

# Knowledge Translation Strategy



“We are all custodians of impact; we each have a piece of the puzzle. Impact is a brokered, negotiated and connective art, achieved by and for people in a myriad of ways. And it’s a team game. We each have skills, perspectives, experiences, networks and ideas which can contribute to an impact cauldron of possibilities<sup>1</sup>”



## Our approach to Knowledge Mobilisation and preparing for implementation readiness

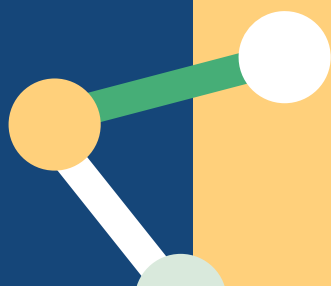
The overarching aim of NIHR Applied Research Collaboration East Midlands (ARC EM) is to improve health outcomes across the region (Nottinghamshire, Derbyshire, Lincolnshire, Leicestershire, Northamptonshire and Rutland). By carrying out high quality applied research, it is the ARC EM vision that we will improve the health of the East Midlands population and enable people to live healthier lives for longer, independently.

NIHR ARC EM has been funded to deliver world-class, evidence-based research which will better patient outcomes and improve public health. Working collaboratively with our research teams and our health and social care partners, the ARC's Knowledge Mobilisation Support Unit (KMSU) will support the development and preparation of "products" resulting from our funded and affiliated studies, so that our ARC work is implementation ready, and can be disseminated to other organisations to implement and utilise.

More information about our KMSU can be found here: <https://arc-em.nihr.ac.uk/about/knowledge-mobilisation-support-unit>

It is well known that research evidence does not easily 'get' into practice (hence why the CLAHRCs were originally funded). It is also well known that the easiest way to get research into practice is to 'design in' implementation, from the start of the research study. Implementation (defined as: getting something into practice) doesn't just happen; it isn't a bolt on at the end of a project, but is a set of deliberate, evidenced decisions and actions that are made throughout the lifetime of the study (and beyond).

ARC EM recognises that the key determining factor in getting our funded research implementation ready, is to understand the local context into which the evidence is to be implemented. In doing this, our approach emphasises the importance of working with health and social care partners – and to this end, it is mandatory for all of our funded studies to have a Lead Stakeholder Investigator from the area of health/social care practice they hope to influence, who will act not only as a champion for the work, but who will also ensure that the research being carried out remains relevant, aware of and responsive to changes in practice.



A fundamental part of our organisational ethos is the idea of co-production. What this means is that we expect our teams to carry out research *with* rather than on stakeholder communities, and work *together* with members of these communities in an equal and reciprocal manner.

Our regional health and social care partners are the 'problem owners' of the issues and difficulties that our evidence-based research responds to. Working in collaboration, by including our health and social care partners as key members of our study teams, will lead to the interventions being developed and implemented more successfully, which will ultimately benefit patients.

Co-production	Doing with in an equal and reciprocal partnership
Co-design	
Engagement	Doing for engaging and involving people
Consultation	
Informing	
Educating	Doing to trying to fix people who are passive recipients of service
Coercion	

Source: <https://www.thinklocalactpersonal.org.uk/co-production-in-commissioning-tool/co-production/In-more-detail/what-makes-co-production-different/>



Source: <https://www.lambethcollaborative.org.uk/co-production>

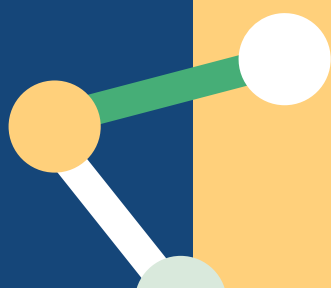


Working collaboratively and following the principles of co-production and co-design requires:

- Recognising people as assets, and equal partners in the design and delivery of the research and implementation readiness activities, rather than as passive beneficiaries of them.
- Building on people's capabilities, recognising and utilising each person's strengths, abilities and assets to meet the goal of producing impactful research that is ready for implementation.
- Developing reciprocal relationships.
- Working in a co-produced way means building peer support networks (which we refer to below as stakeholder networks), and using these groups to help you test out ideas, or ask for solutions to challenges you might face throughout the research and its implementation.
- Blurring boundaries between those delivering and receiving health/social care services.
- Facilitating, working with one another to enable things to happen (such as deliver impact and research that is implementation ready).

