

Quick Reference

Please note that you must read the full Call document for guidance before submitting your proposal

Novel digital technologies for improved self-monitoring and health management

Call for Participants in a three-day Sandpit focused on Digital Technologies for Health and Care

Call type: Call for participants

Closing date: 16:00, 04 May 2020

How to apply: Application to attend the sandpit followed by an invitation to attend.

Assessment Process: Applications to attend will be assessed by a selection panel consisting of the sandpit Director and mentors.

Key Dates:

Activity	Date
Call launched	February 2020
Call closes (expressions of interest)	04 May 2020
Participant Selection panel:	May 2020
Sandpit:	30 June-02 July 2020
Funding Application Deadline:	w/c 14 September 2020
Funding Announcement:	Before 30 September 2020

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Summary

UKRI are pleased to invite participants to apply to attend a sandpit on Digital technologies for Health and Care.

Digital technologies could enable the transformation of health and care in multiple ways including patient centered care, self-management, and prevention. However, as yet, healthcare lags behind other industries in the adoption of these technologies. With this in mind, UK Research and Innovation (UKRI) are advertising this call for participants to encourage novel collaborations and research ideas for digital technologies that will improve self-monitoring and health management.

The Research Councils within UKRI (MRC, BBSRC, EPSRC, ESRC, STFC, AHRC, Innovate UK and NERC) have been working together to strengthen co-ordination around digital technologies for health and care and to identify opportunities in this area. In 2019, UKRI with input from the community, mapped the digital health portfolio, produced a definition for digital health (see annex one) and highlighted opportunities for the Research Councils to take forward. One of the areas which has been highlighted for strengthening is building coordinated and well-informed research and innovation communities, with the appropriate

multidisciplinary and cross-sector skills and expertise in digital health. As a result, UKRI would like to run a sandpit (<https://epsrc.ukri.org/funding/applicationprocess/routes/network/ideas/whatisa-sandpit/>) to bring the different communities in this area together. This is the first sandpit in a series of three which will be advertised over the next three years.

The theme for this sandpit is novel digital technologies for improved self-monitoring and health management. Successful projects from the sandpit should either have a new approach to self-monitoring of conditions (especially conditions which are harder to manage and where there are fewer tools available for interventions) or that seek to identify novel digital technologies that will ultimately enable the public to better manage their health in their own homes and in the community. These smarter interventions should reduce the time that the public spends engaged with the traditional healthcare delivery system and enable a faster recovery or better management of their health.

The Research Challenge

This sandpit will bring together social scientists, designers, engineers, physical scientists, computer scientists, healthcare professionals, biological scientists and innovators to address the research challenges associated with developing novel digital technologies for improved self-monitoring and health management.

The research ideas that will be developed at the workshop could investigate some or a combination of the following challenges:

- Supporting patients with multiple conditions. For example, the management of chronic disease at a physical level is often delivered separately to the management of mental health. A new approach could be providing a combination of these two management approaches via digital healthcare.
- Supporting people to self-manage physical and mental health. We would like researchers to address conditions for which digital tools are not already widely available.
- Monitoring recovery and understanding the impact of patient behaviours on recovery.
- Increasing the efficiency of patient referrals so that they are referred to the right health and care professionals in a timely way.
- Enabling access to social/community prescribing.
- Allowing patients to manage medication/interventions.
- Facilitating shared care (with lay carers such as family and friends as well as health professionals).
- Address issues with adoption of digital technologies for health and care including usability and inclusive design allowing a diverse population to access them.
- Empowering people with respect to their health and care data.
- Digital technologies which enhance early interventions, improve clinical outcomes, supports clinical decisions and ensure efficient and effective management of conditions.
- Supporting people with physical (including disabilities) and mental health conditions.

- Supporting people to manage their health and wellbeing.
- Addresses issues of behavioural change that facilitate maintenance of good physical and mental health.

Applicants should ensure they consider how they will be co-designing the digital technologies with healthcare professionals and users. Early end user engagement is particularly important to the successful design of a project in healthcare.. 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. The technology should be usable, scalable and accessible to people of different ages and backgrounds.

Researchers working in this area are required to consider carefully how they will undertake their work in a manner that maximises the opportunity to generate real-world impact at scale.

Some issues that should be considered are:

- Stakeholder Engagement;
- Research Integrity;
- Regulation and Quality;
- Value

More information can be found in the EPSRC Impact and Translation Toolkit: <https://epsrc.ukri.org/research/ourportfolio/themes/healthcaretechnologies/strategy/toolkit/>

Background

Aims of the Sandpit

The broad aims of the sandpit are to generate research proposals which can:

- Form new collaborations between researchers and innovators in diverse research areas between key researchers, innovators and users;
- Create new and innovative research ideas in digital health and care based on health, clinical and social care challenges;
- Allow researchers to pitch projects for seed funding to test ideas;
- Address the key research challenges that are identified;
- Cultivate a common language between disciplines;
- Consider co-design with end-users;
- Address the issues around scale up and adoption experienced by current Digital Tools.

