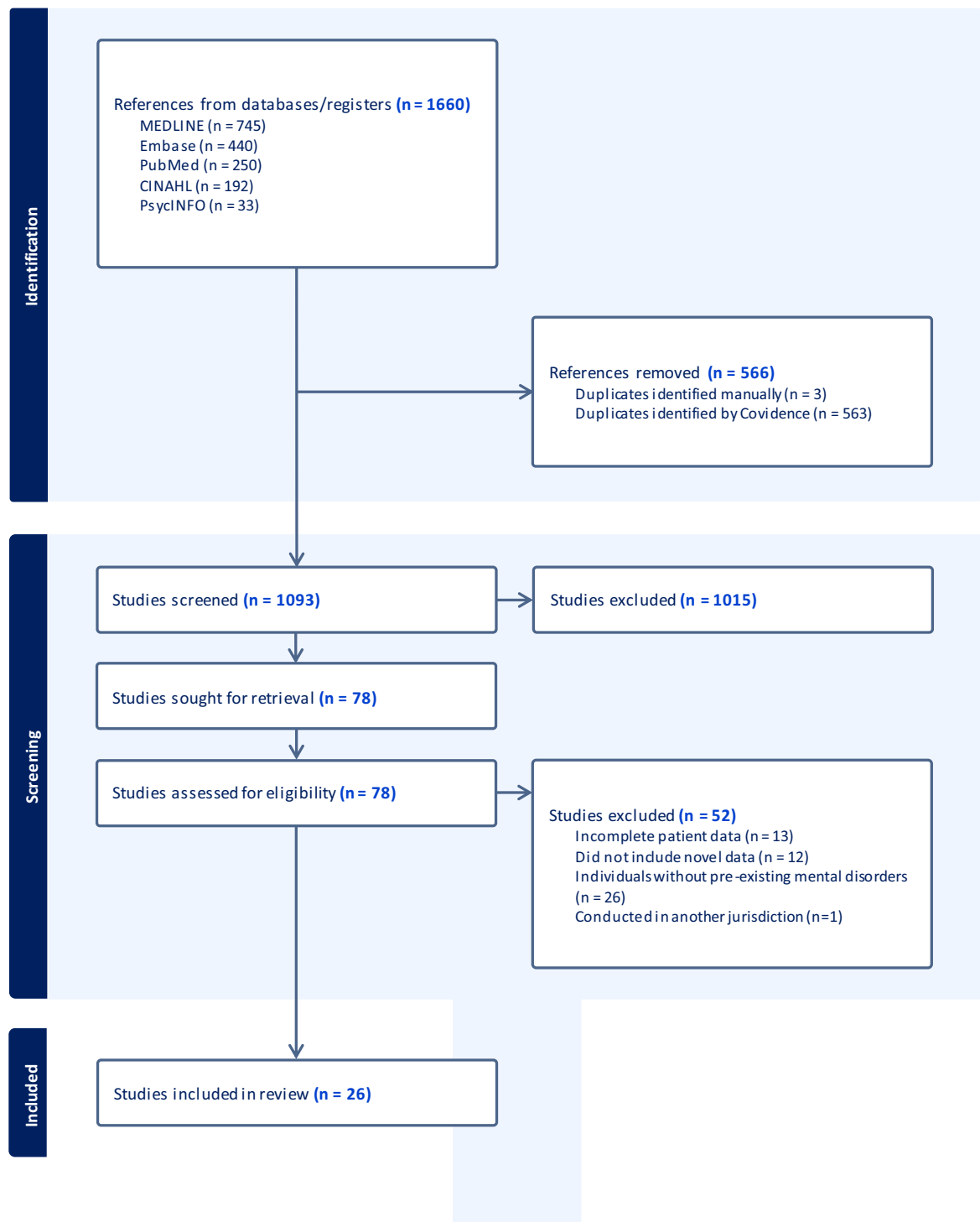


Figure 1. Literature search.

included in the final systematic review. Excluded studies consisted of those with incomplete patient data ($n = 13$), included no novel data in their study design ($n = 12$), were conducted in individuals without a pre-existing mental health disorder ($n = 26$), with one study conducted in another jurisdiction.

Study design, socio-demographic and clinical characteristics, and findings of all included studies are provided in Table 1. There were 21 cross-sectional, four longitudinal cohort studies, and one

case report included. Self-harm and suicide was the most-explored patient cohort ($n = 12$), with anxiety disorders ($N = 11$), psychotic disorders ($n = 9$), bipolar disorder ($n = 7$), major depressive disorder ($n = 6$), eating disorders ($n = 6$), OCD and related disorders ($n = 4$), EUPD ($n = 4$), and adjustment disorders ($n = 1$) also examined, with several studies examining more than one disorder. Eighteen studies examined referral or incident rates, with seven cross-sectional or longitudinal studies examining changes in

