UNIVERSITY OF CAMBRIDGE
Department of Engineering

IfM MANAGEMENT TECHNOLOGY POLICY

MENTAL HEALTH CATALYST

Towards new and better interventions for depressed mood

Supported by
wellcome

YP MH The Foundation for Young People's Mental Health

Foreword

Clinically depressed mood remains one of the most significant and persistent challenges in global mental health.

While scientific understanding has advanced substantially, progress in translating that knowledge into interventions that deliver sustained impact at scale has been uneven and slow.

The Mental Health Catalyst has been established to address this translational gap.

Commissioned and supported by Wellcome, the Catalyst is a structured, end-to-end programme designed to:

- clarify the factors and mechanisms that drive clinically significant depressed mood
- identify and prioritise interventions capable of meaningfully improving outcomes
- accelerate their development and adoption within real-world systems

The initiative builds on seven years of collaboration between the University of Cambridge's Institute for Manufacturing (IfM) and partners across mental health research and practice. Since 2019, IfM, its knowledge transfer company IfM Engage, and The William Templeton Foundation for Young People's Mental Health (YPMH) have applied innovation management, roadmapping and ecosystem mapping approaches to help translate social, psychological and biological research into interventions that can be delivered at scale.

This work has led to the development of a structured methodology – Understand : Innovate : Implement – which integrates evidence synthesis to understand the drivers of mental health conditions, such as depressed mood, the identification and prioritisation of intervention opportunities, and coordinated approaches to develop, validate and implement effective interventions at scale.

The Catalyst begins with rigorous synthesis of existing evidence and disciplined analysis of the pathways by which depressed mood develops. From this foundation, it supports the identification and prioritisation of promising intervention opportunities and addresses the environmental and infrastructural conditions required for those interventions to be developed, adopted and sustained.

The ambition is not incremental change, but coordinated acceleration towards interventions that are more effective, more scalable and grounded in robust science, transparent decision-making and demonstrable value across the mental health ecosystem. The Catalyst is designed both to support public benefit and to catalyse responsible investment in solutions capable of operating at scale.

The Mental Health Catalyst provides a platform through which collaboration can be aligned, focused and translated into meaningful, scalable progress.

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An invitation to collaborate

The Mental Health Catalyst is designed as a highly collaborative initiative. Partnership is embedded throughout the programme, enabling deeper insight, the co-development of solutions and coordinated pathways for translating research into real-world impact.

The Catalyst brings together researchers, clinicians, health strategists, innovators, policymakers, funders and people with lived experience to accelerate the development and adoption of interventions that can meaningfully improve mental health outcomes.

We warmly invite individuals and organisations to engage with the programme in several ways:

- contributing expertise through Expert Advisory Panels and consultations
- participating in stakeholder workshops and surveys
- supporting the development and validation of prioritised interventions emerging from Catalyst 1.0
- collaborating in the next phase of the programme, Catalyst 2.0

Your expertise, experience and partnership can help shape evidence-informed approaches capable of delivering meaningful improvements in mental health outcomes.

→

If you would like to learn more or explore opportunities to collaborate, please contact the Catalyst team at mhc-enquiries@eng.cam.ac.uk

1. Executive summary

Clinically significant depressed mood remains one of the most pressing and persistent challenges in global mental health. Despite major advances in scientific understanding, progress in translating research into interventions that reduce the duration, recurrence and long-term burden of depression – at scale – has been uneven and slow.

The Mental Health Catalyst has been established to address this translational gap. Commissioned and supported by Wellcome, the Catalyst is a structured programme designed to accelerate the development and adoption of effective interventions for depressed mood. Its mission is as follows:

Getting better, staying well:
Depressed mood becomes a short-lasting condition that does not affect lives in the longer term. We will achieve this with more effective, faster, longer-lasting interventions, that are more sustainable.

Catalyst 1.0 establishes the foundations required to achieve this mission by identifying high-potential intervention opportunities and understanding the conditions necessary for their development, validation and adoption. The programme integrates rigorous evidence synthesis with structured innovation and implementation methods, enabling stakeholders to work collaboratively to identify solutions capable of delivering real-world impact.

The Catalyst applies the **Understand : Innovate : Implement** architecture, a systematic framework developed by IfM Engage and The William Templeton Foundation for Young People's Mental Health to accelerate the translation of research into scalable interventions.

Understand focuses on building shared insight into the social, psychological and biological factors and mechanisms contributing to depressed mood. Through rigorous evidence synthesis and pathway mapping, the programme develops integrated bio-psycho-social pathway models that clarify how depressed mood arises across different contexts and stages of the life course, and where strategic intervention points exist.

Innovate translates this understanding into actionable solutions. Through structured stakeholder engagement and innovation methods, the Catalyst identifies, evaluates and prioritises promising interventions across pharmaceutical, digital and non-pharmaceutical modalities. These activities generate prioritised portfolios of interventions capable of progressing towards validation and scalable implementation.

Implement focuses on enabling interventions to be successfully adopted and sustained within real-world systems. The Catalyst analyses the environmental and infrastructural conditions required for innovation and implementation, identifying systemic barriers and developing enabling solutions that support the development, scaling and sustained operation of effective interventions.

Catalyst 1.0 applies the **Understand : Innovate : Implement** architecture through a structured four-year programme of activities designed to identify, prioritise and accelerate the development and adoption of scalable interventions. These activities include evidence synthesis and pathway mapping, intervention ideation and prioritisation, environments and infrastructure analysis, and collaborative roadmapping.

Roadmapping translates insight into coordinated action. Through facilitated engagement with researchers, clinicians, policymakers, innovators, investors and people with lived experience, roadmaps define pathways for developing, validating and scaling priority interventions. The outputs of the roadmapping activities are synthesised into the **Mental Health Catalyst Mission Map**, which provides a strategic framework aligning intervention opportunities, enabling solutions and coordinated action across the mental health ecosystem.

Catalyst 1.0 will produce prioritised intervention portfolios, integrated roadmaps towards validation and scale, analysis of systemic barriers and enabling solutions, and a set of investment- and funding-ready opportunities. These outputs provide a structured and transparent foundation for accelerating innovation, investment and implementation across the global mental health field.

Looking ahead, the Catalyst is designed to evolve beyond the initial programme. Catalyst 2.0 envisions the development of a global capability platform for translating mental health research into scalable solutions. By strengthening the systems through which research is transformed into effective interventions, the Catalyst aims to accelerate progress towards more effective prevention, early detection, diagnosis, management and treatment of mental ill health worldwide.