UKRI wishes to explore innovative new research ideas through this sandpit and the research themes discussed will be dependent on the attendees. Achieving the sandpit aims will require the participation of researchers from a broad range of disciplines including, but not limited to: engineering, physical sciences, mathematics and computer science, social sciences, life sciences, humanities and medical sciences.

Participants should be able to apply their knowledge, skills and experience across discipline areas to develop innovative research arising from a systems perspective with the potential to deliver results focussed on transformative change in digital health and care.

The Sandpit Event

The concept of the sandpit is an interactive workshop on a topic, involving 25-30 participants. The focus for this sandpit is 'Novel digital technologies for improved self-monitoring and health management'. Anyone eligible to apply for funding from UK Research and Innovation can apply. Please find further details on eligibility here: <https://www.ukri.org/funding/how-to-apply/eligibility/#pagecontentid-2>.

The sandpit will run over **three days** starting mid-morning on Tuesday 30 June 2020 and finishing mid-afternoon on Thursday 02 July 2020.

As the sandpit progresses, participants will build up thoughts on how the identified 'challenges' may be addressed and develop their innovative ideas and activities into research projects. Projects will contain genuinely novel and speculative research. The sandpit will include inputs from a variety of sources.

How will the Sandpit Work?

The sandpit is an intensive, interactive and free-thinking environment, where a diverse group of participants from a range of disciplines and backgrounds get together for three days, away from their everyday worlds, to immerse themselves in collaborative thinking processes in order to construct innovative approaches.

The process can be broken down into several stages:

- Defining the scope of the challenges
- Evolving common languages and terminologies amongst people from a diverse range of backgrounds and disciplines
- Sharing understandings of the challenges, and the expertise brought by the participants to the sandpit
- Taking part in break-out sessions focused on the challenges, using creative thinking techniques
- Capturing the outputs in the form of highly innovative research projects
- A funding decision on those projects at the sandpit using "real-time" peer review.

The sandpit will be an intensive event. For the well-being of participants, the venue offers opportunities for relaxation, and the timetable will include networking and other activities to allow a break from the detailed technical discussions.

The sandpit will be led by a Director, who will be supported by a team of mentors. We are pleased to announce that Professor Ann Blandford (UCL) will be the Director of this sandpit. The Director, mentors and a small number of stakeholders will attend the sandpit but will not be eligible to receive research funding. Instead, their role will be to assist participants in defining and exploring challenges in this area. Furthermore, the Director and mentors will act as

independent reviewers, making a funding recommendation on the projects emerging from the process through a “real-time” peer review process.

Who Should Attend?

Attendance of participants from an appropriate mix of relevant disciplines and backgrounds is crucial to the success of a Sandpit event. **Researchers from a diverse range of domains are encouraged to apply to attend this Sandpit,** and we are not defining the disciplines that should be represented; rather we are asking potential participants to indicate how their expertise can address the challenge of novel digital technologies for improved self-monitoring and health management.

Applicants are encouraged from diverse research areas and need not have worked on the problem before. The emphasis will be placed on working across disciplines to foster new collaborations and bring new thinking to the problem.

Those selected to attend will receive further briefing before the event.

As a Sandpit is predicated on an ethos of innovative collaborative working, applicants must demonstrate both enthusiasm and appropriate personal attributes for cross-disciplinary collaborative research. Furthermore, the ability to develop and pursue a new approach will also be a key criterion in selecting attendees. Applicants should not feel limited by conventional perceptions of research performed in this field; the sandpit approach is about bringing together people who would not normally interact.

Participants are welcomed at any stage of their research career if they meet UKRI eligibility requirements to receive grant funding.

This is an opportunity to share ideas and develop future collaborations, to define, understand and address some of the opportunities and challenges in digital health and care.

Location and Date

The date for this sandpit is Tuesday 30 June 2020- Thursday 02 July 2020. Details of the venue are still to be confirmed.

An application will be taken to indicate participant availability for these dates and their commitment to attend if short-listed. Please be advised attendance for the full three days is mandatory.

The environment will encourage free and open-minded thinking, vital for the purposes of this event and to the future of this area. Full details of the venue, how to get there and the accommodation arrangements will be sent to participants once they are confirmed.

It should be noted that all accommodation, refreshments, breakfast, lunch and dinner costs will be met by UKRI. However, all travel expenses and incidental costs incurred while at the event must be met by the participant.