Table 1. Study characteristics and key findings

Title	Disorder(s) and sample size	Study design and time-frame	Measurements/Instruments	Key findings
French et al. 2020	OCD (ICD-10 diagnosis) N = 1	Case report February 2020	ICD-10 criteria	This case describes symptom relapse in a previously stable patient with OCD, temporally associated with increased media coverage of COVID-19. The relapse led to marked functional impairment and emotional distress.
Plunkett et al. 2021	Anxiety Disorders (ICD-10 diagnoses) ("Trigger" Anxiety Groups: OCD (<i>n</i> = 12), Social Phobia (<i>n</i> = 3), Agoraphobia (<i>n</i> = 2). "Non-Trigger" Groups: GAD (<i>n</i> = 9), Mixed Anxiety and Depressive Disorder (<i>n</i> = 3), Panic Disorder (<i>n</i> = 1)) Attending CMHT N = 30	Cross-sectional April–May 2020	Demographic and clinical data Likert scales to measure impact of pandemic on anxiety and mood symptoms, social and occupational functioning and quality of life, BAI, HARS, Y-BOCS, CGI-S, GAF	A deleterious impact on anxiety was noted for 15 (50%) individuals. The greatest impact was noted for social functioning (Mean Likert Scale score of 4.5 (SD = 2.9) points), followed by quality of life. No difference between trigger and non-trigger groups or between OCD and non-OCD groups noted (BAI, HARS, CGI, GAF). No differential impact on individuals with comorbid mental or physical health disorder.
Fahy et al. 2021	Treatment Resistant Schizophrenia (<i>n</i> = 59) or Schizo-affective disorder (<i>n</i> = 4) (treated with clozapine) N = 63	Cross-sectional June to August 2020	Demographic and clinical data Likert scales to measure impact of pandemic on anxiety and mood symptoms, social and occupational functioning and quality of life, BAI, HARS Qualitative Data	Minor increase in anxiety and mood symptoms and reduction in quality of life and social functioning, with occupational functioning not impacted. Increasing age associated with increased anxiety symptoms ($p = 0.008$). No correlation with comorbid mental or physical health disorder, or employment status. A neutral impact of COVID-19 was the most common qualitative theme (<i>n</i> = 22), but a negative psychological (<i>n</i> = 13) and social (<i>n</i> = 11) impact was also noted.
Hennigan et al. 2021	Anxiety Disorders (ICD-10 diagnoses) ("Trigger" Anxiety Groups: OCD (<i>n</i> = 11), Social Phobia (<i>n</i> = 2), Agoraphobia (<i>n</i> = 1). "Non-Trigger" Groups GAD (<i>n</i> = 6): Mixed Anxiety and Depressive Disorder (<i>n</i> = 3), Panic Disorder(<i>n</i> = 1)) Attending CMHT N = 24	Six-month longitudinal study April–May 2020 v. October 2020	Demographic and clinical data. Likert scales to measure impact of pandemic on anxiety and mood symptoms, social and occupational functioning and quality of life, BAI, HARS, Y-BOCS, CGI-S, GAF Qualitative data	No significant overall change in symptomatology (BAI, HARS, Likert Scales) or functioning over time (Likert Scales), with biggest impact on social functioning at both time-points with significant individual variation noted. Four qualitative themes were noted (neutral effect of COVID-19 (<i>n</i> = 6), negative psychological impact (<i>n</i> = 5), negative social impact (including social isolation) (<i>n</i> = 5) and concern for the future (<i>n</i> = 4).
McAndrew et al. 2021	Psychiatry Presentations to ED (COVID-19 = 152; Two Pre-COVID-19 time-periods combined = 388) N = 540	Retrospective, cross-sectional March 16th – May 10th, 2020 (8 weeks) compared to same time-points March – May 2019 and March – May 2018 (combined data)	Demographic and clinical data Referral Rates	Weekly presentation rate for psychiatry reduced by 21% in 2020 compared to 2018/2019 (Mean 19, (SD 6.4) v. 24, (SD = 3.2), $p = 0.012$). However, there were increased numbers of presentations in 2020 for anxiety disorders ($p = 0.020$). No difference in self-harm presentations was noted. Psychiatry presentations as a total of all ED presentations were unchanged between the three time-points.

