

# How to innovate in health: applying implementation sciences

**Summary report of the 2023 FORUM Sir Colin Dollery Lecture on  
23 November 2023**

Chaired by Professor David Adams FMedSci, Registrar, Academy of Medical Sciences and Emeritus Professor of Hepatology at the University of Birmingham.

Keynote address by Professor Jo Rycroft-Malone OBE, Executive Dean of the Faculty of Health and Medicine, Lancaster University.

### **The Academy of Medical Sciences**

The Academy of Medical Sciences is the independent body in the UK representing the diversity of medical science. Our mission is to promote medical science and its translation into benefits for society. The Academy's elected Fellows are the United Kingdom's leading medical scientists from hospitals, academia, industry and the public service. We work with them to promote excellence, influence policy to improve health and wealth, nurture the next generation of medical researchers, link academia, industry and the NHS, seize international opportunities and encourage dialogue about the medical sciences.

In 2022, the Academy launched its 10-year strategy, which focuses on making medical science work for everyone. In doing so, the goal is to bring many different disciplines together, working across the whole of the UK, with a diverse fellowship, engaging a diverse community, including patients and the public, and developing the next generation of researchers.

**Opinions expressed in this report do not necessarily represent the views of all participants at the event, the Academy of Medical Sciences or its Fellows.**

This event was livestreamed. In addition to in-person attendees (Annex I), over 70 people joined the Lecture online.

All web references were accessed in April 2024.

# How to innovate in health: applying implementation sciences

**Summary report of the 2023 FORUM Sir  
Colin Dollery Lecture**

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# Executive summary

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**Implementation science presents an exciting opportunity to identify the barriers and enablers to the implementation of beneficial innovations into the healthcare system. The discipline identifies strategies to facilitate uptake, so that patients receive the full benefit of research.**

The health and care system faces increasing pressure to improve services and tackle ill health. Efforts to ensure that the system and patients gain maximum benefit from research, including reducing the time taken to translate research into practice, has led to a new discipline of implementation science. The discipline aims to identify and explain some of the key barriers and enablers to the implementation of innovations in health and care. It also encompasses the de-implementation of practices in the healthcare system that have been assessed to be harmful, ineffective or no longer necessary.

To explore the challenges of implementing innovations in healthcare, and the opportunities that implementation science presents to understanding the implementation process and improving the uptake of innovations, the Academy held the 2023 FORUM Sir Colin Dollery Lecture. The keynote address was given by Professor Jo Rycroft-Malone OBE, Executive Dean of the Faculty of Health and Medicine at Lancaster University, and was followed by a cross-sector panel discussion, which included individuals with lived experience and representatives from academia, industry and healthcare.

The following key points emerged from the Lecture and discussions:

- **Implementation science offers an opportunity to understand and improve the success of innovations in healthcare systems.** It has demonstrated that implementation needs to be approached as a dynamic and relational process, and that understanding local contexts and systems is crucial.
- **The healthcare system requires built-in capacity and capability to enable innovation, its implementation and its evaluation.** 'Local' facilitators can support the implementation of innovations, by helping adapt innovations and guidelines to the local context.
- Multi-stakeholder collaboration, communication and partnerships are key to the implementation of useful and effective innovations:
  - The potential role of patients, service users and the public in the development and implementation of beneficial innovations has been undervalued in the past. A key priority is understanding the incentives, barriers and support mechanisms for their involvement.
  - Industry requires clear signals from healthcare services about where the challenges and needs are.
  - Clear communication of the benefits of innovations to patients and healthcare practitioners is important for uptake.
- **Scaling up innovations is challenging, given the importance of the local context.** A national strategy that supports the widespread roll-out of beneficial innovations could support the equitable delivery of healthcare.

## The FORUM Sir Colin Dollery Lecture

The Academy of Medical Science's FORUM was established in 2003 to catalyse connections across industry, academia and the healthcare system, and the charity, regulatory and wider healthcare sector. It provides an independent platform for national discussions on scientific opportunities, translational challenges and strategic choices in healthcare and the life science sector. The FORUM network helps address the Academy's strategic priority to support UK biomedical and health research to strengthen its global competitiveness and reputation, by championing transdisciplinary research across the health and care system, academia, charities and industry, as set out in our Strategy 2022–32.

