Recovery College characteristics, fidelity, commissioning models and unit costs: a cross-sectional global survey of 28 countries

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Summary

Background

Recovery Colleges (RCs) support the recovery of individuals who have mental health issues, using the principles of coproduction and adult learning. There has been little international research on RCs and none investigating costs, staffing, or fidelity to these and other principles. We aimed to characterise RCs internationally.

Methods

We conducted an observational study integrating two equivalent cross-sectional surveys, one conducted within England in 2021 and one in all other countries in 2022. We included all RCs meeting recovery orientation, coproduction and adult learning criteria. Managers completed a survey capturing organisational and student characteristics, fidelity and budget. RCs were grouped by country and continent to allow for regression models exploring continental differences in fidelity.

Outcomes

We identified 221 RCs operating across 28 countries, spanning five continents. Overall, 174 (79%) RCs participated in the survey. Most scored high on fidelity. Compared with England, RCs in Asia scored lower on overall fidelity, ‘coproduction’ and ‘tailored to the student’. Annual budgets in the 133 (60%) colleges providing economic data were €0-2,550,000, varying extensively within and between continents. Among the RCs who provided data, annual budgets totalled €30m, providing 19,864 courses for 55,161 students.

Interpretation

RCs exist in many countries. There is an international consensus on key operating principles, especially equality and a commitment to recovery, and most RCs achieve moderate to high fidelity, irrespective of the income band of their country. Cultural differences need to be considered in assessing coproduction and approaches to individualising support.

Research in context

Evidence before this study

RCs have gained rapid and widespread momentum internationally since they first opened in England in 2009. In 2017, the RECOLLECT Fidelity Measure was published to assess alignment with components of the evidence-based RC model, but model fidelity has yet to be measured internationally. A 2020 review exploring the impact of RCs concluded that future priorities should include a better understanding of the fidelity components of RCs, as well as what organisational factors influence fidelity and how. It also noted limited information on running costs. We updated the literature search up to 31st October 2022, using search terms relating to Recovery Colleges. One scoping review was identified which explored whether co-creative approaches, central to RC practice, were also utilised in RC evaluations. Whilst most studies stated that coproduction was utilised, few described how meaningfully involved those with lived experience were in the evaluation process. No further empirical research investigating fidelity, costs of RCs, nor factors which could influence these, was identified.

Added value of this study

This is the first study to comprehensively map and characterise RCs internationally. The findings enable us to understand their core components and to provide estimates on the spending of RCs per continent and globally. We identified that ratings for the fidelity characteristics 'tailored to the student' and 'coproduction' were influenced by culture, with these being scored lower in Asia when compared with RCs in England. Whilst running costs are highly variable, staffing is consistently a major cost driver.

Implications of all the available evidence

There is an emerging global consensus that RCs are one approach to delivering recovery-oriented support and developing recovery-orientated systems, so countries and regions with no or few RCs may consider developing such services. Specific knowledge gaps to address from this study include identifying relevant cultural influences in different countries on RC characteristics and fidelity assessment, and the development of coproduced approaches to outcome evaluation.

Introduction

Personal recovery has been defined as individuals (re)building a meaningful and empowered life alongside their mental health issues.[1] Internationally, there is growing consensus that mental health services should move towards facilitating personal recovery[2] and healthcare policy in many countries prioritises this.[3–6]

Recovery Colleges (RCs) were developed to support personal recovery and facilitate recovery-oriented care and differ from clinical and therapeutic approaches.[7,8] They support people with mental health issues, their carers, and mental health staff, through co-produced adult education.[8] In this context, adult learning refers to students taking responsibility for their learning via interactive and reflective exercises collaboratively with trainers, and coproduction refers to people with lived experience (peer trainers and students) and staff and professional/subject experts working together to design and deliver all aspects of RCs.[7] Key RC principles are that they are collaborative, strengths-based, person-centred, inclusive and community-focused and are significantly different from clinician run psychoeducation courses and adult education courses.[9] The growing interest in RCs has resulted in the development of an international community of practice.[10]

Most research on RCs has been conducted in England.[9,11–14] This includes perspectives from health and social care staff and students on the role of RCs for personal recovery,[11,12] the development of a RC fidelity measure[9] and a national survey which identified a typology of RCs based on core characteristics.[14] Health and social care professionals' views on RCs, as well as students' views, are broadly positive, seeing them as empowering and improving mental health and wellbeing.[15,16]

In 2021, we conducted a national survey of 88 RCs across England.[14] Cluster analysis of responses from the 63 (72%) participating RC managers identified three groups of RCs: those that were strengths-oriented (i.e. focused explicitly on the strength of the student and shared buildings with statutory health and social care services); those that were community-oriented (i.e. did not share buildings with statutory health and social care services and focused on social connectedness); and those based in forensic services. Higher scores on the fidelity measure were associated with both strengths-oriented and community-oriented RCs. Running costs indicated that in 2021 the median annual budget for English RCs was £200,000 and the median cost per student was £518.

Other countries have conducted national surveys[17] outlining RC features, yet there is little international research comparing RCs on organisational and student characteristics, fidelity, or funding. Only one study has explored commonalities across RCs in different countries.[18] This 2018 survey of 25 colleges in 21 countries outside the UK identified that around half were affiliated with health organisations and state funding was most frequent, all showed similar features and principles to those in the UK. However, this was limited to respondents who were able to participate in English and complete the survey in a short period, and was conducted before publication of the RC fidelity measure.[9]

Whether coproduction-based principles extend beyond RC practice and into evaluations has recently been investigated in a scoping review.[19] Findings suggested that whilst lived experience was often stated as being part of the research process, few studies described how much, or how meaningfully, people with lived experience were involved in research co-design and analysis. Thus, it remains unclear the degree to which issues important to those that use RCs were included in data collection or whether findings were interpreted and discussed from the perspectives of the main beneficiaries of RCs.

We aimed to characterise all RCs internationally whilst meaningfully involving individuals with lived experience in study design, interpretation and dissemination of study results. The objectives were to a) determine which countries have RCs and how many exist, b) explore organisational and student characteristics of RCs internationally, c) describe funding and staffing, and d) explore continental differences in fidelity characteristics.

Methods

Study design

As part of the RECOLLECT programme,[20] we conducted an observational study integrating two equivalent cross-sectional surveys, one conducted across England in 2021 and previously published,[14] and one conducted in all other countries in 2022 and reported here for the first time. The England survey found that not all relevant services call themselves a 'Recovery College'. Therefore, in both surveys, we included any service that met the following criteria, derived from the key components of RCs,[9] as defined by their manager when completing the survey:

- a focus on supporting personal recovery.
- an aspiration to use coproduction, defined as individuals with lived experience working with staff or subject experts to design and deliver all aspects of the RC.
- an aspiration to use adult learning approaches, in which students and trainers collaborate and learn from each other by sharing experiences, knowledge, and skills.
- Currently open and running courses.

We obtained approval from Kings College London Psychiatry Nursing and Midwifery Research Ethics Subcommittee on 09/02/22 (reference: MRA-21/22-28685).

Measures

The full survey is shown in supplementary material (S1). Questions first established eligibility, before asking about organisational, student and funding characteristics, as well as fidelity.

We measured fidelity using the 12-item RC manager-rated RECOLLECT Fidelity Measure, assessing seven ordinal and five categorical components of a RC,[9] which is based on a published change model[11] and was coproduced with people with mental health lived experience.[21] The seven ordinal components are each scored from 0 (low fidelity) to 2 (high fidelity) and comprise: Valuing equality; Learning; Tailored to the student; Coproduction; Social connectedness; Community focus; and Commitment to recovery. The fidelity score is the sum of these seven items, ranging from 0 (low fidelity) to 14.

The five categorical components are rated as either Type 1 or Type 2: The categorical components are outlined in supplementary material (S2).

No summary score is calculated for categorical items since their relationship with outcomes has not been investigated. Psychometric evaluation showed that the RECOLLECT Fidelity Measure meets scaling

assumptions and demonstrates adequate internal consistency (0.72), test-retest reliability (0.60) and content validity, and good discriminant validity when compared to both clinician-delivered psychoeducational groups and adult education colleges.[9]

Procedures

To identify all countries where RCs may exist, we used the following sources:

- A previous international survey examining RCs[18]
- Existing recovery networks including ImROC, the RC Network, the Recovery Research Network, and the Mental Health Innovation Network
- Expert consultation with international leaders in the field of recovery (n=23)
- Liaising with collaborators in countries with similar interventions available in services, such as peer support workers.

To refine this longlist, we identified individuals in each country or region to work with us. Individuals were approached based on their expertise in recovery, such as academics and those pioneering recovery-oriented approaches and services, including those with lived experience. We asked country leads to report whether there were RCs or equivalent services/organisations in their country and, if so, how many. Country leads were asked to use local and national networks and where applicable, to search literature in their local language using key terms such as 'Recovery College' Or 'Discovery Centre' along with their country or region. We then asked country leads to ascertain whether each identified service met the study inclusion criteria through discussion with the service manager. Snowball sampling of RCs completing the survey was also employed, by asking each respondent to identify other RCs in their region or country.

The international survey was adapted from the 2021 England survey.[14] The RECOLLECT Lived Experience Advisory Panel (LEAP), comprising individuals with lived experience of mental health issues or their carers, RCs (as students and/or lived experience staff), or mental health services, were involved in the design and refinement of both surveys. This included developing questions based on the RECOLLECT change model[11] and additional questions they felt were important to those considering using RCs (e.g., whether lived experience was represented at a senior level). For the international survey, LEAP representation included members who had lived in, were based in, or with backgrounds from Asia, Europe outside the UK, and Oceania.

We first modified the international survey by removing phrases specific to England (e.g., 'Local Authority') and shortening the economics section by removing salary band information and breakdown of core and non-core roles. To identify cultural assumptions, we piloted the international survey with three experts involved in RCs in Australia, Canada, and Japan. This resulted in the removal of an item on ethnicity of RC students.

The finalised international survey was implemented online using Qualtrics (www.qualtrics.com). A Microsoft Word version was also made available in electronic format to address access issues, such as organisational firewalls and intermittent internet. We permitted minor refinements by the country lead, to retain conceptual equivalence and to maximise cross-cultural validity of the international survey and hence allow comparability. For countries where English was not widely spoken and multiple RCs were present, we asked country leads to

translate the survey into their local language using the Microsoft Word version. Country leads were given the option of facilitating survey completion using oral translation via a video call or face-to-face meeting with the RC Manager, or translating the survey into their local language using the Microsoft Word version. Each translation was checked by a second individual fluent in the local language to ensure consistency in translation. This resulted in eight language versions: Chinese, Danish, Dutch, French, German, Japanese, Spanish and Norwegian. The translations are available at https://www.researchintorecovery.com/measures/recollectfidelitymeasure.

The international survey opened in February 2022 and closed in October 2022. We created a unique ID for each RC. Informed consent was obtained prior to survey completion. Where RC managers completed the survey online in English, a Qualtrics hyperlink was created and sent to the country leads who forwarded this to the manager. Where RC managers completed the survey in Microsoft Word, country leads either forwarded the survey to the manager to complete or set up a meeting to go through the survey, as required. Leads followed up by phone or email a minimum of three times with each RC to maximise survey completion rates. Where the survey was completed using the Qualtrics hyperlink, the research team had direct access to the data. Where completed in Microsoft Word, the file was encrypted and emailed to the research team for data entry by the RC or the country lead. The findings from the England and international surveys were then integrated.

