



Contents lists available at ScienceDirect

Journal of Psychosomatic Research

journal homepage: www.elsevier.com/locate/jpsychores

Short communication



Determinants of workload-related clinician stress levels in general hospital consultation liaison psychiatry services during the COVID-19 pandemic in England and Ireland. Short report[☆]

Christina M. van der Feltz-Cornelis^{a,b,c,*}, Jennifer Sweetman^a, William Lee^d, Anne M. Doherty^{e,o}, Peter Dineen^{f,p}, Gunther Meinlschmidt^{g,h}, Frank Vitinius^{i,j}, Christian Fazekas^k, Christian G. Huber^l, Rainer Schaefer^m, Barbara Steinⁿ

^a Department of Health Sciences, University of York, York, United Kingdom

^b Hull York Medical School, University of York, York, United Kingdom

^c Institute of Health Informatics, University College London, London, United Kingdom

^d Cornwall Foundation Trust, United Kingdom

^e Mater Misericordiae University Hospital, Dublin, Ireland

^f Department of Psychiatry & Neurobehavioural Science, University College Cork, Cork, Ireland

^g University of Basel and University Hospital Basel, Department of Digital and Blended Psychosomatics and Psychotherapy, Psychosomatic Medicine, Basel, Switzerland

^h Department of Clinical Psychology and Cognitive Behavioral Therapy, International Psychoanalytic University (IPU), Berlin, Germany

ⁱ Department of Psychosomatics and Psychotherapy, Faculty of Medicine, University Hospital and University of Cologne, Cologne, Germany

^j Department of Psychosomatic Medicine, Robert-Bosch Hospital Stuttgart, Stuttgart, Germany

^k Medical University of Graz, Department of Psychiatry, Psychosomatics and Psychotherapy, Division of Medical Psychology, Psychosomatics and Psychotherapy, Graz, Austria

^l University of Basel, Department of Psychiatry (UPK), Basel, Switzerland

^m University of Basel and University Hospital Basel, Department of Psychosomatic Medicine, Basel, Switzerland

ⁿ Nuremberg General Hospital, Paracelsus Medical Private University, Nuremberg, Germany

^o University College Dublin, Dublin, Ireland

^p Cork University Hospital, Cork, Ireland

ARTICLE INFO

Keywords:

Work stress
COVID-19
General hospital
Consultation psychiatry services
Staff retention

ABSTRACT

Objective: To explore workload-related stress levels experienced by consultation liaison psychiatry (CLP) staff in England and Ireland, and factors relevant to such a burden, during the COVID-19 pandemic.

Methods: Data were obtained for England and Ireland from a European survey among CLP services in general hospitals spread via CLP networks (11th June - 3rd October 2021). The heads of respective CLP services in general hospitals responded on behalf of each service, on 100 CLP hospital staff in total. Dependent variable: workload-related stress levels in CLP services due to COVID-19 (0–10 point scale). Independent variables: hospital size, CLP service size, degree of hospital involvement in COVID-19-related care, and the number of support options available to hospital staff. Spearman's rho correlation analyses were performed.

Results: There was a significant association between the hospital's involvement in COVID-19-related care and workload-related stress levels as reported by CLP staff: $r(22) = 0.41$, $p = 0.045$, $R^2 = 0.17$. There were no significant associations between workload-related stress levels and other variables including staff support ($p = 0.74$).

Conclusion: Our findings suggest that perceived workload-related stress levels of CLP staff during the COVID-19 pandemic can be an indicator of COVID-19 involvement of the hospitals. Staff support seemed not to alleviate work stress in the context of the pandemic. Healthcare policies should improve working conditions for CLP hospital staff that play an essential role from a population health perspective. Rigorous measures may be needed to ensure mental healthcare provision remains tenable and sustainable in the long term.

[☆] This work was conducted in the Department of Health Sciences, University of York.

* Corresponding author at: Department of Health Sciences, University of York, ARRC Building, T204, York YO10 5DD, United Kingdom.

E-mail address: christina.vanderfeltz-cornelis@york.ac.uk (C.M. van der Feltz-Cornelis).

<https://doi.org/10.1016/j.jpsychores.2023.111584>

Received 18 September 2023; Received in revised form 18 December 2023; Accepted 24 December 2023

Available online 30 December 2023

0022-3999/© 2023 The Author(s). Published by Elsevier Inc. This is an open access article under the CC BY license (<http://creativecommons.org/licenses/by/4.0/>).