The Academy's prestigious FORUM Lecture, now in its 21st year, provides an opportunity for FORUM member organisations, Academy Fellows, invited guests and members of the public to hear from key figures in biomedical science. Since 2021, the FORUM Lecture has been named in honour of **Sir Colin Dollery FMedSci** (1931–2020), one of the founders of clinical pharmacology, and we are most grateful to Sir Colin's family who have generously donated funds to support the delivery of the FORUM Lecture. The Academy's FORUM is the brainchild of Sir Colin, who was passionate about scientists working together, including with those outside their field, to discover the innovations that improve our health and wellbeing.

The 2023 FORUM Sir Colin Dollery Lecture was chaired by the Registrar of the Academy of Medical Sciences, **Professor David Adams FMedSci**. The keynote address was given by **Professor Jo Rycroft-Malone OBE**, Executive Dean of the Faculty of Health and Medicine at Lancaster University. A cross-sector panel discussion explored the challenges and next steps to facilitating the uptake of evidence-based programmes and practices in the UK healthcare system. The following panellists joined Professor Adams and Professor Rycroft-Malone for these discussions:

- **Linda Parton**, Member of the Link Group, Impact Accelerator Unit, Keele University
- **Dr Edward Piper**, Medical & Scientific Affairs Director, AstraZeneca
- **Roland Sinker CBE**, Chief Executive, Cambridge University Hospitals NHS Foundation Trust & National Director, NHS England
- **Professor Dame Helen Stokes-Lampard DBE FLSW**, Professor of GP Education, University of Birmingham & Member of the External Advisory Board to the UK AI Safety Institute.

# Introduction

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**The implementation of new practices, treatments and technologies into the healthcare system has been a persistent challenge. To overcome this challenge, implementation has evolved from 'pushing' innovations into practice, to an approach emphasising co-production and collaboration.**

Decades of clinical research has identified ever better ways of preventing, diagnosing and treating health conditions to improve health outcomes and healthcare services. Given the growing pressures on the healthcare system, it is increasingly important to realise potential health benefits and system efficiencies of such innovations in a cost- and time- effective manner. However, implementation and adoption lag behind development. The gap between adoption and development partially arises because the factors affecting the uptake and effectiveness of an innovation in the healthcare system can differ from those that determine its success in a controlled environment. Implementation science seeks to overcome the gap between research and adoption by understanding the factors that prevent uptake, particularly the barriers and enablers.

Implementing innovations into the healthcare system has been a persistent challenge, even when there is a strong evidence-base to adopt and routinise an intervention (for a historical example see Box 1).

## **Box 1: The history of implementation science**

In 1847, while working in an obstetrical clinic, the Hungarian physician Ignaz Semmelweis recognised that the mortality rates in doctors' wards were three times worse than those of the midwives' wards due to cadaveric contamination. His subsequent implementation of routine hand-washing resulted in the maternal mortality rate dropping from 18% to less than 2% in two months. Despite the publication of his successful results, Semmelweis' ideas conflicted with established scientific and medical opinion, and were rejected by the medical community.

The efficacy of handwashing on health outcomes has since been accepted, but its implementation into routine practice is still not consistent: a 2019 WHO Self-Assessment Framework global survey on hand-hygiene in

healthcare facilities found that most healthcare services still only have an intermediate level of hand hygiene, particularly in low-income countries.<sup>1</sup>

In her keynote address, Professor Jo Rycroft-Malone OBE, Executive Dean of the Faculty of Health and Medicine at Lancaster University, explored strategies for enabling the uptake of innovations, and provided an in-depth account of the development of implementation science from a 'push' approach to a recognition of the need for co-production and collaboration between stakeholders, particularly with patient groups (Box 2).

### **Box 2: The four generations of implementation approaches**

1. The first generation of thinking took a 'push' approach and was characterised by a one-way communication of evidence to encourage change in practice or adoption of innovation.
2. The second generation took a more 'relational' perspective and focused on the nature of evidence and evidence generation in both research and healthcare contexts.
3. A more recent 'third generation' argued that context had an important and influential role on implementation outcomes, and that systems and processes were complex and dynamic.
4. A new 'fourth generation' emphasises the need for greater co-production and collaboration between stakeholders, particularly with patient groups.