Statistical analysis

Organisational and student characteristics and fidelity scores were summarised as medians and interquartile ranges (IQR) and frequencies for the overall sample and for each continent. We generated summary statistics for the total annual budget, overall and by continent. Both median and mean values were reported, as budget data are typically highly skewed. RCs could choose in which currency to report their budget and so to aid comparison, we converted all budgets into Euros based on the exchange rate on 12th December 2022 obtained from www.oanda.com, (see. supplementary material S3). The annual budget reported by each RC was divided by the number of students and number of courses to estimate unit costs in terms of cost per student and cost per course. The annual budget for staff was divided by the total annual budget for each RC to estimate the proportion of total budget attributed to staff costs. The proportion of RCs reporting employing staff in specific job roles was also summarised. Additional summary statistics were produced to describe the proportion of RCs receiving income from different funding sources and the number of different funding sources contributing to RCs.

Unadjusted linear, ordinal, and logistic regressions were used to examine continental differences in overall and per item fidelity scores. We used linear regression to assess regional differences in overall fidelity scores, ordinal regression to assess regional differences in non-modifiable fidelity items, and logistic regression to assess regional differences in modifiable fidelity items. In all models, England (the country with the largest number of RCs and where RCs originated) acted as the reference group. To account for multiple testing a Bonferroni correction was applied resulting in a corrected significance level of $p \leq 0.001$.

Unadjusted mixed effects linear, ordinal, and logistic regressions with a country-level random intercept were used to examine associations between length of time in operation (years) and RC size (number of students) and

fidelity scores as above. Bonferroni correction for multiple testing resulted in a corrected significance level of $p \leq 0.002$.

All analyses were conducted in STATA 17.0.[22]

To interpret findings, we presented results to a range of audiences between November 2022 and March 2023. This included the RECOLLECT LEAP, lived experience co-researchers, and academics focusing on global mental health.

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Results

The initial mapping exercise identified a long–list of 50 countries, including England, where RCs could be present. Discussion with international experts and searching by country leads reduced this to a finalised list of 31 countries including England, with 299 potential RCs identified.

Leads in each country contacted all potentially eligible RCs. This resulted in the removal of two countries and 78 potential RCs which did not meet inclusion criteria. The most common reason for exclusion was RCs were non-contactable, with local experts believing they were no longer in operation (n=22; 29%), followed by the RC not meeting inclusion criteria (n=20; 26%). A full list of reasons for exclusion are listed in supplementary material (S4).

This gave a total sample of 221 RCs in 28 countries, including England. Overall, 174 (79%) of the 221 identified RCs participated. Participating RCs were in Oceania (10/11), North America (Canada 19/23), Europe (130/170), Asia (13 /15) and Africa (2/2). The number of RCs identified by continent and country and how many participated are outlined in supplementary material (S5).

RC organisational characteristics

The organisational characteristics of participating RCs are shown in Table 1. We identified that RCs located in North America had operated for the shortest duration (2.5 years). African RCs offered the greatest median number of courses per year and number of different courses (378 and 91.5, respectively), whilst RCs in Asia offered the lowest median numbers (12 and 5, respectively). RCs in Oceania tended to be based in community/mixed venues (70%), whilst other continents had a more even split between RCs having their own base and using community/mixed venues. Only in Africa and Asia did most RCs use goal-oriented personal plans.

[INSERT TABLE 1 HERE]

Across the different continents, the majority of RCs had: main organisational affiliations to statutory health services or NGOs; individuals with lived experience in their leadership team; most commonly coproduced courses between those with lived experience and a healthcare professional; and rated both available options: the reduction of stigma and positive impact on mental health services as being equally important as their main goal

RC student characteristics

Student characteristics are shown in Table 2. We identified that RCs in Africa reported the highest median number of students per year, and that those in Asia reported the lowest (305 and 50, respectively), and that RCs in Africa had students with the lowest median age (29.7) whilst those in Europe, Asia and England had students with the oldest median age (40). A higher proportion of females attended RCs in Oceania, Europe, North America and England.

[INSERT TABLE 2 HERE]

RC Fidelity scores

Fidelity scores are shown in Table 3. Most RCs scored high overall, with the majority rating themselves high on equality, commitment to recovery, being available to all, and being progressive.

[INSERT TABLE 3 HERE]

We examined continental differences in fidelity using linear (for total fidelity score), ordinal (for ordinal items) and binary logistic (for categorical items) regression models using England as the reference category. Results are shown in Table 4. Africa was excluded from analysis due to an insufficient sample size.

[INSERT TABLE 4 HERE]

Regarding total fidelity score, compared to RCs in England, those in Asia (β=-2.88, 95% confidence interval (CI)=-4.44 to -1.32, $p<0.001$) had lower fidelity scores calculated using the seven ordinal items. Two of the seven ordinal items also showed significant differences. RCs in Asia were more likely to score lower on the items 'Tailored to the student' (odds ratio (OR)=0.10, 95% CI=0.02 to 0.39, p=0.001) and 'Coproduction' (OR=0.10, 95% CI=0.03 to 0.33, $p<0.001$) than RCs in England.

There was no relationship between total and item-level fidelity scores and either RC size or time in operation after accounting for clustering by country (all p values >0.002 – see supplementary material (S6).

Funding and staffing

Overall, 133 (60%) of RCs provided economic data. Table 5 summarises the annual budgets and provides additional summary statistics for the number of students and courses. The overall median budget was €152,346, although there was great variability in median budgets across RCs and across the continents. The lowest mean budget was (€20,590) for the two RCs in Africa and the highest was in England (€232,708). The mean annual budget was somewhat higher (€223,667), reflecting a skewed distribution. Some RCs reported that they did not receive any money towards running costs. The highest budget was €2,550,000 for one RC in Europe. Staffing was an important driver of costs, comprising a mean of 72% of a RC's total budget. Staff costs were a lower proportion of total budget in RCs in Asia (56%) and North America (63%) than elsewhere.

[INSERT TABLE 5HERE]

Overall, 125 (57%) RCs provided data to allow derivation of costs per student. The median cost per student was €698 overall, ranging from €80 in Africa to €943 in Europe (a scatterplot of the relationship between budget and number of students is presented in Supplementary Material: S7). The overall median cost per course run was €2,161, ranging from €45 in Africa to €3,718 in Europe. The overall median cost per distinct course offered was €6,397, ranging from €287 in Africa to €7,654 in Europe.

RC funding sources, staff roles and median budgets are shown in supplementary material (8-10). The majority (70%) of RCs were funded by a single source and 70% of these RCs received their budget from a government-funded health service. The most common staff roles were occupational therapists, nurses, and psychologists, with around 30% reporting having staff in these roles. Approximately two-thirds of RCs reported having 'peer', 'lived experience', or 'lay' staff. This rose to 71% and 80% respectively in Canada and England. Median annual budgets per country were between €2,780 in Japan and €225,729 in Australia. The combined annual budgets reported by the 133 (60%) RCs who provided economic data was €29,747,657, providing 19,864 courses per year to 55,161 students.

Discussion

We identified 221 RCs currently operating across 28 countries spanning five continents, including a further six countries where RCs operate compared with the 2018 international survey.[18] This demonstrates that countries are increasingly adopting the concept of RCs as a component of mental health service provision. Whilst the evidence base for RCs is promising[15,23] it has not advanced proportionally with the global expansion of RCs. Instead, it appears that catalysts may be due to: policy shifts to ‘recovery-oriented’ care;[3–6,24] that stakeholders including those with lived experience, healthcare staff and policy makers like the concept of RCs[23]; and the championing and support around implementing recovery-oriented practice from organisations such as ImROC.

Fidelity in most RCs was high, especially outside Asia. Items such as ‘equality’ and ‘commitment to recovery’ were consistently rated as high in the majority of RCs across continents, indicating these components may be the central features of RCs globally, even when adapted for cultural context. Differences between Asian and English RCs on fidelity arose from lower ratings in Asia for ‘coproduction’ and ‘tailored to the student’. Such findings are in line with previous research, where services implementing recovery-oriented practices in Asia, scored lower than those in England.[14] It may be that these differences are due to self-enhancement effects[25] which have shown to produce different results between individuals in Western and non-Western countries,[26] and may result in English RC managers reporting higher fidelity than those in Asia, even if fidelity is the same. Alternatively, these differences may be a result of more fundamental socio-cultural differences related to the cultural dimension of individualism versus collectivist.[27] Individualistic countries tend to favour autonomy, independence, and distinction of self from the group, whereas collectivist countries tend to favour conformity, interdependence, and identity with the group.[27] Courses being tailored to the individual student therefore fit less well with the values of collectivist cultures. Similarly, lower scores for coproduction may be explained by the strong emphasis on social hierarchies that exist in Asia[28] thus, it may be that even though individuals with lived experience are involved at a senior leadership level and coproducing materials, people in Asia may not feel comfortable with disagreeing or challenging healthcare staff due to their cultural values.

The total spending was €29.7 million per year in the 60% of participating RCs. However, there is a high degree of heterogeneity in annual budgets reported by RCs both within and between continents. Staffing was an important driver of costs, with nearly three quarters of RCs' total budget being spent on staffing. Asian and North American RCs spent a lower proportion of their annual budget on staff compared to other continents. Interestingly, both these continents tended to have RCs not affiliated with statutory health services. This may mean that a greater proportion of their budgets go towards the use of rent and overheads of community buildings where such RCs tend to be located. The national survey of RCs in England found that RCs not linked to non-statutory services spent a large proportion of budgets on rent was identified in, whilst those tied to statutory services paid lower or no rent.[14] Related to some staffing costs, courses were also a considerable cost for RCs, ranging from €287 to create each course in Africa to €7,654 in Europe. Whilst courses need to be tailored to the needs of the population, it is likely that there are common courses, or elements of courses, that span countries or continents, which could be shared and used as a starting point and locally tailored, saving time and resource for increasing quality control and pedagogical innovation.

Strengths and limitations

This study has several strengths. We worked with an international team of experts, who identified RCs within countries and facilitated completion, as well as translating and administering the survey in local languages. This resulted in a high (79%) response rate and provides a good overview of the global development of RCs in 2021/2022. Individuals with lived experience from different contexts, countries and settings were meaningfully involved in the survey design, interpretation of findings and manuscript write up. The LEAP co-developed survey questions based on the RECOLLECT change model[11] and provided further questions which they believed would be important to students when considering RCs. All results were presented to the LEAP, as well as co-researchers with lived experience, to identify and interpret key findings (e.g., such differences in staffing costs, as well as cultural differences in fidelity) and two LEAP members were involved in the drafting on this manuscript. This allows for RC students and mental health service user voices to be heard, generating findings of interest to variety of stakeholders (e.g., funders, RC Managers and RC students) and useful in shaping future service provision.