1. Introduction

The COVID-19 pandemic had an immense impact on health services worldwide, leading healthcare providers to urgently respond to the needs of millions who fell ill within a brief timeframe [1]. The United Kingdom (UK) and Ireland ranked seventh and eighth globally, with reported COVID-19 cases at 362,981 and 347,100 per million, respectively [1]. Both nations are among the top three worldwide regarding days spent in lockdowns, with Ireland at 227 days and the UK at 213 days. Initiation of lockdowns in both countries took place in March 2020, with the first case 29 February 2020 in Ireland, compared to 31 January 2020 in the UK. This delay, coupled with insufficient community-level protective measures during the first wave, may account for the higher total COVID-19 death rate in the UK (3358 COVID-19 related deaths per million) versus Ireland (1831 COVID-19 related deaths per million) as of July 2023.

In terms of general hospital care provision, the countries seemed to have had similar resources. There were 2.5 hospital beds per 1000 people in the UK in 2019 [2] after a persistent decline over 20 years [3], and 3 per 1000 people in Ireland, as shown in Fig. 1. The UK's count of acute care beds relative to its population lags behind that of many comparable health systems [4].

In the UK, since 1987/1988, the largest percentage reductions in bed numbers have occurred in psychiatric beds, dropping to 33.1 acute mental health beds (including beds for the elderly) per 100,000 population in England [6], because of long-term policies to move these patients out of hospitals and to provide more community-based care [4,7]. This may have led to more patients presenting to the Emergency Department (ED), diverting acute cases from community to CLP services that provided direct patient care in EDs and acute wards.

In England, a pre-pandemic survey (2018) reported that CLP services were provided in 168 of 179 acute hospitals with an emergency department. 141 hospitals (79%) had a 7-day service responding to acute referrals from the emergency department and wards, 78 (44%) with 24 h access to the CLP service. One-third of hospitals (57, 32%) provided non-acute liaison work including outpatient clinics and links to specialist hospital services. 156 hospitals (87%) had a multidisciplinary service including a psychiatrist and mental health nurses [8].

During the pandemic of COVID-19, a disease that could affect several

organs beyond the respiratory tract and cause acute neuropsychiatric complications, and given redeployment of clinicians to acute services, consultation-liaison psychiatry (CLP) services of general hospitals have been the first and main call of contact for psychiatric service provision. Indeed, CLP services were heavily involved in European pandemic healthcare provision, as indicated by a recent European survey [9].

Similar reductions of hospital beds have occurred in Ireland, with 22.05 beds per 100,000 general population remaining acute public mental health beds in 2018 [10]. In Ireland, CLP services are mainly provided in tertiary hospitals, that is, academic hospitals accepting national referrals, and are rarely resourced to the level recommended by the national service policy document, "A Vision for Change" [11]. Most services struggled to provide emergency care, and the increased demand due to the pandemic significantly strained them [12–14]. Irish consultant psychiatrists reported challenges in assessing patients remotely, and increased reliance on telepsychiatry in community settings led to more patients presenting to the Emergency Department (ED), diverting acute cases from community to CLP services that provided direct patient care in EDs and acute wards. Locally variable infectious disease control policies added complexity to transfers between general and psychiatric hospitals, leading to prolonged patient stays in EDs and police stations [15]. These factors likely shaped the experience of employees in the Irish CLP services.

The COVID-19 pandemic's impact on clinician stress due to COVID-19-related perceived workload has been extensively studied for acute, general, and primary healthcare providers [16–21]. However, the stress levels related to the workload experienced by CLP healthcare staff, and factors relevant to such a burden, have not been explored. This study seeks to fill this gap. Given pandemic-related differences in service provision between the UK devolved countries Northern Ireland, Scotland, Wales on the one hand, and England on the other, this study will focus on examining the situation in England and Ireland only.

