



Engineering and Physical Sciences
Research Council

Quick Reference

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

Healthcare Technologies: Call for Investigator-led Research Projects

Call type: Invitation for proposals

Closing date: Open Call

Funding Available: Flexible depending on quality and demand

How to apply: Single Stage

Assessment Process: Expert peer review followed by prioritisation panel

Key Dates: Proposals will be batched four times a year for potential Healthcare Technologies prioritisation panels.

Activity	Date			
Batching Date for Proposals	End of July	End of October	End of January	End of April
Potential Panel/ Decisions	January	April	July	October

Additional information: There is no limit to the number of submissions from a single institution. If applying against the New Investigator Award scheme only, a host organisation statement is required.

Dependent on demand and timing of applications, EPSRC reserve the right to assess proposals through the most appropriate capability theme panel.

Contacts: For general enquiries please contact the most relevant Healthcare Technologies portfolio manager. A list of Healthcare Technologies contacts can be found on the EPSRC website

(<https://epsrc.ukri.org/research/ourportfolio/themes/healthcaretechnologies/contacts/>)

Healthcare Technologies: Call for Investigator-led Research Projects

Call type: Invitation for proposals

Closing date: Open Call – batching dates

Related themes: All

Summary

The Healthcare Technologies theme has prioritised funding to support novel investigator-led projects. We are inviting investigator-led proposals and intend to batch these through the year. This will allow prioritisation panel membership to better reflect the expertise required to assess the multidisciplinary, team science and impact considerations which are a common feature of high quality Healthcare Technologies research.

Proposals submitted to this call should clearly articulate the novel Engineering and Physical Sciences aspects of the proposed research project and how it will deliver the Healthcare Technologies theme strategy, (<https://epsrc.ukri.org/research/ourportfolio/themes/healthcaretechnologies/strategy/grandchallenges/>), and/or the investment priorities within the Healthy Nation of the EPSRC delivery plan (<https://epsrc.ukri.org/about/plans/deliveryplan/sciencestrategy/>). We would particularly like to encourage research projects which address the priorities of “Transform community health and care” and “Improve prevention and public health”.

Proposals submitted in response to this call are expected to describe:

- High quality projects where the novel engineering and physical sciences component comprises the majority of the proposed research;
- Multidisciplinary teams with the appropriate mix of skills and expertise for state of the art engineering and physical sciences research combined with a full understanding of user needs or “pull”;
- Alignment to relevant EPSRC strategies for Healthcare Technologies and how they will deliver aspects of the strategies;
- An identified health need that will be addressed through the project, and how the research outcomes will lead to improved clinical practice and/or offer significant added value over current or alternative healthcare solutions;
- How the proposed research and associated impact activities have been designed to support and shorten the pathway to impact in health. Additional support for specific activities to consider and resource through the pathways to impact part of the proposal can be found on the EPSRC

website
(<https://epsrc.ukri.org/research/ourportfolio/themes/healthcaretechnologies/strategy/toolkit/>)

If a proposal does not align to relevant Healthcare Technologies strategies, and/or does not describe a good understanding of the pathway to impact of research in health, with appropriate activities and collaborations in place to support that pathway, EPSRC reserves the right to refer the proposal to the most appropriate capability theme (i.e. Engineering, Information and communication technologies (ICT), Physical Sciences or Mathematical Sciences), in Standard Research, without reference to the applicant(s).

Provided there is sufficient demand at each batching date we will convene a Healthcare Technologies focused prioritisation panel. If there is insufficient demand at any given batching date, proposals submitted in response to this call will be considered at the most appropriate capability theme panel meeting and the Healthcare Technologies theme will work with the capability theme to ensure that there is as far as possible appropriate expertise on the panel to assess the key features of Healthcare Technologies research.

Proposals submitted after the batching date, or those that do not have sufficient reviews in time for the panel, will be held until the next batching date or an appropriate capability theme panel.

Background

EPSRC's Delivery Plan (<https://epsrc.ukri.org/newsevents/pubs/epsrc-delivery-plan-2016-17-2019-20/>) highlights our commitment to maintaining a programme of long-term, excellent research where the emphasis is on 'community-driven' investigator-led ideas. We aim for this to comprise around 60% of our total research portfolio, with strategic programmes making up the remaining 40%.