Where participation in the Sandpit would involve additional care requirements, our expectation is that your employer is approached in the first instance to meet these costs. If your employer is unable to cover these additional costs then our guidelines on the support available to researchers with caring responsibilities are at <https://epsrc.ukri.org/funding/howtoapply/basics/caringresponsibilities/>.

Funding available

It is expected that up to £1.2 million of UKRI funding will be made available to fund research projects arising from this sandpit. Each project funded is expected to be in the region of £400,000.

Equality, Diversity and Inclusion

The long term strength of the UK research base depends on harnessing all the available talent. UKRI expects that equality and diversity is embedded at all levels and in all aspects of research practice and funding policy. We are committed to supporting the research community, offering a range of flexible options which allow applicants to design a package that fits their research goals, career and personal circumstances. This includes career breaks, support for people with caring responsibilities, flexible working and alternative working patterns. With this in mind, we welcome applications from academics who job share, have a part-time contract, or need flexible working arrangements.

UKRI are committed to a policy of equal opportunities for our applicants for funding. No eligible applicant should receive less favourable treatment on the grounds of disability, sex or gender re-assignment, marital status, sexual orientation, pregnancy, race, colour, nationality, ethnic or national origin, religion or belief, or contractual and work roles.

If anybody has any concerns regarding our equal opportunities policies or any other aspect of the sandpit application process, then please contact us to voice these issues. We constantly strive for absolute equality within our organisation, and we make every attempt to make the sandpits available to as many people as possible.

Peer review is central to UKRI funding decisions, we require expert advice and robust decision making processes for all UKRI funding initiatives. We are committed to ensuring that fairness is fully reflected in all our funding processes by advancing policy which supports equality, diversity and inclusion. Please see the EPSRC Equality and Diversity webpages at <https://epsrc.ukri.org/funding/equalitydiversity/> for further information.

Responsible Innovation

UKRI is fully committed to develop and promote responsible innovation. Research has the ability to not only produce understanding, knowledge and value, but also unintended consequences, questions, ethical dilemmas and, at times, unexpected social transformations. We recognise that we have a duty of care to promote approaches to responsible innovation that will initiate ongoing reflection about the potential ethical and societal implications of the research that we sponsor and to encourage our research community to do likewise.

Responsible innovation creates spaces and processes to explore innovation and its consequences in an open, inclusive and timely way, going beyond consideration of ethics, public engagement, risk and regulation. Innovation is a collective responsibility, where funders, researchers, interested and affected parties, including the public, all have an important role to play.

Guidance on Journal-based metrics

As part of our commitment to support the recommendations and principles set out by the San Francisco Declaration on Research Assessment (DORA; <https://sfdora.org/read/>), UKRI reviewers and panel members are advised not to use journal-based metrics, such as journal impact factors, as a surrogate measure of the quality of individual research articles, to assess an investigator's contributions, or to make funding decisions.

The content of a paper is more important than publication metrics, or the identity of the journal, in which it was published, especially for early-stage researchers. Reviewers and panel members are encouraged to consider the value and impact of all research outputs (including datasets, software, inventions, patents, preprints, other commercial activities, etc.) in addition to research publications. We advise our peer reviewers and panel members to consider a broad range of impact measures including qualitative indicators of research impact, such as influence on policy and practice.

Eligibility

For information on the eligibility of organisations and individuals to receive UKRI funding, see the UKRI eligibility Guide: <https://www.ukri.org/funding/how-to-apply/eligibility/>.

Please note that businesses are not eligible to apply for funding through this scheme, so please refer to Research Council eligibility criteria.

How to apply

Applying to Participate in the Sandpit

Applications are invited from individual eligible researchers who feel that they can contribute to the challenges in this topic area.

Approximately 25-30 participants will be selected to take part in the sandpit.

Applicants should complete an expression of interest (EoI) through the online form which is at the bottom of the call page, below the link to this document.

Your answers to these questions will be used to assess your application and convince a panel that you have the suitable skills and attitude to participate in this sandpit. No further documentation will be accepted.

Please note that we are not looking for your academic publication or research track record, but rather how you might approach multidisciplinary problems in this area.

The deadline for applications is 16:00, 04 May 2020. Applications should be submitted electronically. Please note that late submissions will not be considered.

Applicants will be informed of their selection for the sandpit event in May 2020.

Selected applicants should inform their University Research Office, in advance of the event, that they are going to attend the sandpit. If they are part of a successful project their institution will be required to fund 20% of the FEC project costs (as standard).

Assessing Applications to Attend

Applications to attend will be assessed by a selection panel consisting of the sandpit Director and mentors.