The main themes from the 2023 FORUM Sir Colin Dollery Lecture, held on 23 November at No.11 Cavendish Square in London, are summarised in this report. A [recording](#) of the Lecture is also available on the Academy's YouTube channel. Opinions expressed in this report do not necessarily represent the views of all participants at the event, the Academy of Medical Sciences or its Fellows.

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<sup>1</sup> de Kraker M. et al. (2019). *Implementation of hand hygiene in health-care facilities: results from the WHO Hand Hygiene Self-Assessment Framework global survey 2019*. The Lancet **22(6)**, 835-844.

# How to implement

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**Healthcare systems are complex and dynamic contexts. Successful implementation outcomes rely on the adaptation of the innovation and its evidence-base to the target system. Facilitators can aid this process, and collaborative approaches are beneficial for accelerating adoption.**

The understanding of how best to implement innovations into the health and care system has changed as implementation scientists have tested various strategic approaches and sought to develop a more in-depth understanding of evidence, context and collaboration.

## **Evidence alone is not enough**

In her lecture, Professor Rycroft-Malone discussed the different features of an innovation, and its accompanying evidence that affect how the innovation is received and whether it is effectively implemented. For example:

- The 'type' of the innovation being implemented, such as whether it is a piece of evidence informing a practice, a therapy, technology or system.
- The quality and real-world applicability of the evidence-base of the innovation.
- The reputation and trustworthiness of the innovation's source (including the source of its evidence-base).
- The competitiveness of the innovation against alternative versions or brands on the market.
- How easy it is to adapt the innovation for use in the healthcare setting.
- The complexity of the innovation, and how easy it is to understand by those using it in practice.
- The cost of the implementation and use of the innovation.
- Whether new evidence agrees with or contradicts the pre-existing views of healthcare practitioners, based on their own experience and other evidence sources (such as patients, colleagues, and externally provided guidelines and pathways).<sup>2</sup> Where contradictory pre-existing views become reinforced, internalised and embedded, it is difficult to introduce innovations into practice.

To explore and account for these factors, two-way dialogue between researchers and practitioners is important. Implementation strategies that account for the complexity of evidence and how healthcare practitioners interact with it, such as the PARIHS framework (Box 3), can be useful.

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<sup>2</sup> For more on this, see Gabbay, J. and le May, A. (2016) *Mindlines: making sense of evidence in practice*. British Journal of General Practice **66(649)** 402-403.



### Box 3: The PARIHS framework

The Promoting Action on Research Implementation in Health Services (PARIHS) framework proposes that successful implementation is a function of:

- The nature and quality of the evidence provided (understood as either the evidence being implemented into practice or the evidence underpinning the innovation).
- The context of the environment receiving the intervention.
- And the facilitation of the implementation process.

The framework proposes effective implementation benefits from an understanding of how the evidence could be accepted in the target context and an engagement approach that takes this into account.<sup>3</sup> Although the PARIHS framework was developed over 20 years ago to support implementation practice and research, it is still one of the most cited frameworks today because of its enduring accessibility and relevance to individuals and teams.<sup>4</sup>

A 2018 study of how well a mindfulness-based cognitive therapy (MBCT) demonstrates how successful implementation often relies on the adaptation of an innovation's evidence-base to existing contexts and local pathways (Case Study 1).<sup>5</sup>

### Case Study 1: Mindfulness-based cognitive therapy

MBCT is an evidence-based approach to cognitive therapy that aims to support the long-term recovery of people at risk of depressive relapse. A 2018 study into the implementation of MBCT demonstrated that uptake had been patchy. Successful implementation had been primarily driven by individuals in their local contexts, who had championed the intervention. The treatment already had an evidence base, having been acknowledged as effective by National Institute for Health and Care Excellence (NICE) guidance. However, while this evidence-base had been useful for demonstrating MBCT's potential efficacy, successful implementation relied on individuals adapting the guidance to their local services and integrating

<sup>3</sup> Ward M et al. (2017). *Promoting Action on Research Implementation in Health Services framework applied to TeamSTEPPS implementation in small rural hospitals*. *Health Care Management Review* **41(1)**, 2-13.

<sup>4</sup> Bergstrom A. et al (2020) *The use of the PARIHS framework in implementation research and practice – a citation analysis of the literature*. *Implementation Science*. **15(68)**.