McIntyre et al. 2021	Self-Harm presentations to ED (COVID-19 = 119, Three Pre-COVID-19 time-periods combined = 406) <i>N</i> = 525	Retrospective cross-sectional March 1st-May 30th, 2020 (3 months) compared with same time-periods in 2017, 2018 and 2019	Demographic and clinical Data ED Presentation rates	Overall number of presentations in 2020 like previous years, with fewer presentations in first 4 weeks (35% reduction) of COVID-19 pandemic. Increase in severity of self-harm (increased requirement for medical or surgical admission during COVID-19 24.4% v. 8.9%, $p < 0.001$) and modest increase in substance use in self-harm presenters (30.5% v 21.8%, $p = 0.03$).
McNicholas et al. 2021	All individuals referred to five CAMHS teams in Dublin (COVID-19 = 1514, Pre-COVID-19 time-periods combined = 5,204) <i>N</i> = 6,718	Retrospective cross-sectional January to November 2018, 2019, and 2020 (11 months: Four phases for each year: January–February, March–May, June–August, September–November)	Demographic and clinical data Referral rates	Significantly fewer referrals accepted overall in 2020 ($p < 0.001$). However, increased referral rates noted September–November 2020 compared to corresponding time-points in previous two years ($p < 0.001$).
Campbell et al. 2022	Eating Disorder referrals for family-based treatment CAMHS <i>N</i> = 128	Retrospective cross-sectional January 2018–February 2020 compared to March 2020–August 2021 (18 months)	Demographic and clinical data Referral Rates Eating disorder type, IBW percentage loss	During the COVID-19 pandemic, higher monthly referral rates (3.8 v 2.3, $p = 0.02$), shorter duration of illness pre-referral (4.8 v. 7.4 months, $p = 0.001$) and a higher rate of IBW loss (4.8% v. 2.6%, $p = 0.001$) were noted. Fewer patients were prescribed psychotropic medications during COVID-19 (19% v 43%, $p = 0.01$).
McDonnell et al. 2022	All mental health-related admissions to five paediatric hospitals (Year before-COVID $n = 1557$, COVID $n = 1517$) Self-harm (Pre-COVID $n = 281$, COVID $n = 301$) Eating Disorders (Pre-COVID $n = 130$, COVID $n = 189$) Anxiety Disorders (Pre-COVID $n = 152$, COVID $n = 197$) <i>N</i> = 4,665	Cross-sectional March 2020 to February 2021 (12 months) compared with March 2018 to February 2020 (24 months)	Demographic and clinical data ICD-10 criteria Admission rates	Admissions with a mental health-related diagnosis decreased in the initial lockdown phase (28% - September–December 2020) but subsequently increased above pre-pandemic levels when restrictions were lifted and schools re-opened. In 2021, increased admissions for anorexia nervosa (48%), other eating disorders (43%), and anxiety disorders (30%) were noted, with this increase only in females. Modest increase in admissions for self-harm during COVID (3%), despite reduction in ED self-harm presentations (17%) suggesting greater lethality of DSH.
Hartnett et al. 2023	Psychiatric presentations to ED (COVID-19 ($n = 1,292$), pre-Covid-19 time-points ($n = 1,209$ and 1,174)) <i>N</i> = 3,675	Retrospective Design March 2020–March 2021 (3 months), compared with two corresponding one-year periods before the COVID-19 pandemic	Demographic and clinical data Referral rates	Modest but significant increase in psychiatry presentations to ED during COVID-19 pandemic (1,292) compared to two previous years (1,174 and 1,209) pre-pandemic ($p = 0.02$), with increase in proportion of psychiatry presentations of all presentations to ED during the pandemic (2.5% v. 2.06%, $p < 0.001$). Greatest increase in individuals <18 years of age. Increased presentation of anxiety disorders, and reduced presentation of alcohol use disorders ($p < 0.001$).
Maguire et al. 2023	ED presentations with self-harm or suicidal ideation referred for psychiatry assessment across 9 ED with self-harm or suicidal ideation (COVID-19 = 3,749; pre-COVID: 2018, $n = 3,727$, 2019, $n = 3,823$) <i>N</i> = 11,299	Retrospective design ED presentations January–August 2020 (18 months) compared with same timeframes in 2018 and 2019.	Demographic and clinical data Presentation rates	Increase in suicidal ideation (but not self-harm) between May and August in 2020 cohort compared to similar time-periods in other two samples ($p < 0.001$). Increase in substance use in overdose presentations noted as a more significant contributing factor in January–August 2020 compared to other time-periods (OR = 1.183, CI 1.075–1.301).

(Continued)

Table 1. (Continued)

Title	Disorder(s) and sample size	Study design and time-frame	Measurements/Instruments	Key findings
McLoughlin et al. 2023	Self-harm presentations of adolescents to a single ED 2019 $n = 15$, 2020 $n = 23$, 2021 $n = 47$ $N = 85$	Cross-sectional March-April 2019, 2020, and 2021	Demographic and clinical data Referral rates	Increase in ED referrals across time-period of study (2019 to 2021, $p < 0.001$). No significant change in proportion presenting with self-harm and suicidality. COVID-19 identified as precipitating factor from clinical notes in 55% of presentations in 2021 compared to 13% in 2020 ($p = 0.001$). Reduced substance misuse in 2021 (19%) compared to 2020 (47%) and 2019 (53%) ($p = 0.01$).
McLoughlin et al. 2023	Bipolar Disorder (BD) ($n = 20$) EUPD ($n = 16$) Attending CMHT $N = 36$	Cross-sectional June 2020	Demographic and clinical data Likert scales to measure impact of pandemic on anxiety and mood symptoms, social and occupational functioning and quality of life, BAI, BDI, BHS, BIS Qualitative Data	Individuals with EUPD experienced high levels of depressive (BDI, Likert data) and anxiety symptoms (BAI, Likert data), hopelessness (BHS) and impulsivity (BAI) compared to individuals with bipolar disorder ($p < 0.001$) with social functioning and quality of life ($p = 0.003$) additionally more significantly impaired. Qualitative themes included reduced mental health support (BD = 14, EUPD = 10), a negative vocational impact (BD = 7, EUPD = 4) and a beneficial impact (BD = 7, EUPD = 4) including greater time for reflection and work flexibility.
O'Malley et al. 2023	ED presentations with self-harm referred for psychiatry assessment. Pre-COVID $n = 691$, COVID $n = 754$ Pre-COVID proportions: self-poisoning = 59.3%, self-laceration = 24.0%; COVID proportions: self-poisoning = 62.3%, self-laceration = 25.3%) $N = 1,445$	Cross-sectional March 2020–August 2021 (18 months) compared to previous 18 months (September 2018 to February 2020).	Demographic and clinical data Referral rates	There was a 9% increase in self-harm presentations during the pandemic, especially during higher levels of mandated restrictions (daily rate of 2.1 v 0.8 daily presentations). There was a trend toward lower lethality of attempts, but method did not differ pre- and during pandemic. A higher proportion of individuals presenting during the pandemic were attending local mental health services 32% v 20%, $p < 0.001$. EUPD and substance use disorders were the most common disorders for both time-points.
Rainford et al. 2023	Treatment Resistant Schizophrenia ($n = 50$) or Schizo-affective disorder ($n = 4$) (treated with clozapine) $N = 54$	One- year longitudinal June–August 2020 v. June–July 2021.	Demographic and clinical data Likert scales to measure impact of pandemic on anxiety and mood symptoms, social and occupational functioning, quality of life and views on vaccination. BAI, HARS Qualitative Data	Modest increases in anxiety (HARS, $p = 0.003$), and depressive symptoms with Likert Scale data (0.82 points, $p = 0.034$) at 1 year follow-up), however symptoms were mild with no differences in functioning, quality of life or other measures of psychopathology. Neutral views on vaccinations were evident on Likert data, but qualitative data noted more positive ($n = 12$) compared to negative ($n = 7$) perspectives. Qualitative data additionally noted hopeful or positive themes predominantly including looking forward to a return to normality ($n = 19$), and a positive impact of COVID-19 (less social anxiety described $n = 12$)

