Second Call for Transformative Healthcare Technologies

Briefing Webinar - Thursday 10th September 2020

Welcome

- Thank you for attending
- The webinar will be recorded
- All material will be made available on the call webpage within one week of today

Zoom etiquette

- Please change your name to your full name and organisation
- Microphones should be kept muted – unmute if invited to speak
- Only use the Q&A box to ask questions. Do not use the chat function for asking questions during the webinar

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Agenda

11:05 – 11:15	Brief Introduction • Philippa Hemmings (EPSRC)
11:15 – 11:35	Call details – An overview • Michael Onoja (EPSRC)
11:35 – 11:45	Coffee Break
11:45 – 12:00	Call details • Katherine Freeman (EPSRC)
12:00 – 12:25	General Q&A session • EPSRC & MRC representatives
12:25 – 12:30	Next steps • Michael Onoja (EPSRC)
12:30	Webinar ends

Brief Introduction

Philippa Hemmings – Head of Healthcare Technologies

The Transformative Healthcare Technologies call aims to bring together the 'Healthcare' community through **adventurous** and novel multi-disciplinary/interdisciplinary research and **fundamental innovation** drawing on novel Engineering, Physical Sciences, Mathematical Sciences and ICT to deliver technologies that will impact and transform healthcare by the year 2050.

Adventure

…element of **risk taking** to explore new areas of research or to translate expertise into new application area with anticipated **high gain**

Fundamental innovation

…basic innovation, invention, or discovery that either opens the way for many other innovations or so changes the sociocultural system as to be revolutionary in scope

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Aim & Scope

We've been thrilled by the level of interest in this call but want to ensure that the key aims of the call are met:

- Adventurous and creative ideas that will lead to a revolution in thinking and stimulate many other innovations or changes in healthcare technologies

- Novel transformative ideas that are not current areas of interest/work and which will become routine in the NHS or wider healthcare landscape in 30 years' time

- Multidisciplinary teams that work together to maximise and accelerate the pathway to impact

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Aim & Scope

We are particularly keen to help realise the potential of the following:

- Research that merges robotics and biological systems e.g. neural/sensor interfaces

- Pre-symptomatic diagnosis and continuous health monitoring

- Future affordable and inclusive healthcare solutions

- Repurposing technologies originally developed for other fields for potential healthcare impact

Note that the above are just some examples and not an exhaustive list

Observations from 1st Call

- **Ideas noted to improve the information day:**
  - distribute information on attendees expertise and research interests
  - discuss patient and public involvement and engagement

- **Observations from the panels:**
  - be clear about how the research is in the EPSRC remit
  - be clear on the research vision for the proposal (what will be delivered by the end of the grant but also what will be delivered by 2050)
  - be clear on the clinical need for the research i.e. not a technology push

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Content

- Call Overview
- Background
- Healthcare Technologies Strategy
- MRC Strategy
- Co-creation and Impact
- Equality, Diversity and Inclusion
- Equipment
- Eligibility
- How to Apply
- Assessment Process
- Assessment Criteria

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Call Overview

- The HT theme aims to advance investment in truly transformative and adventurous research in the healthcare space drawing on novel engineering, physical sciences, mathematical sciences and ICT

- All applications must be predominantly within the remit of EPSRC

- All proposals must have sufficient novel engineering and physical sciences content to fall within the remit for EPSRC

- Applications which are <u>not</u> within EPSRC remit will be rejected

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Call Overview

- The second call for Transformative Healthcare Technologies is a high risk, high return initiative

- Implemented in two phases: Phase 1 will identify projects that demonstrate readiness by the end of the project in order to deliver an ambitious programme of research in Phase 2

- In the programme delivery phase (Phase 2), awardees in development phase (Phase 1) will be invited to bid into a second call, which will be issued in the 9th month of feasibility studies. Further information on Phase 2 to be provided when the call is issued

