

Patient involvement in improving the evidence base on mental health inpatient care: the PERCEIVE programme

Til Wykes,^{1*} Emese Csipke,¹ Diana Rose,²
Thomas Craig,² Paul McCrone,² Paul Williams,²
Leonardo Koeser² and Stephen Nash³

¹Department of Psychology, Institute of Psychiatry, Psychology & Neuroscience, King's College London, London, UK

²Health Services and Population Research, Institute of Psychiatry, Psychology & Neuroscience, King's College London, London, UK

³Department of Biostatistics, Institute of Psychiatry, Psychology & Neuroscience, King's College London, London, UK

*Corresponding author til.wykes@kcl.ac.uk

Declared competing interests of authors: none

Published December 2018

DOI: 10.3310/pgfar06070

Scientific summary

The PERCEIVE programme

Programme Grants for Applied Research 2018; Vol. 6: No. 7

DOI: 10.3310/pgfar06070

NIHR Journals Library www.journalslibrary.nihr.ac.uk

Scientific summary

Background

This programme had three aims: (1) to develop two measures of stakeholder perceptions using stakeholder methodology, (2) to evaluate stakeholder perceptions and the cost-effectiveness of two differing admission systems to inpatient acute wards and (3) to evaluate the stakeholder perceptions and the cost-effectiveness of increasing the number of evidence-based therapeutic activities on inpatient wards. Recently, the spotlight has been put on two aspects of this programme, patient and staff perceptions of inpatient care and improving the quality of inpatient care, that were central at its inception and have remained so throughout. The report into the failings of Mid Staffordshire Hospital highlighted the patient experience as of equal importance as quality and safety. The Patient Involvement in Improving Patient Care (PERCEIVE) programme sought to understand the experience of service users and nurses on mental health acute wards and whether or not a therapeutic intervention could improve what had, for many years, been seen as poor-quality care. We examined whether a new service configuration could improve experience. Mental health services are receiving more attention and parity between physical and mental health care has been agreed by all the major political parties and is in the 5-year forward plan. The public are also now aware of the problems in mental health care, for instance, the *Guardian* ran a feature by an ex-mental health nurse detailing the substandard inpatient care received by a friend. Equally, the most recent report by the Care Quality Commission painted a bleak picture of inpatient care, including reporting that the numbers of people detained and compulsorily treated was now at its highest point ever. Therefore, the results from the PERCEIVE study are timely.

Objectives

We had six principal objectives:

1. to use stakeholder participatory methods throughout the project
2. to develop and validate a measure of service user views of inpatient care
3. to develop and validate a measure of nurse views of inpatient care
4. to develop and validate a patient-reported measure of staff contacts and uptake of activities while on inpatient wards
5. to develop a training programme for nurses to increase their skills in running therapeutic activities and evaluate its effects on nurses and service users
6. to evaluate and compare a novel admission system to a traditional one on the perceptions of nurses and service users.

Work package 1: LIAISE

Methods

Lasting Improvements for Acute Inpatient Settings (LIAISE) was designed to develop and test two self-report measures through a process of stakeholder (service user and nursing staff) involvement. This approach directly involved users of mental health services and nursing staff in order to ensure that measures were produced that captured an accurate picture of an acute care ward from both perspectives. The research was conducted in six stages:

1. Three stakeholder groups mapped the dimensions of inpatient care.
2. Four focus groups each for service users and nurses met twice to discuss what issues mattered to them.

3. The researchers constructed a mixed-methods measure.
4. Expert panels of service users and nurses refined the measures.
5. A total of 146 inpatients and 40 staff took part in feasibility exercises including completing the measure and answering questions assessing whether or not the measure was easy to complete, understand and acceptable.
6. Test–retest reliability and validity were assessed.

Results

1. The service user measure, Views On Inpatient CarE (VOICE), is a 19-item self-report measure that was found to be easy to complete and understand. It has good test–retest reliability and good criterion validity. It had a two-factor structure and the factors were termed ‘care’ and ‘security’.
2. Views On Therapeutic Environment (VOTE), the nurse measure, is a 22-item self-report tool that was found to be easy to complete and understand by nurses working on inpatient wards. It has good test–rest reliability and a three-factor structure, the factors being named ‘workload intensity’, ‘team dynamics’ and ‘interaction anxiety’.
3. The test–retest reliability of the service user measure ($n = 40$) was high [ρ 0.88, 95% confidence interval (CI) 0.81 to 0.95] and there was no difference in score between the two assessments. After removing items with poor reliability, this left a 19-item scale with high internal consistency ($\alpha = 0.92$). The results for the staff measure showed a mixture of moderate and substantial reliability. Concordance between the total scores ($n = 34$) was good (total score, ρ 0.77, 95% CI 0.65 to 0.89). The internal consistency of the measure was good with the overall alpha at 0.82.

