CHIEF SCIENTIST OFFICE

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RESEARCH PROJECT BRIEFING

MENTAL ILLNESS, RECEIPT OF HOSPITAL CARE, AND DEATH FOLLOWING HEART ATTACK

AIMS

People with mental illness have poorer survival following a heart attack; this is thought to partly be due to differences in receipt of care. Previous studies have largely reported on receipt of the main treatment for heart attack, without examining a wider set of quality of care markers. We used data from electronic patient records to determine whether receipt of in-hospital care and death following a heart attack differs by mental illness status, and whether any differences in receipt of care were affected by the COVID-19 pandemic. To provide insight into experiences of the care pathway we also interviewed patients with mental illness who had experienced a heart attack and relevant health care workers involved with hospital care for patients with a heart attack.

KEY FINDINGS

- Among patients with a non-ST-elevation myocardial infarction (NSTEMI), a type of heart attack that usually affects a non-major blood vessel, those with a mental illness were less likely to receive most of the National Institute for Health and Care Excellence (NICE) quality standards for hospital care of patients with a heart attack
- Among patients with an ST-elevation myocardial infarction (STEMI), a type of heart attack that affects a major blood vessel, there was no clear difference in receipt of care standards
- Differences in receipt of heart attack care were not affected by the COVID-19 pandemic
- Following a heart attack, risk of death at 30 days and 1 year was higher in those with versus without each mental illness
- Interviews with health care professionals and people with a mental illness who had experienced a heart attack:
  - revealed multiple reasons for differences in care, including patient- and practitioner-related factors and systemic barriers (e.g. workforce deficits and limited mental health training), which together might reduce delivery of optimal care in this vulnerable sub-group of the population
  - revealed examples of good practice that have implications for steps to improved care

WHAT DID THE STUDY INVOLVE?

We used national linked health data from England, available through the British Heart Foundation Data Science Centre's CVD-COVID-UK/COVID-IMPACT resource. Similar data on heart attack care and primary care were unavailable in Scotland, but heart attack care pathways are similar across the UK. We included heart attacks that were recorded within a national clinical care audit for heart attack between 1st Nov 2019 and 31st March 2022. We established prior history of schizophrenia, bipolar disorder and depression from primary care and hospital admission records. For each type of heart attack (STEMI and NSTEMI), we compared receipt of care standards and risk of dying among those with versus without each mental illness. These care standards included, for example, receipt of a procedure (known as percutaneous coronary intervention [PCI]) to unblock arteries (for STEMI) within a specific timeframe, and receipt of an investigation (called an angiogram) to establish appropriateness of PCI in a patient (for NSTEMI). Our analyses took into account characteristics that may differ between those with and without mental illness and may be linked to receipt of care and risk of dying, and investigated the effect of the COVID-19 pandemic.

For the interview-based part of the study, we recruited and interviewed 13 health professionals involved in the delivery of care for heart attack, including paramedics, cardiac nurses and doctors from emergency and cardiology departments, and 8 people who had a severe mental illness prior to a heart attack. Patients were recruited by working with key organisations (SHARE, the NHS Primary Care and Mental Health Research Networks). We included lay and patient representatives in the design of our study materials for the interview component and created an advisory group that comprised lay and patient representatives. The advisory group met regularly to discuss study methods, findings and dissemination activities.

WHAT WERE THE RESULTS AND WHAT DO THEY MEAN?

ANALYSES OF LINKED DATASETS

Among people who were admitted to a hospital in England with a heart attack, people with a previous history of schizophrenia, bipolar disorder or depression were: younger; more likely to live in areas of greater poverty; and more likely to have various other health conditions, such as diabetes, prior stroke, and heart failure than people without these mental health conditions. Overweight/obesity and current smoking were commoner in those with versus without these mental health conditions.

- Among people with a NSTEMI, the percentage of patients receiving each care standard was generally lower in those with versus without each mental health condition (see Table 1)
- When statistical analyses took account of differences in age, sex, ethnicity, deprivation and time period, receipt of care was lower for most care standards in those with versus without each mental health condition, as shown in Figure 1
- Among people with a STEMI, there was no clear difference in receipt of care standards
- Preliminary results on differences in mortality support results of previous studies, showing a higher risk of death at 30 days and 1 year post-heart attack in those with versus without mental illness
- Preliminary findings suggest that differences in receipt of care may explain some of the difference in mortality

Table 1 Percentage of patients receiving each care standard, by mental illness status

	Schizophrenia	Bipolar disorder	Depression	No mental illness
Angiogram eligibility (%)	83	85	86	87
Receipt of angiogram (amongst eligible people) (%)	72	83	86	86
Angiogram within 72 hrs (amongst people who received an angiogram) (%)	55	58	61	61
Admission to cardiac ward (%)	38	38	43	44
Secondary prevention medication*¶ (%)	84	83	86	87
Cardiac rehabilitation* (%)	80	87	89	89

