**Do recovery outcome measures improve clinical practice? A linguistic analysis of the impact of the Hope, Agency and Opportunity (HAO) measure in community mental health teams**

**Abstract**

**Aims:** Recovery approaches are identified as the overarching framework for improving mental health services for people with severe and enduring conditions. These approaches prioritise living well with long-term conditions, as evidenced by personal recovery outcomes. There is little research demonstrating how to support busy mental health teams work in this way. This study assessed the impact of introducing a brief measure of recovery, the HAO, on the attitudes and behaviours of staff working in community mental health teams, to test whether routine use of such measures facilitates recovery-based practice.

**Methods:** Linguistic analysisassumes that language is indicative of wider attitudes and behaviours. Anonymised clinical notes recorded by community mental health team clinicians were analysed for recovery and non-recovery language, over 30 months. This covered periods before, during and after the introduction of the recovery measure. We used a single-case design (N=1 community mental health team), and hypothesised that clinicians would use recovery focused language more frequently, and non-recovery focused language less frequently, following the introduction of the measure, and that these changes would be maintained at 18-month follow-up.

**Results:** Visual inspection of the data indicated that recovery-focused language increased following the introduction of the HAO, though this was not maintained at follow-up. This pattern was not supported by statistical analyses. No clear pattern of change was found for non-recovery focused language.

**Conclusion:** The introduction of a brief measure of recovery may have influenced staff attitudes and behaviours temporarily. Any longer-term impact is likely to depend on ongoing commitment to the use of the measure, without which staff language, attitudes and behaviours return to previous levels.

**Keywords**:mental health, recovery, outcome measures, HAO

# **Introduction**

The concept of mental health recovery has evolved over the last two decades1,2. Conventionally, mental health is defined in clinical terms; patient symptomatology is assessed regularly (e.g. low mood, voices) to establish presence of illness, and the decline or absence of symptoms indicates recovery3. More recently, lived experience accounts have shown that people can and do recover meaningful and satisfying lives – personal recovery – in the context of ongoing ill-health1,2.

 Mental ill-health is one of the primary causes of health burden worldwide4. In the UK, direct and indirect costs amount to 4.5% of the gross domestic product5. Developing services that promote personal recovery is therefore a public health priority. A recovery-based practice (RBP) approach is one in which clinical interactions, service systems and overarching governance arrangements are demonstrably focused on supporting individuals to build the lives they wish to lead2. This is likely to involve facilitating people’s hope, agency (sense of control over their lives) and opportunity for self-determination and social inclusion6, 7. Since 2012, RBP has been the basis for National Health Service (NHS) mental health service improvement8, 9, in line with best practice guidelines10-12, and as endorsed by most of the UK professional practice bodies13-17. This also depends on commissioners and healthcare providers knowing what service indicators lead to the intended outcomes. Shepherd and colleagues18 identify quality indicators for supporting recovery at individual (e.g. evidence of shared decision-making) and organisational levels (e.g. using validated recovery outcome measures). These indicators emphasise the nature and quality of staff / service-user relationships, which are deemed effective to the extent that they promote personal recovery.

While there is some evidence that RBP may reduce self-stigma, across community, day service and forensic settings19-26, less research has examined means of facilitating RBP in NHS services and the impact on outcomes. Training programmes can be effective in improving staff knowledge and attitudes, but may not lead to changes in clinical practice27, 28. For example, a year-long team-based intervention incorporating training and reflective sessions for staff had no overall effect on recovery outcomes compared with treatment as usual28. Importantly, however, post-hoc analyses showed that service-users rated their relationships with staff29 and recovery outcomes28 higher in teams that had participated more fully in the intervention. This suggests that organisational commitment is necessary to implement RBP, and that such changes may first be evident in the relationships between service-users and staff.

Discourse analysts assume that text is one form of social practice that contributes to the constitution of situations, social identities and relationships between people30. By examining language we can extract meaning from text, and examine the relationships between those writing and those being written about. In healthcare settings, linguistic analysis can elucidate the relationships between those providing and those receiving care. The language used in clinical notes can thus be used as a proxy for the attitudes and behaviours of staff toward service-users. For example, medical notes recorded by nurses31 and dieticians32 have been analysed to construct representations of patients’ and practitioners’ reality. In mental healthcare settings, linguistic analysis can be used to examine the extent to which services have moved from a traditional medical model to one that prioritises personal recovery.