Limitations also exist. Data from the English survey were collected at the end of 2021, whilst international survey data was collected in 2022, meaning the two survey datasets may not be fully compatible for merging. The RECOLLECT Fidelity Measure[9] is based on the original conceptual design of RCs in England and may not measure aspects important to recovery in different cultures or may not be directly comparable due to cultural differences. However, the change model on which the RECOLLECT Fidelity Measure is based[11] is compatible with an independently-developed change model developed in Canada.[29] RCs in Africa were only reported descriptively and not included in inferential analysis due to the small sample size. Grouping RCs by continent does not capture variation in countries such as geography or culture. Lastly, whilst currencies were converted into euros to enable the production of summary statistics, this approach does not account for disparities in purchasing power.

Future research should seek to further understand RC characteristics. This should include rating by RC peer leads and students, rather than just managers, as well as investigating how aspects of fidelity in different

countries impact student, staff and societal outcomes. Greater clarity on cultural influences is needed, such as investigating manager versus independent observer rating of fidelity to identify whether any differences are due to cultural, funding, or other, yet unexplained, differences of implementation.

In conclusion, RCs are expanding internationally both within and between different continents. This includes further expansion into new countries within Asia and Africa. A new RC is currently being developed in Brazil[30] which will result in RCs being present in six continents. A high degree of fidelity overall suggests a global consensus on most key features of RCs, even when adapted for cultural context. Further research is needed to understand the impact of RCs, including when delivered online on people with mental health issues, clinical staff, mental health services and wider society.[12]

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Data availability

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to it containing identifiable information about RCs.

References

1. Slade M, Amering M, Farkas M, Hamilton B, O'Hagan M, Panther G, et al. Uses and abuses of recovery: implementing recovery-oriented practices in mental health systems. World Psychiatry. 2014 Feb;13(1):12–20.
2. World Health Organisation. Mental Health Action Plan 2013-2020. Geneva; 2013.
3. Mental Health Commission of Canada. Changing directions, changing lives: The mental health strategy for Canada. Calgary; 2012.
4. Mental Health Commission. Strategic Plan 2016 - 2018. Dublin; 2017.
5. Department of Health. The Fifth National Mental Health and Suicide Prevention Plan. Canberra; 2017.
6. Mental Health Commission. President's New Freedom Commission on Mental Health. Washington DC; 2003.
7. Whitley R, Shepherd G, Slade M. Recovery colleges as a mental health innovation. World Psychiatry. 2019 Jun 6;18(2).
8. Perkins R, Repper J, Rinaldi M, Brown H. Recovery Colleges. ImROC briefing paper 1. London; 2012.
9. Toney R, Knight J, Hamill K, Taylor A, Henderson C, Crowther A, et al. Development and Evaluation of a Recovery College Fidelity Measure. The Canadian Journal of Psychiatry. 2019 Jun 30;64(6).
10. McGregor J, Brophy L, Hardy D, Hoban D, Meddings S, Repper J, et al. Proceedings of June 2015 Meeting. In Recovery Colleges International Community of Practice (RCICoP); 2016.
11. Toney R, Elton D, Munday E, Hamill K, Crowther A, Meddings S, et al. Mechanisms of Action and Outcomes for Students in Recovery Colleges. Psychiatric Services. 2018 Dec;69(12).
12. Crowther A, Taylor A, Toney R, Meddings S, Whale T, Jennings H, et al. The impact of Recovery Colleges on mental health staff, services and society. Epidemiol Psychiatr Sci. 2019 Oct 23;28(5).
13. Bowness B, Hayes D, Stepanian K, Anfossi A, Taylor A, Crowther A, et al. Who uses Recovery Colleges? Casemix analysis of sociodemographic and clinical characteristics and representativeness of Recovery College students. Psychiatr Rehabil J. 2022;
14. Hayes D, Camacho EM, Ronaldson A, Stepanian K, McPhilbin M, Elliott RA, et al. Evidence-based Recovery Colleges: developing a typology based on organisational characteristics, fidelity and funding. Soc Psychiatry Psychiatr Epidemiol. 2022;
15. Thériault J, Lord MM, Briand C, Piat M, Meddings S. Recovery Colleges After a Decade of Research: A Literature Review. Psychiatric Services. 2020 Sep 1;71(9).

16. Collins R, Shakespeare T, Firth L. Psychiatrists' views on recovery colleges. The Journal of Mental Health Training, Education and Practice. 2018 Mar 12;13(2):90–9.
17. Whitley R, Strickler D, Drake RE. Recovery Centers for People with Severe Mental Illness: A Survey of Programs. Community Ment Health J. 2012 Oct 18;48(5):547–56.
18. King T, Meddings S. Survey identifying commonality across international Recovery Colleges. Mental Health and Social Inclusion. 2019 Jul 19;23(3):121–8.
19. Lin E, Harris H, Black G, Bellissimo G, Di Giandomenico A, Rodak T, et al. Evaluating recovery colleges: a co-created scoping review. Journal of Mental Health. 2022 Nov 8;1–22.
20. Hayes D, Henderson C, Bakolis I, Lawrence V, Elliott RA, Ronaldson A, et al. Recovery Colleges Characterisation and Testing in England (RECOLLECT): rationale and protocol. BMC Psychiatry. 2022 Sep 24;22(1):627.
21. Jennings H, Slade M, Bates P, Munday, E. &, Toney R. Best practice framework for Patient and Public Involvement (PPI) in collaborative data analysis of qualitative mental health research: methodology development and refinement. BMC Psychiatry. 2018;18(1):1–11.
22. StataCorp. Stata Statistical Software: Release 17. College Station, Texas: StataCorp LP; 2021.
23. Whish R, Huckle C, Mason O. What is the impact of recovery colleges on students? A thematic synthesis of qualitative evidence. The Journal of Mental Health Training, Education and Practice. 2022 Jul 22;17(5):443–54.
24. HM Government. No health without mental health. Delivering better mental health outcomes for people of all ages. London; 2011.
25. Chang EC. Self-enhancement and self-criticism: Theory, research, and clinical implications. . New York, NY: American Psychological Association; 2007.
26. Falk CF, Heine SJ, Yuki M, Takemura K. Why do Westerners self-enhance more than East Asians? Eur J Pers. 2009 May 2;23(3):183–203.
27. Hofstede G, Hofstede GJ, Minkov M. Cultures and Organizations: Software of the Mind [Internet]. 3rd ed. New York: McGraw Hill; 2010 [cited 2023 Jan 27]. Available from: https://www.hofstede-insights.com/models/national-culture/
28. Claramita M, Nugraheni MDF, van Dalen J, van der Vleuten C. Doctor–patient communication in Southeast Asia: a different culture? Advances in Health Sciences Education. 2013 Mar 8;18(1):15–31.
29. Reid N, Khan B, Soklaridis S, Kozloff N, Brown R, Stergiopoulos V. Mechanisms of change and participant outcomes in a Recovery Education Centre for individuals transitioning from homelessness: a qualitative evaluation. BMC Public Health. 2020 Dec 15;20(1):497.
30. Gadelha de Alencar Araripe Neto A, Alberto Orsi J. Development and pilot assessment of a Recovery College for people with severe mental disorder in Sao Paulo [Internet]. 2020 [cited 2023 Jan 27]. Available from: https://bv.fapesp.br/en/bolsas/205176/development-and-pilot-assessment-of-a-recovery-college-for-people-with-severe-mental-disorder-in-sao/

Table 1. RC organisational characteristics overall and by continent (N=174)

	Overall	**Africa**	**Asia**	**Oceania**	**Europe (excluding England)**	**England**	**North America**
Response rate	174 / 221 (79%)	2 / 2 (100%)	13 / 15 (87%)	10 / 11 (91%)	67 / 82 (81%)	63 / 88 (72%)	19 / 23 (83%)
	Median (IQR) or N (%)	*Median (IQR) or N (%)*	*Median (IQR) or N (%)*	*Median (IQR) or N (%)*	*Median (IQR) or N (%)*	*Median (IQR) or N (%)*	*Median (IQR) or N (%)*
Time in operation (years)	5 (3 to 7)	5.2 (4 to 6.5)	4 (3 to 5)	5.5 (3 to 7)	5 (3 to 7)	6 (4 to 7)	2.5 (1 to 3)
Number of courses run per year	30 (12 to 80)	378 (156 to 600)	17 (6 to 44)	39 (11 to 70)	29 (12 to 70)	125 (60 to 220)	43.5 (12 to 100)
Number of different courses	15 (8 to 25)	91.5 (13 to 170)	12 (7 to 15)	20 (14 to 40)	15 (8 to 25)	33 (25 to 45)	15.5 (5 to 24)
Number of courses done by each student per year	3 (2 to 5)	5 (5 to 5)	5 (3 to 8)	3.5 (2 to 4)	3 (2 to 5)	4 (3 to 8)	3.2 (2 to 11.5)
Location							
Urban	76 (43.4)	2 (100.0)	8 (61.5)	4 (40.0)	33 (49.2)	21 (33.3)	8 (42.1)
Suburban	13 (7.4)	-	3 (23.1)	1 (10.0)	2 (3.0)	5 (7.9)	2 (10.5)
Rural	10 (5.7)	-	1 (7.7)	1 (10.0)	5 (7.5)	2 (3.2)	1 (5.3)
Mixed	76 (43.4)	-	1 (7.7)	4 (40.0)	27 (40.3)	35 (55.6)	8 (42.1)
Physical base							
Yes	84 (48.0)	1 (50.0)	6 (46.2)	3 (30.0)	34 (50.7)	32 (50.8)	8 (42.1)
Meet in community/mixed-use venues	87 (49.7)	1 (50.0)	7 (53.8)	7 (70.0)	33 (39.3)	30 (47.6)	8 (42.1)
Virtual college	4 (2.3)	-	-	-	-	1 (1.6)	3 (15.8)
More important goal of the Recovery College							
To reduce stigma/discrimination	21 (12.0)	-	2 (15.4)	1 (9.1)	11 (16.4)	5 (7.9)	2 910.5)
To positively impact on mental health services	12 (6.9)	-	1 (7.7)	-	7 (10.5)	1 (1.6)	3 (15.8)
Both are equally important	142 (81.1)	2 (100.0)	10 (76.9)	10 (100.0)	49 (73.1)	57 (90.5)	14 (73.7)
Main organisational affiliation (N=170)							
Statutory health service	87 (51.2)	2 (100.0)	-	5 (55.6)	34 (50.7)	43 (68.2)	3 (18.7)
NGO	53 (31.2)	-	8 (61.5)	5 (55.6)	14 (20.9)	19 (30.2)	7 (43.7)
Local government	21 (12.3)	-	1 (7.7)	-	15 (22.4)	5 (7.9)	-
Independent	13 (7.6)	-	3 (23.1)	-	7 (10.4)	3 (4.8)	-
Other health, e.g., private healthcare provider	8 (4.7)	-	-	-	4 (6.0)	2 (3.2)	2 (12.5)
Education provider, e.g. university or college	18 (10.6)	-	1 (7.7)	-	9 (13.4)	2 (3.2)	6 (37.5)