This document explains the ARC's approach to implementation readiness. It is be supplemented by our "A Guide to Implementing Change" booklet and our Implementation Science training, details of which can be found later in this document.

To complement these materials, the ARC's KMSU provides an induction to the ARC's knowledge translation approach through meetings with each study team, offers implementation and engagement skills training (self-directed, modular based learning) and works with every ARC team to develop their implementation and communication plan, for both integrated (i.e. during the study) and end of study (i.e. after results are known) implementation readiness and dissemination activities. If you would like to discuss any of this, please get in touch, by emailing [ARC-Implementation@nottingham.ac.uk](mailto:ARC-Implementation@nottingham.ac.uk). Otherwise, a member of the KMSU will contact with the lead researcher from each of our ARC funded studies within 12 weeks of the study's agreed start date.



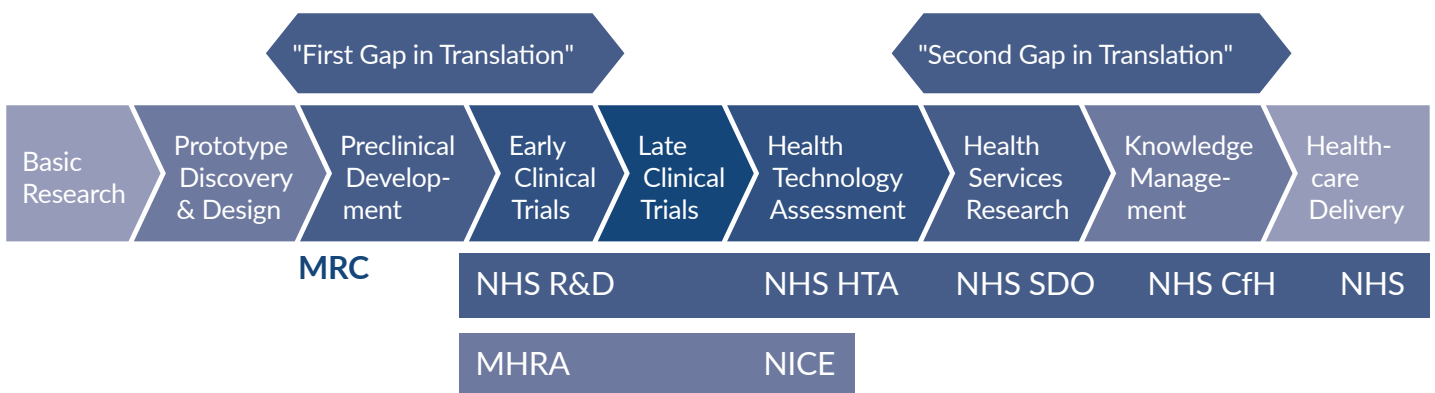
## The Knowledge Translation strategy

NIHR ARCs continue the work of the CLAHRCs (2008-2019) and address:

1) The identification and evaluation of new interventions that are effective and appropriate for everyday use in the health and social care, and 2) The process of their implementation into routine clinical practice. They focus on the “second gap in translation” identified by the Cooksey Review<sup>2</sup>, and aim to facilitate and speed up the translation of clinically and cost-effective research into practice.

The Cooksey report identified two gaps in the translation of biomedical science to healthcare: 1) The translation of basic and clinical research into ideas and products, and 2) Introducing those ideas and products into clinical practice.

### Critical path within UK health research



Source: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/228984/0118404881.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/228984/0118404881.pdf)