EPSRC is currently inviting proposals for offer of awards in Phase 1, the development phase

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Call Overview

The Application process

- **Phase 1: An outline proposal stage followed by an invited full proposal stage**
    - *Anonymised outline proposals will be prioritised by an expert panel after passing an eligibility check*
    - *Successful outline proposals will be invited to submit full proposals*
    - *Invited full proposals will be assessed by expert peer review and a prioritisation panel*
    - *15-month feasibility projects will be funded with a set start date of 01/09/2021*

- **Phase 2: A closed call for full proposals in the 9th month of feasibility studies**
    - *Further information on Phase 2 will be provided when the call is issued*

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Call Overview

The Development Phase

- Up to £6M is available for 15-20 feasibility studies (maximum £300K each)
- Awards are expected to be 15-months long
- A set start date of 1 September 2021 for all awards
- Timeline:

Activity	Date
Deadline for Outline Proposals	16:00, 14 October 2020
Outline Expert Panel	w/c 23 November 2020
Invitation for Full Proposals	w/c 30 November 2020
Full Proposal Deadline	16:00, 10 February 2021
Full Proposal Expert Prioritisation Panel	June 2021
Phase 1 Award Start Date	1 September 2021

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Call Overview

Examples of well-known disruptive, innovative technologies which have become routine and led to real impact within the healthcare sector

Call Overview

Some projects funded on the first call

- The development and application of new light sources and detectors operating at far-red wavelengths to enable an innovative imaging solution designed around patients, improving their safety and experience.

- The development of a non-invasive single neuron electrical monitoring technology to detect the activity of large populations of single neurons in the brain and the spinal cord.

- The development of cognitively-inspired, multimodal hearing aids that will autonomously adapt to their visual and acoustic environmental inputs.

Background

EPSRC's Healthcare Technologies Theme

Build critical mass around UK research strengths in engineering and physical sciences that underpin healthcare

Maximise industrial, and health professional involvement and increase translation to products / practices

largest component	low TRL levels (1-4)	key stakeholders
novel EPS	contributes to grand challenges in health	UKRI
	Impact supported by collaboration	DHSC / NHS / NIHR / OLS
		Charities