2. Methods

Data were obtained for England and Ireland (this study) from a European survey (the main study) among CLP services in general hospitals that was conducted between 11th June and 3rd October 2021, the second year of the pandemic. In these two countries participating services

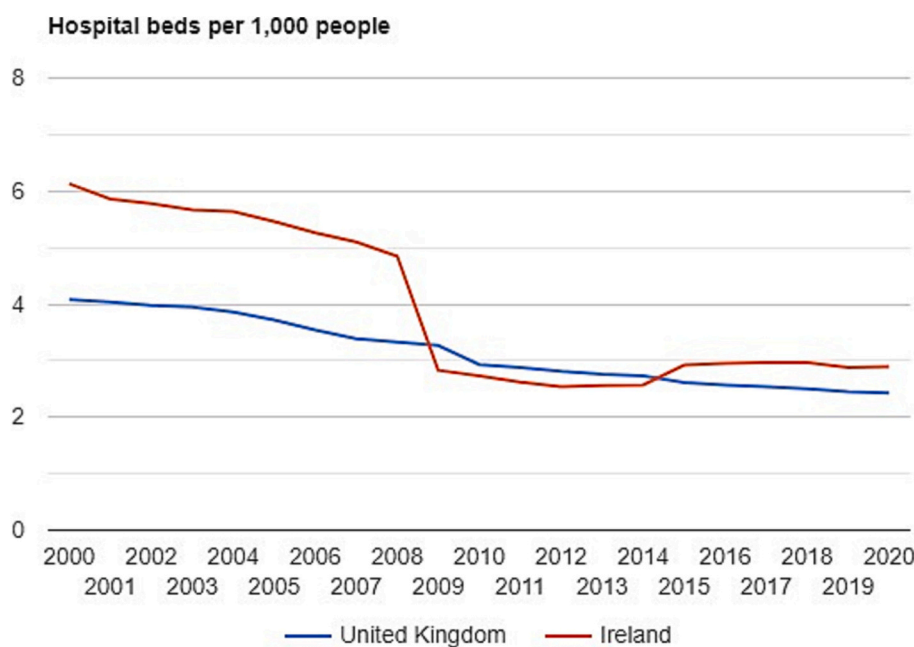


Fig. 1. Organization for Economic Co-operation and Development data. Hospital beds per 1000 people in the UK and Ireland [5] in the years 2000–2020.

are all run mainly on a CLP model, responding to acute referrals from the emergency department and hospital wards, and some have developed areas of more integrated care, involving combined psychiatrist and psychiatric nurse provision of care. The survey had been spread via CLP networks by emailing the heads of all respective CLP services in general hospitals for participation by one main respondent on behalf of each service. The method and results of this survey have been reported in detail elsewhere [10,22]. Data from CLP services in England and Ireland that reported on perceived workload-related clinician stress levels were selected. The number of healthcare workers reported about was 100: 30 physicians, 29 nurses, 16 psychologists, 6 social workers and 19 other staff.

2.1. Variables

This question assessed the dependent variable clinician stress related to perceived workload due to COVID-19: *How would you rate the maximum burden of the COVID-19 pandemic on your own psychosocial team, on a scale of 0–10 (0 = not at all stressed to 10 = extremely stressed)?*

Independent variables were 1) the size of the hospital (number of beds), 2) the size of the CLP service (number of staff), 3) the degree of involvement of the hospital in COVID-19-related care (on a numerical scale of 0–5) and 4) the number of support options available to hospital staff that also workers of the CLP service could use (on a numerical scale of 0–8), such as a telephone hotline for staff, relaxation training and the like.

2.2. Analysis

We performed Spearman's rho correlation analyses to estimate associations of clinician stress related to perceived workload with the four independent variables.

2.3. Ethics

Participation in the online survey was voluntary. Prior to participating in the survey, each of the participants provided informed consent. Participants had the option to withdraw from the survey at any time and without giving a reason. For the main study, written approvals, declarations, or statements were obtained from the responsible ethics committee in Basel (Ethics Committee of Northwest and Central Switzerland, EKNZ, Req-2020-00861, update May 20th, 2021), the site of the principal investigator (RS), where the data were stored and processed, and from each of the participating countries. For the main study, the Basel EKNZ stated that 'The research project doesn't fall under the scope of the Human Research Act, because your project is not defined as research concerning human diseases or structure and function of the human body. An authorization from the ethics committee is therefore not required.' For this study, for Ireland, the study was exempt from Ethical Committee review, as confirmed by the Ethics Committee of University College Dublin (Reference: LS-E-21-78-Doherty). For the United Kingdom, in accordance with British laws and codes of ethics, we obtained confirmation that the study did not require the consent of the ethics committee. (Reference: Personal communication Lee, 28th May 2021). The study was registered on [ClinicalTrials.gov](https://www.clinicaltrials.gov) (NCT04753242).