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2. The case for change

Why new approaches are needed

2.1 The scale and urgency of the challenge

Despite decades of research and investment, clinically depressed mood – including depressive disorders and depressive symptoms occurring within anxiety and bipolar disorders – continues to impose a growing burden across the life course.

These conditions represent one of the leading causes of years lived with disability worldwide. The trajectory is worsening, particularly among young people: most mental health conditions begin before age 24, and early depression substantially increases the risk of recurrence in adulthood. Even where treatment is available, outcomes are often incomplete and relapse common, resulting in long-term impacts on education, employment, physical health and relationships.

Earlier onset across greater numbers of young people is expected to increase the number of adults living with recurrent or chronic depression, amplifying personal, societal and economic costs. Mental ill-health already imposes trillions of dollars in global economic losses, while treatment gaps persist in low- and middle-income countries and services remain overstretched in high-income settings.

Depressed mood also has intergenerational effects. Early-life adversity, chronic stress and socio-economic disadvantage increase vulnerability across generations, and untreated parental depression influences children's developmental and health outcomes.

The central challenge is not a lack of research. Scientific understanding of social, psychological and biological mechanisms has advanced substantially. Progress has been limited by failure to translate knowledge into interventions that are implemented and sustained at scale.

2.2 The translation gap – why progress is slower than it should be

Three systemic barriers constrain progress.

- **Fragmented knowledge:** advances across biological, psychological and socio-ecological domains remain insufficiently integrated across conditions in which depressed mood occurs.
- **Innovation without adoption:** effective interventions often remain confined to pilots, with weak prioritisation and limited alignment to real-world delivery contexts.
- **Implementation without infrastructure:** incentives, commissioning models, workforce capability and integrated data and monitoring systems frequently fail to support sustained adoption.

The challenge is therefore systemic: enabling effective interventions to be identified, prioritised, implemented and sustained at scale.

2.3 Structural barriers to translation

These translation challenges arise from deeper structural barriers operating across four interacting domains:

Scientific – heterogeneity of depressed mood; weak integration of mechanisms; lack of integration across the life course; limited transdiagnostic synthesis.

Innovation – poor prioritisation; absence of structured selection processes and roadmaps defining an agreed 'chosen future' and how it will be realised; misalignment between discovery and practical feasibility.

Implementation – limited understanding of delivery contexts; behavioural constraints; regulatory and commissioning misalignment; failure to sustain operation and integration with other interventions, within and between stakeholders, over time.

Ecosystem – fragmented actors; misaligned incentives; short funding cycles; weak feedback loops.

2.4 What is required – design principles for a new approach

Taken together, these barriers indicate that incremental improvement within existing models will be insufficient to achieve population-level impact. Addressing these challenges requires approaches that are:

- Causally coherent across biological, psychological and social mechanisms, and across the life course
- Transdiagnostic yet conceptually rigorous
- Structured and prioritised
- Context-sensitive across high-, low- and middle-income settings
- Scalable by design
- Collaborative and ecosystem-oriented
- Sustained and adaptive

Without approaches that meet these requirements, progress is likely to remain fragmented and incremental. Effective interventions will continue to fail to reach scale, and the burden of clinically depressed mood will accumulate across generations.

These requirements span understanding causes, enabling innovation and supporting implementation at scale.

The Mental Health Catalyst has been designed explicitly to address this challenge.

3. A structured approach to accelerating impact

Understand : Innovate : Implement

3.1 Overall approach: from understanding to impact

The central challenge is not a lack of research, but the failure to translate research into effective, user-acceptable interventions that are applied at scale and sustained over time. Progress remains constrained by barriers across science, innovation, implementation and context. Overcoming these barriers requires structured approaches that enable effective interventions to be developed, adopted and sustained at scale.

In response to these challenges, the Mental Health Catalyst applies a structured end-to-end approach to accelerate translation and deliver real-world impact. Developed over seven years through collaboration between IfM Engage and YPMH, the approach integrates established methods for problem-solving, innovation, systems and change management to address the real-world complexities of mental health.

3.2 The Understand – Innovate – Implement architecture

The Catalyst applies a structured architecture comprising three interconnected system functions:

Understand

Building shared insight, in a systematic way, into:

- The social, psychological and biological factors and mechanisms that contribute to mental health conditions
- How these factors interact across the life course
- Understanding where in these pathways we can best intervene to prevent, detect early, diagnose, manage and treat conditions.

Innovate

Turning understanding into actionable solutions by:

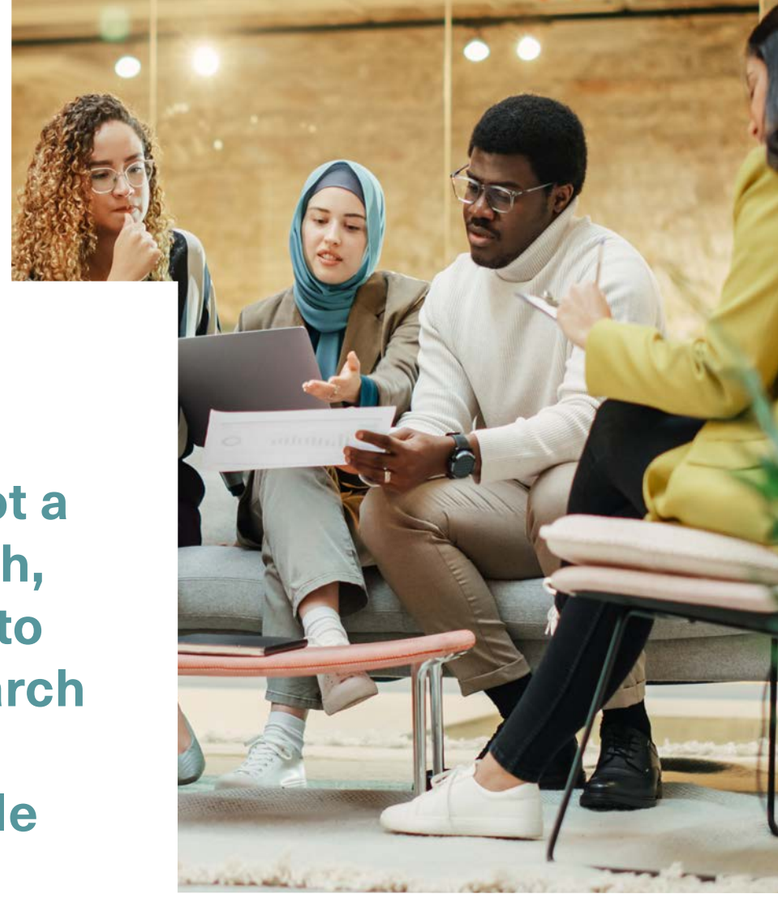
- Identifying, prioritising, developing and validating user-acceptable innovations that address clear unmet needs
- Building portfolios of near-, medium- and longer-term innovations across:
  - Stages of care across the mental health pathway
  - Modalities, such as digital, pharmaceutical and dietary interventions
  - Organisational settings, including schools, employers, custodial institutions and healthcare contexts ranging from public health to primary, secondary and tertiary care
  - Policy and regulatory environments.