Other	9 (5.3)	-	3 (23.1)	-	4 (6.0)	1 (1.6)	1 (6.2)
Leadership team includes people with mental health lived experience (N=170)	155 (91.2)	2 (100.0)	12 (92.3)	8 (88.9)	60 (89.5)	58 (92.1)	15 (93.7)
Goal-oriented personal plans used (N=171)	67 (39.2)	2 (100.0)	7 (53.8)	3 (33.3)	19 (28.4)	30 (47.6)	6 (35.3)
Group most commonly involved in coproduction (N=170)							
Lived experience + health or social care professional	127 (74.7)	2 (100.0)	10 (76.9)	7 (77.8)	51 (76.1)	45 (71.4)	12 (75.0)
Lived experience + community topic expert	29 (17.1)	-	3 (23.1)	1 (11.1)	9 (13.4)	12 (19.0)	4 (25.0)
Lived experience only	9 (5.3)	-	-	1 (11.1)	4 (6.0)	4 (6.4)	-
Other	5 (2.9)	-	-	-	3 (4.5)	2 (3.2)	-

Table 3. RECOLLECT Fidelity Measure scores of RCs overall and by continent (N=169)

	Overall (N=169)	Africa (N=2)	Asia (N=13)	Oceania (N=9)	Europe (N=66)	England (N=63)	North America (N=16)
	Median (IQR) or N (%)	*Median (IQR) or N (%)*	*Median (IQR) or N (%)*	*Median (IQR) or N (%)*	*Median (IQR) or N (%)*	*Median (IQR) or N (%)*	*Median (IQR) or N (%)*
Overall fidelity score	10 (8 to 12)	8 (8 to 8)	7 (6 to 10)	10 (9 to 11)	9.5 (6 to 11)	11 (9 to 13)	10.5 (9 to 12)
Range 0 (low fidelity) to 14							
Non-modifiable items							
Equality							
High	127 (75.1)	2 (100.0)	8 (61.5)	8 (88.9)	40 (60.6)	67 / 82 (81.7%)	12 (75.0)
Medium	34 (20.1)	-	5 (38.5)	1 (11.1)	16 (24.2)	12 (19.0)	1 (6.3)
Low	8 (4.7)	-	-	-	10 (15.2)	1 (1.6)	-
Number of students	150 (78 to 400)	305 (250 to 360)	50 (20 to 80)	100 (70 to 450)	100 (60 to 234)	300 (125 to 575)	235 (100 to 600)
Average student age	59 (34 to 45)	29.7 (26 to 33.5)	40 (40 to 45)	35 (30 to 36.2)	40 (35 to 45)	40 (38 to 45)	38 (21 to 40)
Student gender (%) (N=147)							
Male	34 (28 to 44)	54 (48 to 60)	40 (37 to 47.5)	27.5 (20 to 40)	35 (30 to 45)	33 (27.1 to 43.5)	30 (14 to 35)
Female	60 (50 to 70)	46 (40 to 52)	54 (45 to 62.5)	59.5 (52.5 to 75)	60 (50 to 70)	60 (50 to 70)	60 (50 to 75)
Non-binary	0 (0 to 3)	0 (0 to 0)	0 (0 to 4)	7.5 (1 to 17)	0 (0 to 2)	0 (0 to 2)	3 (1 to 5)
Prefer not to say	0 (0 to 1)	0 (0 to 0)	0 (0 to 1)	0 (0 to 0)	0 (0 to 0)	0 (0 to 0)	0 (0 to 5)
Coproduction							
High	92 (54.4)	1 (50.0)	2 (15.4)	5 (55.6)	33 (50.0)	40 (63.5)	11 (68.7)
Medium	47 (27.8)	1 (50.0)	4 (30.8)	3 (33.3)	17 (25.8)	19 (30.2)	3 (18.8)
Low	30 (17.8)	-	7 (53.8)	1 (11.1)	16 (24.2)	4 (6.4)	2 (12.5)
Social connectedness							
High	68 (40.2)	-	5 (38.5)	3 (33.3)	28 (42.4)	27 (42.9)	5 (31.2)
Medium	83 (49.1)	1 (50.0)	7 (53.8)	5 (55.6)	35 (53.0)	27 (42.9)	8 (50.0)
Low	18 (10.7)	1 (50.0)	1 (7.7)	1 (11.1)	3 (4.6)	9 (14.3)	3 (18.8)
Community focus							
High	65 (38.5)	-	2 (15.4)	3 (33.3)	20 (30.3)	33 (52.4)	7 (43.7)
Medium	79 (46.8)	1 (50.0)	10 (76.9)	3 (33.3)	36 (54.5)	23 (36.5)	6 (37.5)
Low	25 (14.8)	1 (50.0)	1 (7.7)	3 (33.3)	10 (15.2)	7 (11.1)	3 (18.8)
Commitment to recovery							
High	107 (63.3)	-	6 (46.1)	6 (66.7)	37 (56.1)	44 (69.8)	14 (87.5)
Medium	53 (31.4)	2 (100.0)	5 (38.5)	2 (22.2)	25 (37.9)	17 (27.0)	2 (12.5)
Low	9 (5.3)	-	2 (15.4)	1 (11.1)	4 (6.1)	2 (3.2)	-
Modifiable items							
Available to all							
Anyone	123 (72.8)	1 (50.0)	11 (84.6)	6 (66.7)	50 (75.8)	44 (69.8)	11 (68.8)
Specific groups	46 (27.2)	1 (50.0)	2 (15.4)	3 (33.3)	16 (24.2)	19 (30.2)	5 (31.2)
Location							
Community	84 (49.7)	0 (0.0)	h	5 (55.6)	32 (48.5)	30 (47.6)	9 (56.2)
Statutory	85 (50.3)	2 (100.0)	5 (38.5)	4 (44.4)	34 (51.5)	33 (52.4)	7 (43.7)
Distinctiveness of course content							
Mainstream	91 (53.8)	2 (100.0)	8 (61.5)	5 (55.6)	26 (39.4)	27 (42.9)	10 (62.5)
Not mainstream	78 (46.2)	0 (0.0)	5 (38.5)	4 (44.4)	40 (60.6)	36 (57.1)	6 (37.5)
Strengths							
Implicit	40 (23.7)	0 (0.0)	8 (61.5)	3 (33.3)	12 (18.2)	13 (26.6)	4 (25.0)
Explicit	129 (76.3)	2 (100.0)	5 (38.5)	6 (66.7)	54 (81.8)	50 (79.4)	12 (75.0)
Progressive							

Table 2. RC student characteristics overall and by continent (N=174)

	Overall	Africa	Asia	Oceania	Europe*	England	North America
	Median (IQR) or N (%)	*Median (IQR) or N (%)*	*Median (IQR) or N (%)*	*Median (IQR) or N (%)*	*Median (IQR) or N (%)*	*Median (IQR) or N (%)*	*Median (IQR) or N (%)*
Response rate	127 / 172 (74%)	2 / 2 (100%)	8 / 13 (61.5%)	8 / 9 (88.9%)	40 / 66 (60.6%)	63 / 87 (72%)	19 / 23 (83%)
Adult learning							
High	121 (72.8)	2 (100.0)	5 (38.5)	8 (88.9)	40 (60.6)	63 (98.4)	13 (81.3)
Medium	34 (20.5)	-	5 (38.5)	1 (11.1)	16 (24.2)	1 (1.6)	1 (6.3)
Low	12 (7.2)	-	3 (23.1)	-	10 (15.2)	-	2 (12.5)
Tailored to the student							
High	66 (39.1)	1 (50.0)	1 (7.7)	3 (33.3)	24 (36.4)	32 (50.8)	5 (31.2)
Medium	96 (56.8)	1 (50.0)	10 (76.9)	6 (66.7)	37 (56.0)	31 (49.2)	11 (68.8)
Low	7 (4.1)	-	2 (15.4)	-	5 (7.6)	-	-
Coproduction							
High	92 (54.4)	1 (50.0)	2 (15.4)	5 (55.6)	33 (50.0)	40 (63.5)	11 (68.7)
Medium	47 (27.8)	1 (50.0)	4 (30.8)	3 (33.3)	17 (25.8)	19 (30.2)	3 (18.8)
Low	30 (17.8)	-	7 (53.8)	1 (11.1)	16 (24.2)	4 (6.4)	2 (12.5)
Social connectedness							
High	68 (40.2)	-	5 (38.5)	3 (33.3)	28 (42.4)	27 (42.9)	5 (31.2)
Medium	83 (49.1)	1 (50.0)	7 (53.8)	5 (55.6)	35 (53.0)	27 (42.9)	8 (50.0)
Low	18 (10.7)	1 (50.0)	1 (7.7)	1 (11.1)	3 (4.6)	9 (14.3)	3 (18.8)
Community focus							
High	65 (38.5)	-	2 (15.4)	3 (33.3)	20 (30.3)	33 (52.4)	7 (43.7)
Medium	79 (46.8)	1 (50.0)	10 (76.9)	3 (33.3)	36 (54.5)	23 (36.5)	6 (37.5)
Low	25 (14.8)	1 (50.0)	1 (7.7)	3 (33.3)	10 (15.2)	7 (11.1)	3 (18.8)
Commitment to recovery							
High	107 (63.3)	-	6 (46.1)	6 (66.7)	37 (56.1)	44 (69.8)	14 (87.5)
Medium	53 (31.4)	2 (100.0)	5 (38.5)	2 (22.2)	25 (37.9)	17 (27.0)	2 (12.5)
Low	9 (5.3)	-	2 (15.4)	1 (11.1)	4 (6.1)	2 (3.2)	-
Modifiable items							
Available to all							
Anyone	123 (72.8)	1 (50.0)	11 (84.6)	6 (66.7)	50 (75.8)	44 (69.8)	11 (68.8)
Specific groups	46 (27.2)	1 (50.0)	2 (15.4)	3 (33.3)	16 (24.2)	19 (30.2)	5 (31.2)
Location							
Community	84 (49.7)	0 (0.0)	h	5 (55.6)	32 (48.5)	30 (47.6)	9 (56.2)
Statutory	85 (50.3)	2 (100.0)	5 (38.5)	4 (44.4)	34 (51.5)	33 (52.4)	7 (43.7)
Distinctiveness of course content							
Mainstream	91 (53.8)	2 (100.0)	8 (61.5)	5 (55.6)	26 (39.4)	27 (42.9)	10 (62.5)
Not mainstream	78 (46.2)	0 (0.0)	5 (38.5)	4 (44.4)	40 (60.6)	36 (57.1)	6 (37.5)
Strengths							
Implicit	40 (23.7)	0 (0.0)	8 (61.5)	3 (33.3)	12 (18.2)	13 (26.6)	4 (25.0)
Explicit	129 (76.3)	2 (100.0)	5 (38.5)	6 (66.7)	54 (81.8)	50 (79.4)	12 (75.0)
Progressive							

Table 4. Continental differences in scores on the RECOLLECT Fidelity Measure with England as the reference (N=169)