3. Results

Twenty-one of 170 CLP services in England (12.4%) and 3 of 15 services in Ireland (20.0%) responded, and 22 (19 in England, three in Ireland) reported perceived workload-related stress levels. The mean workload-related stress reported was 8.1 (Standard Deviation, SD = 0.3) in England and 7.7 (SD = 0.6) in Ireland. The median was 8 in both countries. All hospitals in both countries were public hospitals. All sites provided information on the variables, however 7 sites reported that no staff support was provided at all. Further details are shown in [Table 1](#).

Table 1

Description of values for perceived workload related stress and possible associated factors during the pandemic in England and Ireland.

	N	Mean	Standard Deviation	Median	Range
Number of hospital beds per service	24	722.2	355.2	687.5	180–1700
Number of CLP staff per service	24	18.6	7.9	17.5	7–35
Involvement of the hospital in COVID-19 care *	24	4.3	1.2	5.0	1–5
Number of support options available (0–8)**	24	3.8	3.1	4.0	0–8
Perceived workload related stress in CLP (0–10)***	24	8.0	1.3	8.0	5–10

CLP = Consultation Liaison Psychiatry.

* Likert scale: 0 = not at all, 5 = very strong.

** No support for staff was available for 7 services.

*** Likert scale: 0 = not at all stressed, 10 = extremely stressed.

There was no statistically significant difference in perceived workload-related stress levels between the two countries or across hospital settings. There were no significant associations between workload-related stress levels and the number of hospital beds ($p = 0.07$), the number of CLP staff ($p = 0.12$) and staff support ($p = 0.74$). However, there was a significant association between the hospital's involvement in COVID-19-related care and workload-related stress levels as reported by CLP staff, with 17% of the variance explained: $r(22) = 0.41$, $p = 0.045$, $R^2 = 0.17$.

4. Discussion

4.1. Summary of the findings

Our principal finding is that perceived workload-related stress levels in CLP staff in England and Ireland during the second year of the COVID-19 pandemic was significantly related to the maximum involvement of the hospital in COVID-related care. This was directly pandemic-related and reflects an epidemiological parameter of the virulence and spread of SARS-CoV-2 in the population in the catchment areas of the respective hospitals. Amid a global epidemic with a lethal virus known for neuro-psychiatric complications, hospital staff were anticipated to handle a high influx of severely ill patients suffering from COVID-19 and the subsequent backlog from other illnesses. In addition, the limited protective measures for staff in the UK were a noteworthy concern [23]. The correlation of 0.41 signifies a moderate effect size, with 17% of the variance explained, which is substantial. Interestingly, we did not find factors related to service provision, such as hospital size and size of the CLP service, or the support available to staff, to be associated with perceived workload-related stress. This aligns with statements of hospital staff that they did not need resilience training but rather access to places to rest and protective materials to do their work.

4.2. Strengths and limitations

This is the first study exploring factors that may be relevant to workload-related stress perceived by staff in CLP services during the COVID-19 pandemic – an exploration of substantial relevance. However, the relatively small sample size is a limitation of the study. Response rates for email surveys, on average, range between 15 and 25%. The response rate for Ireland aligns with that. The lower English response rate may reflect high workload levels limiting the options for staff to contribute to the survey. Covering an incomplete proportion of all existing CLP services in England and Ireland may limit the

generalizability of our findings. Another limitation is the fact that we only could say something of perceived stress based on the results reported by one respondent on behalf of each CLP service, not on actual stress levels as that was not directly evaluated by more objective means.

4.3. Implications of the findings

The findings of this study suggest that perceived COVID-19-related stress as reported by CLP clinicians is an indicator of the level of COVID-19 involvement of the hospitals. This adds to the literature of subjective assessments by clinicians as quality indicators of health care systems, for example, as studied in Canada, the USA and Norway [24] and suggests this may apply to various healthcare systems ranging from managed care to the NHS.

Future research should verify these findings in a larger pandemic-related sample and investigate whether this association holds for all hospital staff and staff types.

Given that staff support is unrelated to perceived work stress in this study, the abundant literature relating to COVID-19 hospital staff workload focusing on managerial interventions to foster resilience of nurses [25–27] may not be as helpful as suggested before. Instead of focusing on staff support, addressing the potential for burnout and healthcare staff attrition due to challenging work conditions may need more attention [28–30]. Clinicians and their societies could lobby for that.

Greater emphasis should be placed on healthcare policies to improve working conditions for CLP hospital staff that play an essential role from a population health perspective. Rigorous measures may be needed to ensure mental healthcare provision remains tenable and sustainable in the long term.

Funding

This study was not funded.