Prioritised opportunities may sit at different points along the translational pipeline. Some may be relatively mature interventions ready for validation and scale, while others may represent earlier-stage opportunities emerging from scientific insight, such as novel therapeutic targets or enabling technologies. Accordingly, the Catalyst uses the term intervention broadly to include both well-defined solutions and promising opportunities that could evolve into interventions through further research and development.

Implement

Enabling innovations to be adopted and sustained in practice by:

- Supporting organisations across society through effective implementation design and change management
- Enabling individuals, families and carers to develop the motivation, capability and opportunity for sustained behaviour change
- Coordinating action across ecosystems to build effective and sustainable capabilities for prevention, early detection, diagnosis, management and treatment.



"The central challenge is not a lack of research, but the failure to translate research into effective, user-acceptable interventions."

From research to sustained real-world impact

These elements operate as an integrated system rather than a linear pipeline.

Collaboration underpins each stage and the end-to-end process, enabling deeper insight, co-development of solutions and coordinated implementation.

Together, these interconnected elements enable the identification, development, implementation and sustained operation of practical, scalable, evidence-informed solutions that improve outcomes by transforming how mental health systems function.

4. Making depressed mood a short-term condition

Catalyst 1.0

Mission: The Catalyst aims to make clinically depressed mood a short-lasting condition that does not affect lives in the longer term. This will be achieved through the development and adoption of more effective, faster-acting and longer-lasting interventions that can be implemented sustainably at scale.

The current programme, Catalyst 1.0, establishes the foundations required to achieve this mission by generating prioritised, evidence-informed and investment- and funding-ready intervention opportunities.

Catalyst 1.0 is funded by Wellcome and focuses specifically on interventions aimed at improving outcomes for individuals experiencing clinically significant depressed mood.

While the Catalyst's analytical and ideation activities consider opportunities across the broader mental health care pathway, the interventions selected for development and validation within Catalyst 1.0 fall within this treatment-focused scope.

A structured, phased 4-year programme

Catalyst 1.0 applies the Understand : Innovate : Implement architecture through a structured four-year programme of activities designed to identify, prioritise and accelerate the development and adoption of scalable interventions.

Understand

Evidence synthesis and pathway mapping for depressive disorders and depressive symptoms occurring in anxiety disorders and bipolar disorder. Outputs:

- Integrated bio-psycho-social pathways
- Identification of key intervention points across the pathways and the life course

Innovate

Ideation, prioritisation and selection of interventions. Outputs:

- Prioritised intervention portfolios for pharmaceutical, digital and other modalities
- ~Ten high-potential interventions identified for each modality

Following prioritisation, the Catalyst supports promising interventions across the care pathway. Catalyst 1.0 advances interventions aimed at improving outcomes for individuals experiencing clinically significant depressed mood, while additional opportunities are captured for potential progression through future Catalyst programmes with other funders.

Innovate

Roadmaps for scalable interventions. Outputs: Facilitated stakeholder-engaged roadmaps

- **One roadmap for each modality** (e.g. digital, pharmaceutical, dietary), setting out:
  - Vision (chosen future)
  - Current state
  - Stepping stones
  - Barriers
  - Enablers
- **One integrated roadmap** aligning interventions and enabling solutions across modalities

Lived experience experts participate actively in the Catalyst, contributing through the Lived Experience Advisory Panel and Working Groups to inform key issues, such as relevance and acceptability of recommendations | framing and language | ethical considerations | cultural, contextual, and equity considerations | barriers and facilitators to intervention uptake, engagement, and sustained recovery | infrastructure and environments | communication and dissemination approaches

Environments and Infrastructure analysis: Outputs:

- Identification of key systemic barriers to innovation and implementation at scale
- Prioritised enabling solutions

Mobilise – Mission Map launch and global dissemination. Outputs:

- Launch events
- Comprehensive report and executive summaries
- Web-based platform
- Webinars, conferences, workshops, advocacy and global engagement

Innovate Venture support.
Outputs: A clear chosen future state for the intervention and robust plans to achieve it.

IfM Strategic Compass pilot to help accelerate investment, development and scaling of interventions

Proven methods to accelerate development and scaling

To help accelerate investment readiness, the Catalyst will pilot the IfM Strategic Compass methodology with selected priority interventions.

The Strategic Compass methodology will be configured to the specific translational and regulatory realities of mental health innovation.

Within Catalyst 1.0, this approach will support the development, investment readiness and progression of selected interventions towards validation and scale.

Outputs: Investment and funding opportunities

Catalyst 1.0 will produce:

- Prioritised intervention portfolios
- Integrated roadmaps towards validation and scale
- Analysis of systemic barriers and enabling solutions
- Clear cases for investment and 'public good' funding for priority interventions and key enablers

These outputs provide a structured and de-risked foundation for funders, industry, policymakers and delivery partners to accelerate development and implementation.

Outcomes

Catalyst 1.0 outputs will create the conditions for:

- Investment and development of priority interventions
- Strengthening enabling environments
- Validation, scale-up and adoption

Leading to:
Validated and scalable interventions, adopted solutions to key barriers, and measurable progress towards the mission.

Mission

Depressed mood becomes a short-lasting condition that does not affect lives in the longer term

Project structure and governance

Steering Committee (strategic oversight)

Project leadership and delivery team – led by IfM Engage, and in collaboration with Cochrane Evidence Synthesis Unit Germany / UK | Generation Mental Health | Mental Health Innovation Network | The William Templeton Foundation for Young People's Mental Health for Young People's Mental Health

Enabled by – Expert Advisory Panels | Lived Experience Working Groups | Global stakeholder representation across high-, low- and middle-income countries

Collaborative by design

How to engage

The Catalyst engages researchers, clinicians, industry, policymakers, funders and lived experience experts at each stage.

We invite stakeholders to:

- Contribute expertise
- Inform prioritisation
- Participate in panels and workshops
- Support development, investment and scale-up

Details of how to apply can be found at:
www.engage.ifm.eng.cam.ac.uk/mental-health-catalyst

4.1 Evidence synthesis and pathway mapping

Understand

The evidence synthesis applies a rigorous, transparent and reproducible methodology to integrate evidence and understand the pathways through which clinically depressed mood may arise.