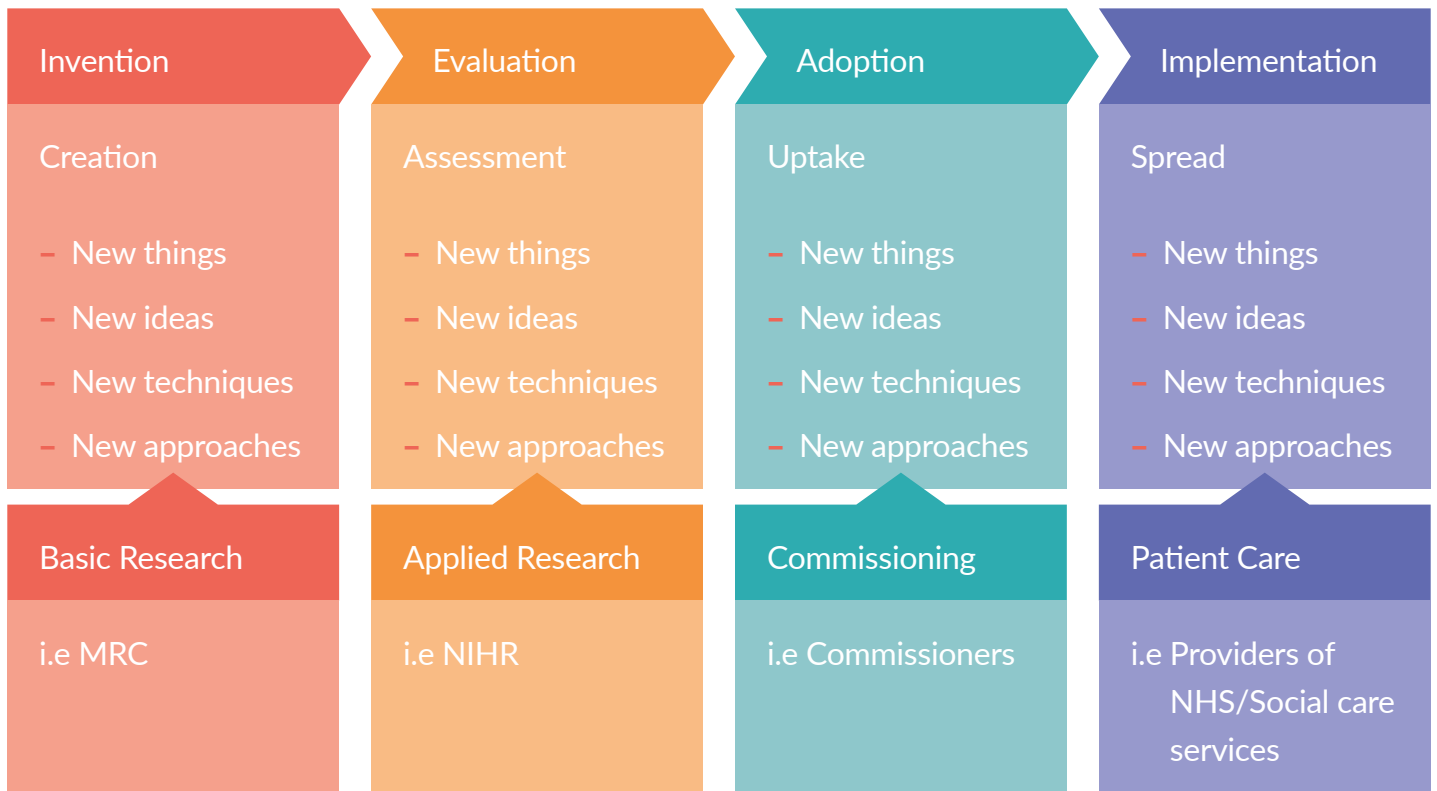
It is this second gap that the ARCs address explicitly, focusing on the variance between what we know should happen in theory, versus what *actually* happens in practice. This second gap is also described in terms of the research production versus research utilisation gap, or the know-do gap.

Crucial to closing this gap is ensuring that the research which is carried out explicitly addresses an identified issue, and adequately and appropriately offers a solution which can be delivered outside of a research environment. Three questions are useful here:

- **What** are you proposing to do? (i.e. what is the intervention)
- **Why** are you doing it? Is there a gap? (i.e. is there a need for the research/intervention)
- **How** are you going to close this gap? Does the proposed solution (the research/intervention) fit the identified problem?



Thinking in terms of the translation gaps as research types, a typical research pathway can be depicted as follows:



NIHR ARC EM funded work falls under the ‘Evaluation’ stage, where rather than creating new interventions / innovations, our teams evaluate how chosen interventions work in practice, and collect knowledge that will enable ARC East Midlands to pass proven interventions onto other organisations to work through the ‘Adoption’ and ‘Implementation’ stages.

NIHR ARC East Midlands will:

- Develop and conduct applied health research relevant across the health and social care sector, and to translate research findings into improved outcomes for patients.
- Create a distributed model for the conduct and application of applied health research that links those who conduct applied health research with all those who use it in practice across the health and social care sector.
- Create and embed approaches to research and implementation readiness that are specifically designed to take account of the way that health and social care is commissioned and delivered.
- Increase the capacity to conduct high quality applied health research focused on the needs of patients.