The Hope, Agency and Opportunity measure (HAO)33 was designed by clinicians and people with mental ill-health as a means of focusing clinical discussions on the key principles of recovery, developing relevant and personal care plans, and assessing outcomes. The present study aimed to assess the impact of introducing a brief measure of recovery to be used routinely by staff in a community mental health team, on RBP, calculated by counts of language use in clinical notes before, during and after the introduction of the measure. We hypothesised that clinicians would use recovery focused language more frequently, and non-recovery focused language less frequently, following the introduction of the measure, and that these changes would be maintained at 18-month follow-up.

# **Method**

Ethical approval was granted by the University of – Research Ethics Committee (ID: 30552).

## ***Participants***

The community mental health team is part of an NHS Trust in the South of England. Over the 30-month timescale, the average number of staff was . whole time equivalent, with an average team caseload of 454. These teams provide multidisciplinary care to people with severe and enduring mental ill-health, and typically comprise nurses, psychiatrists, occupational therapists, social workers, healthcare support workers and psychologists. The HAO was introduced to the team over a six-month period. Staff were provided with information about its development, practical guidance on structuring recovery-focused conversations using the HAO, and recommendations on how the measure can be used in care planning.

## ***Design***

We used a single-case AB naturalistic design, which consists of two phases – a baseline phase prior to changes made, and an intervention phase. Single-case methods are typically used to investigate an individual’s response to an intervention34, but can be used for a cluster of participants35 – here a community mental health team.

Anonymised electronic notes recorded as part of routine clinical care over a 30-month period (March 2013 – August 2015) were examined. The timescale was divided into five, six-month periods. These periods were grouped into two phases: baseline (A) and intervention (B). The baseline phase combined the periods before (T1: 0-6 months) and during the introduction of the HAO (T2: 6-12 months). The intervention phase combined the periods immediately following introduction of the HAO (T3: 12-18 months), and follow-up periods (T4: 18-24 months; and T5: 24-30 months). Frequency of recovery and non-recovery terms were computed using the automated CRIS system, and then calculated as a proportion of the total team caseload over these periods.

## ***Procedure***

The Clinical Record Interactive Search system (CRIS)36 de-identifies personal data (e.g. name, address details, date of birth) in electronic clinical notes, which can then be used to search for and count specified terms. This system was used to count recovery and non-recovery terms over the five time periods.

The first author created a total of 32 search terms on the basis of the literature (see table 1). Independent raters (*N*=10) with experience in the field of mental health (post-graduate clinical psychology students; recovery college staff; academics) were recruited to code the terms. Fleiss’ kappa, a measure of reliability between raters for categorical variables, indicated very good inter-rater agreement on whether terms were recovery or non-recovery focused, κ=.94, 95% CI[.889, .992], *p*<.001.

# **Results**

## ***Term frequency counts***

Data from 7601 clinical records were included in the analyses. Term frequency counts were recorded over time. as a proportion of the average caseload for the six-month period to account for caseload variation (table 1).

*Table 1 about here*

***Visual analysis***

Single-case methodology prioritises visual inspection of data31. Comparison of central tendency and points of change can be used to compare phases31. Term frequency counts as proportions of caseload were plotted over time, across baseline and intervention phases (figures 1 and 2).

*Figures 1 and 2 about here*

The average number of recovery terms increased from baseline (*M* = 10.64) to intervention (*M* = 11.42). The average number of non-recovery terms decreased from baseline (*M* = 9.38) to intervention (*M* = 9.22), though this difference was very modest. Comparison of points of change (circled) indicates an increase in use of recovery terms between the baseline and intervention phases, though this was not maintained at follow-up. Points of change for non-recovery terms showed a modest change, which again was not maintained at follow-up.

***Statistical analysis***

Mood’s median nonparametric test can be applied to two or more groups, incorporating Fisher’s exact test to compare the relationship of data points to the median31. There was no association between median category and phase for recovery (*p*=1.00) or non-recovery terms (*p*=.400).

# **Discussion**

This study assessed the impact of introducing a brief measure of recovery on RBP in a community mental health team. We used linguistic analysis as a proxy for staff attitudes and behaviour, and predicted increased use of recovery focused language, and decreased use of non-recovery focused language, and that these changes would be maintained at 18-month follow-up.

