Health system strengthening for mental health in low- and middle-income countries: introduction to the Emerald programme

Graham Thornicroft and Maya Semrau

Summary
This paper gives an overview of the Emerald (Emerging mental health systems in low- and middle-income countries) programme and introduces the subsequent seven papers in this BJPsych Open thematic series. The aims of the Emerald research programme were to improve mental health outcomes in six low- and middle-income countries (LMICS), namely Ethiopia, India, Nepal, Nigeria, South Africa and Uganda, by building capacity and by generating evidence to enhance health system strengthening in these six countries. The longer-term aim is to improve mental healthcare, and so contribute to a reduction in the large treatment gap that exists for mental disorders. This series includes papers describing the following components of the Emerald programme: (a) capacity building; (b) mental health financing; (c) integrated care (d) mental health information systems; and (e) knowledge transfer. We also include a cross-cutting paper with recommendations from the Emerald programme as a whole. The inclusion of clear mental-health-related targets and indicators within the United Nations Sustainable Development Goals now intensifies the need for strong evidence about both how to provide effective treatments, and how to deliver these treatments within robust health systems.

Declaration of interest
None.

Keywords
Global mental health; health systems; health system strengthening; healthcare delivery.

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Background
This thematic series in BJPsych Open reports on the work and findings of the Emerald (Emerging mental health systems in low- and middle-income countries) programme.1 Emerald was funded over 5 years (2012–2017) by the European Union’s 7th framework programme to support health system strengthening research related to mental health. In this context a health system is defined as ‘the sum total of all the organizations, institutions and resources whose primary purpose is to improve health’2 within which the World Health Organization (WHO) has identified six core system components (see Fig. 1).

The challenge
At present, health systems fail people with mental disorders in every country worldwide. At best only a third of people with mental disorders in low- and middle-income countries (LMICs) receive any treatment or care.3–6 This large disparity between true levels of need and actual treatment rates is referred to as the ‘treatment gap’. This gap is due, in part, to the substantial under-resourcing for mental health, which results in far too few human resources for mental health and a reliance on a small number of beds in tertiary hospitals. Stigma and discrimination may also contribute to the treatment gap because people do not access services or are exposed to human rights abuses. The gap exists even though the substantial under-resourcing for mental health11 due, in part, to the substantial under-resourcing for mental health12 and by generating evidence to enhance health system strengthening, thereby improving mental healthcare and so contributing to a reduction in the mental health treatment gap. The key characteristics of the six Emerald country sites are shown in Table 1. These countries all face the formidable mental health system challenges that are common across LMICs, such as weak governance, a low resource base and poor information systems. The six countries were invited into the programme as a result of the commitment of local researchers and policymakers to engage in this programme, and to provide a rich comparison of sites in relation to their geographical, economic, sociocultural and urban/rural contexts, in order to strengthen the generalisability of the findings.

The five components of the Emerald programme
The Emerald programme entailed the coordination of the following five components (called work packages).

Capacity building
This work by Sara Evans-Lacko, Charlotte Hanlon, Atalay Alem and colleagues is described in paper two of this BJPsych Open thematic series,18 which builds upon previous reports.19–26 The Emerald programme has successfully supported the doctoral (PhD) studies of ten students across the six LMICs (three from Ethiopia, two from India, one from Nepal, one from Nigeria, two from South Africa, one from the UK). In addition, three Masters-level teaching
modules with 28 submodules (see Appendix) have been developed that can be integrated into ongoing Masters courses, as well as three short courses for: (a) researchers; (b) policymakers and planners; and (c) patients and caregivers, to build capacity in mental health systems research within Emerald countries and beyond. These training materials are available for open access to relevant staff in countries worldwide using a Creative Commons licence.