## Implementation Frameworks

“Implementation Processes involve the translation of one group’s strategic intentions into everyday practice; Implementation Science is the study of methods of translation; and Implementation Theories and Frameworks can be used to explain both.”<sup>3</sup>”

It is well known that research evidence doesn’t easily ‘get’ into practice and become used in routine, ongoing care as a matter of course. As a result of this, the academic field of implementation and improvement science investigates the barriers to getting research into practice and seeks to overcome these. Implementation science is the academic field which studies how interventions become incorporated into standard practice settings (i.e. everyday life, opposed to as part of a research trial). The field seeks to identify specific activities, contexts and other factors that can help/hinder the successful implementation of the intervention.

Implementation science, although a distinct academic field in its own right, is frequently associated with, and draws on Change Management, Improvement Science, Quality Improvement, Knowledge Translation and Knowledge Mobilisation. It’s therefore entirely possible that our ARC research teams will have existing experience and knowledge of doing implementation style research without having ever explicitly labelled it as such!

There are a number of implementation frameworks, and implementation theories in the academic literature. Nilsen (2005)<sup>4</sup> identified multiple frameworks, while Powell et al (2015)<sup>5</sup> found 73 different implementation strategies. Despite this, there is little consensus on how to choose which framework to select<sup>6</sup>. This has led commentators to refer to implementation frameworks as toothbrushes: everyone has one, but no one wants to use somebody else’s<sup>7</sup>. Some of the most popular implementation frameworks include:

### **KTA (Knowledge To Action).**

Graham I, Logan J, Harrison M, et al. Lost in knowledge translation: time for a map? J Contin Educ Health Prof 2006;26:13-24.

### **NPT (Normalisation Process Theory).**

May C, Finch T, Mair F, et al. Understanding the implementation of complex interventions in health care: the normalization process model. BMC Health Ser Res 2007;7:148.

### **PARIHS (Promoting Action on Research Implementation in Health Sciences).**

Harvey G, Kitson A. PARIHS revisited: from heuristic to integrated framework for the successful implementation of knowledge into practice. Implement Sci 2016;11:33.

### **CFIR (Consolidated Framework for Implementation Research).**

Damschroder LJ, Aron DC, Keith RE, et al. Fostering implementation of health services research findings into practice: a consolidated framework for advancing implementation science. Implement Sci 2009;4:50.





RE-AIM (Reach, Effectiveness, Adoption, Implementation & Maintenance).

Glasgow RE, Harden SM, Gaglio B, et al. RE-AIM Planning and Evaluation Framework: Adapting to New Science and Practice with a Twenty-Year Review. *Frontiers in Public Health*. 2019;7:64.

QIF (Quality Improvement Framework).

Meyers D, Wandersman A, Durlak JA. The Quality Improvement Framework: A Synthesis of Critical Steps in the Implementation Process. *American Journal of Community Psychology* 50(3-4)  
DOI:10.1007/s10464-012-9522-x

AIF (Active Implementation Framework).

Fixsen DL, Naoom SF, Blase KA et al. *Implementation Research: A Synthesis of the Literature*. 2015.  
<https://nirn.fpg.unc.edu/sites/nirn.fpg.unc.edu/files/resources/NIRN-MonographFull-01-2005.pdf>

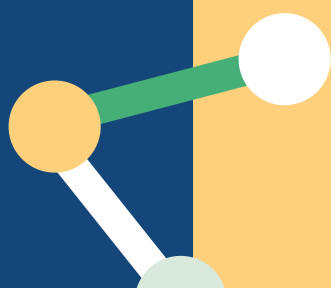
SHIFT-Evidence

Reid JE, Howe C, Doyle C et al. Simple rules for evidence translation in complex systems: A qualitative study. *BMC Medicine*. 2018;16:92

Implementation frameworks (theoretically informed analytical models) offer a means of explaining and predicting factors that influence whether an intervention will succeed or fail<sup>8</sup>. Using an implementation framework won't help teams to implement their work, but rather, will provide an analytical framework in which to consider their implementation-focused data in order to understand some of the barriers and facilitators to implementation. For reviews of popular implementation frameworks, please see:

- [health-policy-systems.biomedcentral.com/articles/10.1186/s12961-015-0005-z](https://health-policy-systems.biomedcentral.com/articles/10.1186/s12961-015-0005-z)
- [link.springer.com/article/10.1186/s13012-017-0656-y](https://link.springer.com/article/10.1186/s13012-017-0656-y)
- [link.springer.com/article/10.1186/s12961-015-0005-z](https://link.springer.com/article/10.1186/s12961-015-0005-z)
- [academic.oup.com/intqhc/article/31/3/173/5060301](https://academic.oup.com/intqhc/article/31/3/173/5060301)
- [ncbi.nlm.nih.gov/pmc/articles/PMC2690184/](https://ncbi.nlm.nih.gov/pmc/articles/PMC2690184/)

NIHR ARC East Midlands does not specify which implementation framework research teams should use (if they wish to use them at all). All ARC research teams should however be mindful that if they wish to publish their work with a focus on its implementation, journals ask for work to be theoretically informed and to also adhere to the standard implementation reporting guidelines, such as STARI<sup>9</sup>. As such, this should be built into study workplans.



## Implementation strategies

Approaches to implementation research and getting research into practice are informed by an evidence-base that recognises the complex, non-linear, iterative nature of translating evidence into practice in health and social care. Implementation / implementation readiness doesn't 'just happen' but requires exploration, planning and ongoing activity and management. Consequently, there is an expectation that each ARC study team will have its own strategic implementation plan that includes a co-production strategy that details how the team will work towards implementation readiness. Critically this activity needs to start at the beginning of a study, not towards the end of it, as implementation needs to be 'designed in'.

Rather than impose a top-down, one-size fits all model onto the ARC projects and themes, it is necessary that each implementation plan (strategy) is bespoke, and designed, tailored and adapted to the requirements of every intervention and every potential implementation site. Importantly, each implementation plan should be developed in partnership between the research team and their wider stakeholder networks (comprised of, for example, service providers, service users and problem-owners). The KMSU team will share an implementation plan template that each study team should use (and adapt accordingly), and will work collaboratively with each team to understand, plan and action the implementation readiness activities. The KMSU team will be in touch towards the start of each study to arrange this.

Theories of knowledge translation and mobilisation (how research evidence gets into practice) emphasise that changing clinical work is not only a matter of disseminating guidance, but requires a range of complementary activities to achieve change. These need to be tailored to particular organisational, professional, local and clinical contexts by actively assessing the challenges and opportunities that may exist.

Changes in practice are more likely to happen in response to research if there is confidence in the findings and the process of reaching those findings. Co-production of research and related implementation readiness activities ensures that research is carried out with and not on stakeholder communities, and value is placed on the experiential knowledge of those 'closest' to the problem being examined. It is this evidence that leads to a richer understanding of the context(s) into which the intervention(s) will be used, and what ultimately helps them get into practice. Contextual understanding of the practice setting into which change is to be implemented is therefore critical, and is something that academic researchers, as outsiders to the implementation sites, are not often able to meaningfully access. Consequently, by working with stakeholders, communities and those who will be affected by the intervention being implemented, from the beginning of the research study, enables research studies and their implementation plans, to be co-produced. The easiest way to do this is to create a stakeholder network, comprising of individuals who champion your research.



## Involving Stakeholders<sup>10</sup>

Involving stakeholders in NIHR ARC EM funded research is mandatory as it is an important pathway to working towards implementation readiness and achieving impact<sup>11</sup>. How each team operationalises their stakeholder engagement approach, should however, be bespoke.

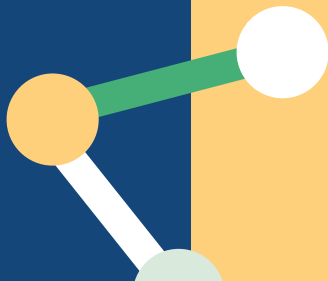
A stakeholder is defined as either an individual, group or organisation who are impacted by the outcome of a project, and as such, have a vested interest in the success of the project<sup>12</sup>. Stakeholders can be known to ARC research teams already, or can be newly identified. These might be existing community or patient groups, or you might need or want to set up your own specific group that is solely focused on your research study and its journey towards implementation.

Deverka et al. define stakeholder engagement as “an iterative process of actively soliciting the knowledge, experience, judgment and values of individuals selected to represent a broad range of direct interest in a particular issue, for the dual purposes of: creating a shared understanding; making relevant, transparent and effective decisions”<sup>13</sup>. Stakeholder engagement is a crucial component of getting research into practice, through what are known as “linkage and exchange” mechanisms<sup>14</sup>.

