



Providing skills, knowledge and support to develop healthcare innovations

Professor Rebecca Shipley

Chief Research Officer, UCLPartners

November 2025

From Formula 1 to the NHS – UCL VENTURA



17 March 2020

During the COVID-19 crisis, the NHS faced widespread shortage of essential ventilators.

A call to arms – UCL researchers and NHS clinicians assembled to reverse-engineer a new solution



18 March 2020

Engineers from Mercedes AMG join the team, applying F1 engineering design principles to patient ventilator design

The team, co-led by **Prof. Rebecca Shipley**, develop a novel CPAP device, helping patients avoid complex, invasive ventilation.



15 April 2020

100
hours

after the first meeting, a prototype is produced.

10
days

after prototype, rapid MHRA approval is achieved

1
month

after approval, **over 10,000** CPAP devices are made for the NHS

Motorsports + medical
expertise unite



Rapid prototyping + open
sharing of knowledge



Innovation without
constraint



Crisis is the Catalyst for Innovation – UCL VENTURA



To date ...

31 countries

are using UCL-
Ventura devices in
their hospitals

**UCL Ventura team wins
prestigious engineering
award**

UCL healthcare engineers who developed a CRAP breathing aid now used in hospitals across the UK have received an award from the Royal Academy of Engineering for exceptional services during a pandemic.

11 August 2020



>24,000

devices
manufactured in hubs
outside the UK



>3,000

devices donated to
lower-middle
income countries

**A new model of
innovation**

High performance partnerships
and collaboration between
**industry, academia, and
healthcare**

Pit stop paces – F1 inspired
processes and **agile development**

**A proven method to produce
novel, effective technologies** for
the NHS, and beyond

What did we learn?



What did we learn?



We are *the* health innovation adoption experts.

We are a national network of 15 local organisations that bring together the NHS, industry, academia and the third sector to help drive health innovation across the NHS, at pace and scale. We transform lives through innovation by supporting health and social care teams to find, test and implement new solutions at scale to the NHS' greatest challenges, driving economic growth.



More than **4.9m**
patients have
benefitted from our
national programmes
and initiatives since
2018



More than
340,000
hours of healthcare
staff capacity released
through our
programmes and
initiatives since 2020