	Asia		**Europe**		**Oceania**		**North America**	
	β (95% CI) [*]	*p value*	*β (95% CI)*[*]	*p value*	*β (95% CI)*[*]	*p value*	*β (95% CI)*[*]	*p value*
Fidelity Score (Items 1-7)	**-2.88 (-4.44 to -1.32)**	**<0.001**	-1.47 (-2.37 to -0.57)	0.002	-0.98 (-2.81 to 0.84)	0.289	-0.21 (-1.65 to 1.22)	0.769
	OR (95% CI)[†]	*p value*	*OR (95% CI)*[†]	*p value*	*OR (95% CI)*[†]	*p value*	*OR (95% CI)*[†]	*p value*
1. Equality	0.47 (0.14 to 1.59)	0.223	0.36 (0.16 to 0.78	0.010	1.80 (0.20 to 15.88)	0.595	3.80 (0.46 to 31.43)	0.215
2. Adult learning	0.17 (0.05 to 0.59)	0.005	0.39 (0.19 to 0.78)	0.008	0.67 (0.17 to 2.55)	0.554	0.84 (0.29 to 2.48)	0.752
3. Tailored to student	**0.10 (0.02 to 0.39)**	**0.001**	0.48 (0.24 to 0.96)	0.039	0.52 (0.13 to 2.08)	0.354	0.48 (0.16 to 1.43)	0.188
4. Coproduction	**0.10 (0.03 to 0.33)**	**<0.001**	0.48 (0.24 to 0.95)	0.034	0.71 (0.19 to 2.74)	0.623	1.12 (0.35 to 3.57)	0.847
5. Social connectedness	1.00 (0.31 to 3.12)	1.000	1.21 (0.62 to 2.36)	0.569	0.78 (0.20 to 3.00)	0.723	0.60 (0.20 to 1.78)	0.359
6. Community focus	0.36 (0.12 to 1.06)	0.064	0.45 (0.23 to 0.88)	0.020	0.30 (0.07 to 1.24)	0.097	0.63 (0.21 to 1.86)	0.406
7. Commitment to recovery	0.32 (0.10 to 1.07)	0.065	0.55 (0.27 to 1.12)	0.102	0.77 (0.17 to 3.43)	0.733	3.04 (0.63 to 14.67	0.165
	OR (95% CI)[‡]	*p value*	*OR (95% CI)*[‡]	*p value*	*OR (95% CI)*[‡]	*p value*	*OR (95% CI)*[‡]	*p value*
8. Available to all *Anyone vs specific groups*	0.42 (0.08 to 2.08)	0.289	0.74 (0.34 to 1.61)	0.451	1.16 (0.26 to 5.12)	0.847	1.05 (0.32 to 3.45)	0.932
9. Location *Community vs statutory*	0.57 (0.17 to 1.93)	0.365	0.96 (0.48 to 1.93)	0.922	0.73 (0.18 to 2.96)	0.657	0.71 (0.23 to 2.13)	0.539
10. Distinctiveness of course content *Mainstream vs not mainstream*	0.47 (0.14 to 1.59)	0.225	1.15 (0.57 to 2.33)	0.689	0.60 (0.15 to 2.45)	0.476	0.45 (0.14 to 1.39)	0.165
11. Strengths *Implicit vs explicit*	0.16 (0.04 to 0.58)	0.005	1.17 (0.49 to 2.80)	0.725	0.52 (0.11 to 2.36)	0.397	0.78 (0.22 to 2.82)	0.705
12. Progressive *No goal setting vs goal setting*	1.16 (0.34 to 3.99)	0.808	0.64 (0.30 to 1.38)	0.259	0.53 (0.10 to 2.78)	0.455	0.62 (0.18 to 2.16)	0.453

CI=confidence interval; OR=odds ratio

*Linear regression; [†]ordinal logistic regression (items 1 to 7); [‡]logistic regression (items 8 to 12)

Bonferroni corrected significance level, $p \leq 0.001$

Table 5. Overview of RC budgets, students and courses reported in EUROS (€), overall, and broken down by continent

	Overall	**Africa**	**Asia**	**Oceania**	**Europe**	**England**	**North America**
Annual budget	(n=133)	(n=2)	(n=11)	(n=7)	(n=48)	(n=50)	(n=15)
Mean (SD)	223,667 (323,096)	20,590 (22,500)	63,061 (70,152)	162,422 (126,350)	230,873 (453,859)	271,369 (193,997)	215,034 (337,922)
Median (IQR)	152,346 (60,000-260,912)	20,590 (4,680-36,500)	34,750 (2,085-146,304)	96,741 (69,896-322,470)	118,677 (48,600-196,023)	232,708 (147,770-349,062)	156,485 (34,775-230,903)
Range	0-2,550,000	4,680-36,500	1,043-166,800	15,803-322,470	0-2,550,000	17,453-809,824	10,432- 1,390,980
% of total budget for staff: mean (SD)	72 (25)	*	56 (27)	78 (12)	72 (22)	80 (19)	63 (34)
Number of students	(n=160)	(n=2)	(n=13)	(n=7)	(n=59)	(n=63)	(n=16)
Mean (SD)	345 (559)	305 (78)	61 (51)	191 (195)	197 (261)	517 (740)	513 (670)
Range	9-4,919	250-360	9-170	40-500	15-1,500	50-4,919	60-2,500
Number of courses (total)	(n=168)	(n=2)	(n=13)	(n=8)	(n=65)	(n=62)	(n=18)
Mean (SD)	118 (178)	378 (314)	36 (50)	48 (43)	62 (111)	197 (222)	110 (172)
Range	2-1,200	156-600	3-165	10-135	2-800	20-1,200	4-560
Number of distinct courses	(n=170)	(n=2)	(n=13)	(n=9)	(n=65)	(n=63)	(n=18)
Mean (SD)	30 (37)	92 (111)	14 (12)	29 (23)	20 (17)	44 (50)	21 (20)
Range	1-379	13-170	2-41	7-77	1-105	2-379	3-75
Cost per student	(n=125)	(n=2)	(n=11)	(n=6)	(n=43)	(n=50)	(n=13)
Mean (SD)	1,100 (1,330)	80 (94)	1,054 (1,615)	1,263 (1,417)	1,364 (1,293)	1,020 (1,326)	753 (1,276)
Median (IQR)	698 (236-1,338)	80 (13-146)	204 (116-1,250)	778 (451-1,382)	943 (485-1,875)	603 (320-977)	262 (185-386)
Range	12-7,447	13-146	31-5,560	158-4,031	19-5,395	12-7,447	61-4,637
Cost per course (total)	(n=131)	(n=2)	(n=11)	(n=7)	(n=46)	(n=50)	(n=15)
Mean (SD)	4,834 (10,398)	45 (22)	4,545 (8,604)	4,843 (4,119)	8,100 (16,233)	2,457 (2,398)	3,591 (4,048)
Median (IQR)	2,161 (857-4,819)	45 (30-61)	695 (164-2,965)	2,822 (1,165-8,384)	3,718 (1,333-7,348)	1,757 (793-3,526)	2,845 (869-5,216)
Range	0-100,823	30-61	116-24,998	329-10,749	0-100,823	204-11,984	123-16,364
Cost per distinct course	(n=131)	(n=2)	(n=11)	(n=7)	(n=46)	(n=50)	(n=15)
Mean (SD)	11,742 (22,207)	287 (103)	9,486 (22,023)	6,475 (5,458)	16,122 (32,518)	9,426 (11,243)	11,664 (16,120)
Median (IQR)	6,397 (2,685-12,247)	287 (215-360)	2,172 (185-7,791)	4,192 (3,177-12,093)	7,654 (3,750-14,350)	6,464 (3,491-10,956)	6,955 (2,596-15,394)
Range	0-212,500	215-360	130-74,993	1,129-16,124	0-212,500	499-58,177	745-66,237

Note: some colleges reported receiving no budget – if these colleges also reported at least one funding source this was assumed to be missing; if no funding sources were reported the colleges have been included as having a budget of €0.

Note: colleges reporting a staff budget greater than their total budget were excluded from the row in the table that reports the percentage of total budget allocated to staff costs
*insufficient data to summarise

Supplementary information

- S1: International survey
- S2: Categorical components and categories
- S3: Exchange rates
- S4 Reasons for Exclusion
- S5 Breakdown of identified RCs and those that participated by continent and country
- S6: Regressions exploring the associations between total and item-level fidelity scores and either college size or time in operation
- S7: Scatterplot of the relationship between budget and number of students
- S8: RC funding sources
- S9: RC staff roles
- S10: Median budget by country

S1: International Survey

SCREENING QUESTIONS

Thank you for your interest in this survey about Recovery Colleges. We use the term 'Recovery College' in this survey but we do recognise that your service may be called something different. Before we ask you to complete the survey, we have four questions about your service to make sure it is eligible to take part in this survey.

Please note we're focused here just on whether your college is in scope for our survey, and we do recognise that your answers won't be providing a full or complete description e.g. of other goals of your college:

Q1) Is the main focus of your Recovery College on supporting personal recovery?

[Personal recovery is defined as 'living as well as possible' as opposed to e.g. a reduction in symptoms of illness]

- Yes
- No

Q2) Does your Recovery College aspire to use co-production at all levels?

[Co-production is defined as people with lived experience (e.g. Peer Trainers and students) who work with professionals and subject experts to design and deliver all aspects of the Recovery College. This includes collaborative decision-making about the prospectus, courses, college policies, staff recruitment, advertising, etc., as well as the co-design and co-delivery of all courses by a Peer Trainer and other subject-expert']

- Yes
- No

Q3) Does your Recovery College aspire to use an adult learning approach?

[Adult learning is defined as an approach whereby students and trainers collaborate and learn from each other by sharing experiences, knowledge, and skills. Students have responsibility for their learning and learn through interactive and reflective exercises. Students gain self-awareness, understanding of their difficulties and practical, relevant self-management skills. Students choose courses which best suit their needs]

- Yes
- No

Q4) Is your Recovery College currently running

- Yes
- No

If you have answered **No** to any of these questions, please stop here. Unfortunately, your service does not meet our eligibility criteria – please let your local collaborator (the individual that sent you the survey) know. If you want to find more out about our work, please visit: https://www.researchintorecovery.com/research/recollect/

If you have selected **Yes** to all four questions, please continue.

INFORMATION SHEET FOR PARTICIPANTS

Ethical Clearance Reference Number: MRA-21/22-28685

Recovery **Colle**ges **C**haracterisation and **T**esting **(RECOLLECT):** Understanding the organisational characteristics of Recovery Colleges internationally

You are invited to take part in the RECOLLECT research project. Before deciding whether to participate it is important to understand the rationale for the research and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear or if you would like more information.

What is the purpose of the project?

RECOLLECT is a five-year research project investigating Recovery Colleges. We use the term 'Recovery College' to refer to services that are underpinned by values such as recovery but recognise that your service may be called something different. Over the last decade, Recovery Colleges have expanded internationally, but there is limited research into how Recovery Colleges compare across different countries. The aim of this survey is to better understand how Recovery Colleges are set up and run internationally.

Why have I been invited to take part?

We are working with an international team of collaborators who will be facilitating the survey. Each collaborator is co-ordinating survey responses in each of their respective countries and is asking one individual with an overview of each Recovery College to complete the survey. You are being invited to take part as they have identified your Recovery College as meeting inclusion criteria and have identified you as someone who is able to complete the survey.

What will happen if I take part?

This survey can either be completed online or in Microsoft Word. Where translation from English is needed, the survey will need to be completed in Microsoft Word. Your collaborator (who sent you the survey) may complete it with you or help you if you are having difficulties.