Wallace et al. 2023	Referral rates to a POLL liaison team (COVID-19: $n = 197$; pre-COVID-19: $n = 195$) Medical / Surgical inpatients $N = 392$	Retrospective design (two eighteen-week periods) Oct 2018–February 2019 v. March–July 2020	Demographic and clinical data Referral rates	No difference in referral rates evident. Most common reason for referral was depressive symptoms for both time-periods (COVID-19 = 41%, pre-COVID-19 = 48%), but a higher rate of referrals during the COVID-19 pandemic (31%) compared to pre-pandemic (15%) for behavioural difficulties noted. Delirium was the most common diagnosis at both time points (45% COVID-19 v. 42% pre-pandemic)
Fitzpatrick et al. 2024	Accepted referrals to a CAMHS team (COVID-19 = 713; pre-COVID = 249) $N = 995$	Cross sectional study January 2019–February 2020 v March 2020–June 2023 (39 months).	Demographic and clinical data Referral rates	Marginal increase in monthly referrals to CAMHS (18.7 v 17.8) post-COVID onset, with more referrals requiring prioritisation (55% v. 41%, $p < 0.001$). Increase in referrals for anxiety and eating disorders, self-harm ($p < 0.001$).
Gunawardena et al. 2024	Referral rates to ED (COVID-19 = 640; pre-COVID-19 = 462) $N = 1,202$	Retrospective March 2019–March 2020 (12 months) v. March 2020–March 2021	Demographic and clinical data Referral Rates	There was a 14% increase in ED referral during the COVID-19 pandemic (640 v 562, $p = 0.014$), with increased presentations relating to psychosis (46, 7.2% v. 2, 3.9%, $p = 0.01$, and reduced presentations relating to substance misuse (36, 5.6%, v. 70, 12.5%, $p < 0.01$).
Mannix et al. 2024	Probable suicide rates in West of Ireland region, adults ($N = 85$ for both time-points) $N = 170$	Retrospective study (March 2018–February 2020 v. March 2020–February 2022 – 24 months).	Demographic and clinical data Methods of suicide Engagement rates with mental health services	Identical rates of probable suicide for both time-periods, with no difference evident in the methods employed including utilisation of violent compared to non-violent methods. Prior engagement rates with mental health were similar pre-COVID-19 and during the COVID-19 pandemic (33% v. 27%, $p = 0.4$).
O'Driscoll et al. 2023	Children and adults referred to three community eating disorder services in Ireland (COVID-19 time-point 1 = 127, time-point 2 = 249; pre-COVID, $n = 53$) $N = 429$	Cross sectional study (May–December 2019, January–December 2020, January–December 2021 (22 months post-COVID-19)	Demographic and clinical data Referral rates	Referrals to ED services increased over the time periods for both children ($p < 0.001$) and adults ($p = 0.019$), with increased rates of anorexia nervosa (children $p \leq 0.001$, adults $p = 0.03$) and OSFED (children $p = 0.004$, adults $p < 0.05$) and increased rates of psychiatric hospital admissions for children ($p = 0.003$) noted.
O'Gorman et al. 2024	BD ($n = 18$) EUPD ($n = 11$) Attending CMHT Total $n = 29$	2-Year Longitudinal study Time-points of June 2020, May–July 2021 and July–September 2002	Demographic and clinical data Likert scales to measure impact of pandemic on anxiety and mood symptoms, social and occupational functioning and quality of life, BAI, BDI, BHS, BIS Qualitative Data	Higher anxiety (BAI), depressive (BDI) and hopelessness (BHS) in EUPD cohort at the three-time-points, however no significant change in these symptoms across the three time-points for either patient cohort was detected. An improvement in social and occupational functioning and quality of life and depressive symptoms ($p > 0.001$) at time-point 3 was noted for both patient cohorts. Qualitative data revealed a positive psychological impact with discontinuation of COVID-19 pandemic restrictions ($n = 19$, BD = 12, EUPD = 7), and difficulties experienced (particularly in EUPD group) due to reduced availability of mental health services during the pandemic ($n = 17$, BD = 8, EUPD = 9).