£3bn
investment leveraged
since 2018 by
companies we have
supported



11,000
jobs either created or
safeguarded in
companies we
supported



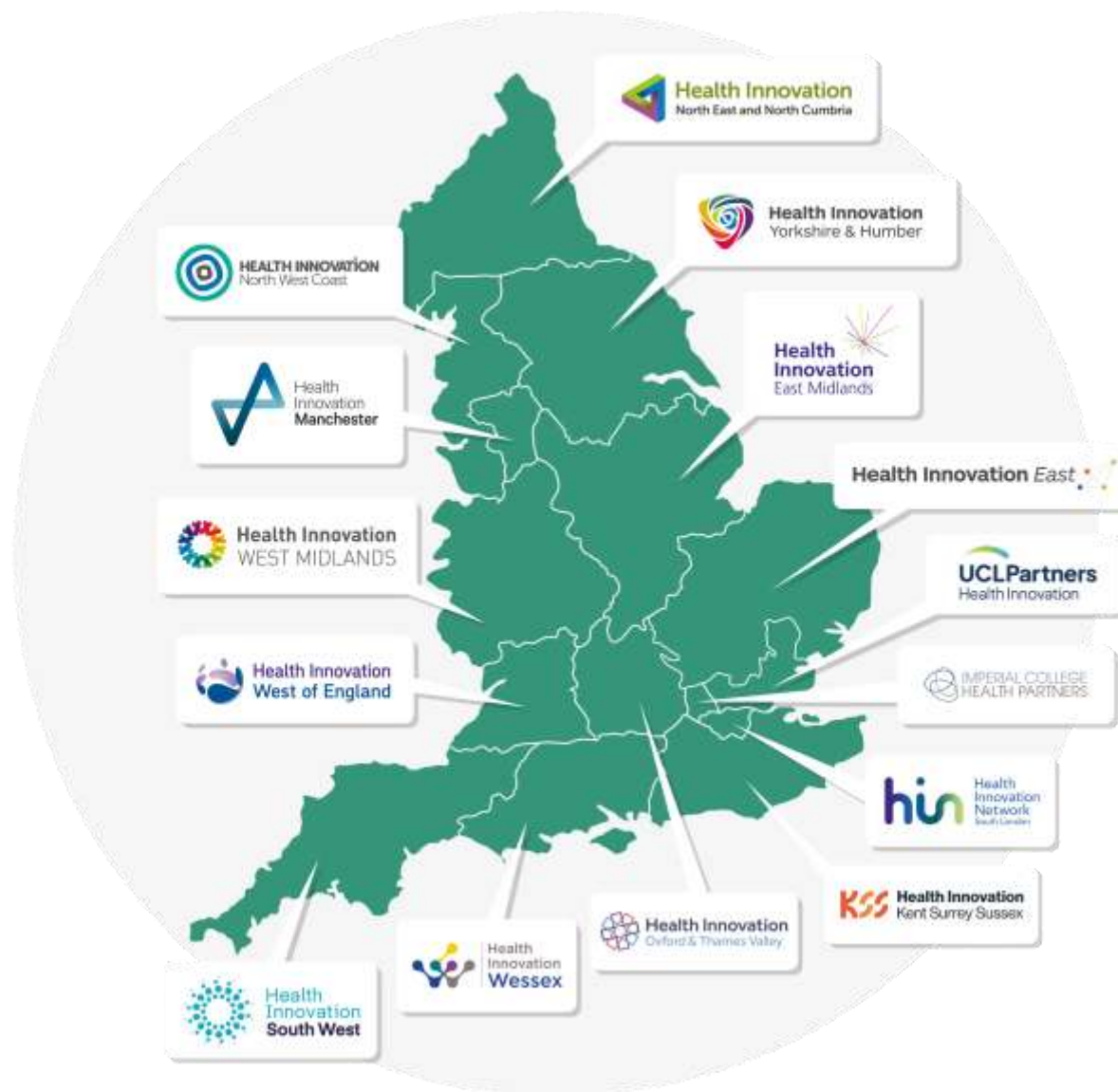
3:1
return on investment
delivered through our
innovator support
(using Treasury Green Book
methodology)

Local change, national impact

We tackle national problems, with local understanding.

Each health innovation network is fully-embedded in their local health and research ecosystem for over a decade.

That means we can deliver change by implementing innovations with local partners to improve patient outcomes, increase NHS capacity, better **support the NHS workforce, reduce demand** on the system to help **alleviate the burden of waiting times**, and **drive economic growth** in all parts of the country.