*Amongst people discharged home; ¶Medicines to prevent further heart attacks

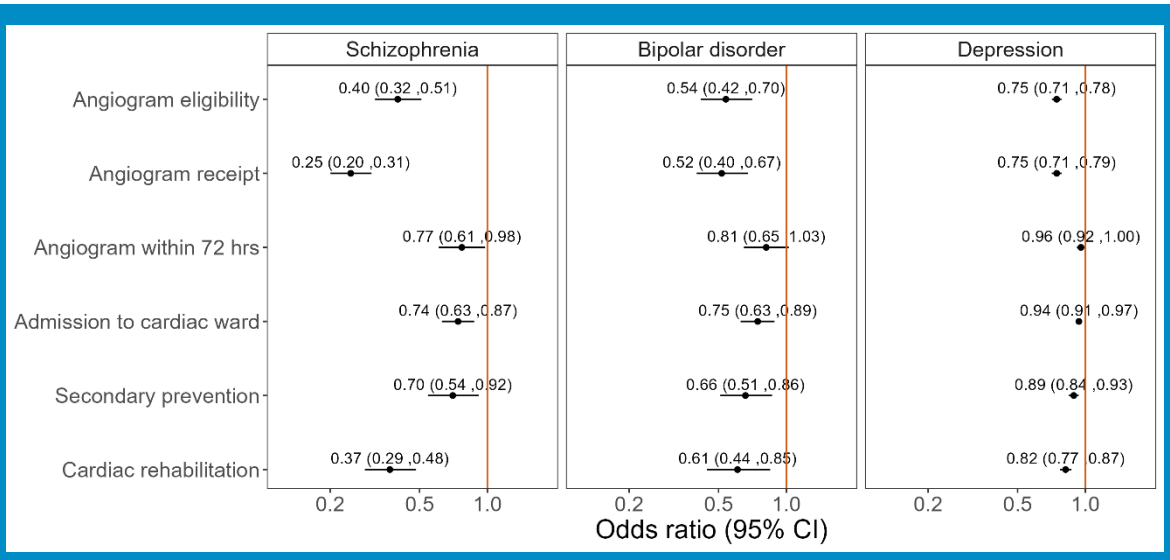

Figure 1: Receipt of each care standard in people with an NSTEMI, comparing people with and without each mental health condition. Ratios lying to the left of the orange line indicate that people with a mental illness are less likely to receive the care standard

ANALYSES OF INTERVIEWS WITH HEALTH CARE PROFESSIONALS AND PEOPLE WITH SMI

Interviews with 13 health care professionals and 8 people with SMI who had experienced a heart attack provided the following insights:

- Patients' experiences were mixed, with identified areas of concern including, for example: how well they were listened to by staff; quality of communication; and trust
- Health care professionals identified practitioner-related, patient-related and system barriers when trying to deliver optimal care to this patient group, such as: stigma (negative attitudes/stereotypes) towards patients with SMI; lack of experience or confidence in caring for patients with SMI; concerns about patient post-operative medication compliance; challenging behaviour of some patients; mental health training deficits; workforce shortfalls and workload intensity.
- Examples of good practice included: personalisation and increased high quality communication; adaptations to and tailoring of the patients environment whilst in hospital; consultant pre-operative visits

WHAT IMPACT COULD THE FINDINGS HAVE?

Whilst planned future research will provide further understanding of the observed disparities in receipt of care for NSTEMI by mental illness status, current findings:

- indicate a need to better support people with mental illness to ensure they receive optimal in-hospital care following this type of heart attack
- have implications for improving the implementation of clinical care standards for NSTEMI in this vulnerable patient group
- inform how we can better support health care professionals involved in the delivery of heart attack care to provide optimal care to patients with mental illness

HOW WILL THE OUTCOMES BE DISSEMINATED?

We presented project findings at national conferences and local research meetings. We held a free online half-day conference that was open to all audiences, on severe mental illness and physical health, with a focus on cardiovascular disease. This event and other dissemination activities were planned in collaboration with our project advisory group, which comprised lay members, including people with lived experience of mental illness. Other activities in progress include sharing lay findings with non-academic audiences (e.g. government and charities) and submitting scientific articles to health journals. We are currently updating all analyses with an additional year of data, adjusting the analysis of care for clinical history and heart attack characteristics, and finalising the preliminary mortality analyses. Next research steps will involve discussions of findings with PPIE groups to support patient-centred investigation of themes identified in participant interviews that could feasibly be addressed in future work using both routine datasets and further interviews. We will also expand this work to examine the entire care continuum, from primary prevention of cardiovascular disease through to cardiac rehabilitation and examine other cardiovascular disease such as heart failure and stroke.

CONCLUSION

We found mental health disparities in the receipt of a number of care standards following a heart attack that affects a non-major blood vessel. Reasons for this are multi-faceted and include patient- and practitioner-related factors and systemic barriers, which together might reduce delivery of optimal care in this vulnerable sub-group of the population. Differences in receipt of care may partly explain why people with mental illness were more likely to die at one year than those without mental illness.

RESEARCH TEAM & CONTACT

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Additional Information

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