If you agree to take part, you will be asked to sign a consent form. For those that consent, you will then be asked to complete some questions around your Recovery College. Your local collaborator (the person who sent you the survey), can assist you if you have any questions. If you complete the survey in Microsoft Word, we ask that you password protect the file and send it back to the research team RECOLLECT@kcl.ac.uk . If you complete it online, your responses will be automatically recorded, and you do not need to do anything else.

What does taking part involve?

The survey will take about 25 minutes and can be completed at a time to suit you. As part of this survey, you will be asked questions about your Recovery College, including when it was set up, how it rates on different aspects of Recovery College fidelity (such as co-production), and the annual budget. For the purposes of the project, we will ask for personal information, such as your name and email address, so that we know who completed the survey. This will only be available to the RECOLLECT research team.

Do I have to take part?

Participation in the survey is completely voluntary. You should only take part if you want to. If you do not take part, you will not be disadvantaged in any other way.

Once you have read the information sheet, please contact us or your local collaborator if you have any questions that will help you make a decision about taking part. If you decide to take part, you will need consent prior to your participation in the survey.

What are the possible benefits of taking part?

There will be limited, if any immediate / direct benefit in taking part in this research. However, the research itself may have many possible direct / indirect benefits for Recovery College staff / students in the future. This will include helping to inform future international service provision and providing comparative information on Recovery Colleges internationally.

What are the possible risks of taking part?

There are no known risks to taking part. The questions in the survey are not designed to elicit any emotional response.

Data handling and confidentiality

Data will be stored on a secure network within the Institute of Psychiatry, Psychology and Neuroscience at Kings College London and may be used for future research. Only members of the research team will have access to the full dataset. No information that could identify your Recovery College will be used in any publications or outputs. We will retain your contact details to make you aware of findings once the international survey is complete. However, you can opt out of further contact at any point.

At the end of RECOLLECT (December 2025), the data from this survey will be anonymised. This dataset will be kept at the Institute of Psychiatry, Psychology and Neuroscience for another 15 years. Researchers from outside of the RECOLLECT research team may request access to anonymised data from the Principal Investigator at Kings College London (Dr Daniel Hayes).

Data Protection Statement

Your data will be processed in accordance with the General Data Protection Regulation 2016 (GDPR). If you would like more information about how your data will be processed in accordance with GDPR please visit the link below. https://www.kcl.ac.uk/research/support/research-ethics/kings-college-london-statement-on-use-of-personal-data-in-research

What if I change my mind about taking part?

You are free to withdraw at any point in the project, without having to give a reason. You can withdraw your survey data up to one month after you have completed the survey, after which withdrawal of your data will no longer be possible, due to data analysis.

How is the project being funded?

This project is being funded by the NIHR (Programme Grants for Applied Research, Recovery Colleges Characterisation and Testing (RECOLLECT) 2, NIHR200605).

What will happen to the results of the project?

The results of the project will be summarised in outputs such as project reports, publications and conferences. Findings will be distributed through Recovery College network, and appear on the website www.researchintorecovery.com/research/recollect/publications/

Who should I contact for further information?

If you have any questions or require more information about this project, please contact your local collaborator (who sent you the survey) or us on:

Dr Daniel Hayes Research Fellow, RECOLLECT
Health Services and Population Research Department
P028, David Goldberg Centre, King's College London
Institute of Psychiatry, Psychology and Neuroscience,
De Crespigny Park, London SE5 8AF.
Email: Daniel.Hayes@kcl.ac.uk

What if I have further questions, or if something goes wrong?

If this project has harmed you in any way or if you wish to make a complaint about the conduct of the project you can contact King's College London using the details below for further advice and information:

The Chair
Research Ethics Office Room 4.16/ 4.16A
Waterloo Bridge Wing
Franklin Wilkins Building
Waterloo Road
London SE1 9NH
Email: rec@kcl.ac.uk

Thank you for reading this information sheet and for considering taking part in this research.

CONSENT FORM

Please complete this form after you have read the Information Sheet and/or listened to an explanation about the research

Title of project: Recovery Colleges Characterisation and Testing (RECOLLECT): Understanding the organisational characteristics of Recovery Colleges internationally	
Ethical review reference number: MRA-21/22-28685	**Version number 1.0. 07-02-22**

	Tick or initial
1. I confirm that I have read and understood the information sheet dated **Version 1: 07-02-22** for the above project. I have had the opportunity to consider the information and asked questions which have been answered to my satisfaction.	
2. I consent voluntarily to be a participant in this survey and understand that I can refuse to take part and can withdraw from the project at any time, without having to give a reason. I understand that one month after completing the survey, I will not be able to remove my survey data due to data analysis.	
3. I consent to the processing of my personal information for the purposes explained to me in the Information Sheet. I understand that such information will be handled under the terms of UK data protection law, including the UK General Data Protection Regulation (UK GDPR) and the Data Protection Act 2018.	

4.	I understand that my information may be subject to review by responsible individuals from the College for monitoring and audit purposes.	
5.	I understand that confidentiality and anonymity will be maintained, and it will not be possible to identify me in any research outputs	
6.	I am aware links to research outputs will be available on RECOLLECT website www.researchintorecovery.com/research/RECOLLECT/publications/	

Name of Participant **Date** **Signature**

Name of Researcher **Date** **Signature**

SURVEY

Thank you for giving consent to take part in this survey. We will now ask you questions about your Recovery College (though we know that not all services use this term!). Towards the end of the survey, there are some questions on running costs, so you may need access to any budget information you have. Please complete all parts, even if some responses are just your best estimate.

We worked with diverse Recovery College stakeholders to create and pilot this survey, but despite our efforts we recognise that response options for some questions may not fully fit your college. We're very interested in understanding the full range of innovation taking place in Recovery Colleges, so if the available responses don't quite fit your college, please choose the response which is as close as possible, and make a note of the question. At the end of the survey there will be a chance for you to give further information.

Section A) Describing organisational characteristics, curricula and student populations

About the college

These questions are about how your Recovery College runs. Please answer in relation to how the Recovery College currently runs

Q1) What is the name of your Recovery College?
Q2) What country is your Recovery College in?
Q3) What is your name?
Q4) What is your role at your Recovery College (e.g. Recovery College Manager)?
Q5) What is your email address?
Q6) How long has your Recovery College been running (in years)?
Q7) What is the annual budget for your Recovery College (approximate with a specific number if not known, please do not provide a range)? This would include costs, such as staff salaries, building hire and logistics (i.e. travel). Please also specify what currency you have written you answer in (e.g. Euros, Australian Dollars, Japanese Yen)
Q8) Which of these most closely matches the location of your Recovery College?

- Urban
- Suburban
- Rural
- Mixed (urban, suburban and/or rural)

Q9) Do you have a main physical base (i.e. says Recovery College on the door, with administration, classrooms and library)? [Please ignore any temporary pandemic-related changes to online course delivery]

- Yes
- No - we meet in community venues or mixed use venues
- No - we are a virtual college operating only online

Q10) Besides supporting personal recovery, which of these is the MORE important goal of your Recovery College?

- To reduce stigma and discrimination in society
- To positively impact on mental health services
- Both are equally important

Q11) How many courses do you run per year? (Count every time each course is run, e.g. if you run the same course three times, count this as three courses)
Q12) How many different courses do you provide? (Count the same course once even if it runs several times)
Q13) How many courses does each student typically attend over one year?

Q14) Does your Recovery College use goal-oriented personal plans (Individual Learning Plans)?

- Yes
- No
- Unknown/do not know

Students

These questions are about your current student population

Q15) Based on your current student population, how many individuals would you expect to register as students in a year in total? (i.e. count each person once, even if registered for more than one course or across more than one term?

Q16 - 22) Who is your Recovery College for?

	Yes	No
People with mental health issues who are using no services or only primary care or non-governmental organisation sector mental health services	☐	☐
People with mental health issues who are using secondary mental health services	☐	☐
People with mental health issues who are using tertiary mental health services	☐	☐
Informal carers (e.g. family, friends) of people with mental health issues	☐	☐
Mental health worker (e.g. Nurse, Psychologist, Psychiatrist, Counsellor)	☐	☐
Other staff working in mental health services (e.g. Receptionist, Administrator)	☐	☐
General public who may have no connection with the mental health system	☐	☐

Q22-31) Are there particular student groups that are catered to at your Recovery College (or part of your Recovery College, e.g. a specific college campus or spoke)? Tick all that apply.

- Minority groups such as ethnic or religious minorities
- Children and young people (up to 25)
- Patients who are in forensic/secure services
- People who are homeless
- People who are unemployed
- People with substance misuse difficulties
- People who are veterans
- Other [please specify]
- We do not cater for distinct groups

Q32-34) Questions about family and friend caregivers

	Yes	No
Do you have a designated carers' lead (someone who has a dedicated role to support informal family/friend carers) at your Recovery College?	☐	☐
Do you routinely monitor whether students are carers?	☐	☐
In the past two years have you run a course specifically for carers or caring for someone with mental health issues?	☐	☐

Q35) What is the mean age (years) of the students who attend your Recovery College (if not known, please estimate)

Q36-40) Estimate the proportion of students who attend your Recovery College from the following user groups:

Someone using mental health services : _____
Carers of someone using mental health services : _____
Members of staff at the Recovery College or host organisation : _____
Other members of the public or local community : _____

Q41-44) Estimate the proportion (% totaling to 100) of students who identify as:

Male : _____
Female : _____
Non-binary / third gender / other : _____
Prefer not to say : _____
Total : _____

Governance and leadership

These questions are about the wider organisational context of your Recovery College

Q45) What is the main organisational affiliation for your Recovery College (e.g. whose buildings you operate from or where data and records is stored (choose one, or more than one if an equal partnership))?

- Government health service
- Other health provider, e.g. private healthcare provider
- Local Government
- Education provider, e.g. University or college
- Non-governmental organisation (NGO) or Charity Sector
- We are independent
- Other

Q46) Does your core Recovery College leadership team include people with lived experience of mental health issues?

- Yes
- No
- Unknown/do not know

Q47) During co-production, what groups are most commonly involved? (tick one)

- Lived experience + health or social care professional
- Lived experience + community topic expert
- Lived experience only
- Other

Section B) Recovery College Fidelity

Please complete this measure for your main Recovery College, even if you are involved in or managing more than one. Complete it for your Recovery College as it is right now (i.e. including any changes you have had to make due to the pandemic). Make a note of any scores which have changed due to the pandemic as we will ask you about this at the end of this section.

We now list seven dimensions of a Recovery College. Each dimension has three statements describe varying levels of development, from early stage to active engagement to active success. **For each dimension, choose the statement which best matches your main Recovery College as it is right now , even if you may have phrased things a little differently**. At the end of the survey, there will be the opportunity to tell us more if you found any items difficult to rate.

Q48) Dimension 1: Valuing equality

The contributions and assets of students, trainers (peers, clinicians, external) and other staff are equally valued. No one is judged or treated differently because of their background or mental health difficulties.