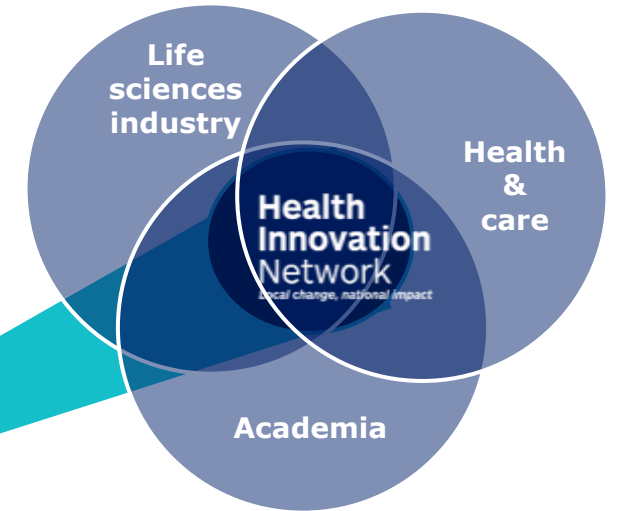
How we deliver change



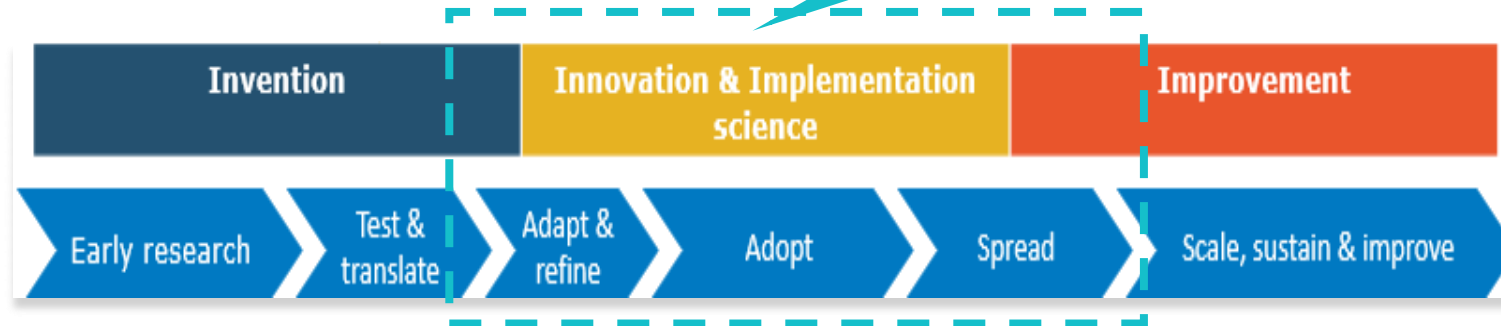
- **National innovation pipeline** – we curate a national innovation pipeline of new high promise technologies, ideas and medicines that enables health & care systems find and prioritise the most promising solutions. (*Demand side*)
- **Innovator support** – we support innovators to prepare their solutions for real world implementation. (*Supply side*)
- **Real world testing and evaluation**– we deliver partnerships with innovators and health and care systems to test the innovation in the real world, prove value and prepare innovation for large scale adoption. (*Connecting supply and demand*)
- **Innovation development** – we support innovators to ensure new solutions are 'adoption ready' for a real-world settings. (*Supply side*)
- **Innovation adoption** – we demonstrate the value of innovations at sub-national scale, preparing innovation for spreading nationally. (*Connecting supply and demand*)
- **Innovation spread** – we deliver impact from innovation at scale through national implementation programmes, adapting the implementation of solutions to deliver value in different local contexts – urban, rural and coastal. (*Connecting supply & demand side*)

A collaborative approach to innovation

We work primarily in the innovation implementation space, but all our work is delivered in partnership across the innovation ecosystem.



Research & innovation ecosystem



We have also prioritised preparing the innovations in our national innovation pipeline that align to the three shifts, and support tackling economic inactivity and health inequalities to get 'adoption-ready'

Brainomix

- ✓ Analogue to digital
- ✓ Economic inactivity
- ✓ Treatment to prevention
- ✓ Health inequity

Brainomix uses AI image analysis to speed up diagnostics, significantly reducing waiting lists for people awaiting lung cancer and stroke treatments.

Brainomix has demonstrated a 50% increase in thrombectomy rates with a 1 hour time saving to treatment, crucial in stroke treatment.

50%
Increase in thrombectomy rates

CARE for MDD by Otsuka

- ✓ Analogue to digital
- ✓ Economic inactivity
- ✓ Treatment to prevention

Evidence-based digital therapeutic, non-pharmaceutical alternative to treating clinical depression. It targets the neural networks implicated in depression and is delivered as a smartphone application.

It is intended to be used alongside standard of care and be supported by a Healthcare Professional and could widen the current treatment offer.

20%
of patients on urgent cancer pathway effectively ruled out

Remcare

- ✓ Analogue to digital
- ✓ Hospital to Community
- ✓ Treatment to prevention

End-to-end digital platform for early patient triage, pre-operative assessment and remote monitoring of adult and paediatric patients on elective waiting lists.