CRedit authorship contribution statement

Christina M. van der Feltz-Cornelis: Writing – review & editing, Writing – original draft, Supervision, Project administration, Methodology, Formal analysis, Conceptualization. **Jennifer Sweetman:** Writing – review & editing, Writing – original draft, Resources, Formal analysis. **William Lee:** Writing – review & editing, Methodology, Investigation, Conceptualization. **Anne M. Doherty:** Writing – review & editing, Validation, Investigation. **Peter Dineen:** Writing – review & editing, Validation. **Gunther Meinlschmidt:** Writing – review & editing, Supervision. **Frank Vitinius:** Writing – review & editing, Supervision. **Christian Fazekas:** Writing – review & editing, Supervision. **Christian G. Huber:** Writing – review & editing, Validation, Supervision. **Rainer Schaefer:** Writing – review & editing, Supervision, Software, Data curation. **Barbara Stein:** Writing – review & editing, Supervision, Software, Data curation.

Declaration of Competing Interest

The authors declare the following financial interests/personal relationships which may be considered as potential competing interests:

Over the last 3 years, CFC received funding for The European Platform to Promote Wellbeing and Health in the workplace (EMPOWER), a European project to reduce the impact of mental health problems at the workplace, from European Union's Horizon 2020 research and innovation program under grant agreement No 848180. She received grants from The Netherlands Organization for Health Research and Development, grant number 537001002 and 5370010021, from NIHR, grant number 132852 and COV-LT2-0043, and from the BMA, for unrelated projects. She received royalties from several publishers for books on the topic of psychiatry. She received an honorarium from Janssen for

speaking at a symposium and support for giving a lecture at the Lloyds Foundation annual conference 2019.

JS received funding for EMPOWER from European Union's Horizon 2020 research and innovation program under grant agreement No 848180.

GM received funding from the Stanley Thomas Johnson Stiftung & Gottfried und Julia Bangerter-Rhyner-Stiftung under project no. PC 05/18, from Gesundheitsförderung Schweiz under project no. 18.191/K50001, from the Swiss Heart Foundation under project no. FF21101, from the Research Foundation of the International Psychoanalytic University (IPU) Berlin under project no. 5217, from the German Federal Ministry of Education and Research under budget item 68606, from the Hasler Foundation under project No. 23004, in the context of a Horizon Europe project from the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 22.00094, and from Wings Health in the context of a proof-of-concept study. He received royalties from Springer, and an honorarium from Lundbeck for speaking at a symposium. He is a co-founder, member of the board and shareholder of Therayou AG, active in digital and blended mental healthcare. He is compensated for providing psychotherapy to patients, acting as a supervisor, serving as a self-experience facilitator ('Selbsterfahrungsleiter'), and for postgraduate training of psychotherapists, psychosomatic specialist, and supervisors.

FV received funding from German Cancer Aid, Deutsche Kinderkrebsstiftung/ Deutsche Leukämie-Forschungs-Hilfe and Innovationsfonds for studies including coaching, communication and communication trainings. He received royalties for book chapters regarding communication. He is a member of EAPM and has founded the special interest group (sig) transplantation medicine of the EAPM. He is one of the spokesmen of this sig. He is spokesman of the Dt. Kollegium für Psychosomatische Medizin (DKPM) and the Dt. Gesellschaft für Psychosomatische Medizin und Ärztliche Psychotherapie (DGPM) for Consultation and Liaison Psychosomatics; of the Dt. Kollegium für Psychosomatische Medizin (DKPM) and the Dt. Gesellschaft für Psychosomatische Medizin und Ärztliche Psychotherapie (DGPM) for transplantation medicine, and of the working group for communication of the psychooncology work group (PSO) of German Cancer Society (DKG). He is compensated for acting as a trainer for postgraduate training of communication trainings.

CF received funding from the Austrian Science Fund for project KLI 1100. He is current president of the Austrian Society of Psychosomatics and Psychotherapeutic Medicine (ÖGPPM). He is compensated for acting as a trainer for communication in healthcare and for postgraduate training of psychosomatic medicine and as a supervisor.