- We recognise that staff and students may take time to develop partnership-based working relationships. Whilst being supportive of staff and students, we only deal with issues of discrimination and power differences when they arise.
- We do not actively ensure that all relationships in the college demonstrate equal sharing of opportunities, training, etc. However, we do ensure that the college is welcoming to all staff and students, and have some structures in place (e.g. open days, training, supervision) to encourage equality and to challenge stigma and discrimination.
- We actively promote a non-judgemental and welcoming culture. Activities are undertaken to ensure that issues of power are always considered within the college (e.g. equal access to training and resources, diversity in promotional materials, analysing equal opportunity data).

Q49) Dimension 2: Learning

Recovery Colleges follow an adult education approach whereby students and trainers collaborate and learn from each other by sharing experiences, knowledge and skills. Students have responsibility for their learning and learn through interactive and reflective exercises. Students gain self-awareness, understanding of their difficulties and practical, relevant self-management skills. Students choose courses which best suit their needs.

- We cannot provide evidence of the college's model(s) of adult learning. We can identify a large number of barriers to progress, such as the influence of a strong clinical or psychoeducational model, or limited resources for Peer Trainer training. Trainers are skilled in delivering education and encouraging shared learning.
- We can articulate the college's model(s) of adult learning. Some processes are in place to ensure that trainers follow educational principles (e.g. lesson plans, educational language) and that courses involve co-learning. However, some barriers prevent the full and effective implementation of these model(s), e.g. time pressures to launch/recruit to new courses, or barriers to trainer recruitment and training.
- We can demonstrate the college's full commitment to principles of adult learning. These are evident in the college's prospectus, curriculum and course materials. All trainers (including clinical trainers) can describe the model(s) of adult learning used in the college, and are offered ongoing formal or accredited training in adult learning.

Q50) Dimension 3: Tailored to the student

Recovery Colleges don't offer a one size-fits-all experience. Students' individual needs are actively enquired about and accommodated during courses (e.g. personalised handouts, translated text, materials adapted for learning difficulties). Their needs outside the course are also accommodated (e.g. buddy service, transport help, individual learning plans).

- We are not able to demonstrate the ways in which the college provides an individualised experience for students. Trainers are not actively supported or trained to take account of and accommodate student differences during classes.
- We can demonstrate some ways in which individual needs of students are addressed, but recognise that there are still unmet needs, e.g. students with learning difficulties or not fluent in local languages.
- We are able to demonstrate many ways in which students' individual needs are addressed both during and outside courses. Trainers are made aware of students' needs in advance and provided with guidance on how to adapt the content/delivery of courses.

Q51) Dimension 4: Co-production of the Recovery College

People with lived experience (Peer Trainers and students) are brought together with professionals and subject experts to design and deliver all aspects of the Recovery College. This includes collaborative decision making about the prospectus, courses, college policies, staff recruitment, advertising, etc., as well as the co-design and co-delivery of all courses by a Peer Trainer and other subject-expert

- We routinely involve students and staff in decision-making about the design and running of the Recovery College. Most of our success in co-production has been at the level of course co-delivery. We recognise that there are currently some significant barriers to co-production throughout the college, including those of culture, management hierarchies and time.
- As well as consistent co-delivery of courses, we involve staff and students in most discussions about the design and running of the Recovery College (e.g. through student steering groups or student reps), but managers make many of the decisions.
- We can demonstrate a culture of co-production and its consistent use across the college. The voices of trainers and students are equally heard during decision-making across all levels of the college, including co-delivery, curriculum development, management and design of the physical environment.

Q52) Dimension 5: Social connectedness

Both the culture and the physical environment of the college provide students with opportunities to develop connections with others. The learning space is relaxed, e.g. nonclinical chair layout, access to drinks facilities, shared spaces for socialising. Trainers recognise and cater for students' social needs, e.g. organising exercises and breaks for chatting, sharing experiences and developing friendships

- Students' social experience is low on the Recovery College's agenda when deciding on course structure and the physical environment. There are no specific processes for students to get to know one another. Course venues rarely have facilities or spaces outside the classroom where students can relax or socialise.
- We ensure that the Recovery College is a welcoming environment for students. Trainers are encouraged to provide opportunities for socialising during courses where possible, but this is not central to their role. A few of our course spaces have facilities outside the classroom where students can relax, but there are a number of practical or financial barriers to this.
- The Recovery College recognises the role that student integration and connectedness plays in learning and recovery. The college provides a range of facilities for socialising (e.g. café, seating areas, informal

and spacious course venues). Trainers are supported to integrate opportunities for students to form closer bonds with each other into the structure of courses.

Q53) Dimension 6: Community focus

Recovery Colleges engage with community organisations (e.g. mental health charities, artistic/sporting groups) and Further Education colleges to co-produce relevant courses. The college provides students with information, handouts and events which support students' pathways into valued activities, roles, relationships and support in the community.

- We have limited involvement with, or presence in, community organisations. Community organisations are not involved in college meetings or events, or do not routinely work with the college to co-produce courses or facilitate opportunities for staff/students.
- We ensure that the college undertakes some activities to build awareness of its community services and relationships with community organisations. Some college courses are co-produced with community organisations and students are signposted to relevant community organisations for support.
- We work with a range of community organisations to co-produce college courses and facilitate pathways for students. We can demonstrate activities to build awareness of, and relationships with, the community. We can demonstrate that joint-working with community organisations has led to changes in the college.

Q54) Dimension 7: Commitment to recovery

Recovery College workers talk with conviction and enthusiasm about the service and are dedicated to students' recovery. There is a positive energy in the college and its activities, based on shared values about the recovery principles on which the college is based.

- Our organisational policies and procedures ensure the Recovery College runs smoothly, but there are barriers (e.g. culture, organisational structures) to personal investment by workers in promoting recovery principles (dimensions 1 to 6 above) throughout the college. There is still significant effort needed to establish the college as something 'different' and 'meaningful'.
- We actively motivate each other to promote recovery principles. We have a shared commitment to constantly improve the recovery focus of the college but recognise some barriers to progress (e.g. cultural, financial).
- We actively promote recovery principles in the college, and collectively lead with enthusiasm and an expressed belief in the college's students and staff. College activities demonstrate recovery principles in practice, e.g. graduation ceremonies, students becoming trainers.

We now ask you about five components which can differ between Recovery Colleges. **Please pick the type that most closely resembles your college as it is right now.**

Q55) Component 1: Available to all

- Type 1: The Recovery College is available to all. The Recovery College is accessible to any adult (16+ or 18+), including staff and carers, regardless of their use of local services of any kind. Any restrictions are minimal, e.g. living locally, being registered with a local or family doctor.
- Type 2: The Recovery College is limited to specific groups. The Recovery College is open to adults (16+ or 18+) who are current or previous users of local secondary care mental health services. There may be local additions to this eligibility e.g. health/social care/community organisation staff, or family and carers. Being 'inclusive' relates to the ways in which the Recovery College does not discriminate or create access barriers for people with, for example, certain diagnoses, learning difficulties or physical health/mobility needs.

Q56) Component 2: Location

- Type 1: The Recovery College is based in a community location that is not shared with health, social care or other statutory services. The Recovery College is deliberately located within communities or neighbourhoods, not in health or social care buildings.
- Type 2: The Recovery College is based in a location which is shared with health, social care or other statutory services. The Recovery College is located within or near (e.g. adjoining building) to local health or social care services.

Q57) Component 3: Distinctiveness of course content

- Type 1: Any topic can be offered as a course, irrespective of whether it is available in mainstream adult education settings. The curriculum includes courses on topics which are also available in local mainstream colleges. Example courses might include, arts, Maths, budgeting, physical health care, job-seeking, home maintenance and a range of leisure/recreation activities.
- Type 2: Only topics not available in mainstream adult education settings are offered. The curriculum never includes courses on topics which are available in local mainstream colleges. Some courses are offered with a specific recovery-related focus, e.g. arts for recovery.

Q58) Component 4: Strengths-based

- Type 1: A focus on strengths (not problems) is implicit in the college. The learning opportunities offered by the Recovery College implicitly builds on the experiences, strengths, assets and resources of students. The language of being 'strengths-based' is not often used.
- Type 2: A focus on strengths (not problems) is explicit in the college, in addition to dimensions 1-7 above. The learning opportunities offered by the Recovery College explicitly build on the experiences, strengths, assets and resources of students. The language of being 'strengths-based' is routinely used by staff and students, and features in course materials and other aspects of the Recovery College.

Q59) Component 5: Progressive

- Type 1: There is a focus on 'being' and 'belonging', not on goal-setting. The focus of the Recovery College is on supporting individual students' learning needs, safety and belonging, identity development, personal meaning-making and reflection. The college does not require behavioural goal-setting. Students can learn in whatever direction they want to – and for some students that might not be about moving forwards.
- Type 2: There is a focus on 'becoming' and a strong emphasis on goal-setting and change. The focus of the Recovery College is on processes which provide pathways of opportunity for students and which support them to move on with their lives. This might include the use of goal-oriented personal plans (Individual Learning Plans) and planning and reviewing goal-oriented activities.

Q60) Do you think your Recovery College would have scored differently on any of these domains prior to the pandemic?

- Yes
- No

If you answered **No** to this question, please skip to Section C.

Q61-72) If yes, which do you think you would have scored differently on (tick all that apply)?

- Dimension 1: Valuing equality
- Dimension 2: Learning
- Dimension 3: Tailored to the student
- Dimension 4: Co-production of the Recovery College
- Dimension 5: Social connectedness
- Dimension 6: Community focus
- Dimension 7: Commitment to recovery
- Component 1: Available to all
- Component 2: Location
- Component 3: Distinctiveness of course content
- Component 4: Strengths-based
- Component 5: Progressive

Section C) Organisational costs

We are trying to learn more about how much it costs to run a recovery college and how the Recovery College is funded. We understand that some recovery colleges are integrated within other services, but in your responses please give information just about the Recovery College budget as far as possible.

Q73) What is the main funding source for your college? (if there is more than one main funder e.g. half of funding coming from each of two sources, please indicate those which apply)

- Government/Health service
- Other government/public sector organisations (e.g. education)
- Charitable fund, grants, and/or donations
- Self-funded (e.g. charges for courses; fund-raising activities by staff/students)
- Other [please specify] _____

Q74) What is your annual budget for paying staff (approximate with a specific number if not known, please do not provide a range)?