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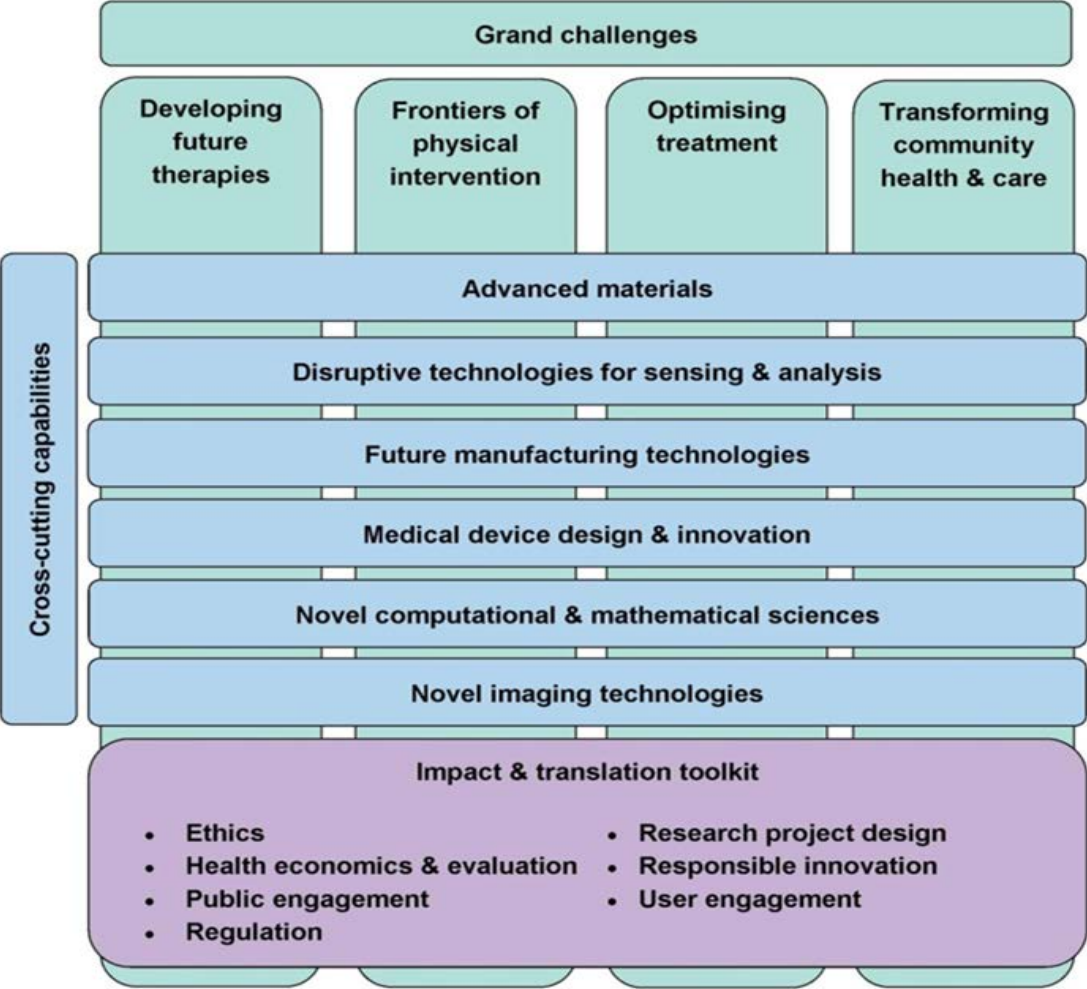
Background