It integrates biological, psychological and socio-ecological evidence across depressive disorders and depressive symptoms occurring in anxiety and bipolar disorders, examining how contexts, vulnerabilities and mechanisms interact over the life course.

The synthesis and its subsequent exploration by expert advisors identify risk factors, mechanisms and pathway interactions, and produces structured outputs that inform intervention prioritisation, roadmapping and downstream innovation.

A structured four-level approach

The synthesis applies a structured methodology developed in collaboration with Cochrane Evidence Synthesis Unit Germany / UK, combining systematic evidence capture with pathway integration.

Level 1
Evidence identification
Systematic identification of high-quality review-level evidence, establishing the human evidence foundation.

→

Level 2
Risk factors and mechanisms
Classification of socio-ecological contexts, vulnerabilities, psychological processes, behaviours and lifestyle factors, and biological mechanisms contributing to depressed mood.

→

Level 3
Context-Mechanism-Outcome configurations
Evidence-anchored causal chains are constructed and formalised into Context-Mechanism-Outcome (CMO) configurations, capturing mechanisms operating within defined contexts.

→

Level 4
Pathway integration and strategic intervention points
CMOs are integrated into developmental pathways showing how depressed mood may arise across different life contexts and diagnostic conditions. The pathways link socio-ecological and individual factors with the biological mechanisms through which they act, enabling modifiable strategic intervention points to be identified.

→

Outputs
The evidence synthesis and pathway mapping will produce:

- Evidence linking factors, mechanisms and outcomes
- Integrated bio-psycho-social pathway models of depressed mood
- Identification of strategic intervention points
- Structured evidence summaries and synthesis tables
- Explicit reporting of transferability issues of animal study findings to humans

These outputs reduce fragmentation and provide a robust evidence foundation for intervention ideation, prioritisation and roadmapping.

→

Input to Ideation
Evidence-informed strategic intervention points provide a robust starting point for intervention ideation and prioritisation.

Stakeholder roles and engagement

The systematic review process is methodologically controlled. However, expert and stakeholder perspectives are important for interpretation and translation into intervention opportunities.

Engagement opportunities include Participation in Expert Advisory Panels | Contributing domain expertise to pathway interpretation | Reviewing outputs and identifying contextual considerations | Preparing for downstream ideation and prioritisation activities
This activity therefore provides a structured evidence base that informs and enables the broader ecosystem.

A novel approach

The approach extends conventional umbrella reviews by:

- Integrating evidence across biological, psychological and socio-ecological domains
- Modelling context–mechanism–outcome relationships and developmental pathways
- Maintaining traceability between pathway models and underlying evidence
- Linking evidence-based pathway understanding directly to the identification of intervention opportunities

The evidence identification methodology remains compatible with Cochrane principles of transparency and methodological rigour while supporting translation to innovation.

4.2 Intervention ideation, prioritisation and selection

Innovate

This activity translates insights from the evidence synthesis and pathway mapping into prioritised intervention opportunities with real potential to improve outcomes.

It brings together research-based evidence, stakeholder expertise and structured innovation methods to identify, evaluate and select interventions that offer clear potential to deliver impact and show realistic potential for further development, validation and scaling.

The goal is not simply to generate ideas, but to produce prioritised opportunities that are evidence-informed, user-relevant and capable of attracting both investment and public-good funding.

A structured approach enabling collaboration, rigour and transparency

The activity applies structured innovation methods to ensure that opportunities are systematically generated, reflect a broad range of stakeholder needs and perspectives, and are objectively evaluated and selected.

Input from evidence synthesis and pathway mapping

Expert-validated, integrated bio-psycho-social pathways and key intervention points identified in the previous stage provide the foundation for identifying intervention opportunities.

Preparation

Two preparatory activities are undertaken in parallel:

- **Selection of target areas and stakeholders**
  Expert Advisory Panels identify priority target areas emerging from the evidence synthesis and collaborate in the identification of relevant stakeholders for the ideation workshops.
- **Identification of emerging and recent technologies**
  The core project team reviews, in consultation with experts, emerging and recent technologies that may enable new intervention approaches across modalities.

Ideation workshops

Structured stakeholder workshops are conducted to generate potential intervention opportunities.

The workshops systematically:

- Review the expert-validated bio-psycho-social pathways and key intervention points identified in the evidence synthesis stage.
- Examine each target area across relevant stages of care, including prevention, early detection, diagnosis, management and treatment.
- Consider symptoms alongside the upstream biological mechanisms and vulnerability factors associated with depressed mood.
- Explore how emerging technologies and existing capabilities may enable novel or improved interventions.

Global online ideation survey

In parallel with the workshops, an open online survey is conducted to enable researchers, clinicians, innovators, people with lived experience and other stakeholders worldwide to contribute ideas and perspectives. Survey inputs expand the long-list of intervention opportunities considered during prioritisation and ensure that diverse global perspectives inform the Catalyst's outputs.

This structured process ensures that ideas are generated systematically, grounded in evidence and informed by a broad range of expert and stakeholder perspectives.

Stakeholder roles and engagement

This activity is highly collaborative and benefits from diverse stakeholder perspectives, with participation from stakeholders across high-, low- and middle-income countries.

Expert Advisory Panels

Provide domain expertise, support interpretation of the evidence synthesis, and contribute to the evaluation and selection of intervention opportunities. Panels address key areas, such as bio-psycho-social risk factors and mechanisms; pharmaceutical, non-pharmaceutical and digital modalities; methodologies; technologies enabling novel interventions; infrastructure and environments; scaling interventions.

Researchers

Contribute insights from the evidence synthesis and wider research literature to inform the identification and assessment of intervention opportunities.

Clinicians, healthcare systems, policymakers and governments, and societal organisations

Provide system-level perspectives on feasibility, implementation and potential impact. Societal organisations include educational institutions, employers, custodial institutions and charities that support mental health or address upstream factors influencing mental health, such as financial distress and access to mentally healthful foods.

Industry and innovators

Contribute expertise on technology development, translation pathways and opportunities for innovation.

Lived experience experts

Provide perspectives on user needs, relevance and acceptability of potential interventions. Structured workshops and consultations enable stakeholders to contribute their expertise while ensuring a rigorous and transparent process for generating and evaluating intervention opportunities.

Evaluation, prioritisation and selection

Ideas generated through the ideation workshops and global survey are systematically evaluated using IfM's Opportunity × Feasibility prioritisation methodology. Evaluation factors and scaling statements defined by the Expert Advisory Panels and project team are used to assess the potential impact and feasibility of each intervention.

Promising ideas are refined into clearly articulated unmet needs and project concepts and organised into portfolios of interventions by modality and stage of care.