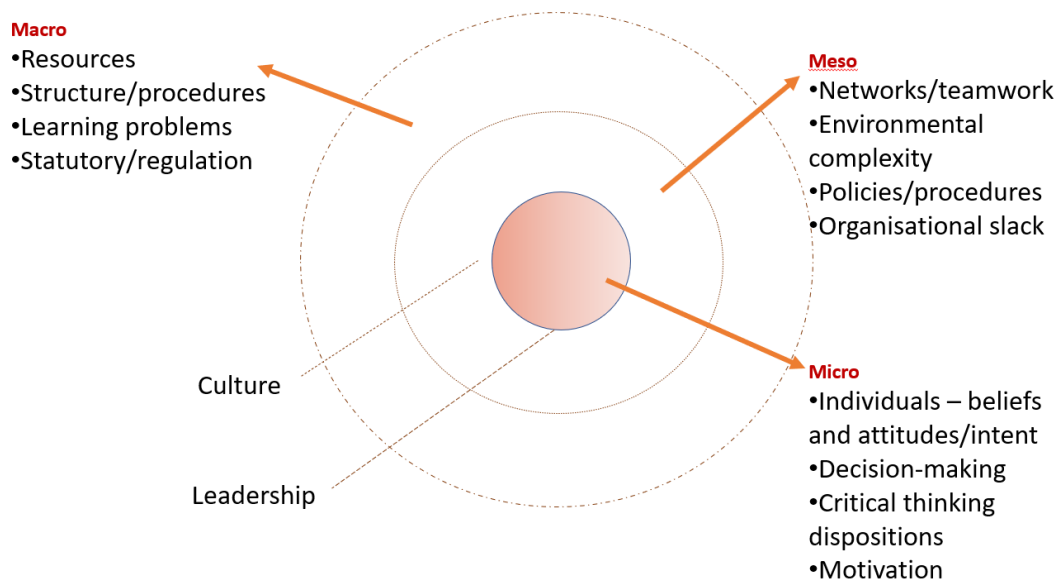
<sup>5</sup> Rycroft-Malone J. et al. (2019) *'Mind the gaps': the accessibility and implementation of an effective depression relapse prevention programme in UK NHS services: learning from mindfulness-based cognitive therapy through a mixed methods study*. *BMJ Open* **9 (e026244)**.

it into their local care pathways. These 'local champions' adjusted how they used the NICE recommendations according to their clients' needs, and expanded the criteria so that they could apply MBCT to the patients at their local site.

### Understanding context

The examination of how context influences the implementation of innovations and evidence can help explain outcomes, and identify enablers and barriers for effective implementation. During her lecture, Professor Rycroft-Malone divided these contextual features into three interconnected 'macro', 'meso', and 'micro' levels (Diagram 1). She emphasised how a lack of organisational slack (the excess resources and capacity of an organisation beyond its immediate operation to adapt, innovate and grow) is a key barrier to implementation. Building and maintaining the organisational slack that gives teams and individuals the resources and flexibility to innovate relies on supportive leadership and an enabling culture.

#### Diagram 1:



The IMPART study assessed the process of implementation of the digital toolkit for relatives of people with recent onset psychosis or bipolar disorder. It aimed to develop an implementation plan that could facilitate more widespread use of the tool in mental health care practice (Case Study 2). The study highlights the value of understanding context and the barriers caused by lack of organisational slack.

### Case Study 2: The IMPART study

The IMPLementation of A Relatives' Toolkit (IMPART) study was conducted in 2017 to examine the implementation of the 'Relatives' Education And Coping Toolkit' (REACT) – an online aid for carers looking after patients with psychosis or bipolar disorder.<sup>6</sup> Despite the effectiveness of the toolkit in aiding staff to reach their clinical targets and improving carer wellbeing, its implementation was challenging. Barriers included its poor interoperability with the computer systems in NHS Trusts, technical difficulties using the toolkit, and varying levels of access to mobile technology and training between sites.

The IMPART study also found that to encourage uptake, it was important that healthcare staff were involved in signposting the digital toolkit to relatives and carers. However, signposting was hindered by high staff caseloads, concerns about risk, and fears of replacement by technology. In addition, the framing of the intervention as a research study rather than a clinical initiative impeded its implementation.