Investigator-led research is crucial in maintaining a healthy flow of new ideas and supporting the development of vibrant research communities. As such, there is considerable value in achieving a portfolio of research including both strategically-focussed programmes and investigator-led projects. However, the volume of investigator-led proposals addressing Healthcare Technologies research questions has not matched demand elsewhere in the Theme and across EPSRC as a whole. This call is intended to highlight the Theme's long term aim to increase the number of investigator-led projects we support, as well as stimulating demand in the short term. By batching proposals we aim to be able to adjust prioritisation panel membership to better reflect the expertise required to assess the multidisciplinary, team science and impact considerations which are a common feature of high quality Healthcare Technologies research.

Scope of the Call

Scientific Scope: Healthcare Technologies Grand Challenges

We are seeking a balanced portfolio of long-term, speculative research and would like to encourage investigator-led research proposals from the breadth of the engineering and physical sciences that are focused on addressing key challenges in Healthcare Technologies. This call is aimed at researchers working in these challenge areas or in underpinning capability areas (Engineering, Physical

Sciences, ICT, Mathematical Sciences), that are now seeking to apply their research expertise to a defined healthcare challenge.

The full range of research areas that contribute to the Healthcare Technologies theme can be found here:

(<https://epsrc.ukri.org/research/ourportfolio/vop/pack/RESEARCHAREA/NONE/THEME/Healthcare%20Technologies/9999/>). We would particularly like to encourage research projects which are consistent with our strategies but are within areas which are under-represented in the current Healthcare Technologies portfolio.

Applications to this call must be clearly aligned to the Healthcare Technologies theme Grand Challenges. Applicants should outline how their proposed research will specifically address these challenges. EPSRC reserves the right to refer applications to this call which do not fit the remit of the Healthcare Technologies theme to another EPSRC theme in standard mode.

The four Grand Challenges are:

- **Developing Future Therapies**
Supporting the development of novel therapies with technologies to enhance efficacy, minimise costs and reduce risk to patients.
- **Frontiers of Physical Intervention**
Restoring function, and optimising surgery and other physical interventions to achieve high precision with minimal invasiveness.
- **Optimising Treatment**
Optimising care through effective diagnosis, patient-specific prediction and evidence-based intervention.
- **Transforming Community Health and Care**
Using real-time information to support self-management of health and wellbeing, and to facilitate timely interventions.

Applicants should also state how they will advance the cross-cutting research capabilities relevant to their proposal. The six capabilities are:

- **Advanced Materials**
Development, characterisation and processing of advanced materials with novel chemical, physical or mechanical properties, for health-related applications.
- **Disruptive Technologies for Sensing and Analysis**
Innovative sensing systems or analytical technologies that could have a transformative impact on prediction, diagnosis and monitoring in healthcare.
- **Future Manufacturing Technologies**
Technologies that will enable health-related manufacturing processes, products and systems to function with high precision, efficiency, reliability and repeatability.

- **Medical Device Design and Innovation**
Design, development, evaluation and production of cost-effective, reliable and effective medical devices.
- **Novel Computational and Mathematical Sciences**
Development of innovative computational and mathematical methods for prediction, analysis and modelling in healthcare.
- **Novel Imaging Technologies**
Development of next generation imaging technologies for diagnostic, monitoring and therapeutic applications; with improved accuracy, affordability and incorporating new modalities.

For more information on the challenges and cross cutting themes please see: <https://epsrc.ukri.org/research/ourportfolio/themes/healthcaretechnologies/strategy/>

EPSRC Delivery Plan Investment Priorities:

Details on the EPSRC Delivery Plan investment priorities can be found on the EPSRC website (<https://epsrc.ukri.org/about/plans/deliveryplan/sciencestrategy/>). The relevant Healthy Nation ambitions are:

- **Transforming community health and care**
Using real-time information to support self-management of health and to facilitate timely interventions delivered through new models of care.
- **Improving prevention and public health**
Using technologies to understand and influence behavioural and environmental determinants of health and wellbeing, and to revolutionise built infrastructures to support healthy, independent living.

EPSRC Balancing Capability:

The full range of research areas that contribute to the Healthcare Technologies theme can be found here: (<https://epsrc.ukri.org/research/ourportfolio/vop/pack/RESEARCHAREA/NONE/THEME/Healthcare%20Technologies/9999/>).

Researchers applying to this call should refer to the relevant research area rationale(s) (found in a table under the diagram at the link above) before preparing their proposal, and consider if/how their research project is consistent with the EPSRC strategy for that research area. Applicants can describe the contribution their research would make to the strategy in the National Importance section of their proposal.

