

harmful use of illegal substances. Two patients had excessive amount of alcohol use to the point of dependence since teenage. Mean age of onset of both substance and alcohol use was 11, with range of 0 to 20. The most commonly misused substances were alcohol and cannabis (11 out of 12 patients). Eight patients had abused drugs other than cannabis. All but one of these then progressed to using other substances. The reasons for using substances and attitudes to substance and alcohol use were not explored in admission assessment in most cases.

**Conclusion.** Admission assessment to a rehabilitation ward is also an opportunity to screen for any barriers to recovery as well to use brief motivational interviewing intervention if appropriate clinically. There is a need to improve the quality of our admission assessment in relation to substance use history.

Most of our patients had a very early onset of alcohol and substance use, as young as age 8. Apart from one outlier, all had started using substances and alcohol by age 15. This raises concerns regarding missed early prevention and safeguarding opportunities.

Abstracts were reviewed by the RCPsych Academic Faculty rather than by the standard *BJPsych Open* peer review process and should not be quoted as peer-reviewed by *BJPsych Open* in any subsequent publication.

### Statistical Machine Learning Methods to Handle Missing PHQ-8 Score – Assuming Missing at Random

Mr Khalid Suliman<sup>1\*</sup>, Dr Mitha Al Balushi<sup>1</sup>, Prof Hannah Holliday<sup>2</sup>, Dr Manal Alblooshi<sup>1</sup> and Dr Amar Ahmad<sup>1</sup>

<sup>1</sup>Public Health Research Center, New York University in Abu Dhabi, Abu Dhabi, UAE and <sup>2</sup>New York University, New York, USA

\*Presenting author.

doi: 10.1192/bjo.2024.440

**Aims.** Missing data is a challenge that most researchers encounter. It is a concern that continues to be analyzed and addressed for solutions. Missing data occurs when there is no data stored for certain variables relating to participants. In health surveys, when participants answer in the form of “I don’t know” or “I’d prefer not to answer”, these responses can, in many cases, be categorized as missing data responses from a participant in a specific category or question.

The eight-item Patient Health Questionnaire (PHQ-8) is an essential tool in healthcare and clinical settings to assess an individual’s mental health, specifically related to symptoms of depression. The items are scored on a scale from 0 to 3 with the total score obtained by summing the scores for each item. Higher PHQ-8 scores indicate the presence of depressive symptoms.

We used empirical data from a previous study on depression symptoms in patients with coronary heart disease to study the effect of considering the answers “I do not know” and “I prefer not to answer” as missing values when estimating the percentage of depression using PHQ-8. Moreover, we studied the effect of the complete case analysis and multiple imputation on parameter estimates and confidence intervals. The outcome of this study aims to shed light on the development of missing data procedural knowledge and provide methodological support for public health decision-making when data with missing values are collected.

Furthermore, this study aims to prevent the exclusion of missing data rather than to generate data.

**Methods.** A simulation study with 1000 replicates was performed. Four common statistical machine learning methods for handling

missing values were included in this study. These are K-Nearest Neighbor (KNN), K-Means, Classification and Regression Trees (CART), and Random Forest (RF) imputations. Five clusters were used for KNN and K-mean. Likewise, five multiple imputations were used for the CART and RF methods. The simulation was based on publicly available data with available PHQ-8 data for 1096 subjects. In the simulation study and for each replication, multivariate missing values were generated using the missing-at-random (MAR) assumption with 10%, 20%, 30%, 40%, and 50% proportions of missingness. The percent of depression was calculated using the PHQ-8 questionnaire and a comparison was made between estimated actual depression, complete-case analysis, KNN, Kmean, RF, and CART, respectively.

**Results.** The Median age of the subjects was 69 (interquartile range: 61–67) and more males (72.9%) than females were included in the data. The estimated actual depression was 16.8, whereas the estimated percentage of depression varies between 6.9–13.5, 16.2–16.7, 16.3–16.7, 16.6–16.7 and 16.7–16.8 for the complete case, KNN, Kmean, RF and CART respectively.

**Conclusion.** The results of this simulation study show that missing PHQ-8 data are best handled by applying multiple imputations based on CART or RF. However, using K-Means or KNN leads to a good estimate of the true percentage of depression. Furthermore, the results of this simulation study show that complete-case analysis leads to biased estimates of the true percentage of depression. Nevertheless, further investigation is needed to address the problem of missing PHQ-8 data under the assumption of missing not at random.

Abstracts were reviewed by the RCPsych Academic Faculty rather than by the standard *BJPsych Open* peer review process and should not be quoted as peer-reviewed by *BJPsych Open* in any subsequent publication.

### Inpatient Psychiatry Placement Quality Improvement Project for Medical Students at University College London

Ms Maja Swirska<sup>1\*</sup>, Dr Mustafa Abbas<sup>2</sup>, Dr Petros Lekkos<sup>2</sup>, Prof Suzanne Reeves<sup>1,2</sup> and Dr Stephen Ginn<sup>1,3</sup>

<sup>1</sup>University College London Medical School, London, United Kingdom; <sup>2</sup>North London Mental Health Partnership, London, United Kingdom and <sup>3</sup>Central North West London NHS Trust, London, United Kingdom

\*Presenting author.

doi: 10.1192/bjo.2024.441

**Aims.** UCL 5th year medical students undertake 3-week North London Mental Health Partnership inpatient psychiatric wards placements.

Before this project the management of these placements was at the discretion of individual ward teams. A varied, and potentially unsatisfactory, medical student experience resulted.

This project sought to implement a structured approach to placements.