Secondary qualitative analysis showed that service users and nurses had different perceptions of life on an acute ward with nurses emphasising management tasks, pressure of work and violence, and service users emphasising the inaccessibility of nurses and unnecessary coercion.

Work package 2: CITRINE

Methods

1. Systematic review of studies measuring staff–patient contact time on psychiatric inpatient wards.
 - i. We searched electronic databases with the criteria for inclusion that (1) the study was based in an inpatient setting and (2) that it measured or observed and recorded time spent by patients and/or staff on different activities.
2. Systematic review of economic evaluations of therapeutic activities on psychiatric inpatient wards.
 - i. We searched the same databases for economic evaluations of interventions of therapeutic interventions based in an inpatient setting.
3. Modelling the cost-effectiveness of inpatient interventions.
 - i. Modelling to assess cost-effectiveness was demonstrated using social cognition training as a case study. Treatment lasting 8 weeks with two 45-minute sessions per week led by a psychotherapist was assumed and the general psychopathology subscale of the Positive and Negative Syndrome Scale (PANSS) was chosen as an outcome. Cost-effectiveness was assessed using the net monetary benefit approach.

4. Development of a measure of service use.
 - i. To develop a tool to collect data on care contacts and activities of inpatients we conducted interviews with inpatient staff to discuss content and structure, collected data from service users and assessed reliability. Contacts with staff members were combined with unit costs. Activity costs were calculated based on session duration, preparation required, staff involved and materials for each activity provided on each ward.

Results

1. The first search identified 86 papers of potential relevance. After reviewing abstracts, two studies were initially included with 11 others included after examining reference lists.
2. The second search identified 236 papers but none met the search criteria.
3. For the model, three relevant studies provided a weighted mean reduction in PANSS score owing to the intervention (vs. usual care) of 3.49 points. To be at least as equally cost-effective as usual care, the intervention needed to reduce hospitalisation by at least 8.5–10.5 percentage points.
4. The Client Services Receipt Inventory–Inpatient (CITRINE) typically took < 10 minutes to complete. Service users reported more activities than shown in case notes and the average cost difference was £10. Case notes reported more one-to-one nursing contacts, resulting in an average cost difference of £4.

Work package 3: DOORWAYS

Methods

Delivering Opportunities for Recovery (DOORWAYS) was a cluster randomised trial, using a stepped-wedge design, to evaluate the impact of training nurses to deliver therapeutic group activities on (1) service users (2) nursing staff and (3) cost-effectiveness. Initially, 16 wards (clusters) were randomised to receive the training at 6-month intervals, two wards in each period. Eight were included initially and a further eight in an extension. This was a pragmatic design that produced different measurement periods for the control and experimental periods in the two sets of randomisations (from three to five measurement periods). The perceptions of service users and staff were collected from wards every 6 months using the VOICE and VOTE designed in work package 1. Service users were excluded if they:

1. had not been on the ward for at least 7 days
2. could not understand English well enough, or were too unwell, to give informed consent
3. had previously participated in the study.

Nurses were excluded only if they were temporary staff who had completed fewer than seven shifts in the preceding month.

Results

A total of 1108 service users participated in the study: 670 on pre-intervention wards and 438 on post-intervention wards. There were 539 staff participants, who contributed between one and five measurements. Using regression analysis accounting for time and ward as fixed effects we found no evidence overall that service user VOICE scores were improved by the intervention (standardised intervention benefit 0.19: mean VOICE score pre intervention = 56.5, SD = 19.1, $n = 644$; mean post intervention = 54.2, SD = 17.2, $n = 414$). However, we found an improvement for those who had been admitted under a legal section [standardised improvement of -0.35 (95% CI -0.12 to -0.57 ; $p = 0.002$)]. However, we found no evidence of any change in VOTE scores from nursing staff (standardised effect size = 0.04, 95% CI -0.09 to 0.18; $p = 0.54$).