Following minimal baseline variability, the introduction of the HAO may have had an initial impact on use of recovery language, though this was not maintained. Change in non-recovery language was too modest to draw any conclusions. The statistical analyses did not support either hypothesis.

Given the personal and societal costs of mental ill-health4, 5, and broad agreement that healthcare improvement depends on RBP8, 9, means of facilitating service-level change are urgently needed18. Linguistic analysis used to examine staff attitudes and behaviours toward service-users, is well suited to the assessment of RBP, which prioritises staff / service-user relationships and the promotion of personal recovery.

The study is primarily limited by the assumption that introduction of the HAO resulted in ongoing use of the measure. Anecdotal feedback from the community mental health team suggested that following an initial increase in use of the HAO, this then tailed off as other service demands took precedence. In this context, it is likely that the introduction of a brief measure of recovery had a temporary impact, but that the use of the measure and thus broader impact on RBP was not maintained over time. This might be addressed by comparing teams who have been able to maintain use of recovery measures, with others who have not. Such differences between teams are likely to depend on managerial commitment to routine implementation of recovery measures, in the context of the many other competing pressures and demands on community mental health teams. The results are perhaps unsurprising considering that an intensive team-based intervention also resulted in no effect on recovery outcomes unless teams participated fully28. The modest literature focusing on facilitating and evaluating RBP suggests that organisational prioritisation of key performance indicators, such as the use of recovery measures18, is necessary to effect change.

The lack of any evidence of an inverse relationship between recovery and non-recovery terms is interesting, and suggests that improvement in recovery language cannot be assumed to indicate a corresponding reduction in non-recovery language. This may have implications for education of staff; recovery training typically emphasises the advantages of RBP, but it may also be necessary to emphasise the disadvantages of non-RBP.

# **Conclusions**

This is the first study to examine the impact of introducing a recovery measure in routine NHS settings over a substantial time period (30-months). The results suggest that this may have had an impact on RBP in the short-term, but that recovery language, as a reflection of the wider culture of mental health teams, reverts to baseline levels over time. Any enduring effect may depend on persistent managerial and structural support – no mean feat given the current pressures on community mental health teams.

# **Acknowledgements:** Thanks go to Drs Claire Hart and Katy Sivyer for their statistical guidance, and to Emily Huskins, Research Administrator with the - NHS Foundation Trust Research and Development team for her support with CRIS. The study was approved by the Departmental Research Ethics Committee, University of -.

# **Funding:** This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

# **Declaration of conflicting interest:** The authors declare that there is no conflict of interest.

|  |  |
| --- | --- |
| *Non-recovery-focused term frequency counts* |  *Recovery-focused term frequency counts* |
| Term | T1 | T2 | T3 | T4 | T5 |  | Term | T1 | T2 | T3 | T4 | T5 |
| Ill\* | 1882 | 1728 | 1748 | 1344 | 1832 |  | Engage\* | 1784 | 1610 | 1861 | 1202 | 1476 |
| Unable | 1014 | 1109 | 1163 | 903 | 875 |  | Inclu\* | 681 | 599 | 799 | 592 | 614 |
| Symptom\* | 826 | 688 | 795 | 764 | 642 |  | Cop\* | 633 | 571 | 805 | 502 | 606 |
| Limit\* | 243 | 235 | 294 | 193 | 214 |  | Recovery | 586 | 564 | 682 | 529 | 514 |
| Demand\* | 162 | 193 | 150 | 154 | 108 |  | Hope | 421 | 418 | 603 | 428 | 494 |
| Depend\* | 147 | 132 | 158 | 120 | 132 |  | Goals | 272 | 247 | 346 | 191 | 200 |
| Resist\* | 88 | 107 | 92 | 55 | 48 |  | Opportunit\* | 190 | 210 | 260 | 212 | 264 |
| Hopeless | 39 | 47 | 79 | 45 | 69 |  | WRAP | 147 | 290 | 213 | 103 | 217 |
| Disengage\* | 43 | 41 | 39 | 40 | 26 |  | Choice | 148 | 112 | 134 | 130 | 149 |
| Unmotivated | 17 | 21 | 13 | 13 | 6 |  | Value | 95 | 87 | 150 | 45 | 111 |
| Maladaptive | 8 | 5 | 5 | 10 | 32 |  | Agency | 54 | 63 | 150 | 64 | 65 |
| Unmanage\* | 6 | 10 | 10 | 10 | 5 |  | Wellness | 69 | 71 | 92 | 36 | 54 |
| Manipulat\* | 7 | 7 | 4 | 7 | 8 |  | Collaborat\* | 32 | 13 | 43 | 25 | 21 |
| Attention seeking | 1 | 1 | 0 | 1 | 0 |  | Strengths | 11 | 11 | 22 | 20 | 20 |
| Disempowered | 0 | 0 | 1 | 1 | 0 |  | Resilien\* | 5 | 5 | 22 | 13 | 16 |
| Non-complian\* | 0 | 0 | 0 | 0 | 0 |  | Self-management  | 4 | 1 | 0 | 6 | 1 |