Ward teaching best practice was, for the purposes of this project, considered to be (i) sending students a welcome email prior to placement, (ii) issuing placement timetable, (iii) using tutorial materials for onward tuition.

Project aims: 75% of wards sending welcome email, 75% issuing timetables, 75% using tutorial materials, 75% of students stating placement exceeded expectations.

**Methods.** This project consists of 1 PDSA cycle.

Prior to project baseline measures of ward teaching best practice were collected. The project started at the commencement of 2022/2023 academic year; duration: 12 weeks. The intervention was that inpatient medical teams were supported to send an introductory email to each student cohort, provide a placement timetable, and use supplied tutorial materials.

Questionnaires were emailed to inpatient medical teams at 6 and 12 weeks and to medical students at the end of placements. Medical team questionnaire covered engagement with best practice teaching. The student questionnaire addressed placement experience.

**Results.** Outcomes at project conclusion:

- 33.3% of wards sent introductory email.
- 66.7% of wards issued a placement timetable.
- 16.7% of wards used tutorial materials.
- Less than 75% of student reported that the placement exceeded expectations.

Student experiences were varied: from excellent to feeling ignored. Students expressed a strong preference for additional structured teaching.

The medical inpatient teams did not engage with this project as hoped. Feedback suggested reasons:

- Lack of knowledge about the project.
- Time pressures.
- Perceived lack of medical student engagement.
- Team had preferred teaching practices.

**Conclusion.** Despite this intervention, student inpatient placement experience remains varied.

It may have been optimistic to expect medical teams to change their established practice regarding medical students with only very modest additional support.

Some teams are enthusiastic and thoughtful about student teaching. Other are less so; this may be associated with temporary staff.

Following PSDA cycle 1 no further cycles were attempted as outcome suggested an alternative approach is required.

Possibilities for further PSDA cycles include:

- Supporting placements via regular teaching-focused ward team meetings where expertise can be shared.
- Appointing ward teaching fellows.
- Explicitly rewarding inpatient teams displaying teaching excellence.

Abstracts were reviewed by the RCPsych Academic Faculty rather than by the standard *BJPsych Open* peer review process and should not be quoted as peer-reviewed by *BJPsych Open* in any subsequent publication.

## Empowering Patients With Functional Neurological Disorders (FND) Through Information to Facilitate Informed Decision-Making and Active Condition Management

Dr Soogeun Lee and Dr Bruce Tamilson\*

South West London and St George's Mental Health NHS Trust, London, United Kingdom

\*Presenting author.

doi: 10.1192/bjo.2024.442

**Aims.** This service improvement project seeks to empower individuals diagnosed with Functional Neurological Disorders (FND) by delivering comprehensive information, facilitating informed choices about their care, and encouraging an active role in managing their health.

**Methods.** Information was gathered relating the concerns and expectations of FND patients upon receiving a diagnosis or attending the neuropsychiatric clinic at a regional neuroscience centre. The identification of a patient information leaflet as a valuable resource became apparent. Consequently, a meticulously designed leaflet was developed to educate patients about their condition, providing useful tips and resources. The content of the leaflets underwent a thorough series of reviews, incorporating input from various professionals within the multidisciplinary team, with additional consideration given to feedback from service users. To assess the impact of this intervention, feedback is required from both clinicians and end-users.

**Results.** The patient information leaflet contains information designed to enlighten patients about their condition, incorporating psychoeducational content on self-help strategies and available treatment modalities. It also highlights support resources available to them. The leaflet can be conveniently stored in the neurology and neuropsychiatric clinic areas for easy clinician access and distribution to relevant patients. Additionally, it is available in PDF format, enabling clinicians to print it in satellite clinics, and medical secretaries can email it to patients along with clinic letters as directed by the clinicians. Initial feedback from patients and clinicians has been overwhelmingly positive, with many considering it an essential intervention.

**Conclusion.** This service improvement, realized through a relatively modest intervention, can lead to a substantial impact on patient care and satisfaction. Providing patients with pertinent information is crucial for fostering informed decision-making and empowering them to take an active role in their care. Especially for conditions historically stigmatized and misunderstood, it is imperative to disseminate up-to-date information, establishing a reliable and endorsed source to dispel stigma for both patients and their families.

Abstracts were reviewed by the RCPsych Academic Faculty rather than by the standard *BJPsych Open* peer review process and should not be quoted as peer-reviewed by *BJPsych Open* in any subsequent publication.

## Quality Improvement Project on Standardising GP Discharge Summaries in Liaison Psychiatry Services for Older People in Nottinghamshire Healthcare NHS Trust

Dr Sue Fen Tan<sup>1,2\*</sup>, Dr Sarah Wilson<sup>1</sup> and Mr Robin Lander<sup>1</sup>

<sup>1</sup>Nottinghamshire Healthcare NHS Trust, Nottingham, United Kingdom and <sup>2</sup>Institute of Mental Health, Nottingham, United Kingdom

\*Presenting author.

doi: 10.1192/bjo.2024.443

**Aims.** Discharge letters to general practitioners (GPs) are pertinent in summarising patients' care in secondary healthcare settings and communicating follow-up management plans for continuity of care. 26 GPs from 13 GP surgeries in the West Midlands thought that discharge letters lacked important information and standardisation. We developed a quality improvement (QI) project to standardise GP discharge summaries within the liaison psychiatry services for older people in Nottinghamshire Healthcare NHS Trust. We aimed to ensure that 100% of GP discharge letters are written in a standardised format and meet the mandatory subheadings within six months.

**Methods.** A comprehensive literature search was performed, and we invited six GPs across Nottinghamshire to comment on the quality of anonymised discharge summaries written by our