Work package 4: BETTER PATHWAYS

Methods

Study 1: is a triage system more efficient and cost-effective than traditional care?

Data on all admissions and discharges were extracted from the comprehensive electronic patient record. For each service user, dates of inpatient admission and discharge, data on input from home treatment teams (HTTs) and demographic and diagnostic characteristics were extracted. Two data sets were created to contain:

1. all admissions to the two systems between 1 January and 31 December 2009 for analyses of length of stay and costs
2. all re-admissions in the year following discharge from their first admission (i.e. index admission) in 2009.

We multiplied the number of inpatient days and the number of HTT visits by appropriate unit cost figures to estimate the cost of service use.

Study 2: service user and staff perceptions of care

We collected data at four time points on staff and service user perceptions of care in the triage and routine care system. We compared differences between systems and differences between different types of wards within the triage system.

Results

Study 1

There were few differences between the characteristics of people admitted in the two systems. We found no evidence of a difference in length of inpatient stay (adjusted estimate 0.5 days shorter in triage; $p = 0.90$). The mean cost of an acute care episode (inpatient length of stay and number of home treatment visits) was £15,233 in the triage system compared with £15,476 in the routine system. Adjusting for potential confounders, we did not find any evidence of a difference between the two systems in the cost of acute care for service users treated within their catchment area (estimated difference: triage system £391 higher, 95% CI –£2535 to £2748; $p = 0.77$).

Study 2

There was no difference in the VOICE scores of service users between the two systems (adjusted estimate: 0.77 better in triage, 95% CI –2.90 to 4.44; $p = 0.68$). There was no significant difference ($p = 0.38$) between the two systems in staff VOTE scores at baseline, but staff experience in both systems changed over the period of the study and these changes differed between systems.

Conclusion

Our studies showed that it is possible to produce psychometrically robust measures of stakeholder experience using a participatory methodology and to produce a meaningful measure of staff and service user interaction by involving service users and nurses. The measure of service use is innovative in that it focuses on what service users find meaningful. The training intervention (DOORWAYS) resulted in improvements to the patient experience only in those involuntarily admitted as measured by VOICE but, contrary to our expectations, our intervention had no effect on nursing staff. Post-intervention focus groups indicated that the DOORWAYS groups were often not implemented as planned owing to staff being needed for other things, incidents on the ward or their lack of appeal to service users. The DOORWAYS intervention resulted in a modest shift of inpatient resources towards direct patient care. Whether triage systems are considered in terms of a large database or the service users who participated in the Bringing Emergency Treatment to Early Resolution (BETTER PATHWAYS) research, they had no effect on length of

stay, re-admissions or cost-effectiveness. VOICE and VOTE scores did not differ by service system but time did have an effect. Our database will be used to develop an understanding of the mediating and moderating factors for improving care quality.

Trial registration

This trial is registered as ISRCTN06545047.

Funding

Funding for this study was provided by the Programme Grants for Applied Research programme of the National Institute for Health Research.

Programme Grants for Applied Research

ISSN 2050-4322 (Print)

ISSN 2050-4330 (Online)

This journal is a member of and subscribes to the principles of the Committee on Publication Ethics (COPE) (www.publicationethics.org/).

Editorial contact: journals.library@nihr.ac.uk

The full PGfAR archive is freely available to view online at www.journalslibrary.nihr.ac.uk/pgfar. Print-on-demand copies can be purchased from the report pages of the NIHR Journals Library website: www.journalslibrary.nihr.ac.uk

Criteria for inclusion in the *Programme Grants for Applied Research* journal

Reports are published in *Programme Grants for Applied Research* (PGfAR) if (1) they have resulted from work for the PGfAR programme, and (2) they are of a sufficiently high scientific quality as assessed by the reviewers and editors.

Programme Grants for Applied Research programme

The Programme Grants for Applied Research (PGfAR) programme, part of the National Institute for Health Research (NIHR), was set up in 2006 to produce independent research findings that will have practical application for the benefit of patients and the NHS in the relatively near future. The Programme is managed by the NIHR Central Commissioning Facility (CCF) with strategic input from the Programme Director.

The programme is a national response mode funding scheme that aims to provide evidence to improve health outcomes in England through promotion of health, prevention of ill health, and optimal disease management (including safety and quality), with particular emphasis on conditions causing significant disease burden.