### Complexity science

Healthcare systems are complex and dynamic. The complexity of interactions and interdependencies can make it difficult to predict the impact of the implementation process on the system, particularly as the innovation or practice being implemented may change the context of both the innovation and the system (or practice) it is being adopted into. Although 'complexity science' is useful for retrospectively explaining the success or failure of an innovation, Professor Rycroft-Malone suggested that using complexity science to develop a solution-focused and forward-looking approach to implementation is challenging.

### Facilitators to innovation

Implementation facilitators are people or teams who work with the system, and actively align and integrate the innovation into its target context. By understanding the innovation and its evidence, as well as the contextual features of the system it is being adopted into, facilitators can bridge the gap between the theory and practice of implementation. By monitoring the process of implementation, these facilitators can also help individuals, teams and systems to be receptive to changes in routines and practices. The benefit of facilitators who work with those internal to the system to develop capacity and capability to support the implementation of research was demonstrated in the FIRE study (Case Study 3).

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<sup>6</sup> Lobban F. et al (2017). *IMPLementation of A Relatives' Toolkit (IMPART study): an iterative case study to identify key factors impacting on the implementation of a web-based supported self-management intervention for relatives of people with psychosis or bipolar experiences in a National Health Service: a study protocol*. *Implementation Science* **12(1)** 152. Also see Lobban F. et al. (2020). *IMPLementation of An online Relatives' Toolkit for psychosis or bipolar (IMPART study): iterative multiple case study to identify key factors impacting on staff uptake and use*. *BMC Health Services Research* **20(219)**.

### Case Study 3: The FIRE study

The facilitating implementation of research evidence (FIRE) study assessed the contribution facilitators can make to implementing research findings into practice.<sup>7</sup> A pragmatic trial funded by the European Commission, it evaluated whether facilitators could tailor evidence-informed practice around incontinence care to care home settings across the United Kingdom, Sweden, the Netherlands and the Republic of Ireland. The trial found that once the external facilitator took part in supporting capacity and capability as part of the implementation process, the tailoring of the evidence to context improved. Most importantly, the successful implementation of this innovation in practice then led to improved incontinence care and quality of life for residents in care homes.

### The benefits of collaboration for implementation

Beyond understanding the needs and context of healthcare practitioners to facilitate implementation of evidence and innovation, Professor Rycroft-Malone suggested that greater collaboration with relevant stakeholders during research, development and implementation would accelerate adoption and realisation of health benefits. Stakeholders could include healthcare practitioners, patient contributors, industry representatives, academic researchers and policy decision makers. Collaboration requires adequate investment into partnerships to enable co-development, implementation and evaluation. In addition, systems need to each have in-built capacity and capability to make partnerships possible.

Despite these challenges, there are many positive examples of successful partnerships such as the implementation of the NeuroRehabilitation OnLine (N-ROL) service across four NHS Trusts in England (Case Study 4). There are also the National Institute for Healthcare Research's Applied Research Collaborations (ARCs), which support applied research on the implementation of health and care evidence into practice,<sup>8</sup> and the Health Innovation Networks (HIN, formerly Academic Health Science Networks) which bring together healthcare, academia, and the commercial sector to support innovation in healthcare. An additional example of successful partnerships includes the 'Living Labs' initiatives, which are 'open innovation ecosystems' where researchers work collaboratively with operational staff and healthcare practitioners to co-create, test and scale-up innovations in the healthcare system.<sup>9</sup>

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<sup>7</sup> Seers K. et al (2012). *FIRE (facilitating implementation of research evidence): a study protocol*. Implementation science **7(25)**.

<sup>8</sup> <https://www.nihr.ac.uk/explore-nihr/support/collaborating-in-applied-health-research.htm>

<sup>9</sup> <https://enoll.org/about-us/what-are-living-labs/>

### Case Study 4: The N-ROL Service

The NeuroRehabilitation OnLine (N-ROL) service was established because only 18–34% patients receive the recommended amount of therapy for neurological rehabilitation. It is a group-based telerehabilitation service, which was initially a standalone programme developed in University College London as a response to the first COVID-19 lockdown. N-ROL aims to deliver neurological rehabilitation sessions to people at home.<sup>10</sup> To adapt N-ROL for use by four NHS Trusts in Northwest England, it was necessary to account for differences between these settings, such as patient flows and technical platforms. A variety of stakeholders were engaged to co-develop, adapt and fit the service into each new context. The programme's implementation has seen positive outcomes, and there is potential for scale-up across additional NHS services.