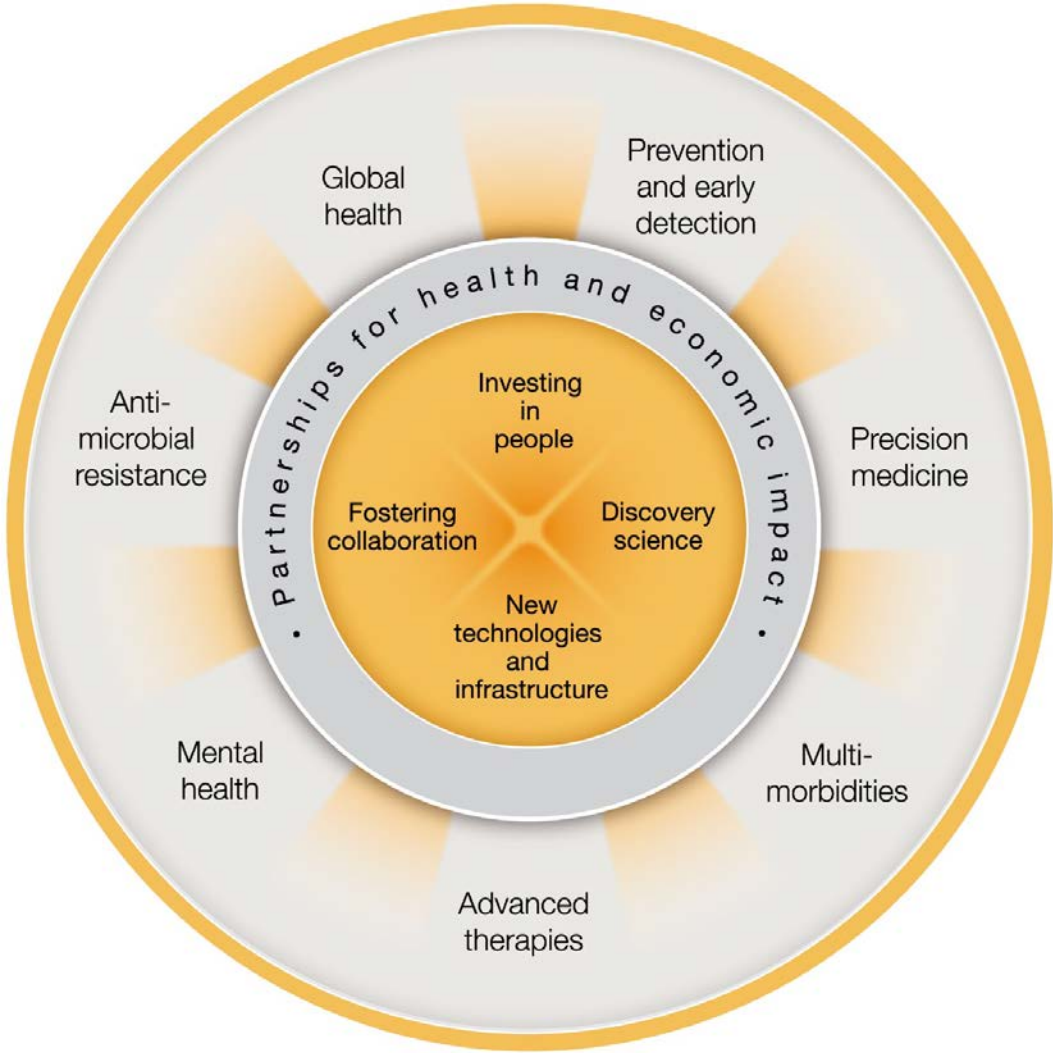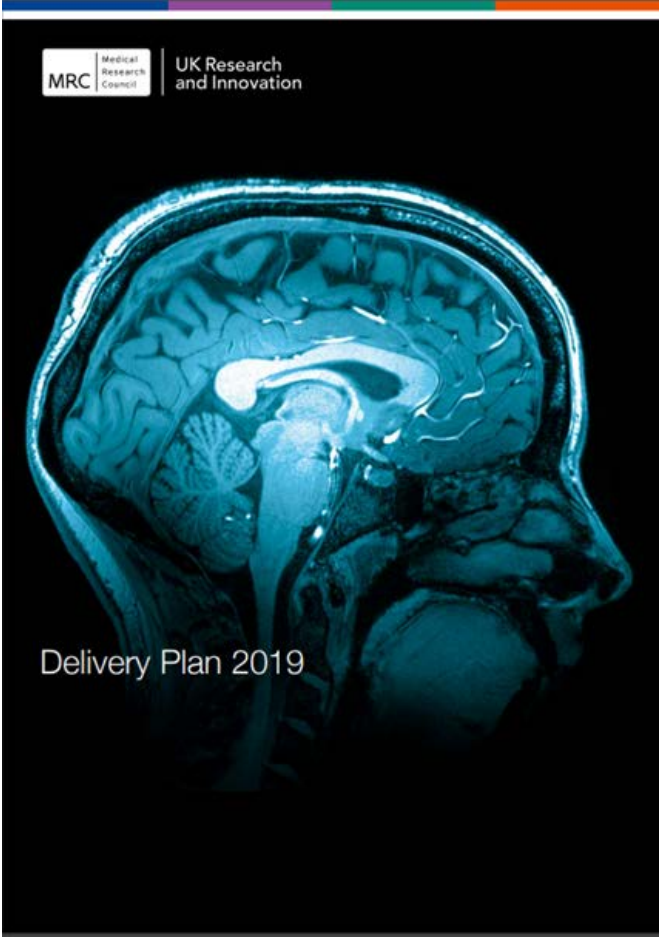## Simplified picture of the funding landscape
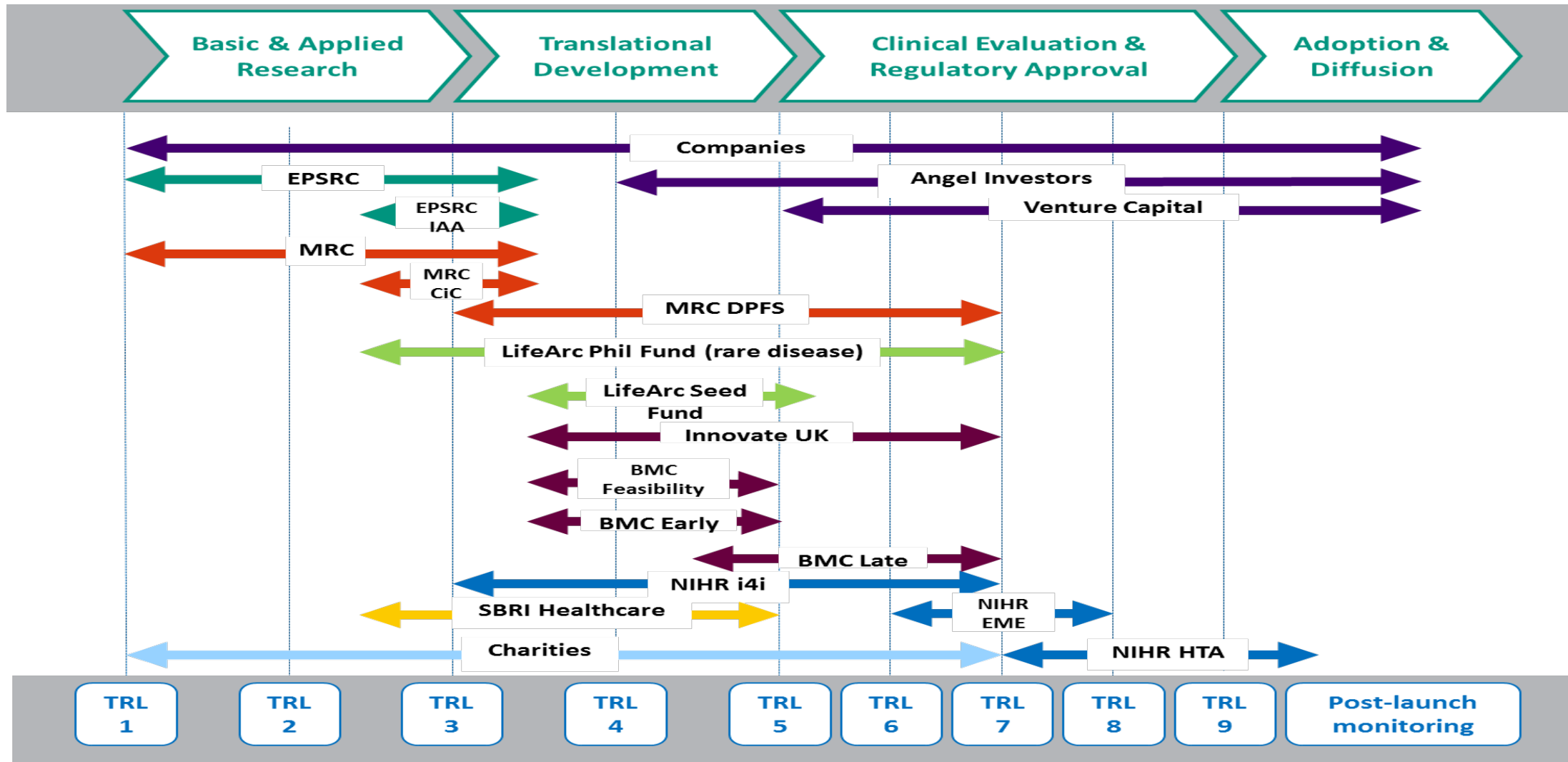