For more information about the PGfAR programme please visit the website: <http://www.nihr.ac.uk/funding/programme-grants-for-applied-research.htm>

This report

The research reported in this issue of the journal was funded by PGfAR as project number RP-PG-0606-1050. The contractual start date was in August 2007. The final report began editorial review in February 2014 and was accepted for publication in January 2017. As the funder, the PGfAR programme agreed the research questions and study designs in advance with the investigators. The authors have been wholly responsible for all data collection, analysis and interpretation, and for writing up their work. The PGfAR editors and production house have tried to ensure the accuracy of the authors' report and would like to thank the reviewers for their constructive comments on the final report document. However, they do not accept liability for damages or losses arising from material published in this report.

This report presents independent research funded by the National Institute for Health Research (NIHR). The views and opinions expressed by authors in this publication are those of the authors and do not necessarily reflect those of the NHS, the NIHR, CCF, NETSCC, PGfAR or the Department of Health and Social Care. If there are verbatim quotations included in this publication the views and opinions expressed by the interviewees are those of the interviewees and do not necessarily reflect those of the authors, those of the NHS, the NIHR, NETSCC, the PGfAR programme or the Department of Health and Social Care.

© Queen's Printer and Controller of HMSO 2018. This work was produced by Wykes et al. under the terms of a commissioning contract issued by the Secretary of State for Health and Social Care. This issue may be freely reproduced for the purposes of private research and study and extracts (or indeed, the full report) may be included in professional journals provided that suitable acknowledgement is made and the reproduction is not associated with any form of advertising. Applications for commercial reproduction should be addressed to: NIHR Journals Library, National Institute for Health Research, Evaluation, Trials and Studies Coordinating Centre, Alpha House, University of Southampton Science Park, Southampton SO16 7NS, UK.

Published by the NIHR Journals Library (www.journalslibrary.nihr.ac.uk), produced by Prepress Projects Ltd, Perth, Scotland (www.prepress-projects.co.uk).

NIHR Journals Library Editor-in-Chief

Professor Ken Stein Chair of HTA and EME Editorial Board and Professor of Public Health, University of Exeter Medical School, UK

NIHR Journals Library Editors

Professor Ken Stein Chair of HTA and EME Editorial Board and Professor of Public Health, University of Exeter Medical School, UK

Professor Andrée Le May Chair of NIHR Journals Library Editorial Group (HS&DR, PGfAR, PHR journals)

Professor Matthias Beck Professor of Management, Cork University Business School, Department of Management and Marketing, University College Cork, Ireland

Dr Tessa Crilly Director, Crystal Blue Consulting Ltd, UK

Dr Eugenia Cronin Senior Scientific Advisor, Wessex Institute, UK

Dr Peter Davidson Consultant Advisor, Wessex Institute, University of Southampton, UK

Ms Tara Lamont Scientific Advisor, NETSCC, UK

Dr Catriona McDaid Senior Research Fellow, York Trials Unit, Department of Health Sciences, University of York, UK

Professor William McGuire Professor of Child Health, Hull York Medical School, University of York, UK

Professor Geoffrey Meads Professor of Wellbeing Research, University of Winchester, UK

Professor John Norrie Chair in Medical Statistics, University of Edinburgh, UK

Professor John Powell Consultant Clinical Adviser, National Institute for Health and Care Excellence (NICE), UK

Professor James Raftery Professor of Health Technology Assessment, Wessex Institute, Faculty of Medicine, University of Southampton, UK

Dr Rob Riemsma Reviews Manager, Kleijnen Systematic Reviews Ltd, UK

Professor Helen Roberts Professor of Child Health Research, UCL Great Ormond Street Institute of Child Health, UK

Professor Jonathan Ross Professor of Sexual Health and HIV, University Hospital Birmingham, UK

Professor Helen Snooks Professor of Health Services Research, Institute of Life Science, College of Medicine, Swansea University, UK

Professor Jim Thornton Professor of Obstetrics and Gynaecology, Faculty of Medicine and Health Sciences, University of Nottingham, UK

Professor Martin Underwood Warwick Clinical Trials Unit, Warwick Medical School, University of Warwick, UK

Please visit the website for a list of editors: www.journalslibrary.nihr.ac.uk/about/editors

Editorial contact: journals.library@nihr.ac.uk