Transforms the perioperative clinical pathways offering tailored care for patients depending on risk profile, needs and demands rather than length of wait.

Holly Health

- ✓ Analogue to digital
- ✓ Treatment to prevention
- ✓ Health inequity

A personalised digital health-coaching service to a wide range of health conditions, inc. anxiety, depression, hypertension, heart disease, reduced mobility, weight management, type 2 diabetes, and women's health issues like menopause.

With features such as nudges, reminders, habit tracking, mood tracking, and support through chat flows, articles, and videos. It provides users with the tools they need to succeed, reducing the number of GP appointment some patients required.

Pinpoint

- ✓ Analogue to digital
- ✓ Treatment to prevention

PinPoint use AI with blood testing that predicts a patient's risk of cancer when they first present with symptoms.

It is designed to optimise NHS '2 week wait' urgent referral pathways. It ruled out up to 20% of symptomatic patients at the start of the urgent suspected cancer referral pathway, reclaiming capacity for those at higher risk to move more quickly through investigation.

70%
of patients assessed suitable for a telephone consultation

Isla Health

- ✓ Analogue to digital
- ✓ Economic inactivity
- ✓ Treatment to prevention

The platform monitors patients through questionnaires and picture and video submission meaning that clinicians can triage and risk stratify caseloads.

It enables patient self care which can lead to the reduction in the need for clinical appointments.

Isla is currently used by over 6,000 clinicians in North West London Integrated Care Board.

Grown to 45
staff since 2019



TORTUS

- ✓ Analogue to digital

An ambient voice technology programme that uses generative AI to support clinicians during consultations, integrating AI into existing workflows to reduce administrative tasks.

Future developments will extend AI functionalities to aid in diagnostics and treatment optimization, promoting data interoperability across healthcare systems. This innovation seeks to elevate care quality and reduce clinician burnout within the NHS.

PRO-MAPP

- ✓ Analogue to digital
- ✓ Economic inactivity

Decision support to optimise the clinic triage pathway for high volume, low complexity orthopaedic cases. It allows a more personalised approach to the needs of patients on the hip and knee surgical waiting list. Reduces surgery cancellation rates and preoperative appointment cancellations, leading to better resource utilisation and cost savings.

All patients surveyed were either satisfied or very satisfied with their visit.

Neu Restore

- ✓ Analogue to digital
- ✓ Hospital to community
- ✓ Treatment to prevention
- ✓ Health inequity

A Digital Stroke Assessment and Management Platform for Better Quality Rehabilitation. Patients return home after a stroke more quickly and their recovery is better due to the extended rehab.

"You can access CARE for MDD from the comfort of own home environments, using your own smartphone, tablet, or PC and at times that suits you. This obviates the need to worry about travel time, mobility issues, or potential social stigma."
Patient, 2024

Major barriers to achieving Innovation exist



Findings from our interviews with 50 clinical innovators

State of the Nation

Insights from UK Health Innovators

 **UCLPartners**
Health Innovation

The views of 50 innovators point to delay and complexity in working with the NHS

"If I had an innovation, I wouldn't know where to go to progress it – support functions either don't exist or are not clearly explained, and there is little help with navigating IP and value share."

"Lack of a shared North star at local level makes it challenging to innovate at scale."

"A mismatch of where costs and benefits fall across the system makes funding tricky, as there is reluctance to pay for innovation when benefits occur elsewhere."

"The onus is always on you as an individual / clinician to create innovation and negotiate the commercials – it feels difficult and isolating and I have the scars from it."

"Innovations with compelling evidence of patient and/or system benefit fail to be adopted widely, contributing to unwarranted variation in access and outcomes and exacerbating healthcare inequalities."

"There's a win-win for both innovators and the NHS if we commission, procure and adopt at scale e.g. greater certainty for innovators, volume discounts for the NHS, and reduced burden for all."

"Trusts' business-as-usual (BAU) implementation teams are not well-equipped to implement and incorporate innovation – a different skillset and dedicated resource and/or teams is needed."