(Continued)

Table 1. (Continued)

Title	Disorder(s) and sample size	Study design and time-frame	Measurements/Instruments	Key findings
O'Mahony et al. 2024	BD = 18, EUPD = 13, anxiety disorders (OCD = 9, GAD = 8, Other anxiety disorders = 4) N = 52	4-Year Longitudinal cohort study Time-points of June 2020, October 2020 (anxiety disorder) or May–July 2021 (BD/EUPD), July–September 2002 and September 2023– March 2024	Demographic and clinical data Likert scales to measure impact of pandemic on anxiety and mood symptoms, social and occupational functioning and quality of life, BAI, BDI, BIS, BHS, CGI-S, CGI-I, GAF, Y-BOCS, Qualitative Data.	Higher anxiety (BAI), in EUPD group compared to other groups with higher depression (BDI), impulsivity (BIS) and hopelessness (BHS) scores in EUPD compared to BD at all time-points ($p < 0.001$). Individuals with EUPD reported a greater negative impact of COVID-19 on social functioning and quality of life (Likert data) and greater dissatisfaction with mental health service delivery ($p = 0.02$). Qualitative data highlighted isolation as most common deleterious effect of pandemic ($n = 22$) with the most positive theme being a greater connection with family and/or friends ($n = 19$).
Rafferty et al. 2024	CAMHS Eating Disorder referrals at two Dublin Services Site 1: COVID-19 ($n=149$); pre-COVID ($n = 28$). Site 2: COVID-19 ($n = 27$) pre-COVID ($n = 47$) N = 351	Cross Sectional study Site 1: January 2018–February 2020 v. March 2020–December 2022 (34 months) Site 2: January 2016–February 2020–March–December 2020 (10 months)	Demographic and clinical data Referrals rates IBW%	Increased monthly referral rate post COVID-19 at both sites (Site 1: 4.4 v 2.0, Site 2 + 2.7 v 1.0, $p = 0.001$) with referred cases having a shorter duration of illness ($p = 0.001$) and lower rate of medication use ($p = 0.01$). No difference in clinical profile or IBW at referral.
Sun et al. 2024	Referral rates to a paediatric liaison psychiatry service (age range 1–20 years) (COVID-19/post-COVID-19 = 897; pre-COVID 19 = 488) N = 1,385	Retrospective 5-year (Pre-COVID: January 2018–March 2020, COVID-19 March 2020–February 2022, Post-COVID March–December 2022 (34 months)	Demographic and clinical data Referral Rates	Increased referral rates were evident during, and post COVID-19 pandemic compared to pre- COVID-19 pandemic (26.4 v. 18.8 per month, $R^2 = 32\%$), despite an initial decrease in referrals immediately post onset of the COVID-19 pandemic. The greatest increase in referrals was noted for suicidal ideation and self-harm.
Troya et al. 2024	Self-harm and suicidal ideation ED presentations from 19 (out of 26) Irish hospitals (2018 = 328, 2019 = 351, 2020 = 379, 2021 = 473; 22 months post COVID-19). N = 1531	Cross sectional study Data from 2018, 2019, 2020 and 2021.	Demographic and clinical data Presentation rates	Increased presentations annually, with 27% higher rate in 2021 compared to 2018 ($p = 0.001$). No initial difference (March–July 2020 with previous data but increases evident in subsequent periods (after August 2020).
Duggan et al. 2025	FEP Two Early Intervention in Psychosis Sites (Dublin/ Wicklow and Cork) (COVID-19 = 110, pre-COVID = 77) N = 187	COVID-19 (1 March 2020–28 Feb 2021) compared to 12-month period pre-COVID (March 2019–28 Feb 2020)	Demographic and clinical data Referral Rates DUP GAF	Increased presentations during COVID-19 (110 v 77, $p = 0.003$), evident only in urban areas. No overall difference in DUP between cohorts, however women demonstrated a longer DUP on post-hoc analysis during the COVID-19 pandemic. No difference in GAF, substance use presentations. More telephone consultations offered during COVID-19 (11.7% to 22.7% v 11.7%, $p = 0.05$).

ADHD = Attention Deficit Hyperactivity Disorder; ASD = Autism Spectrum Disorder; BAI = Beck Anxiety Inventory; BD = Bipolar Disorder; BDI = Beck Depression Inventory; BHS = Beck Hopelessness Scale; CAMHS = Child and Adolescent Mental Health Services; CMHT = Community Mental Health Team; DUP = Duration of Untreated Psychosis; ED = Emergency Department; EUPD = Emotionally Unstable Personality Disorder; FEP = First-Episode of Psychosis; GAF = Global Assessment of Functioning; HARS = Hamilton Anxiety Rating Scale; IBW = Ideal Body Weight; ICD = International Classification of Diseases; MMSE = Mini-Mental State Examination; OSFED = Other specified Feeding or Eating Disorder; POLL = Psychiatry of Later Life.

clinical variables. The studies were equally divided between outpatient ($N = 13$) and inpatient ($N = 13$) settings.