*Table 1*. Frequency counts for recovery and non-recovery terms

*Figure 1*. Recovery term frequency counts as a proportion of caseload. Horizontal dotted lines represent average frequency count for the phase. Dashed circles represent change points.

*Figure 2*. Non-recovery term frequency counts as a proportion of caseload. Horizontal dotted lines represent average frequency count for the phase. Dashed circles represent change points.

**References**

1. Anthony WA. Recovery from mental illness: The guiding vision of the mental health service system in the 1990s. *Psychosocial Rehabil J* 1993; 16:11-23.
2. Repper J and Perkins R. Recovery and social inclusion. In: Callaghan P, Playle J and Cooper L (eds) *Mental health nursing skills.* Oxford: Oxford University Press, 2009,pp. 85-95.
3. Yanos PT, Roe D, Markus K, et al. Pathways between internalized stigma and outcomes related to recovery in schizophrenia spectrum disorders. *Psychiat Serv* 2008;59: 1437-1442.
4. Vos, T., et al. (2013) Global, regional, and national incidence, prevalence, and years lived with disability for 301 acute and chronic diseases and injuries in 188 countries, 1990–2013: a systematic analysis for the Global Burden of Disease Study. The Lancet. 386 (9995). pp. 743-800.
5. Department of Health. (2014). Annual Report of the Chief Medical Officer 2013: Public Mental Health Priorities: Investing in the Evidence. Retrieved from gov.uk/government/publications/chief-medical-officer-cmoannual-report-public-mental-health (accessed 24 March 2019).
6. Deegan PE. Recovery: The lived experience of rehabilitation. *Psychosocial Rehabil J* 1988; 11: 11-19.
7. Perkins R. Recovery: A journey of the mind and spirit. *Clinical Psychology Forum 268,* https://www1.bps.org.uk/system/files/Public%20files/recovery.pdf (2015, accessed 1 March 2018).
8. Department of Health. No health without mental health: Implementation framework*,* https://www.gov.uk/government/uploads/system/uploads/attachment\_data/file/216870/No-Health-Without-Mental-Health-Implementation-Framework-Report-accessible-version.pdf (2012, accessed 10 February 2018).
9. Department of Health. Closing the gap: Priorities for essential change in mental health*,* https://www.gov.uk/government/uploads/system/uploads/attachment\_data/file/281250/Closing\_the\_gap\_V2\_-\_17\_Feb\_2014.pdf (2014, accessed 10 February 2018).
10. National Institute for Health and Care Excellence. Looked-after children and young people, https://www.nice.org.uk/guidance/ph28/resources/lookedafter-children-and-young-people-pdf-1996243726021 (2010, accessed 10 February 2018).
11. National Institute for Health and Care Excellence. Service user experience in adult mental health: improving the experience of care for people using adult NHS mental health services, https://www.nice.org.uk/guidance/cg136/resources/service-user-experience-in-adult-mental-health-improving-the-experience-of-care-for-people-using-adult-nhs-mental-health-services-pdf-35109513728197 (2011, accessed 10 February 2018).
12. National Institute for Health and Care Excellence. Older people: independence and mental wellbeing, https://www.nice.org.uk/guidance/ng32/resources/older-people-independence-and-mental-wellbeing-pdf-1837389003973 (2015, accessed 10 February 2018).
13. British Association of Social Workers. The role of the social worker in adult mental health services, https://www.basw.co.uk/resources/tcsw/Roles%20and%20Functions%20of%20Mental%20Health%20Social%20Workers%202014.pdf (2014, accessed 10 February 2018).
14. British Psychological Society. Commissioning and delivering clinical psychology in acute adult mental health care, http://www.bps.org.uk/system/files/Public%20files/DCP/cat-1138.pdf (2012, accessed 10 February 2018).