### Patient and public involvement in implementation

The value of meaningful involvement of patients and the public in implementation studies as key stakeholders in the implementation process is increasingly being recognised.

*"...from the patient perspective this could be the missing piece of the implementation jigsaw – what can patients and the public do to change practice. It's not enough we think about health care professionals, now is the time to think more about what our role could be in the implementation of evidence..." – public contributor.*

Scientists at the University of Warwick are exploring incentives, barriers and support mechanisms for public involvement.<sup>11</sup> Another project, PIPER, aims to address the gap in implementation science regarding the potential role and impact of patients, service users and the public on the implementation process in health and social care (Box 4).

### Box 4: The PIPER framework

The primary goal of the Pathways to Implementation for Public Engagement in Research (PIPER) project is to co-produce a 'PIPER' toolkit to guide on best practice in involving patients and the public in the implementation of health and social care evidence into practice, with the end goal of creating an implementation strategy that can be scaled-up across health and social care.

<sup>10</sup> <https://www.sameyou.org/nrol> and Ackerley S. et al (2023). *Implementation of neurological group-based telerehabilitation within existing healthcare during the COVID-19 pandemic: a mixed methods evaluation*. BMC Health Services Research **23(671)**.

<sup>11</sup> See [https://warwick.ac.uk/fac/cross\\_fac/hpruqed/ppi/](https://warwick.ac.uk/fac/cross_fac/hpruqed/ppi/)

# Innovating in health

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**Barriers to implementation include the capacity of the system to innovate, and tensions between local uptake and national scale-up. There are opportunities to enable uptake, including public involvement in the implementation process. Cross-sector partnerships could see a targeted approach to the implementation of effective interventions.**

In her lecture, Professor Rycroft-Malone discussed key themes of patient involvement, capacity, communication, context, the use of evidence, and collaboration. These themes were further explored by a panel of experts from across sectors, chaired by Professor David Adams FMedSci, Registrar of the Academy of Medical Sciences and Emeritus Professor of Hepatology at the University of Birmingham. Professor Rycroft-Malone was joined by the following experts to discuss some of the challenges and opportunities of innovating in the healthcare system:

- **Linda Parton**, Member of the Link Group,<sup>12</sup> Impact Accelerator Unit, Keele University
- **Roland Sinker CBE**, Chief Executive, Cambridge University Hospitals NHS Foundation Trust & National Director, NHS England (see Box 5)
- **Dr Edward Piper**, Medical & Scientific Affairs Director, AstraZeneca
- **Professor Dame Helen Stokes-Lampard DBE FLSW**, Professor of GP Education, University of Birmingham and Member of the External Advisory Board to the UK AI Safety Institute.

## Why innovate?

The panel agreed that improving the experience and health of the patient should be the focus of innovation.

## Patient and public involvement

As noted by Professor Rycroft-Malone, patients and their families can be enthusiastic enablers to the implementation process, but often lack the opportunities for involvement. During the panel, Mrs Parton, as a member of an NIHR funding committee, observed that research proposals would benefit from both establishing a pathway to implementation as part of their application, and from clearly articulating patient benefit. Participants involved in development of innovations could also be given more significant roles in their implementation, as their participation in research means they often have in-depth knowledge of an intervention and its potential benefits. Mrs Parton noted the value of community-driven initiatives (including examples in Sri Lanka, Ethiopia and Brazil) where communities have developed effective methods for disseminating research results and implementing interventions tailored to their

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<sup>12</sup> The 'Lay Involvement in Knowledge Mobilisation' Group at Keele University is a dedicated patient and public group promoting the patient voice in implementation.

local contexts.<sup>13</sup> Mrs Parton highlighted the Link group,<sup>14</sup> which includes academics, patients and the public, with networks that range from local to international. The group co-produces<sup>15</sup> accessible information in a variety of formats and uses their networks to share usable knowledge and support implementation. Mrs Parton suggested that if companies developed information about their innovations in partnership with patients and healthcare practitioners, the implementation of their innovations would be more effectively mobilised.