Risk of bias data for each study is presented in Table 2. Most studies fulfilled criteria to be denoted as either “good” ($n = 15$, 57.7%) or “very good” quality ($n = 7$, 26.9%) with four studies (15.4%) of “fair” quality and no “poor quality” studies included.

Anxiety disorders and OCD

Of the eight studies examining rates of anxiety disorders, three noted an increase in presentations during the COVID-19 pandemic, with this increase noted in a CAMHS and liaison setting (McAndrew *et al.* 2021; McDonnell *et al.* 2022; Fitzpatrick *et al.* 2024). Greater symptomatology was noted for females only in one study (McDonnell *et al.* 2022). One cross-sectional study (Plunkett *et al.* 2021) noted that individuals diagnosed with anxiety disorders observed a greater deterioration in their symptoms (50% reported a deterioration in symptomatology) compared to clinicians’ observations (27% noted as having a deterioration in symptomatology). Longitudinal follow-up of this cohort at three time-points noted no significant deleterious impact on psychometric measures of anxiety with modest mean anxiety symptoms evident, albeit a variable impact on social functioning was evident with significant variation in individuals’ symptoms and functioning noted (Hennigan *et al.* 2021; O’Mahony *et al.* 2024).

Self-harm/probable suicide

Twelve cross-sectional studies examined rates of self-harm and suicide. Seven studies noted increased rates of self-harm during the COVID-19 pandemic, including when this trend was not evident in the first 3–6 months of the COVID-19 pandemic period (O’Malley *et al.* 2023; Troya *et al.* 2024). Increased presentations of self-harm were particularly evident in adolescents (Sun *et al.* 2024; Troya *et al.* 2024). Data from the largest study in this patient cohort (National Clinical Programme for Self-Harm and Suicide-Related behaviours) noted that substance use likely contributed to presentations of self-harm for young males and people of Irish Traveller ethnicity (Maguire *et al.* 2023). No difference in rates of probable suicide was demonstrated in the one study examining rates in a 2-year period pre and post the onset of the COVID-19 pandemic (Mannix *et al.* 2024).

Psychotic disorders

In studies examining individuals with diagnosed schizophrenia, including longitudinal follow-up studies (Fahy *et al.* 2021; Rainford *et al.* 2023), no significant deleterious impact of the COVID-19 pandemic was evident although a minor impact on anxiety symptoms and social functioning was noted. A potential increase in FEP or presentations with psychosis to ED was noted in two studies (Duggan *et al.* 2025; Gunawardena *et al.* 2024), with a longer duration of untreated psychosis in women and increase in rates in an urban not rural area noted (Duggan *et al.* 2025).

Eating disorders

Five out of six studies noted an increase in either referral or presentation rates to ED or mental health services of individuals with eating disorders. Contrasting findings were noted in relation to metrics of eating disorder severity with higher ideal body weight (IBW) percentage loss noted in one (Campbell *et al.* 2022) but not another study (Rafferty *et al.* 2024) during the COVID-19 pandemic. A shorter illness duration prior to referral to mental

health services, was also noted in some studies (Campbell *et al.* 2022; Rafferty *et al.* 2024).

Mood disorders

Five cross-sectional and two longitudinal cohort studies examined individuals with bipolar disorder. Studies noted minimal depressive or anxiety symptoms in this patient cohort with two longitudinal studies demonstrating no deterioration in mood or anxiety symptoms with improvements in quality of life and social functioning over time demonstrated (O’Gorman *et al.* 2024; O’Mahony *et al.* 2024). Studies evaluating ED presentations demonstrated no increase in presentations of individuals with mood disorders.

An increase in individuals presenting with subjective symptoms of low mood (transient feelings of sadness and anhedonia) without a corresponding increase in major depressive disorder was noted in one study (Sun *et al.* 2024).

Emotionally unstable personality disorder (EUPD)

Two cross-sectional studies and two longitudinal cohort study examined personality disorders, with each of these studies evaluating EUPD and at least one other patient cohort. No other personality disorders were evaluated. An EUPD cohort was found to experience significant anxiety symptoms, with impairments in quality of life and functioning noted, with qualitative data noting that limited mental health supports secondary to the COVID-19 pandemic had a deleterious for their health and quality of life. A cross sectional study (McLoughlin *et al.* 2022) and subsequent longitudinal studies of the same patient cohort (O’Gorman *et al.* 2024; O’Mahony *et al.* 2024) demonstrated that individuals attending an outpatient clinic with emotionally unstable personality disorder had significantly higher anxiety, depression, impulsivity and hopelessness scores, and greater impairment in social functioning and quality of life, than individuals with either bipolar disorder (O’Gorman *et al.* 2024; O’Mahony *et al.* 2024) or anxiety disorders (O’Mahony *et al.* 2024). One study examining rates of self-harm noted both pre- and post-COVID-19 that EUPD and substance use were the most common disorders present.

Discussion

Overall, there was no evidence of a large and widespread increase in, or exacerbation of mental disorders during the COVID-19 pandemic. However, there were nuanced and disorder-specific findings, with increased presentations of self-harm and eating disorders to EDs or mental health services evident, as well as greater distress and reduced functionality for individuals diagnosed with EUPD. This review focuses upon diagnosable mental disorders and therefore does not seek to capture reports of pandemic-related deterioration in mental health (anxiety, self-image, social connectivity, gambling) which might potentially be identified by self-report or presentations to counselling services and disproportionately affect a younger cohort.