RS received funding from the Stanley Thomas Johnson Stiftung & Gottfried und Julia Bangerter-Rhyner-Stiftung under project no. PC 05/18, from Gesundheitsförderung Schweiz under project no. 18.191/K50001, from the Swiss Heart Foundation under project no. FF21101, in the context of a Horizon Europe project from the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 22.00094, and from Wings Health in the context of a proof-of-concept study. He received royalties from the publishing houses Kohlhammer and Springer. He received an honorarium from Novartis for speaking at a symposium. He is member of the scientific advisory Board of the Swiss Academy of Psychosomatic and Psychosocial Medicine. He is spokesman of the Dt. Kollegium für Psychosomatische Medizin (DKPM) and the Dt. Gesellschaft für Psychosomatische Medizin und Ärztliche Psychotherapie (DGPM) for Consultation and Liaison Psychosomatics. He is founder and managing director of the "Psychosomatic and Psychosocial Services GmbH", active in psychosomatic and psychosocial training and further education and member of the Board of Trustees of the Foundation for Psychosomatics and Social Medicine (Ascona Foundation). He is compensated for acting as a trainer for postgraduate training of psychosomatic medicine and as a supervisor.

The other authors have no conflicts of interest to declare.

Data availability

The data are owned by a third party, the steering group for this study, that does not publicly share data. However, interested parties will be able to obtain data upon request as follows. Researchers can submit a research plan, which describes the background and methods of a proposed research question, and a request for specific data of the database used for this study to answer the research question. After approval of the research plan by the principal investigator for this study and the steering group, a de-identified minimal dataset can be obtained. Information can be requested by contacting the principal investigator, email: christina.vanderfeltz-cornelis@york.ac.uk

Acknowledgement

The authors would like to express their gratitude to the Liaison Faculty of the Royal College of Psychiatrists in the UK and the Faculty of Liaison Psychiatry of the College of Psychiatrists in Ireland, who supported the dissemination of the survey, and to all participating CLP services.