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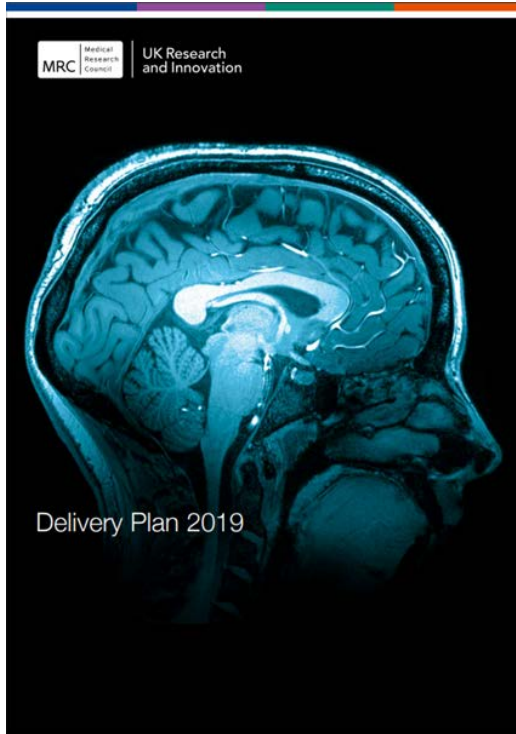## Healthcare Technologies Strategy