Following validation through an Expert Advisory Panel survey, the panels select approximately ten priority target interventions for each modality and identify near-, medium- and longer-term intervention portfolios.

These prioritised opportunities, reviewed by the Steering Committee and Wellcome, form the basis for subsequent roadmaps towards scalable implementation.

Outputs

- Priority intervention portfolios
- Approximately ten priority interventions are identified for pharmaceutical, digital and non-pharmaceutical modalities.

Input to roadmaps

The prioritised interventions and portfolios form the basis for the next stage of the Catalyst: developing roadmaps that establish a clear vision and credible pathways towards validation, investment and scalable implementation.

4.3 Environments and infrastructure

Identifying and resolving barriers to intervention development, scaling and impact

Understand : Innovate : Implement

Many promising interventions fail to progress from concept to sustained impact because barriers within the surrounding environments and infrastructure prevent them from being developed, adopted, scaled or sustained.

The Environments and Infrastructure (E&I) work identifies and addresses these barriers to enable the successful translation of research insights into scalable mental health interventions.

The work aims to:

- identify barriers that inhibit the development, validation, scaling and sustainable implementation of interventions
- prioritise the most significant barriers across modalities, care stages and contexts
- identify enabling solutions capable of addressing these barriers
- inform Catalyst roadmaps so they address not only promising interventions but also the conditions required for their successful adoption and sustained impact.

Outputs across the architecture

Understand

- Integrated bio-psycho-social pathway models of depressed mood
- Identification of strategic intervention points

Innovate

Concept

- Identification of unmet needs and definition of interventions to address them
- Conceptual design of the intervention and its operating model
- Business model for the intervention

Development

- Funding and investment for intervention development and validation
- Development, user acceptability testing, validation and regulatory approval of the intervention
- Initial deployment and market testing

Scaling

- Strategy and plans for scaling
- Preparation of the product or service for scaling
- Promotion, sales (where applicable) and delivery capacity established

Implement (for market testing through to deployment scale)

Selection

- Strategic decision to implement an intervention
- Problem definition, solution requirements and project proposal
- Approved project charter, governance and commissioning / procurement

Design and development

- Conceptual and detailed operating model design
- Implementation planning, resources and competence development
- Development and testing of the operating model

Operation

- Fully deployed operating model
- Operational review and improvement
- Sustained operation and continuous improvement

Stakeholder-informed barrier identification

Barriers are identified through structured consultation with stakeholders involved in the Understand, Innovate and Implement stages.

Stakeholders are typically experienced in one – and sometimes two – stages of the architecture.

Consultations explore barriers affecting outputs across:

- intervention modalities
- stages of care
- organisations and roles making and informing the decisions
- country contexts

Approach

Conceptual framework

The E&I work is grounded in the **Understand : Innovate : Implement** architecture, which describes how research insights are translated into scalable interventions.

The analysis examines outputs across these stages and identifies the barriers that prevent them from progressing.

Analytical approach

Progress through the intervention pipeline depends on key decisions, such as funding, regulatory approval, organisational adoption and implementation in practice.

A barrier, expressed as a progress inhibitor, occurs when a decision required for an intervention to progress does not proceed as intended.

These barriers may arise from:

- Value exchange breakdown – misalignment between evidence, incentives, funding or risk required by decision-makers.
- Capability constraints – limitations in resources, organisational capabilities or coordination across actors.

Input to roadmaps

The outputs of the E&I work feed directly into the Catalyst's roadmapping activities.

- Roadmaps integrate:
- intervention opportunities
- priority barriers
- enabling solutions

to define coordinated pathways for developing, validating, adopting and scaling interventions.

Barrier prioritisation

Identified barriers are prioritised using the IfM Opportunity × Feasibility framework, considering:

- the potential impact if the barrier were addressed
- the feasibility of addressing it.

High-priority barriers are then explored through stakeholder workshops to identify enabling solutions, such as policy interventions, infrastructure improvements or new coordination mechanisms.

Solution identification and refinement

Solutions to high-priority barriers are identified through stakeholder workshops and surveys.

Workshops bring together participants from the Understand, Innovate and Implement stages to explore practical ways of addressing barriers. Surveys gather wider input across modalities, care stages, organisational settings and country contexts.

Together, these activities identify enabling solutions, such as policy changes, infrastructure improvements or new coordination mechanisms.

Outputs

The E&I work produces:

- a structured analysis of barriers across the intervention pipeline
- prioritised progress inhibitors affecting intervention development and implementation
- identified enabling solutions capable of addressing these barriers
- insights into the system conditions required for interventions to scale.

Stakeholder roles and engagement

Stakeholders are consulted and participate in workshops to help identify barriers, their impact and potential solutions

Participants may include researchers and evidence synthesis experts | innovators, industry partners and investors | policymakers and regulators | health and social care providers | societal organisations | consumers, patients and experts by lived experience

Stakeholder engagement in barrier and solution identification helps ensure that the Catalyst roadmaps reflect the real-world conditions required for interventions to succeed

4.4 Roadmapping – translating insight into coordinated action

Understand : Innovate : Implement

Roadmapping is a structured, collaborative method for translating insight into coordinated innovation and implementation. Through facilitated engagement with stakeholders, it links intervention opportunities, enabling environments and required capabilities over time. The roadmap structure will be configured specifically for the Mental Health Catalyst.

Within the Catalyst, roadmapping brings together the outputs of two prior activities:

- Prioritised intervention opportunities and portfolios identified through the intervention ideation, prioritisation and selection process
- Barriers and enabling solutions identified through the environments and infrastructure analysis

Using these inputs, stakeholders explore possible futures for addressing depressed mood and identify practical pathways for developing, validating and scaling interventions.

The resulting roadmaps define a chosen future, map the current state, and identify the stepping stones and enabling conditions required to move from the present to that future.

Modality-specific roadmaps

Roadmaps are developed for each major intervention modality (digital, pharmaceutical and non-pharmaceutical).

Each roadmap explores how interventions within that modality could be developed, validated and deployed at scale.

The process identifies:

- The chosen future for the modality – the desired state in which effective interventions are widely available and used
- The current state of research, innovation, implementation and enabling environments and infrastructure
- Stepping stones needed to move from the current state to the chosen future
- Barriers and enabling solutions affecting development, adoption and scale

Roadmaps typically include layered perspectives such as:

- Context driving the need to address depressed mood
- Implementation across health systems, communities and wider societal settings
- Innovation pathways from unmet needs through development, validation, regulatory compliance and scale
- Technology and enabling research
- Barriers within policy, infrastructure and institutional systems
- Enablers required to overcome those barriers

These modality-specific roadmaps:

- Provide structured insight into how different types of intervention can contribute to addressing depressed mood
- Inform coordinated action across stakeholders to accelerate the development, validation and scaling of solutions for each modality.