As part of EPSRC's balancing capability activity a refresh of the strategic focus for all research areas was published in February 2017. Applicants should familiarise themselves with the updated strategies prior to submitting a proposal.

For more information about EPSRC's portfolio and strategies, see our website: <https://epsrc.ukri.org/research/ourportfolio/>

Impact from Healthcare Technologies Research

EPSRC wishes to ensure that the research it supports through its Healthcare Technologies theme has the greatest chance of achieving a positive impact in human health. The pathway to impact in health is often longer and more complex than that seen in other sectors and poses many barriers less commonly encountered by engineering and physical science researchers. Given this, there is a need for researchers working in this area to consider more carefully how they will undertake their work in a manner that maximises the opportunity for impact to arise from it. In particular, it was clear during the development of the Healthcare Technologies strategy that a number of topics were of particular importance. These are highlighted as part of the Impact and Translation Toolkit: <https://epsrc.ukri.org/research/ourportfolio/themes/healthcaretechnologies/strategy/toolkit/>

Applicants must consider how these topics relate to their proposed programme of work and if they are relevant, describe in their proposal how they will be addressed throughout the award. Not all topics will relate to every project and researchers need not address those which do not. There is no expectation that researchers will undertake all impact activities themselves nor is there an expectation that researchers will develop extensive expertise in all the areas noted in the toolkit. However, applicants should consider what skills, knowledge and expertise are required and how these will be brought to the project through collaboration, training, consultation or other means.

Understanding of the pathway to impact in health and the incorporation of appropriate and specific impact activities will form part of the assessment of proposals. EPSRC strongly encourage applicants to request resources to support these elements of the proposal as part of the Pathways to Impact section. A well-considered and appropriately resourced Pathways to Impact section will be seen as a considerable strength.

A high quality application will:

- provide an effective strategy for maximising the potential for successful impact in health. Applicants should discuss appropriate topics in the Impact and Translation toolkit and how these activities relate to their research programme, including public engagement;
- demonstrate a clear methodology for engaging appropriate stakeholders such as clinicians, allied health professionals, policymakers, patients and/or business in the research;
- explain the extent to which end user requirements have been appropriately integrated into the design and implementation of the research vision. Applicants should also articulate the clinical need that could be addressed and how the technologies under development might improve on current clinical practice or offer significant added value over current/alternative healthcare solutions;
- demonstrate an understanding of the future development pathway for their proposed research and show that they have considered the likely next steps for the outcomes of their research. This may be further research within EPSRC remit, further basic science in the remit of another funder or research council, a translational funding body or

industry. Applicants should consider how they will obtain, during the project, any data, evidence, proof of concept and/or intellectual property needed to satisfy the next stage funder that it is a suitable prospect for follow-on support. Thinking about these aspects early on and resourcing them appropriately through the project can prevent delays in the pathway to impact in health and increase the probability of obtaining further funding.

Funding available

Standard Research grants are very flexible; applicants may apply for projects ranging from small value, short term grants (e.g. feasibility studies) to longer-term, larger awards (e.g. a multi-institution project), including new investigator awards, networks, networks-plus or discipline hopping. More information about EPSRC funding can be found

<https://epsrc.ukri.org/funding/applicationprocess/routes/>

New Investigator Awards are also invited for consideration; please see the website for more details on the New Investigator Award scheme (<https://epsrc.ukri.org/funding/applicationprocess/routes/newac/nia/>)

If you are at all unsure as to whether your proposed research fits the remit of EPSRC please contact us before preparing an application:

<https://epsrc.ukri.org/funding/applicationprocess/basics/remit/remitqueries/>

We would expect proposals submitted to this call to be of similar magnitude and duration to other proposals submitted to EPSRC in Standard Research.

Information on size of successful proposals can be found on Grants on the Web: <http://gow.epsrc.ac.uk/>. If you have an idea for a project of higher value, please speak to one of the EPSRC contacts who will be happy to provide advice on possible funding mechanisms.

Successful proposals will be funded at 80% fEC and applicants should ensure the budget matches the research requested and can be fully justified within the application.

The applicant can request funding for anything that is eligible as detailed in the EPSRC funding guide

<https://epsrc.ukri.org/funding/applicationprocess/fundingguide/>).

We encourage research collaborations with clinical, business, charitable or public sector partners, particularly where they can help research advances and the take-up of results. It would be unusual for a strong proposal in Healthcare Technologies not to involve a multidisciplinary team of researchers including appropriate project partners to support and advise on the health impacts (“user pull”) of the proposed research.