### Capacity and communication

Time pressure and other sources of stress often influence the decisions healthcare professionals make and disincentivise their engagement with new innovations. Professor Stokes-Lampard noted that interventions that are both proven beneficial to patients, and do not increase demands on the time and resources of healthcare practitioners, are often quickly adopted (e.g. electronic prescribing).

*"Innovation requires the relevant information and knowledge to be delivered to the right people at the right time" – Professor Stokes-Lampard.*

Local development and ownership of an innovation is an enabler of adoption, though Professor Stokes-Lampard also noted that hesitation to adopt innovations developed elsewhere can hinder adoption and implementation. Peer-to-peer communication between healthcare professionals across localities, and greater engagement with patients on their needs, could potentially help overcome this barrier of local ownership.

### Guidelines and scaling-up

As highlighted by Professor Rycroft-Malone in her lecture, understanding and adapting evidence-based innovations to local context is often found to be necessary to ensure effective implementation. Panellists noted that NICE guidelines can enable implementation by providing knowledge and an evidence-base, but that these guidelines can be difficult to apply in local contexts (see Case Study 1). Dr Piper stressed that there needs to be a greater focus on partnerships to help apply guidelines in practice. This would ensure that the substantial investment in research and the development made by industry (that also provides the data to underpin guidelines) results in new interventions reaching patients.

Commissioning also takes place at a local and regional level. In England, this is partly administered by 42 integrated care systems (ICS) – local partnerships that unite health and care organisations, including councils and the voluntary sector to deliver joined-up services in their regions. Each ICS has an Integrated Care Board (ICB) of NHS organisations, who oversee the budgets and health services of their local region. Dr Piper noted that, in England, developers need to liaise with each of the 42 ICBs, which can lead to duplication of effort and poses a challenge for the national scale-up of innovations. He suggested that this might be part of the reason that scale-up in the UK is challenging, despite large numbers of pilots of exciting innovations. It can also lead to inequity of access to health innovations.

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<sup>13</sup> K. Polidano and L. Parton et al. (2022). *Community engagement in Cutaneous Leishmaniasis research in Brazil, Ethiopia, and Sri Lanka: A decolonial approach*. *Global Health Frontiers in Public Health* **10(823844)**.

<sup>14</sup> <https://movingforward-project.com/lay-involvement-in-knowledge-mobilisation-the-link-group/>

<sup>15</sup> Co-production brings together people with different forms of lived or living and learnt (personal and professional) knowledge, understanding, and experience in equal partnership and for equal benefit. Definition taken from <https://www.coproductioncollective.co.uk/what-is-co-production/our-approach>

There are existing initiatives that help with adoption and implementation of innovation, such as Scotland's Accelerated National Innovation Adoption (ANIA) and the previously mentioned Health Innovation Networks in England. The value of a mechanism, or a clear roadmap for implementation and scale-up of innovations, to help industry and others navigate these challenges, was discussed by the panel. Mr Sinker noted that his review (Box 5) has highlighted the importance of identifying entry points for innovations and areas where innovations are needed to address specific challenges in the healthcare system. In addition, he suggested that the life sciences ecosystem could be purposefully aligned around the Government's five life sciences missions.<sup>18</sup> Demand signalling and defining a clear pathway would help give direction to patient groups, industry and other key stakeholders about what and where innovation is most needed.

### **Box 5: The Sinker Innovation Ecosystem Review**

In 2023, Roland Sinker, Chief Executive of Cambridge University Hospitals, was asked to collaborate with NHS England's Innovation, Research and Life Sciences (IRLS) team to provide guidance<sup>16</sup> on partnering with the life sciences industry and fostering a robust life-sciences ecosystem.<sup>17</sup> His review aims to collaborate with local healthcare systems, industry and research charities to establish a long-term blueprint on how the NHS can effectively function as an innovation partner to improve the implementation of innovations in health and care.