Their assessment will be based on the following criteria:

- The ability to develop new, adventurous and highly original research ideas;
- The potential to contribute to research at the interface between disciplines;
- The ability to work in a team;
- The ability to explain research to non-experts.

Within the pool of applicants selected on the basis of these assessment criteria, the panel will look to ensure a mix of discipline, experience, gender and background.

It is therefore important to give evidence of your fulfilment of these criteria in your application. Please ensure you fully complete the EoI survey form, as this is the **only** information on which potential sandpit attendees will be selected.

Please note that because of the large number of applications expected, we will not be able to give individual feedback to unsuccessful applicants.

If you have applied to or attended a sandpit previously you are not barred from applying or attending again. At the selection panel EPSRC will identify those applicants that have applied to sandpits previously and also those that have attended sandpits. These applications will be assessed against the selection criteria in the same way as all of the others. However, if in the last resort, two applicants are equivalent in terms of their technical expertise and personal qualities, preference will be given to the applicant that has not applied to or attended a sandpit before.

Post Sandpit Proposal Assessment

Following the sandpit, investigators involved in those projects recommended for funding will be tasked with writing a full proposal covering their intended activities as identified at the sandpit. The deadline for submission of full proposals is expected to be 14 September 2020. Proposals will be submitted via the Research Councils Joint Electronic Submission System (Je-S). Further guidance on this part of the process will be available at the sandpit event.

The primary criteria used throughout the process of developing and assessing the final proposals will be how well proposals address the vision of the call.

We seek to support those that show:

- Novel, highly multidisciplinary research projects, clearly reflecting the distinctive opportunity for creating such projects that the sandpit provides.
- Clear evidence that the team have the capability to deliver their project as a high-quality multidisciplinary activity, provided both through the presentation and their activity during the sandpit.
- Clear relevance to and the potential to make a distinctive and novel contribution to addressing the research challenges in this area.

It is planned that participants will be provided with funding decisions prior to departure from the sandpit, although these will be conditional upon the subsequent receipt of full, worked up proposal documentation. Final funding decisions will be made in September 2020.

Any collaborative project funded through this programme must have a signed Collaborative Agreement between the partners before the start of any grant. UKRI attach great importance to the dissemination of research findings and the publishing of information about the research they support in the public domain. However, all dissemination and publication must be carried out in the manner agreed in the project's collaboration agreement.

For more information please see:

<https://epsrc.ukri.org/funding/managing/collabagreements/>

Please note that attendance at the Sandpit does not guarantee UKRI funding.

Moving forward

Submissions to this call will count towards the Repeatedly Unsuccessful Applicants Policy. Further information about the policy can be found at:

<https://epsrc.ukri.org/funding/howtoapply/basics/resubpol/rua/>

Key dates

Activity	Date*
Call launched	February 2020
Call close (expressions of interest)	04 May 2020
Participant Selection panel:	May 2020
Sandpit:	30 June-02 July 2020
Funding Application Deadline:	w/c 14 September 2020
Funding Announcement:	Before 30 September 2020

*UKRI aims to adhere to the key dates as published, however there may be exceptions where the sift, prioritisation or interview meeting may have to change due to panel member availability.

Contacts

For further information, advice or queries regarding the application procedure please contact:

- Katherine Freeman (Email: Katherine.Freeman@epsrc.ukri.org - Phone: 01793 444 052)

- Gemma Adams (Email: Gemma.Adams@epsrc.ukri.org- Phone: 01793 44 4306)
- Rhys Perry (Email: Rhys.Perry@epsrc.ukri.org- Phone: 01793 44 4466)
- Healthcare Technologies Theme (Healthcare@epsrc.ac.uk)

Change log

Name	Date	Version	Change
Katherine Freeman	24/02/2020	1	N/A

Annex 1- The UK Research and Innovation (UKRI) definition of digital health and care

Digital Health research and innovation is comprised of the challenge-led and user-led design, development and evaluation of novel digital solutions for wellness, prevention, diagnosis and treatment, including but not limited to: digitised health systems and operational activities; internet of things linked sensors and devices, immersive technologies, artificial intelligence-based decision support tools, health analytic tools and digital social healthcare interventions. Solutions can be systems, infrastructure, interventions for use by the citizen, patient, healthcare professional and non-clinical personnel, in the context of environmental and social sectors, community, primary, secondary and tertiary care, and core operations. It encompasses the underlying digitised data and data infrastructure, software, hardware, ICT networks, cybersecurity, and data privacy; the underpinning medical, computing and AI research, and digital technology development; the development of regulatory, policy and ethical frameworks; understanding the implications of scientific and technological advances for how we live and work together, and the factors affecting uptake and adoption of digital solutions.