Equipment

Where possible, researchers are asked to make use of existing facilities and equipment, including those hosted at other universities. If equipment is needed as part of the research proposal, applicants must follow EPSRC’s rules for requesting equipment over £10,000 in value. 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 contribution to the cost. Additional justification of the requirement for individual items of equipment between £10,000 and £400,000, and 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) limit a two-page Equipment Business Case must also be included in the proposal documentation. Guidance on how to prepare an Equipment Business Case can be found on the following webpage:

<https://epsrc.ukri.org/research/facilities/equipment/process/researchgrants/>

Any items of equipment with a value more than the current OJEU threshold that are funded on research grants will need to be reported on annually as part of the University's Equipment Account Annual Reports. This will be communicated via an additional grant condition on the research grant.

For more information on equipment funding, please see:

<https://epsrc.ukri.org/research/facilities/equipment/>

The current OJEU threshold can be found at:

<https://epsrc.ukri.org/research/facilities/equipment/process/>

Eligibility

For information on the eligibility of organisations and individuals to receive EPSRC funding, see the EPSRC Funding Guide:

<https://epsrc.ukri.org/funding/applicationprocess/fundingguide/>

As this is a responsive funding opportunity some research council institutes and independent research organisations are eligible to apply. A list of eligible organisations is provided at: <https://www.ukri.org/funding/how-to-apply/eligibility/>

How to apply

Submitting an application

You should prepare and submit your proposal using the Research Councils' Joint electronic Submission (Je-S) System (<https://je-s.rcuk.ac.uk/>).

When adding a new proposal, you should select:

- Council 'EPSRC'
- Document type 'Standard Proposal'
- Scheme 'Standard' (or 'New Investigator Award' if it is to be assessed under the new investigator award scheme)
- On the Project Details page you should select the "Healthcare Technologies: Investigator-led Research" call (or "Healthcare Technologies: Investigator-led Research (NIA)" call for New Investigator Award applications)

Guidance on the types of support that may be sought and advice on the completion of the research proposal forms are given on the EPSRC website (<https://epsrc.ukri.org/funding/applicationprocess/>) which should be consulted when preparing all proposals.

Guidance on writing an application

For advice on writing proposals see:

<https://epsrc.ukri.org/funding/applicationprocess/preparing/>

Please note that font size 11 is the minimum acceptable and the minimum margin **must** be size 2cm on all sides. For accessibility purposes, a sans-serif font style such as Arial or Helvetica should be used as these are more easily readable to those with visual impairment. For the same reason, type should be justified only on the left hand side

If any attachments exceed the page limit stated, fail to adhere to the specified format or include any documentation that has not been specified your proposal will be returned or rejected.

Please note that on submission to EPSRC **all** non-PDF documents uploaded onto Je-S are converted to PDF, the use of non-standard fonts may result in errors or font conversion, which could affect the overall length of the document.

In addition, where non-standard fonts are present, and even though the converted PDF document may look unaffected in the Je-S System, when it is imported into the Research Councils Grants System some information may be removed. We therefore recommend that where a document contains any non-standard fonts (scientific notation, diagrams etc), the document is converted to PDF prior to attaching it to the proposal.

Ethical Information

Applicants should use the Ethical Information section on the Je-S form to demonstrate to peer reviewers that they have fully considered any ethical issues concerning the material they intend to use, the nature and choice, current public perceptions and attitudes towards the subject matter or research area. EPSRC will not fund a project if it believes that there are ethical concerns that have been overlooked or not appropriately accounted for. All relevant parts of the Ethical Information section must be completed. If the research will involve human participation or the use of animals covered by the Animals (Scientific Procedures) Act 1986 it is recommended that applicants pay particular attention to the guidance highlighted below. **EPSRC reserves the right to reject applications prior to peer review if the Ethical Information sections are not completed correctly.**

Further guidance on completing the Je-S form can be found at <https://je-s.rcuk.ac.uk/Handbook/pages/GuidanceonCompletingaStandardG/EthicalInformation.htm>. Other relevant guidance includes: EPSRC's policy on animal use in research (<https://epsrc.ukri.org/about/standards/animalresearchpolicy/>) and the Responsible Innovation Framework (<https://epsrc.ukri.org/research/framework/>).

Assessment

Assessment process

Proposals will be considered by the standard process as outlined on the EPSRC website (see <https://epsrc.ukri.org/funding/assessmentprocess/overview/> for more details).