Q75) Please list the roles of staff at your Recovery College

	Number of individuals in role	Number of individuals paid for this role by the Recovery College	Typical number of hours per week
Nurse(s)			
Occupational Therapist(s)			
Psychologist(s)			
Psychiatrist(s)			
Other role [Please specify] _____			

Other role
[Please specify]
_____

Other role
[Please specify]
_____

Q76) Are there additional relevant details about these funders you wish to tell us?
Q77) If you have answered 'other' to any question in the survey or would like to tell us more about any of your responses, please do so here:
Q78) To make sure we have contacted all Recovery Colleges, please give any names and contact details of other Recovery Colleges which are close to you geographically:
Thank you for completing the survey. Please password protect this Word document and send the survey to: RECOLLECT@kcl.ac.uk and send the password to Daniel.hayes@kcl.ac.uk
Please also attach a copy of your current curriculum when you return the email

S2 : RECOLLECT Fidelity measure Categorical components and categories

Categorical component	Categories
Available to all	Anyone from the local community versus just a specific population e.g., mental health service users, carers and staff
Location	Community based (i.e., does not share buildings with statutory health and social care services) versus Statutory services;
Distinctiveness of course content	Mainstream (i.e., any topic can be offered) versus Non-mainstream (i.e. only topics that fall outside of mainstream adult education settings are offered)
Strengths-based	Implicit (i.e., students strengths are built on but strengths-based language is not used) versus Explicit (i.e. students strengths are built with strengths-based language used by staff and in courses)
Progressive	No goal setting (i.e. goal setting is not a focus) versus Goal setting (e.g. via Individual Learning Plans)

S3: Exchange rates

Supplementary material – exchange rates from original currencies to Euros – exchange rate on 12th December 2022 – sourced from www.oanda.com

Original currency	Exchange rate to Euros
Australian dollars	0.64494
Canadian dollars	0.69549
Czech koruna	0.04114
Danish krone	0.13443
GBP	1.16354
Hong Kong dollars	0.12192
Hungarian forint	0.00238
Japanese yen	0.00695
Norwegian kroner	0.09488
NZ dollar	0.60779
Swiss francs	1.01564
Thai baht	0.02727
Uganda shillings	0.00026

S4: Reasons for exclusion of organisations from survey

Reasons for exclusion of identified organisations	Number of excluded organisations
Non-contactable and local/expert contacts believe it no longer exists/operates	22
Did not pass screening/inclusion (i.e. not a Recovery College)	20
Previously open but now closed	11
Duplicate name for already-included Recovery College	7
Satellite site of an included Recovery College	5
Existing but not currently running	5
Merged with another Recovery College	4
Just opened and unable to complete the survey	4
Total	78

S5: Identified RCs and those that participated by country and continent

Africa	I	P	Asia	I	P	Oceania	I	P	Europe	I	P	England	I	P	North America	I	P
Uganda	2	2	Hong Kong	2	2	Australia	9	8	Belgium	14	10	England	88	63	Canada	23	19
			Japan	11	9	New Zealand (Aotearoa)	2	2	Bulgaria	1	1						
			Thailand	2	2				Czechia	1	1						
									Denmark	9	9						
									Estonia	2	2						
									Finland	2	2						
									France	1	1						
									Germany	3	3						
									Hungary	3	2						
									Iceland	1	1						
									Ireland	11	7						
									Italy	4	4						
									Jersey*	1	1						
									Netherlands	2	2						
									Northern Ireland	4	3						
									Norway	5	5						
									Scotland	3	3						
									Spain	6	3						
									Sweden	3	3						
									Switzerland	4	3						
									Wales	2	1						
Total	2	2		15	13		11	10		82	67		88	63		23	19

I = Number of RCs identified, P = Number of RCs that participated

*Note: Jersey is a self-governing dependency of the UK and was not included in the overall number of countries, but for analysis purposes the Jersey RC was considered to be a college in Europe, but separate to RCs in England

S6: Regressions exploring the associations between total and item-level fidelity scores and either college size or time in operation (N=169)

	Fidelity Score (Items 1-7)		**1. Equality**		**2. Adult learning**		**3. Tailored to student**		**4. Coproduction**	
	β (95% CI)[*]	*p value*	*OR (95% CI)*[†]	*p value*	*OR (95% CI*[†]	*p value*	*OR (95% CI*[†]	*p value*	*OR (95% CI*[†]	*p value*
Time in operation (years)	0.01 (-0.09 to 0.12)	0.829	0.94 (0.86 to 1.04)	0.225	0.99 (0.90 to 1.08)	0.775	1.11 (0.99 to 1.23)	0.068	0.96 (0.88 to 1.05)	0.371
Number of students	0.00 (-0.00 to 0.01)	0.243	1.00 (0.99 to 1.00)	0.668	1.00 (0.99 to 1.00)	0.414	1.00 (0.99 to 1.00)	0.594	1.00 (0.99 to 1.00)	0.260
	5. Social connectedness		**6. Community focus**		**7. Commitment to recovery**		**8. Available to all** ***Anyone vs specific groups***		**9. Location** ***Community vs statutory***	
	OR (95% CI[†]	*p value*	*OR (95% CI*[†]	*p value*	*OR (95% CI*[†]	*p value*	*OR (95% CI)*[‡]	*p value*	*OR (95% CI)*[‡]	*p value*
Time in operation (years)	1.06 (0.98 to 1.14)	0.167	0.97 (0.90 to 1.04)	0.408	1.05 (0.96 to 1.16	0.283	1.02 (0.94 to 1.11)	0.641	1.14 (1.03 to 1.27)	0.014
Number of students	1.00 (0.99 to 1.00)	0.490	1.00 (1.00 to 1.00)	0.049	1.00 (0.99 to 1.00)	0.074	0.99 (0.99 to 1.00)	0.100	0.99 (0.99 to 1.00)	0.496
	10. Distinctiveness of course content ***Mainstream vs not mainstream***		**11. Strengths** ***Implicit vs explicit***		**12. Progressive** ***No goal setting vs goal setting***					
	OR (95% CI)[‡]	*p value*	*OR (95% CI)*[‡]	*p value*	*OR (95% CI)*[‡]	*p value*				
Time in operation (years)	0.99 (0.91 to 1.08)	0.816	1.11 (0.97 to 1.27)	0.129	1.10 (1.00 to 1.20)	0.041				
Number of students	0.99 (0.99 to 1.00)	0.846	1.00 (1.00 to 1.00)	0.047	1.00 (0.99 to 1.00)	0.560				

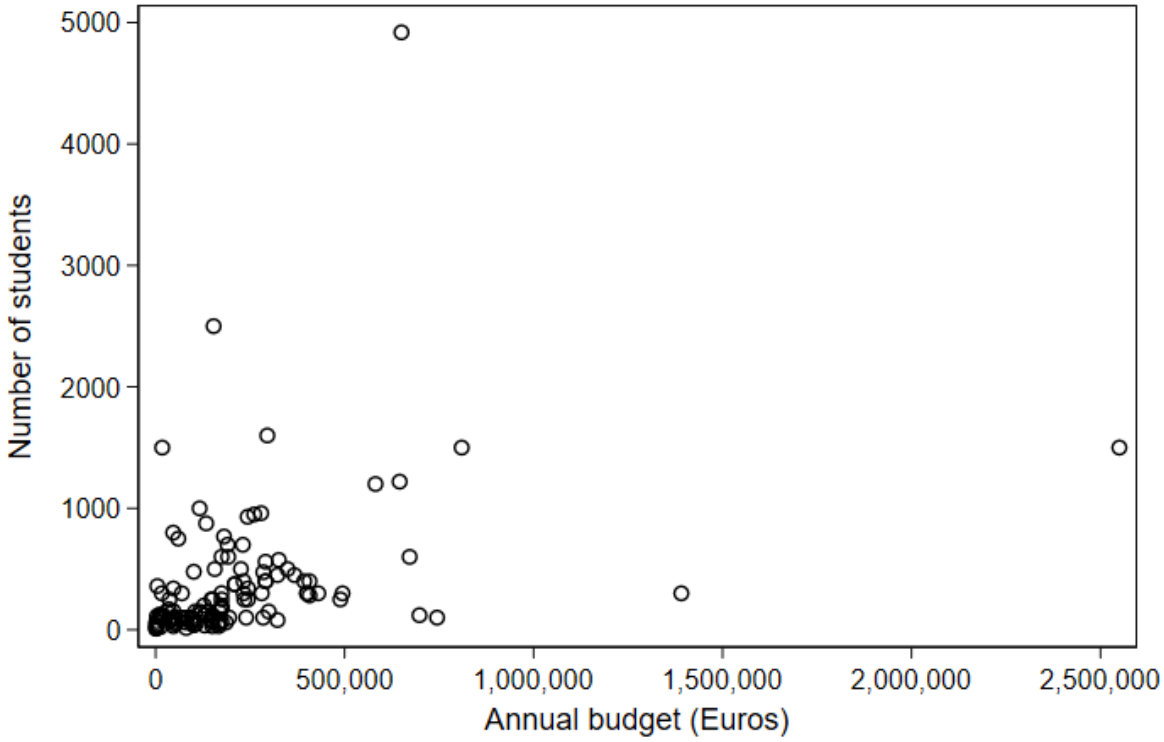
CI=confidence interval; OR=odds ratio

*Linear regression; [†]ordinal logistic regression (items 1 to 7); [‡]logistic regression (items 8 to 12)

Note: Multilevel modelling where country was included as a random intercept

Bonferroni corrected significance level, p ≤ 0.002

S7. Scatterplot of RC annual budget and number of students



S8: Summary of RC funding sources

	Government-funded health service	Other government funding	Charity	Self-funded	Other
COLLEGES WITH ONE FUNDING SOURCE (n=116; 70% of colleges)					
Number of colleges n (%)	81 (70)	11 (9)	14 (12)	2 (2)	8 (7)
	Median (IQR) *Range*	*Median (IQR)* *Range*	*Median (IQR)* *Range*	*Individual responses*	*Median (IQR)* *Range*
Annual budget	€174,531 (96,741-295,583) 10,432-2,000,000	€149,985 (45,000-244,343) 34,775-494,505	€123,417 (94,270-156,485) 12,000-1,390,980	€800 €17,453	€33,958 (13,000-243,422) 4,680-2,550,000
COLLEGES WITH MORE THAN ONE FUNDING SOURCE (n=49)	*n*	*n*	*n*	*n*	*n*
Number of colleges with two funders (n=36)	27	4	23	12	6
Number of colleges with three or more funders (n=13)	12	6	11	7	5

Note: for colleges with more than one funder, *n* is the number of colleges reporting receiving funding from the respective sources

S9: Percentage of RCs reporting service delivery by different staff roles - overall, and broken down by continent

	Overall	Africa	Asia	Oceania	Europe	England	North America
				n/N (%) positive response			
Nurse	49/157 (31)	2/2 (100)	7/13 (54)	1/7 (14)	18/61 (30)	20/58 (34)	1/16 (6)
Occupational therapist	54/160 (34)	2/2 (100)	5/13 (38)	3/7 (43)	20/64 (31)	24/58 (41)	0/16 (0)
Psychologist	46/157 (29)	2/2 (100)	5/13 (38)	0/7 (0)	16/60 (27)	23/59 (39)	0/16 (0)
Psychiatrist	21/134 (14)	2/2 (100)	3/13 (23)	0/7 (0)	5/58 (9)	11/59 (19)	0/16 (0)
Social worker	22/161 (14)	1/2 (50)	8/13 (62)	0/7 (0)	9/64 (14)	2/58 (3)	2/17 (12)
Peer/lay/lived experience support	107/166 (64)	0/2 (0)	6/13 (46)	5/8 (63)	37/67 (55)	47/59 (80)	12/17 (71)

Note: data on peer supporter role collected using different questions in the survey for England than international survey so may not be fully comparable

S10: Median budgets by country

Country	Median budget (Euros)
Australia	225,729
Belgium	55,500
Canada	156,485
Denmark	235,253
England	232,708
Ireland	121,000
Italy	12,000
Japan	2,780
Northern Ireland	174,531
Norway	186,000
Sweden	47,200

Median budgets for countries where 3 or more recovery colleges reported a total annual budget