MRC Delivery Plan 2019: Priorities

MRC Delivery Plan 2019: New Developments

Key themes under development, subject to funding:

- Review our current portfolio of centres & units with increased investment in new **Centres of Excellence**
- Pursue ways to connect & boost the **precision medicine** landscape
- Become a more active investor in **infrastructure and technology development**
- **Training**: create more capacity in priority areas e.g. precision and experimental medicine, diagnostics & data analytics
- More consistent investigator-led mode funding for **applied global health** work
- Complementing translational funding with support for centres to address key areas for **industry/academic collaboration**
- MRC will take advantage of increased opportunities for **cross-council working** in areas such as multi-scale biology, digital technologies for AI & health, environment/health interactions & the Physics of Life initiative

Co-creation and Impact

- Early end user engagement is particularly important to the successful design of a project which will have long term impact

- Applicants should demonstrate that applications are being co-created with relevant stakeholders which may include: service users, industry, clinicians, policy makers and practitioners including allied healthcare workers

- Applications to this call should include plans for engagement with new and future stakeholders

- At full proposal stage: applicants should describe how any new stakeholders will be involved throughout the project

- Impact is a core consideration throughout the grant application process

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Coffee Break

Call Details

Katherine Freeman – Senior Portfolio Manager Healthcare Technologies

Equality, Diversity and Inclusion

- In line with the UK Research and Innovation Diversity Principles, EPSRC expects that equality and diversity is embedded at all levels and in all aspects of research practice

- With this in mind, we welcome applications from academics who job share, have a part-time contract, need flexible working arrangements or those currently committed to other longer, large existing grants

- Please see our Equality and Diversity webpages at https://epsrc.ukri.org/funding/equalitydiversity/ for further information

Equipment

- Individual items of equipment between £10,000 and £400,000 can be included on proposals if the equipment is essential to the proposed research and if no appropriate alternative provision can be accessed.

- Research organisations will be expected to make a 50% contribution to the cost

- Details of the proposed contribution to the cost of the equipment, must be provided in the justification of resources

- For any items or combined assets with a value above the OJEU (Official Journal of the European Communities) (£138,000 for EPSRC) a two-page Equipment Business Case must also be included

Equipment Type	Quotation requirements	Notes
Under £10k	No quotes required	
£10k-£25k	No quotes required	
£25k-£138k	3 verbal quotes to be detailed in JoR	Written quote optional. If sole supplier or <3 this should be justified in the JoR
Over £138k	3 written quotes	If sole supplier or <3 this should be justified in the JoR

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Eligibility

Normal EPSRC eligibility rules apply to who can receive funding

- Principal Investigators can only lead on **one** application and may be names as Co-Investigator on **one** other