The next step is to integrate them into a single cross-modality roadmap.

Integrated roadmap

A further cross-modality workshop brings together stakeholders to integrate the modality-specific roadmaps into a single strategic roadmap.

Participants review the chosen futures, current states, stepping stones and enabling solutions identified for each modality. Through facilitated discussion, the workshop identifies complementarities and interdependencies between intervention approaches and aligns enabling environments and infrastructure solutions across modalities.

The outputs are synthesised into a single integrated roadmap that aligns priority interventions, intervention portfolios and enabling solutions across modalities.

The integrated roadmap:

- Identifies shared drivers, barriers and enabling conditions
- Clarifies how interventions across modalities can develop in parallel or sequence
- Highlights critical dependencies in research, policy, infrastructure and implementation
- Provides a coordinated pathway for developing, adopting and scaling complementary solutions

The integrated roadmap acts as a strategic navigation framework, guiding coordinated action across stakeholders to accelerate the development, adoption and scaling of solutions to address depressed mood across low-, middle- and high-income countries.

The outputs of the roadmapping activities are synthesised into the Mental Health Catalyst Mission Map, which provides a strategic framework aligning intervention opportunities, enabling solutions and coordinated action across the mental health ecosystem.

Stakeholder roles and engagement

Stakeholder engagement ensures that Catalyst roadmaps reflect the real-world conditions required for interventions to succeed.

Participants may include researchers | innovators, industry partners and investors | policymakers and regulators | health and social care providers | societal organisations | consumers, patients and experts by lived experience

4.5 Mission Map launch, uptake and dissemination

Understand : Innovate : Implement

Aims

The launch and dissemination programme establishes the Mental Health Catalyst Mission Map as a shared platform for facilitating innovation, investment and system action across the mental health ecosystem.

Its aims are to:

- Introduce the Mission Map and its priority intervention opportunities to key stakeholder communities
- Build awareness and engagement across the global mental health field
- Enable alignment of research, funding, innovation, ecosystem development and policy activities with the mission
- Mobilise innovators, investors, policymakers and system leaders to accelerate the development and adoption of new interventions

Together, these activities help ensure that the Mission Map catalyses faster progress towards more effective interventions for depressed mood.

From insight to mobilisation

The Mission Map will be launched through a coordinated programme of global engagement led by IfM Engage's marketing, communications and events teams, the Catalyst team and collaborators.

The objective is not simply to communicate findings, but to mobilise stakeholders around the most promising intervention opportunities and development pathways.

Many interventions will still be at early stages of development during Catalyst 1.0. The programme therefore focuses on accelerating development by clarifying opportunities, connecting innovators with partners and investment, and supporting clearer routes towards validation, implementation and scale.

Key activities

Launch and engagement

- Global launch events and regional online briefings
- Direct engagement with funders of research and innovation, industry, health and social care organisations, professional bodies, policymakers and system leaders

Digital platform

Interactive website hosting the Mission Map and opportunities

Knowledge exchange

Global webinar series and conference presentations
Publications and strategic media engagement.

IfM Strategic Compass

Accelerating innovation and investment readiness

To accelerate the development of promising interventions, the Catalyst will pilot the IfM Strategic Compass methodology with selected interventions.

Strategic Compass is a structured innovation and venture development methodology which helps innovators to translate promising interventions into validated and scalable solutions and business models.

It comprises a series of five collaborative workshops delivered by IfM Engage's highly experienced facilitators using research-based and widely applied structured processes developed over 20 years of working with small and medium-size businesses, and over 10 years of working with start-ups.

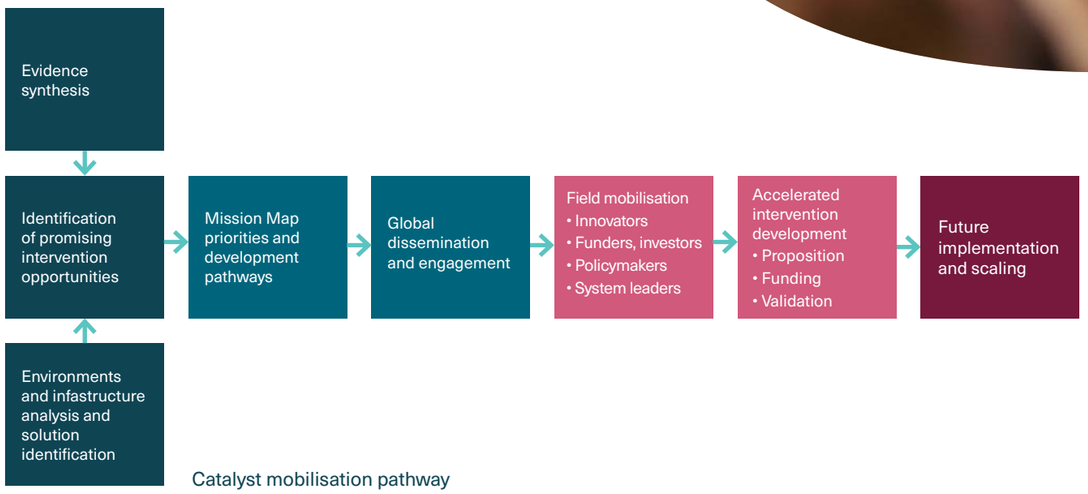
Strategic Compass has been applied with around 400 start-ups from a broad range of sectors across 26 countries through the European Bank for Reconstruction and Development's Star Venture programme, contributing to:

- $720 million+ investment raised
- Sixfold revenue growth and fourfold employment growth on average
- Portfolio value exceeding $3.6 billion.

Supporting intervention development

Through structured workshops and expert facilitation, the Strategic Compass programme helps innovators to accelerate progress towards investment, validation and real-world impact. Participants who have completed the Strategic Compass workshops report that the programme helps them to:

- Develop a clear business goal
- Identify and select strategic opportunities
- Create a vision and action plan
- Build a consensus on business priorities
- Foster collaborative relationships.



Catalyst mobilisation pathway

Stakeholder roles and engagement

Stakeholders are invited to participate in launch events, webinars, discussions to explore opportunities to innovate and implement interventions, or develop and apply solutions to address key barrier, develop publications and articles.

Participants include researchers and evidence synthesis experts | innovators, industry partners and investors | policymakers and regulators | health and social care providers | societal organisations | consumers, patients and experts by lived experience

We look forward to collaborating with you.