By conducting stakeholder engagement, our ARC research teams will be ensuring that they are linking research (new knowledge), exchanging knowledge (for example, on-the-ground operational details) to action (decision-making). “Linkage and exchange initiatives actively aim to bring research findings and decision-making closer together by emphasising interpersonal connections (interactions). Specifically, linkage and exchange strategies involve initiatives that seek to (1) promote research use in decision contexts, and (2) encourage research that generates evidence that is of use to decision-makers”<sup>15</sup>.

It is acknowledged that there is some overlap here with Patient and Public Involvement and Engagement (PPIE) – however, stakeholder engagement goes beyond PPIE, to include multi-stakeholders as appropriate to the aims of your research.

In our previous guise as CLAHRC EM, we referred to “knowledge brokers” and “networks of practice” (2014-2019). However, we have moved away from the terminology used in the academic literature, to descriptions that make more sense to our study teams and those individuals and groups they work with. As such, what were known as networks of practice, are now more simply referred to as stakeholder networks.



Stakeholder networks should meet physically or virtually at regular intervals to support a collective aim, such as helping a research team to understand how their intervention might be used in practice. Networks are a platform for action and learning. They should:

1. Have a shared purpose and a clearly defined goal.
2. Have a cooperative structure: anyone should be free to join and leave, at any time.
3. Go beyond 'normal' contacts, and create a critical mass to address principle 1.
4. Enable collective intelligence to be collected and created, and used in addressing principle 1.
5. Build community and capacity.

Networks are likely to be comprised of (but not restricted to) service users and carers, health and social care professionals from each potential implementation site, academics (including the study team and experts in implementation), commissioners and providers. The implementation readiness preparations of ARC study interventions will be aided and facilitated through ongoing interaction with stakeholder networks linked to each study.

It is critical that the network composition, function and format is tailored to the requirements of every project, rather than impose a one-sized fits all model on the ARC studies. Therefore, when designing their networks, study teams should consider:

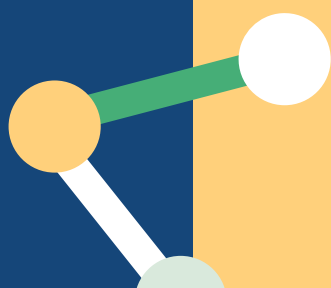
- How will the networks be managed, facilitated and administrated?
- Will the networks meet in person or virtually?
- How often will the networks meet?
- Who should be invited to participate? How far should network membership reach? (Some members might have less direct involvement in the study or its implementation than others, but rather have a general interest in the field).
- Will recruitment be a 'one off' or can additional members join at any time during the lifetime of the network?



Stakeholder networks will help to both understand and develop a supportive and receptive context to assist the progression of research into practice. The networks are an ideal space in which to bring stakeholders together to explore factors linked to implementing the interventions, including any unanticipated knock on effects to current provision, and how to overcome these. This process will be iterative, and will involve determining the core features of the intervention that should not be varied and those parts of the intervention that may be adapted allowing a degree of flexibility to enable implementation to take place according to local requirements and constraints. As such, networks will provide an opportunity for creative problem solving.

As a CLAHRC, we supported the inclusion of dedicated knowledge brokers – some of whom were officially recognised via funding. However, this model wasn't sustainable, and also didn't reflect the reality of brokering and linking that every member of the ARC team conducts on a daily basis. Consequently, we no longer advocate for the use of individual, dedicated knowledge brokers. Instead, we recognise that everyone (study teams, core ARC staff, partners and stakeholders) has a role to play in raising awareness, problem solving and dissemination.

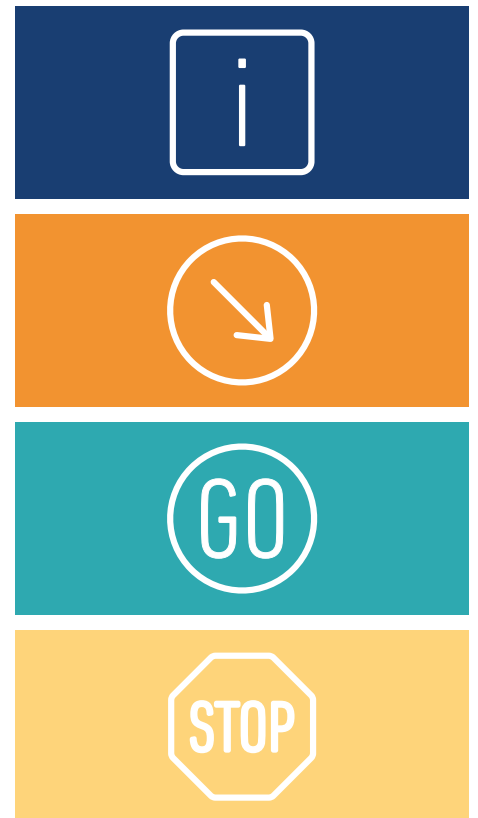
Brokering enables the development of links between the distinct worlds of research and practice. It assists in two-way knowledge sharing, so that research evidence is meaningful for practice audiences, and practice-based knowledge is utilised by the research teams. It enables the dissemination of new evidence through networking with other practitioners, managers and service users, and crucially, plays a key role in helping study teams to ensure their research is implementation ready.