Several studies noted an increase in presentations of self-harm to EDs especially in comparison to the presentation of other mental or physical health conditions, albeit an initial reduction in self-harm presentations after the onset of the COVID-19 pandemic was noted (McIntyre *et al.* 2021), a finding consistent with international cohorts and likely related to individuals having a higher threshold for help-seeking, only presenting to EDs with more severe cases of self-harm in the initial months following the

Table 2. Risk of bias assessments

Author	Cross-sectional studies: Newcastle Ottawa Scale			
	Total Score (0–10)	Selection (0–5)	Comparability (0–2)	Outcome (0–3)
Fahy <i>et al.</i> 2021	8	4	1	3
McAndrew <i>et al.</i> 2021	7	3	1	3
McIntyre <i>et al.</i> 2021	8	4	1	3
McNicholas <i>et al.</i> 2021	9	5	1	3
Plunkett <i>et al.</i> 2021	7	3	1	3
Campbell 2022	8	5	0	3
McDonnell <i>et al.</i> 2022	7	4	1	2
McLoughlin <i>et al.</i> 2022	8	4	1	3
O'Driscoll <i>et al.</i> 2023	7	3	1	3
Fitzpatrick <i>et al.</i> 2024	6	3	1	2
Hartnett <i>et al.</i> 2023	7	2	2	3
Maguire <i>et al.</i> 2023	9	4	2	3
McLoughlin <i>et al.</i> 2023	7	4	1	2
O'Malley <i>et al.</i> 2023	9	4	2	3
Sun <i>et al.</i> 2024	9	4	2	3
Wallace <i>et al.</i> 2023	9	4	2	3
Duggan <i>et al.</i> 2025	9	4	2	3
Gunawardena <i>et al.</i> 2024	6	3	1	2
Mannix <i>et al.</i> 2024	9	4	2	3
Rafferty <i>et al.</i> 2024	7	4	0	3
Troya <i>et al.</i> 2024	8	4	1	3
	Cohort studies: Newcastle Ottawa Scale			
	Total Score (0–9)	Selection (0–4)	Comparability (0–2)	Outcome (0–3)
Hennigan <i>et al.</i> 2021	8	4	2	2
Rainford <i>et al.</i> 2023	8	4	1	3
O'Gorman <i>et al.</i> 2024	7	4	0	3
O'Mahony <i>et al.</i> 2024	7	3	1	3
Case Report: Joanna Briggs Institute Score (0–8)				
French and Lyne 2020	6			

Very good quality = 9/10 score on Newcastle Ottawa Scale or 7/8 on Briggs Institute Score.

Good quality = 7/8 on Newcastle Ottawa Scale or 5/6 on Briggs Institute Score.

Fair quality = 5/6 on Newcastle Ottawa Scale or 4 on Briggs Institute Score.

Poor quality ≤ 5 on Newcastle Ottawa Scale or <4 on Briggs Institute Score.

onset of the COVID-19 pandemic (McIntyre *et al.* 2021; Jollant *et al.* 2021; Kar *et al.* 2021; Steeg *et al.* 2022) or potentially using alternative sources of support post self-harm (i.e. engagement with other support services such as Pieta House (Irish Examiner 2021)). A fear of contracting COVID-19 was prevalent in the initial period of the pandemic and resulted in individuals with significant medical conditions (i.e. cardiac events) similarly avoiding hospitals (Kristoffersen *et al.* 2020; Mafham *et al.* 2020). No difference in rates of probable suicide was demonstrated in a 2-year period pre and post the onset of the COVID-19 pandemic, however this was the only Irish study conducted and only examined one region in Ireland. However, the findings are consistent with a systematic

review of 34 studies from 25 countries with pooled suicide rates pre COVID-19 pandemic (11.35 per 100,000, 95% CI 9.35–13.42) similar and not statistically different to those during the COVID-19 pandemic (10.65 per 100,000, 95% CI 8.61–12.68) (da Cunha Varella *et al.* 2024).

Individuals with EUPD exhibited significant symptomatology and poor functioning, although this patient cohort was not extensively studied. However, it is probable that similar factors accounted for increased rates of presentations of self-harm and distress for individuals with EUPD. The public health measures enforced in many countries have been shown to most effect those who endorse a sense of isolation (Henssler *et al.* 2021), and thus

likely impacted a greater proportion of individuals who were already isolated or those with a diagnosis of EUPD, given their greater sensitivity to feelings of emptiness, fears of abandonment (Fonagy and Bateman 2008), and thwarted desired closeness (attachment) (Ikhtabi *et al.* 2022). Participants with EUPD described isolation and distress secondary to the COVID-19 pandemic and associated mandated restrictions, would likely exacerbate any pre-existing interpersonal difficulties experienced (Skodol *et al.* 2005). The deleterious impact of the COVID-19 pandemic on mental health delivery (both within and outside mental health services) likely had a disproportionate impact for individuals with EUPD, given that many of the evidence based therapeutic interventions are predominantly group-based in nature (i.e. Decider Skills Therapy, Dialectical Behaviour Therapy, Mentalisation Based). Voluntary and service-user led supports often involving group therapeutic sessions and supports linked to non-therapeutic activities (i.e. group sporting activities) were also largely unavailable. It is possible that these reduced supports available impacted rates of self-harm presentations for individuals already engaged in and in those unknown to mental health services.