References

- [1] WHO COVID-19 dashboard, World Health Organization, Geneva, 2020. Data last updated: July 13, 2023, <https://covid19.who.int/> Accessed at 07/12/2023.
- [2] The World Bank databank. Hospital beds per 1000 people per country. <https://data.worldbank.org/indicator/SH.MED.BEDS.ZS?end=2019&start=2001> Accessed at 17/7/2023.
- [3] Published by Frédéric Michas, Statista Annual number of hospital beds in the United Kingdom (UK) from 2000 to 2021, Aug 18, 2022 <https://www.statista.com/statistics/473264/number-of-hospital-beds-in-the-united-kingdom-uk/> Accessed at 17 July 2023.
- [4] The King's Fund, NHS hospital bed numbers past, present, future, 05 November 2021. Leo Ewbank, James Thompson, Helen McKenna, Siva Anandaciva, Deborah Ward. <https://www.kingsfund.org.uk/publications/nhs-hospital-bed-numbers> Accessed at 17/7/2023.
- [5] The Global Economy.com. Business and economic data for 200 countries. <https://www.theglobaleconomy.com/compare-countries/> Accessed at 17/7/23.
- [6] NHS England, Bed availability and occupancy data – overnight. Quarter 2, 2018–19. [Data File], 2018 <https://www.england.nhs.uk/statistics/statistical-work-areas/bed-availability-and-occupancy/bed-dataovernight/> Accessed 14th January 2019.
- [7] Published by Frédéric Michas, Aug 23, 2023 Statista [Health, Pharma & Medtech/Health Professionals & Hospitals](https://www.statista.com/statistics/473278/number-of-psychiatric-care-beds-in-the-united-kingdom-uk/). Annual number of psychiatric care beds in the United Kingdom (UK) from 2000 to 2021. <https://www.statista.com/statistics/473278/number-of-psychiatric-care-beds-in-the-united-kingdom-uk/> Accessed at 04/08/2023.
- [8] A. Walker, J.R. Barrett, W. Lee, R.M. West, E. Guthrie, P. Trigwell, A. Quirk, M. J. Crawford, A. House, Organisation and delivery of liaison psychiatry services in general hospitals in England: results of a national survey, *BMJ Open* 8 (8) (2018 Sep 1) e023091, <https://doi.org/10.1136/bmjopen-2018-023091>. PMID: 30173160; PMCID: PMC6120655.
- [9] R. Schaefer, B. Stein, G. Meinlschmidt, N. Roemmel, J. Blanch, B. Boye, E. Carqueja, T. De Matteis, P. Dineen, A.M. Doherty, S. Ferrari, V. Lanvin, W. Lee, Lemmens GMD, C. Lemogne, K. Malyszczak, A. Mendes-Pedro, A.A. Nejatiasafa, S. Räsänen, B. Rosen, F. Simões do Couto, M. Syngelakis, I. Tarricone, C.M. Van der Feltz-Cornelis, C.G. Huber, C. Fazekas, F. Vitinius, COVID-19-related consultation-liaison (CL) mental health services in general hospitals: A perspective from Europe and beyond, *J. Psychosom. Res.* 167 (2023 Apr) 111183, <https://doi.org/10.1016/j.jpsychores.2023.111183>. Epub 2023 Feb 10. PMID: 36801662; PMCID: PMC9912022.
- [10] Mental Health Commission, Access to Acute Mental Health Beds in Ireland, Mental Health Commission, Dublin, 2020 https://www.mhcirl.ie/sites/default/files/2020-12/Acutebeds_report_Feb2020.pdf (Accessed at 07/12/2023).
- [11] DoH, A Vision for Change. Report of the Expert Group on Mental Health Policy, DoH, Dublin, 2006 <https://www.hse.ie/eng/services/publications/mentalhealth/mental-health—a-vision-for-change.pdf> Accessed at 8/8/2023.
- [12] A.M. Doherty, R. Plunkett, K. McEvoy, E. Kelleher, M. Clancy, E. Barrett, E. Greene, E. Cassidy, W. Lee, S. MacHale, Consultation-liaison psychiatry services in Ireland: a national cross-sectional study, *Front. Psychiatry.* 12 (2021 Nov 29) 748224, <https://doi.org/10.3389/fpsy.2021.748224>.
- [13] A. McIntyre, K. Tong, E. McMahon, A.M. Doherty, COVID-19 and its effect on emergency presentations to a tertiary hospital with self-harm in Ireland, *Ir. J. Psychol. Med.* 38 (2) (2021 Jun) 116–122, <https://doi.org/10.1017/ipm.2020.116>.
- [14] E. Maguire, K. Kavalidou, N. Bannan, A.M. Doherty, A. Jeffers, Substance use and self-harm emergency department presentations during COVID19: evidence from a National Clinical Programme for Self-Harm, *Ir. J. Psychol. Med.* 40 (3) (2023 Sep) 424–429, <https://doi.org/10.1017/ipm.2022.36>.
- [15] E. Kelleher, E.H. Geary, M. Tawfik, E. Ni Mhuirheartaigh, B. Gavin, M. Wall, J. P. Lyne, A.M. Doherty, F. McNicholas, Consultant psychiatrists' experience of the impact of the COVID-19 pandemic on mental health services, *Ir. J. Psychol. Med.* 39 (4) (2022 Dec) 373–385, <https://doi.org/10.1017/ipm.2021.41>.
- [16] S. Golder, L. Jefferson, E. McHugh, H. Essex, C. Heathcote, A. Castro Avila, V. Dale, C. Van Der Feltz-Cornelis, K. Bloor, General practitioners' wellbeing during the COVID-19 pandemic: Novel methods with social media data, *Health Inf. Libr. J.* 40 (4) (2023 Dec) 400–416, <https://doi.org/10.1111/hir.12466>.