Proposals will be considered at prioritisation panels in accordance with EPSRC procedure for standard research grants (see <https://epsrc.ukri.org/funding/assessmentprocess/panels/role/> for more details).

Provided there is sufficient demand at each batching date we will convene a Healthcare Technologies focused prioritisation panel. If there is insufficient demand at any given batching date, proposals submitted in response to this call will be considered at the most appropriate capability theme panel meeting and the Healthcare Technologies theme will work with the capability theme to ensure that there is as far as possible appropriate expertise on the panel to assess the key features of healthcare technologies research. Should there be insufficient demand we reserve the right for proposals to be considered at the most appropriate capability theme panel meeting.

Please note that this assessment procedure takes into account the EPSRC's balancing capability strategy for its research areas. More information on this strategy can be found at <https://epsrc.ukri.org/research/ourportfolio/researchareas/>

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/applicationprocess/basics/resubpol/rua/>

Key dates

Activity	Date			
Batching Date for Proposals	End of July	End of October	End of January	End of April
Potential Panel/ Decisions	January	April	July	October

Contacts

We recommend that potential applicants discuss their ideas with EPSRC prior to application. If you have any questions about the call, please contact the most appropriate member of the theme:

- **Kerry Young** (Assistive Technology, Rehabilitation and Musculoskeletal Biomechanics)
Portfolio Manager – Healthcare Technologies
01793 444284; Kerry.Young@epsrc.ukri.org
- **Kate Reading** (Medical Imaging, Mathematics for Healthcare)
Portfolio Manager – Healthcare Technologies
01793 444408; Kate.Reading@epsrc.ukri.org
- **Timothy Shuttleworth** (Clinical Technologies)
Portfolio Manager – Healthcare Technologies
01793 444134; Timothy.Shuttleworth@epsrc.ukri.org
- **Karen Davies** (Biomaterials and Tissue Engineering)
Portfolio Manager – Engineering
01793 444374; Karen.Davies@epsrc.ukri.org
- **Katherine Freeman** (Digital Health or Data Analytics in Healthcare)
Senior Portfolio Manager – Healthcare Technologies
01793 444052; Katherine.Freeman@epsrc.ukri.org
- **Iain Larmour** (Regenerative Medicine and other general enquires)
Senior Portfolio Manager – Healthcare Technologies
01793 444390; iain.larmour@epsrc.ukri.org

Change log

Name	Date	Version	Change
Iain Larmour	23/11/2016	1.0	
Iain Larmour	30/11/2016	1.1	Correction of dates
Iain Larmour	23/02/2017	1.2	Removal of January batching date
Iain Larmour	11/05/2017	1.3	Future dates included, contact details updated
Iain Larmour	10/07/2017	1.4	Removed contacts, removed specific dates on pg2
Iain Larmour	24/07/2017	1.5	Replaced First Grants with New Investigator Awards

Name	Date	Version	Change
Iain Larmour	12/04/2018	1.6	Updated contact details and web links

Je-S attachments Check List

Standard:

Attachment Type	Maximum Page length	Mandatory/Optional	Extra Guidance
Case for Support	8 pages	M	Comprising up to two A4 sides for a track record, and six A4 sides describing proposed research and its context.
Pathways to Impact	2 pages	M	
Workplan	1 page	M	
Justification for Resources	2 pages	M	
CVs	2 pages each	As Required	For named and visiting researchers, and researcher co-investigators only.
Project Partner Letters of Support	No page limits	As Required	Must be included from all named project partners. Must be on headed paper, and be signed and dated within six months of the proposal submission date.
Letters of Support	No page limits	As Required	In exceptional circumstances a maximum of three letters can be submitted.
Equipment Quotes	No page limits	As required	
Equipment Business Case	2 pages each	As required	Required for any items or combined assets with a value above the OJEU limit.
Technical assessment	No page limit	As required	
Proposal Cover Letter	No page limit	As required	New Investigator Award applicants should detail how they are eligible for the scheme in their proposal cover letter. The cover letter can be used to highlight any

			important information to EPSRC. This attachment type is not seen by reviewers or panel members.
Other attachment	No page limit	As required	This can be used for a document that does not fit under any of the headings above. This attachment type is not seen by reviewers or panel members.
Host Organisation Statement	No page limit	M for New Investigator Awards	This letter is used to highlight the university's commitment to developing the applicant's career and confirms their appointment details

Please ensure you adhere to the above attachment requirements when submitting your proposal. Any missing, over length or unnecessary attachments may result in your proposal being rejected.