There was a consistent and substantial increase in anorexia nervosa and other eating disorder presentations, which is consistent with data in other jurisdictions (Agostino *et al.* 2021; Spettigue *et al.* 2021). A meta-analysis of almost 5 million individuals (predominantly from the United States of America) noted an increase in prevalence of eating disorders with increased symptom severity of anorexia nervosa, but not other eating disorders demonstrated (Guzel *et al.* 2023). This may have reflected an increase in exposure to weight and body image messaging. For example, public health messages aimed at supporting health lifestyles including healthy eating and physical activity could for some individuals have had a deleterious effect. It has been argued that mandated restrictions secondary to COVID-19, aligned with limited primary care (and mental health services) and social supports added to public health messaging led to some people including adolescents becoming more pre-occupied with body-shape, and over-reliant on dieting following physical activity restrictions (Puhl *et al.* 2020; Miniati *et al.* 2021; Rafferty *et al.* 2024). Additionally, it has been postulated that more limited access to food and grocery trip, may have resulted in food insecurity and hoarding resulting in increased urges to binge (Gao *et al.* 2022).

The COVID-19 pandemic appeared to have a limited deleterious impact on individuals with pre-existing psychotic and mood disorders, with other jurisdictions noting similar findings (Kunzler *et al.* 2023). There are several putative reasons for this. Despite the presence of enduring mental disorders, many of these participants were predominantly stable from a mental health perspective. Even though there was a general limited availability of community and mental health supports, many continued to attain input from their mental health team with mandated face-to-face interactions often required unlike other cohorts (i.e. blood tests due to lithium and clozapine treatment). Unlike individuals experiencing symptoms of mental disorder *de novo* (and perhaps unlike those presenting with a first episode of psychosis (FEP)), these participants had a greater awareness of how to access supports and had likely learnt techniques to reduce their distress due to their prior engagement with mental health services. Reports of an increase of FEP presentations (Duggan *et al.* 2025), has previously been noted in some international studies (Esposito *et al.* 2021; Valdes-Florida *et al.* 2022; Kelbrick *et al.* 2023), with pandemic related stress suggested as a major contributory factor (Bassiony *et al.* 2023),

with stress known to constitute an independent risk factor for psychosis (Shah and Malla 2015).

Some participants with psychosis as evidenced by qualitative comments (Fahy *et al.* 2021) noted no significant impacted on their occupational or social life, given that some had an existing limited repertoire of social activities. In addition, a diagnosis of a severe or enduring mental disorder does not mitigate against an individuals' ability to be resilient. Many participants across the cohorts' studied, demonstrated limited symptomatology and functioned well and likely engaged in appropriate coping mechanisms and demonstrated significant resilience.

Limitations and strengths

This systematic review has a number of limitations. The majority of included studies were cross-sectional in design, which limits the potential to draw causal relationships. Given the unanticipated nature of the onset of the COVID-19 pandemic, there was an absence of pre-pandemic psychometric data (i.e. measures of anxiety or depressive symptoms) limiting the ability to draw precise conclusions about the impact of the pandemic on symptomatology. However, the inclusion of both longitudinal studies and qualitative data in several of these studies supports findings of significant variability of symptoms for individuals, with certain cohorts of individuals (i.e. EUPD) experiencing reduced functionality secondary to the COVID-19 pandemic. There was a lack of detailed reporting of statistical data, including standard deviations, and consequently meta-analyses were not feasible. There was an under-representation of certain disorders, namely recurrent depressive disorder, obsessive compulsive disorder, post-traumatic stress disorder and personality disorders. We included studies that examined both children/adolescents and adult cohorts, with some studies including data pertaining to both groups (O'Driscoll *et al.* 2023; Sun *et al.* 2024). Given there are often differences in symptoms and prognosis between children/adolescents and adults, caution is required in interpreting findings. A major caveat of the data is the pandemic-related reduction in healthcare utilisation and ED attendance. This could have masked changes in presentations of various mental disorders. Individuals with chronic and enduring mental illnesses who already have reduced healthcare engagement may have been particularly less likely to seek medical attention during the pandemic. Finally, given the vast differences in delivery of mental health services globally, we only included Irish data. Whilst many of our findings are consistent with other international studies, including only Irish data significantly impacts the generalisability of our findings.

Conclusion

Although there was not a widespread major exacerbation of symptoms for individuals with pre-existing mental disorders, certain cohorts including individuals with EUPD and eating disorders demonstrated greater symptomatology and impaired functioning during the COVID-19 pandemic. Our findings do not offer reasons for changes in mental health presentations during the pandemic but do provide an overview of the impact of COVID-19 on mental illness in Ireland. While the findings might not be generalisable to other countries, they are of interest for comparing with the pandemic impact on mental illness in other countries. Furthermore, this research highlights the potential future need for targeted interventions and supports in the event of future pandemics or public health restrictions.

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Ethical standards. Ethical approval was obtained for each individual study included in the systematic review. The authors assert that all procedures contributing to this work comply with the ethical standards of the relevant national and institutional committee on human experimentation with the Helsinki Declaration of 1975, as revised in 2008.

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