Mental health financing

Paper three in this BJPsych Open thematic series considers strategies for sustainable mental health system financing in LMICs,27 led by Dan Chisholm, Crick Lund and Sumaiyah Docrat.28–30

Integrated care

Within Emerald, we have deliberately approached the scaling up of services to identify and treat many more people with mental disorders in LMICs by integrating these activities into mainstream primary and community healthcare services. Paper four in this series31 is coordinated by Inge Petersen and Fred Kigozi, and discusses the key barriers and facilitators related to such integrated care.14,32–36

Mental health information systems

Knowledge of how health systems perform, in order to manage and improve them, is crucial yet such data are most often missing, scarce

| System building blocks | Overall goals/outcomes |
|------------------------|------------------------|
| Service delivery       | Improved health (level and equity) |
| Health workforce       |                   |
| Information            |   Responsiveness      |
| Medical products, vaccines and technologies | Social and financial risk protection |
| Financing              | Improved efficiency  |
| Leadership/governance  |                   |

**Fig. 1** The World Health Organization (WHO) health system framework (figure); page 3, 2007. Everybody’s Business – Strengthening Health Systems to Improve Health Outcomes: WHO’s Framework for Action.

**Table 1** Indicators of development, health resources and the mental health system in the Emerald country sites

| Administrative health units in which Emerald was implemented | Sodo | Sehore (Madhya Pradesh) | Chitwan | Oshogbo | Kenneth Kuanda District (NW Province) | Kamuli |
|-----------------------|--------|------------------------|--------|---------|-----------------------------------|-------|
| Population of administrative health units | 165 000 | 1 311 008 | 575 058 | 288 455 | 632 790 740 700 |
| Country-level indicators | | | | | |
| Economic and financial | | | | | |
| % Gross domestic product spent on health | 5.9 | 4.2 | 5.3 | 5.0 | 8.4 | 7.3 |
| % Health budget spent on mental health | Not known | 0.06 | 0.17 | 0.40 | 4.50 | 0.44 |
| Service availability (per 100 000) | | | | | |
| Mental health out-patient facilities | 0.06 | 0.33 | 0.08 | 0.03 | 6.85 | 0.08 |
| Psychiatric beds in general hospitals | 0.04 | 0.82 | 1.0 | 0.20 | 2.70 | 1.24 |
| Beds in mental hospitals | 0.35 | 1.47 | 0.20 | 2.53 | 19.50 | 1.48 |
| Human resources (per 100 000) | | | | | |
| Psychiatrists | 0.04 | 0.30 | 0.13 | 0.12 | 0.27 | 0.09 |
| Nurses | 0.59 | 0.17 | 0.27 | 0.60 | 9.72 | 0.76 |
| Psychologists | 0.02 | 0.05 | 0.02 | 0.02 | 0.31 | 0.02 |
| Governance | | | | | |
| Mental health policy and/or legislation that is up-to-date (i.e. updated in past 10 years) and in accordance with international human rights | Yes (policy) | No (legislation) | No | No | Yes | Yes |
| Workforce capacity and training | | | | | |
| Most primary healthcare doctors had mental health training in past 5 years | No | No | No | No | Not known | Yes |
| Primary care nurses can independently diagnose and treat mental disorders | No | No | No | Yes | No | Yes |
| Information systems | | | | | |
| Data on number of out-patients with mental disorders | Not known | No | Yes | No | No | Yes |
| Data on number of people with mental disorders treated in primary healthcare | Yes | No | No | No | Yes | Yes |

Source: Originally published in Semrau et al1 Data taken from the World Health Organization (WHO)’s Mental Health Atlas16 and WHO’s AIMS.17
or of poor quality in LMICs. Page five in this series led by Mark Jordans and Oye Gureje describes the practical utility of new mental health system indicators developed by the Emerald team, and paper six led by Shalini Ahuja sets out our findings of how such indicators can best be implemented.

Recommendations paper

Although the evidence generated by programmes such as Emerald can make original contributions to the scientific literature, more important is whether such information is actionable, namely can be communicated to those who are in a position to practically apply this information to improve treatment and care. José Luis Ayuso-Mateos and colleagues set out in paper seven what has been learned within Emerald on how to successfully achieve such forms of knowledge transfer.

In our conclusion, paper eight presents a series of recommendations by the Emerald team for the strengthening of mental health systems in LMICs, taking a cross-cutting approach over the five different work packages that were implemented during the programme.

Conclusions

The field of global mental health is now undergoing a remarkable transformation with a long overdue appreciation of the scale of mental disorders to the global burden of disease, and the potential for greater community cohesion and workplace productivity if people with these conditions are properly treated and supported. The inclusion of clear mental-health-related targets and indicators within the United Nations Sustainable Development Goals now intensifies the need for strong evidence about both how to provide effective treatments, and how to deliver these treatments within robust health systems.

Recommendations paper

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