- [17] L. Jefferson, S. Golder, C. Heathcote, A.C. Avila, V. Dale, H. Essex, Cornelis C. van der Feltz, E. McHugh, T. Moe-Byrne, K. Bloor, GP wellbeing during the COVID-19 pandemic: a systematic review, *Br. J. Gen. Pract.* 72 (718) (2022 Apr 28) e325–e333, <https://doi.org/10.3399/BJGP.2021.0680>. PMID: 35314428; PMCID: PMC8966782.
- [18] J. Tawse, E. Demou, Qualitative study to explore UK medical students' and junior doctors' experiences of occupational stress and mental health during the COVID-19 pandemic, *BMJ Open* 12 (12) (2022 Dec 12) e065639, <https://doi.org/10.1136/bmjopen-2022-065639>. PMID: 36523252; PMCID: PMC9748513.
- [19] Butow P, Havard PE, Butt Z, Juraskova 1st, Sharpe L, Dhillion H, Beatty L, Beale P, Cigolini M, Kelly B, Chan RJ, Kirsten L, Best M, Shaw J. The impact of COVID-19 on cancer patients, their carers and oncology health professionals: A qualitative study. *Patient Educ. Couns.* 2022 Jul;105(7):2397–2403. DOI: <https://doi.org/10.1016/j.pec.2022.01.020>. Epub 2022 Jan 31. PMID: 35120797; PMCID: PMC8801619.
- [20] A. Wu, R.S. Parris, T.M. Scarella, C.D. Tibbles, J. Torous, K.P. Hill, What gets resident physicians stressed and how would they prefer to be supported? A best-worst scaling study, *Postgrad. Med. J.* 98 (1166) (2022 Dec) 930–935, <https://doi.org/10.1136/postgradmedj-2021-140719>. Epub 2021 Nov 22. PMID: 34810273.
- [21] M. Iorga, C. Soponaru, R.V. Socolov, A. Cărăuleanu, D.G. Socolov, How the SARS-CoV-2 pandemic period influenced the health status and determined changes in professional practice among obstetrics and gynecology doctors in Romania, *Medicina (Kaunas)* 57 (4) (2021 Apr 1) 325, <https://doi.org/10.3390/medicina57040325>. PMID: 33915713; PMCID: PMC8066773.
- [22] R. Schaefer, B. Stein, G. Meinlschmidt, N. Roemmel, C.G. Huber, U. Hepp, S. Saillant, C. Fazekas, F. Vitinius, COVID-19-related psychosocial Care in general hospitals: results of an online survey of psychosomatic, psychiatric, and psychological consultation and liaison Services in Germany, Austria, and Switzerland, *Front. Psychiatry* 13 (2022) 870984, <https://doi.org/10.3389/fpsy.2022.870984>.
- [23] BMA closing statement to module 1 of the UK Covid-19 inquiry. BMA July 20th. <https://www.bma.org.uk/advice-and-support/covid-19/what-the-bma-is-doing/bma-closing-statement-to-the-uk-covid-19>.
- [24] R. Tyssen, K.S. Palmer, I.B. Solberg, E. Voltmer, E. Frank, Physicians' perceptions of quality of care, professional autonomy, and job satisfaction in Canada, Norway, and the United States, *BMC Health Serv. Res.* 13 (2013 Dec 15) 516, <https://doi.org/10.1186/1472-6963-13-516>. PMID: 24330820; PMCID: PMC3904199.
- [25] L. Jerg-Bretzke, M. Kempf, M.N. Jarczok, K. Weimer, C. Hirning, H. Gündel, Y. Erim, E. Morawa, F. Geiser, N. Hiebel, K. Weidner, C. Albus, P. Beschner, Psychosocial impact of the COVID-19 pandemic on healthcare workers and initial areas of action for intervention and prevention—the ePan/VOICE study, *Int. J. Environ. Res. Public Health* 18 (19) (2021 Oct 7) 10531, <https://doi.org/10.3390/ijerph181910531>. PMID: 34639831; PMCID: PMC8508196.
- [26] E. Morawa, C. Schug, F. Geiser, P. Beschner, L. Jerg-Bretzke, C. Albus, K. Weidner, N. Hiebel, A. Borho, Y. Erim, Psychosocial burden and working conditions during the COVID-19 pandemic in Germany: The VOICE survey among 3678 health care workers in hospitals, *J. Psychosom. Res.* 144 (2021 May) 110415, <https://doi.org/10.1016/j.jpsychores.2021.110415>. Epub 2021 Mar 10. PMID: 33743398; PMCID: PMC7944879.
- [27] F. Zaghini, V. Biagioli, J. Fiorini, M. Piredda, P. Moons, A. Sili, Work-related stress, job satisfaction, and quality of work life among cardiovascular nurses in Italy: structural equation modeling, *Appl. Nurs. Res.* 72 (2023 Aug) 151703, <https://doi.org/10.1016/j.apnr.2023.151703>. Epub 2023 Jun 24. PMID: 37423684.
- [28] M.L. Liu, Y.P. Lin, Y. Tsao, Work environment-mediated job burnout and intention-to-stay in registered nurses, *Hu Li Za Zhi.* 70 (4) (2023 Aug) 36–46. Chinese, [https://doi.org/10.6224/JN.202308_70\(4\).06](https://doi.org/10.6224/JN.202308_70(4).06). PMID: 37469318.
- [29] A.W. Wu, C. Connors, G.S. Everly Jr., COVID-19: peer support and crisis communication strategies to promote institutional resilience, *Ann. Intern. Med.* (2020) M20–1236, <https://doi.org/10.7326/M20-1236>.
- [30] A.W. Wu, C.A. Connors, M. Norvell, Adapting RISE: meeting the needs of healthcare workers during the COVID-19 pandemic, *Int. Rev. Psychiatry* 33 (8) (2021) 711–717, <https://doi.org/10.1080/09540261.2021.2013783>. Epub 2022 Jan 4. PMID: 35412425.