15. Royal College of Nursing. Frontline first: Turning back the clock? RCN report on mental health services in the UK, https://www.rcn.org.uk/professional-development/publications/pub-004772 (2014, accessed 10 February 2018).
16. Royal College of Psychiatrists. Recovery is for all, http://www.rcpsych.ac.uk/pdf/Recovery%20is%20for%20all.pdf (2010, accessed 10 February 2018).
17. Royal College of Psychiatrists. Recovery for people with severe and complex mental health problems in Northern Ireland., http://www.rcpsych.ac.uk/files/pdfversion/CR187.pdf (2014, accessed 10 February 2018).
18. Shepherd, G, Boardman, J, Rinaldi, M, Roberts, G. Supporting Recovery in Mental Health Services: Quality and Outcomes. ImROC Briefing Paper 8. Centre for Mental Health (online). Retrieved from http://www. centreformentalhealth.org.uk/pdfs/ImROC\_ briefing8\_quality\_and\_outcomes.pdf (2014, accessed 24 March 2019).
19. Watson AC, Corrigan P, Larson JE, et al. Self-stigma in people with mental illness. *Schizophrenia Bull* 2007;33: 1312-1318.
20. Burke E, Wood L, Zabel E, et al. Experiences of stigma in psychosis: A qualitative analysis of service users’ perspectives. *Psychosis* 2016; 8: 130-142.
21. Espinosa R, Valiente C, Rigabert A, et al. Recovery style and stigma in psychosis: The healing power of integrating. *Cogn Neuropsychiatry* 2016; 21: 146-155*.*
22. Moriarty A, Jolley S, Callanan MM, et al. Understanding reduced activity in psychosis: The roles of stigma and illness appraisals. *Soc Psych Psych Epid* 2012; 47: 1685-1693.
23. Cunningham KC and Lucksted A. Social cognition, internalized stigma, and recovery orientation among adults with serious mental illness. *Psychiatr Rehabil J* 2017; 40: 409-411.
24. Wood L, Byrne R, Burke E, et al. The impact of stigma on emotional distress and recovery from psychosis: The mediatory role of internalised shame and self-esteem. *Psychiat Res* 2017; 255:94-100.
25. Livingston JD, Nijdam-Jones A, Lapsley S, et al. Supporting recovery by improving patient engagement in a forensic mental health hospital: Results from a demonstration project. *J Am Psychiatr Nurses* 2013; 19: 132-145.
26. Vayshenker B, Mulay AL, Gonzales L, et al. Participation in peer support services and outcomes related to recovery. *Psychiatr Rehabil J* 2016; 39: 274-281.
27. Jackson-Blott K, Hare D, Bronwen D, et al. Recovery-oriented training programmes for mental health professionals: A narrative literature review. Mental Health & Prevention 2019; 13: 113-127.
28. Slade M, Bird V, Clarke E, et al. Supporting recovery in patients with psychosis through care by community-based adult mental health teams (REFOCUS): A multisite, cluster, randomized, controlled trial. Lancet Psychiatry 2015; 2: 503-514.
29. Wallace G, Bird V, Leamy M, et al. Service user experiences of REFOCUS: A process evaluation of a pro-recovery complex intervention. Soc Psychiatry Psychiatr Epidemiol 2016; 51: 1275-1284.
30. Van Dijk TA*. Discourse studies: A multidisciplinary introduction.* Vol. 2. London: Sage Publications, 1997.
31. Irving K, Treacy M, Scott A, et al. Discursive practices in the documentation of patient assessments. *Journal Adv Nurs* 2006;53: 151-159.
32. Lövestam E, Fjellström C, Koochek A, et al. The power of language on patient-centredness: Linguistic devices in the dietetic notes of patient records. *Int J Appl Linguist* 2015; 25: 225-245.
33. Newman-Taylor K, Garner C, Vernon-Wilson E, et al. Psychometric evaluation of the hope, agency and opportunity (HAO): A brief measure of mental health recovery. *J Ment Health* 2017; 26:562-568.
34. Morley S, Masterson C and Main J, editors. Single-case methods in clinical psychology. A practical guide. Oxford: Routledge; 2018.
35. Smith JD. Single-case experimental designs: A systematic review of published research and current standards. *Psychol Methods* 2012; 17: 510-550.
36. CRIS Network. Governance, https://crisnetwork.co/governance (2018, accessed 5 March 2018).