### **Collaboration and partnerships**

The benefits of cross-sector collaboration to effective implementation and adoption was a key theme of the panel discussion. Dr Piper and Professor Rycroft-Malone suggested that policy and infrastructure to encourage and support cross-sector partnerships could be useful. In general, the panel was optimistic about increased collaboration between the different parts of the health and care ecosystem in the future. Positive examples included the way that different sectors came together to address the challenges of the COVID-19 pandemic, and the partnerships between industry and healthcare. Dr Piper detailed how AstraZeneca uses a health inequality lens to identify the best opportunities for partnership with local healthcare systems. AstraZeneca uses NHS data on hospitalisation rates, deprivation indices, and information on the penetration of medicines across regions. This enables them to pinpoint which areas have unmet needs and to determine where the deployment of resources will have the most significant impact on health outcomes. Once an innovation has been implemented, AstraZeneca then collaborates with the partner health system to evaluate whether the intervention has been effective. Showing that an intervention has been successful in an area of high inequality can then aid scale-up across other systems.

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<sup>16</sup> <https://www.england.nhs.uk/wp-content/uploads/2023/03/board-30-march-23-item-5-nhs-innovations-research-and-life-sciences.pdf>

<sup>17</sup> <https://www.digitalhealth.net/2023/04/cambridge-university-hospital-ceo-to-advise-nhse-on-life-science-links/>

<sup>18</sup> <https://www.gov.uk/government/publications/life-sciences-vision-missions>



**A cultural shift**

A cultural shift, where each sector and individual recognises their role in the wider ecosystem and actively contributes to the improvement of health and social care, could help drive innovation. For Professor Stokes-Lampard, the entire landscape needs to view innovation and collaboration as the way to solving many of the current challenges faced in the healthcare system and society as a whole. Individual and professional networks can be effective channels for influencing the improvement of services and systems, and communities can be powerful advocates for driving forward positive change. Panellists also agreed that there needed to be a more coordinated long-term vision for improvement and innovation, which recognised the huge impact of socioeconomic factors on health and the importance of both social care and health care. System-level improvement extends beyond the challenges faced by the healthcare system and will require greater collaboration with social care and local authorities.

# Conclusion

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Effective adoption of research evidence and innovation will be essential to allow the UK healthcare system to respond to and address existing and future healthcare challenges, such as health inequalities and climate change.

The discipline of implementation science provides tools to better understand the successes and failures of the implementation process and enables the development of strategies to accelerate the uptake of evidence-based innovations into healthcare. The discipline has shown that implementation processes are complex, dynamic and relational, and that understanding the context is often key to success. Promising strategies include the use of facilitators (individuals and teams) who understand the local context and can help tailor an innovation to local systems and provide additional capacity. The involvement of community groups, patients and their families in the implementation process and as advocates for positive change could see increased uptake of beneficial innovations.

Collaboration between key stakeholder groups, throughout development, is important for effective implementation of an innovation. Scaling up innovations, given the importance of local context for effective implementation and the regional devolution of healthcare commissioning (particularly in England), presents a challenge. A national strategy for enabling the widespread scale-up of innovations could therefore support the equitable delivery of healthcare.

# Annex I: Participant List

*In addition to the in-person attendees listed here, over 70 people joined the event online.*

## Chair

**Professor David Adams FMedSci**, Registrar, Academy of Medical Sciences and Emeritus Professor of Hepatology, University of Birmingham

## Speakers and panellists

**Professor Jo Rycroft-Malone OBE**, Executive Dean (Faculty of Health and Medicine), Lancaster University

**Linda Parton**, Member of the Link Group, Impact Accelerator Unit, Keele University

**Dr Edward Piper**, Medical & Scientific Affairs Director, AstraZeneca

**Roland Sinker CBE**, Chief Executive, Cambridge University Hospitals NHS Foundation Trust & National Director, NHS England

**Professor Helen Stokes-Lampard DBE FLSW**, Professor of GP Education, University of Birmingham & Member of the External Advisory Board to the UK AI Safety Institute

## In-person attendees

**Sulaiman Alsaif**, Module Lead (Quality of Healthcare), Imperial College London

**Deborah Alsina**, Chief Executive, Versus Arthritis

**Dr Arne Blackman**, UK Policy and Public Affairs Senior Manager, Pfizer

**Professor Annette Boaz**, Professor of Health and Social Care, King's College London

**Dr Natalie Bohm**, Global Head RWE Platform Patient Advocacy & External Partnerships, Pfizer

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