5. Our ambition: Catalyst 2.0

Accelerating global progress in mental health

Building global capability to translate research into scalable interventions

Catalyst 1.0 establishes the foundations for identifying and accelerating the development and implementation of effective treatment-oriented interventions for depressed mood. Future Catalyst 1.x programmes may support intervention portfolios addressing earlier stages of the mental health pathway, including prevention, early detection and diagnosis, through collaboration with additional funding partners.

The next phase builds on these foundations to create a global capability platform for translating mental health research into scalable solutions that enable delivery of real-world impact.

Catalyst 2.0 will accelerate priority interventions while making the Catalyst's structured methods widely accessible across the mental health ecosystem, helping establish global infrastructure for translating mental health research into interventions that help prevent, detect early, diagnose, manage and treat mental ill health.

Accelerating priority interventions

Catalyst 1.0 identifies promising intervention opportunities and coordinated pathways towards validation and scale.

Catalyst 2.0 will accelerate the progression of these opportunities towards real-world impact by helping interventions move from promising concepts to solutions that are validated and adopted across health systems and wider societal settings.

This includes strengthening translational pathways, supporting investment readiness and enabling coordinated action across research, innovation and implementation communities.

Building global capability for mental health innovation

The structured approaches applied and refined through the Catalyst — including the **Understand : Innovate : Implement** architecture, environments and infrastructure analysis and roadmapping methods — provide a practical framework for translating research into scalable interventions.

Catalyst 2.0 will make these approaches widely accessible through training, tools and collaborative support programmes.

Over time, this will help establish **Understand : Innovate : Implement** as a globally recognised framework for developing and implementing effective mental health interventions, providing a shared language and approach to productive mental health innovation and implementation.

A research and technology observatory

Scientific discovery and technological innovation continue to create new opportunities for improving mental health.

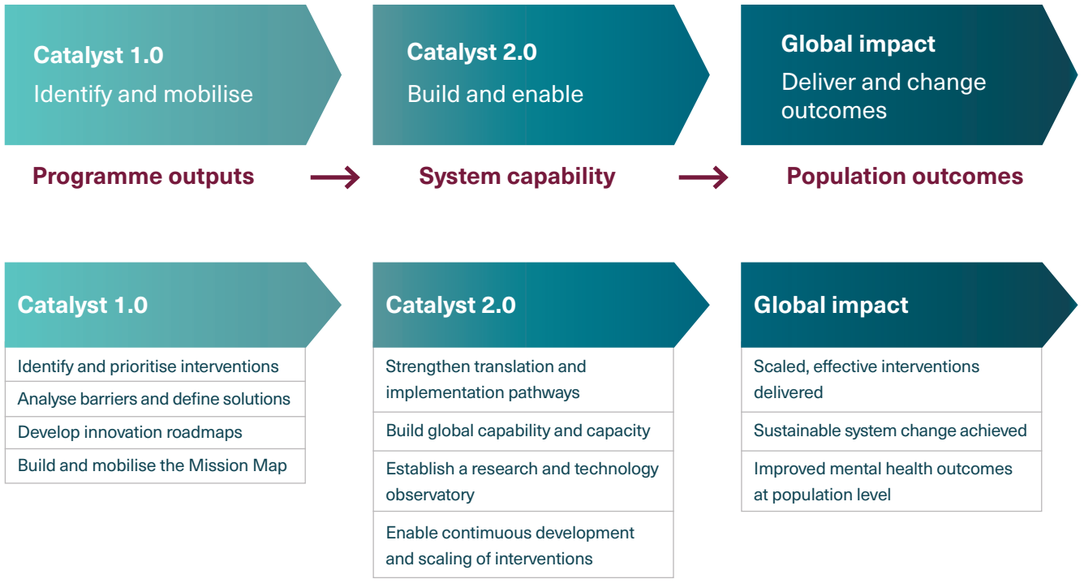
Catalyst 2.0 will establish a Mental Health Research and Technology Observatory to monitor emerging discoveries and technologies and identify developments with the potential to enable new interventions.

This capability will help ensure that innovation priorities and roadmaps remain aligned with rapidly evolving scientific knowledge.

Towards sustained global impact

Over time, the Catalyst will extend its structured approach beyond depressed mood to address a wider range of mental health conditions.

By strengthening the systems through which research is translated into effective interventions, the Catalyst will evolve into a global platform for accelerating mental health innovation and implementation — helping deliver measurable improvements in mental health outcomes worldwide.



From mission mapping to global capability and implementation acceleration

Collaborating to realise Mental Health Catalyst 2.0

We welcome discussions with organisations interested in supporting and partnering in the next phase of the programme, including funders of research and innovation, grant-making foundations, philanthropic organisations and partners across research, innovation, policy and implementation communities.

6. Collaborators delivering Mental Health Catalyst 1.0

Institute for Manufacturing (IfM), University of Cambridge

The Institute for Manufacturing (IfM) is part of the University of Cambridge's Department of Engineering, bringing together a dynamic body of researchers, educators, practitioners, professionals, and technical experts contributing to world-leading research and education. With a focus on manufacturing industries, the IfM creates, develops and deploys new insights into technology, management and policy.

Its work in healthcare and life sciences spans innovation management, strategic and technology roadmapping, pharmaceutical supply networks, digitalisation, photonics and advanced fluidics.

IfM Engage

IfM Engage is an embedded knowledge transfer company within the Institute for Manufacturing, University of Cambridge. Working with governments, international organisations, industry and research institutions worldwide, IfM Engage applies structured methods developed through IfM research to address complex innovation and systems challenges. These methods include roadmapping, ecosystem mapping, and strategic innovation methods that enable organisations to translate insight into coordinated action. Within the Mental Health Catalyst, IfM Engage leads programme design and delivery, facilitating collaboration and applying the structured approaches that underpin the programme. IfM Engage's profits are reinvested into the University to support future research at the IfM.

The William Templeton Foundation for Young People's Mental Health (YPMH)

The William Templeton Foundation for Young People's Mental Health is a charitable foundation dedicated to reducing the prevalence and impact of mental health conditions among young people. It focuses on accelerating the translation of research into practical interventions that can prevent and reduce mental ill health across the life course. Working with researchers, innovators, practitioners, educational institutions, policymakers and young people themselves, YPMH supports initiatives that strengthen understanding of mental health conditions and accelerate the development and implementation of effective, scalable solutions capable of delivering real-world impact.

IfM, IfM Engage and YPMH – collaborators since 2019

IfM, IfM Engage and YPMH have collaborated since 2019 to apply the IfM's innovation management, roadmapping and ecosystem mapping approaches to help accelerate the translation of social, psychological and biological research into interventions that can be applied at scale.