## Implementation Science Training

Comprising of four modules, our Implementation Science training offer is designed to assist researchers to build capacity and prepare for implementation in their particular settings. Because implementation science is a large academic field, and because implementation is itself a complex process, it is beyond the scope of this programme to include everything, however the modules cover all of the main themes.

Completing each module will help you to progress along your journey towards implementation readiness. However, there is no one size fits all that will guarantee the successful implementation of an innovation. Instead, the modules are intended to help you reflect on what needs to happen during the different stages of your implementation readiness journey. The goal is to support you to consider your options and to help you to make informed choices.



## A Guide to Implementing Change

The booklet is an evidence based synthesis of implementation learning and literature, written with the aim of demystifying some of the more 'inaccessible' academic theory on implementation. It can be downloaded from: [arc-em.nihr.ac.uk/clahrcs-store/guide-implementing-change](http://arc-em.nihr.ac.uk/clahrcs-store/guide-implementing-change)



# ARC East Midlands' knowledge translation and implementation readiness vision

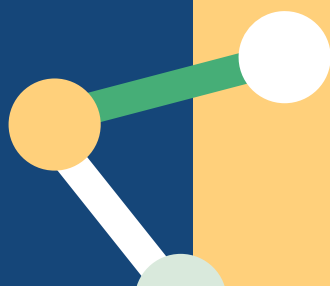
The NIHR ARC EM knowledge translation strategy is intended to assist research teams to design and conduct research that is implementation ready, which health and social care organisations across the East Midlands can utilise, implement and adopt.

Stakeholders are crucial to this. They act as bridges between research and practice, facilitating knowledge sharing, advising research teams on aspects of practice relevant to their research proposals, supporting the acceptance of appropriate studies, helping with recruitment, ensuring that study results are fed back to the service, and of course, playing an active role in the implementation readiness activities of the ARC.

We hope that our stakeholders and partners will be able to take the products developed by the ARC and the associated learning and know-how, and adopt and implement them into their organisations and own networks.

## References

1. <https://juliebayley.blog/2018/10/04/sausages-unicorns-and-strip-clubs-or-impact-the-challenge-of-connection/>
2. Department of Health (2006) A Review of UK Health Research Funding. Report by Sir David Cooksey. [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/228984/0118404881.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/228984/0118404881.pdf)
3. <https://twitter.com/CarlRMay/status/1622839436877656069>
4. <https://implementationscience.biomedcentral.com/articles/10.1186/s13012-015-0242-0>
5. <https://implementationscience.biomedcentral.com/articles/10.1186/s13012-015-0209-1>
6. <https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD005470.pub3/full>
7. <https://twitter.com/lukeedincav/status/710504242675630082>
8. See Nilsen (2015) <https://implementationscience.biomedcentral.com/articles/10.1186/s13012-015-0242-0>
9. <https://www.bmj.com/content/356/bmj.i6795>, <https://www.equator-network.org/reporting-guidelines/>
10. A useful resource can be found here: <https://health-policy-systems.biomedcentral.com/articles/10.1186/s12961-018-0337-6>
11. <https://health-policy-systems.biomedcentral.com/articles/10.1186/s12961-018-0337-6>
12. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3371639/>
13. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3371639/>
14. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1779881/>
15. [https://www.rand.org/content/dam/rand/pubs/occasional\\_papers/2008/RAND\\_OP231.pdf](https://www.rand.org/content/dam/rand/pubs/occasional_papers/2008/RAND_OP231.pdf)





The National Institute for Health Research and Social Care (NIHR) Applied Research Collaboration East Midlands (ARC EM) is a partnership between Nottinghamshire Healthcare NHS Foundation Trust and the Universities of Leicester and Nottingham.

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