- Applications to this call are encouraged across the breadth of engineering, physical sciences, mathematical sciences and ICT

- All applications must be predominantly within the remit of EPSRC

- Applications which are <u>not</u> within EPSRC remit will be rejected

How to Apply

Submitting an application

- Multi-institutional bids should be submitted as a single, combined Je-S proposal form at both outline and full application stage

- All attachments must be in single-spaced typescript in Arial 11 or other sans serif typeface of equivalent size. Margins of at least 2cm

- Text in diagrams or pictures, numerical formulae or references can be smaller but must be legible

- This is to ensure accessibility of your paperwork to all potential reviewers

How to Apply

Outline Proposals

- Two main documents:
  - Completed Je-S application form (reviewers will not see this form)
  - Case for support (anonymised, maximum 5 pages)
- Project partner contributions are not required at the outline stage
- Proposals will be assessed by both EPSRC staff and an expert general panel, therefore your outline should be written for a lay audience
- EPSRC must receive your application by **16:00 on 14 October 2020**

Clicking 'submit document' on your proposal form in Je-S initially submits the proposal to your host organisation's administration, not to EPSRC

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How to Apply

Case for Support (maximum 5 pages) must**:**

- be anonymous of individuals and institution and include the following sections:

  - Research Vision

  - Application co-creation

  - National importance

Any submitted applications which reveal your identity will be rejected by EPSRC

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Anonymity

- Academic publication or research track record should NOT be included in your case for support, neither should any references that may reveal your identity.

- Applicants must avoid revealing their identity or institution(s) in the Case for Support.

- Applicants will be required to demonstrate co-creation and collaboration. These should be explained in general terms to ensure anonymity.

- Non-academic organisations can be included but where their titles involve place names, care should be taken (e.g. refer to the local NHS Trust rather than their full name).

Assessment Process

Outline panel

- Applications will be assessed and prioritised by an expert outline panel against the assessment criteria
  - Research Vision and Ambition
  - National Importance
  - Application co-creation

Applicants who reveal their identity at outline stage will not be invited through to full proposal

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Assessment criteria

Research Vision and Ambition

- The research novelty and fundamental innovation should be highlighted
- The transformative and adventurous (high risk, high gain) nature of the research should be clearly expressed
- The scientific idea must be clearly articulated to demonstrate that the majority of the research is within EPSRC remit
- Researchers should clearly articulate how their vision will impact and transform the healthcare landscape

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Assessment criteria

National Importance

- How does the research address Transformative healthcare Technologies for 2050 by outlining:
  - The need for the development of ambitious near-future technologies expected to have an impact within the next 30 years in the healthcare space
  - How the research will contribute to, or help maintain the strength of other research disciplines, and enable future development of key emerging industry(s)
  - How the research will meet national strategic needs by establishing or maintaining a unique world leading research activity (including areas of niche capability)
- Also comment on how the research contributes to:
  - Healthcare Technologies Strategy & Grand Challenges
  - Wider EPSRC Research Area strategies
  - Fits and compliments other research already funded

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Assessment criteria

Application co-creation

- Must demonstrate application co-creation with relevant and appropriate stakeholders

- The co-creation process that is carried out can be explained in detail

- Collaborations should be forward thinking and must consider the future impact needs of the research

- Plans for on-going engagement should be briefly discussed but will be more fully assessed at full proposal stage

- Non-academic partners can be listed but care should be taken
    - For example rather than "Great Western Hospitals NHS Foundation Trust" state "local NHS Trust"

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For general advice on writing proposals see:
https://epsrc.ukri.org/funding/applicationprocess/preparing/

Next Steps

Next Steps

Activity	Date
Deadline for Outline Proposals Full	14 October 2020
Outline Sifting Expert Panel	w/c 23 November 2020
Invitation for Full Proposals	w/c 30 November 2020
Deadline for Full Proposals	10 February 2020

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