The **Understand : Innovate : Implement** methodology is a key output of the collaboration and underpins the work of the Mental Health Catalyst.

Further details of the collaboration can be found in Section 7 of this booklet.

Cochrane Evidence Synthesis Unit Germany / UK

Cochrane is an international network dedicated to producing high-quality, trusted evidence to inform health decision-making. Its systematic reviews are widely regarded as the global standard for rigorous evidence synthesis in healthcare. Within the Mental Health Catalyst, the Cochrane Evidence Synthesis Unit Germany / UK leads the systematic evidence synthesis and pathway mapping work, applying transparent and reproducible methods to integrate evidence across biological, psychological and socio-ecological domains. This work provides the foundation for the collaborative identification of strategic intervention points and informs the downstream innovation and prioritisation activities.

Generation Mental Health

Generation Mental Health is a global movement working to transform mental health systems so that they better reflect the needs and priorities of young people. Through its international network, the organisation mobilises lived experience perspectives, supports youth leadership and promotes collaboration across research, policy and practice communities. Within the Mental Health Catalyst, Generation Mental Health supports the design and coordination of lived experience expert engagement, ensuring that the perspectives of people affected by depressed mood inform programme design, activities and outputs.

Mental Health Innovation Network

The Mental Health Innovation Network (MHIN) is a global platform for sharing knowledge and experience on mental health innovation and implementation. Hosted by the London School of Hygiene & Tropical Medicine, MHIN connects researchers, practitioners, policymakers, funders, persons with lived experience, advocates, non-governmental organizations, civil society organisations, and other groups working to improve mental health services worldwide. Within the Mental Health Catalyst, MHIN engages stakeholders across Africa, Asia and Latin America, ensuring that diverse perspectives and priorities inform the Catalyst's work and supporting dissemination of its outputs across the global mental health community.

7. IfM, IfM Engage and YPMH collaboration in mental health

The University of Cambridge Institute for Manufacturing (IfM), its knowledge transfer company IfM Engage and The William Templeton Foundation for Young People's Mental Health have collaborated since 2019 to develop approaches that accelerate the translation of research into practical innovation.

The work translates social, psychological and biological research into scalable interventions to prevent and reduce mental health conditions such as depression.

The collaborators' strategy was, and remains, to:

1. Use evidence synthesis, coupled with engineering methods such as root cause analysis, to integrate bio-psycho-social research and understand the pathways by which depression – and other mental health conditions – develop.
2. Configure the IfM's widely used innovation management methods to improve:
   - the systematic identification of strategic intervention points across the continuum of care, including prevention, early detection, diagnosis, management and treatment, and the identification of upstream drivers
   - the identification, prioritisation and selection of the most promising opportunities for intervention
   - collaboration between stakeholders to enable faster and more effective development, validation and scaling of interventions
3. Apply systems and change management methods to improve the sustainable implementation of interventions across health and social care systems, societal organisations such as educational institutions, and among individuals, families and communities.

Evolution of the collaboration

This collaboration progressed through a series of initiatives that have developed the understanding, methods and partnerships required to accelerate innovation in mental health.

Research synthesis

Co-funded by YPMH and the Aviva Foundation, IfM researcher Dr Olivia Remes published *Biological, Psychological, and Social Determinants of Depression: A Review of Recent Literature in Brain Sciences* in December 2021. The paper has been cited more than 600 times as of March 2026.

The review synthesises recent research showing that depression arises from interacting biological, psychological and social factors, including genetic vulnerability, inflammation, stress, cognitive processes and adverse life circumstances. The findings highlight that depression develops through complex, interconnected pathways and emphasise the need for integrated, cross-disciplinary approaches to prevention, early intervention and treatment.

Roadmapping and systems analysis

The mental health research charity MQ Mental Health Research convened an international panel led by Professors Rory O'Connor and Carol Worthman to identify key factors, mechanisms and solutions for premature mortality associated with mental illness.

Co-funded by MQ and YPMH, IfM Engage facilitated a series of roadmapping workshops that combined evidence synthesis with structured innovation methods. The work resulted in the May 2023 *Lancet Psychiatry Review Gone Too Soon: priorities for action to prevent premature mortality associated with mental illness and mental distress*, which has now been cited more than 100 times as of March 2026.

The paper identifies shared risk factors across suicide and physical comorbidities of mental illness and outlines actionable solutions, including integration of mental and physical health care, stronger prevention strategies and coordinated action across the socio-ecological system.

2019–2021
Understanding depression pathways

Focus

Developing a multidisciplinary understanding of depression in young people.

Key achievements

- Integrated biological, psychological and social research on depression
- Identified key systems, mechanisms and pathways contributing to depression in young people
- Highlighted opportunities for earlier and more effective intervention across the care pathway.

Output

Changing Hearts, Changing Minds, Published September 2021

2021–2023
From understanding to innovation

Focus

Translating research insights into intervention opportunities.

Key achievements

- Engaged more than 150 stakeholders across the mental health ecosystem
- Developed a model summarising vulnerability factors and mechanisms for depression in young people
- Identified intervention opportunities across prevention, detection, diagnosis and treatment
- Developed 10–15-year visions for improving young people's mental wellbeing across families, schools and health systems.

Output

Changing Minds, Changing Lives, Published April 2023

2023–2026
Accelerating translation and implementation

Focus

Developing methods to translate research into scalable innovation.

Key achievements

- Developed the Understand : Innovate : Implement methodology
- Piloted the approach in schools and healthcare settings
- Developed a mental health strategy for an academy trust of 20 schools
- Initiated development of the Mental Health Catalyst.

Output

Development of the Mental Health Catalyst programme described in this booklet.

Mental Health Catalyst

Towards new and better interventions for depressed mood

The Mental Health Catalyst is a major new initiative designed to accelerate the pace of innovation in interventions for clinically depressed mood.

By integrating scientific evidence, structured innovation and coordinated implementation, the Catalyst aims to make clinically depressed mood a short-lasting condition that does not affect lives in the longer term.

"We urgently need more effective, faster-acting and long-lasting ways to intervene early in depressed mood. Too often, promising research does not translate into interventions that reach people at scale. Initiatives like the Mental Health Catalyst are critical because they bring together expertise across research, innovation and implementation to identify and accelerate the most promising opportunities for impact."

Max Ahmed
Head of Mental Health Innovation, Wellcome

"Research has greatly improved our understanding of the social, psychological and biological factors that contribute to depressed mood. The Mental Health Catalyst provides an important opportunity to translate that knowledge into innovative interventions that can improve outcomes for people affected by depressed mood."

Peter B. Jones
Emeritus Professor of Psychiatry, University of Cambridge

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