"Doing 'once' and sharing 'many' would be beneficial, improving efficiency and reducing burden for both innovators and the NHS."

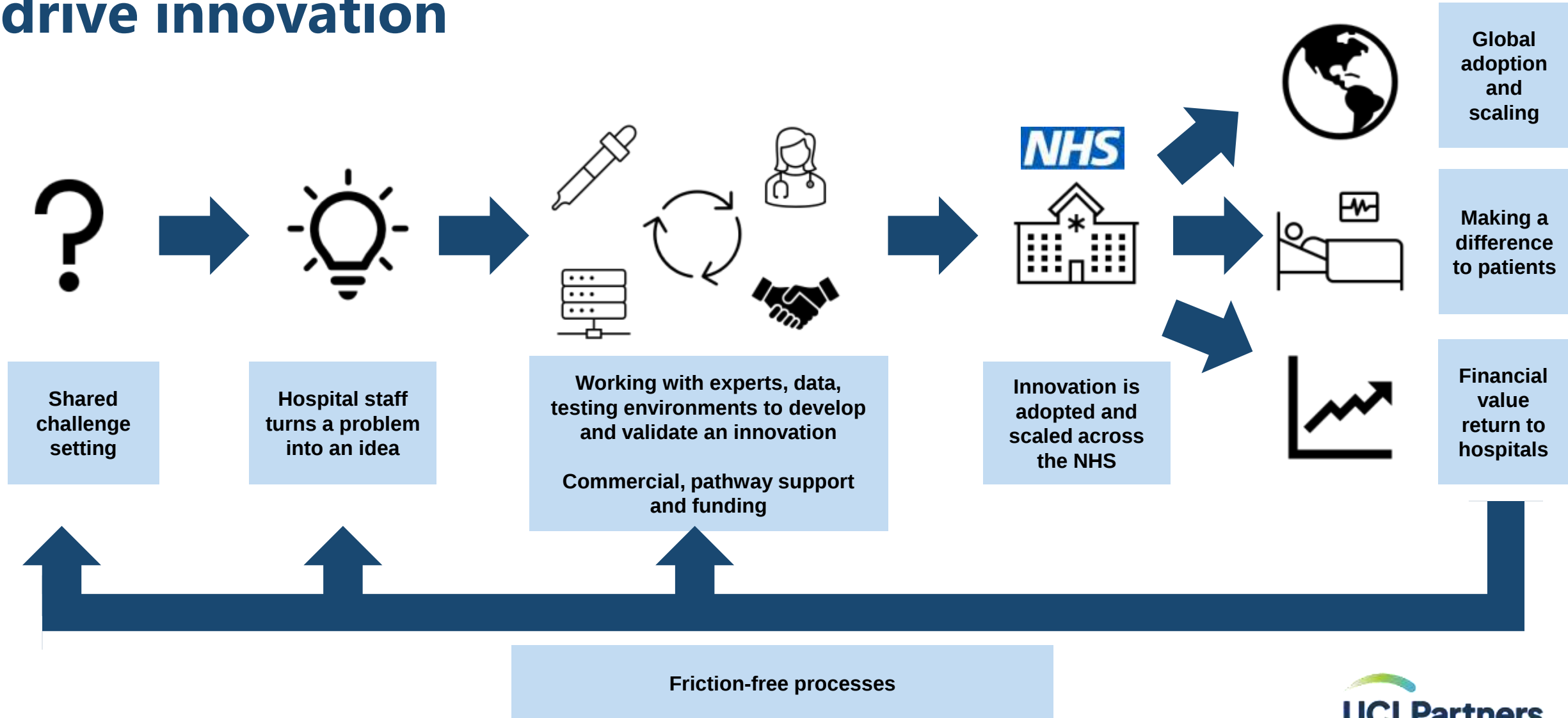
"We need to make it easier for trusts, staff and patients to know what they can trust to buy or use."

"Ecosystem partners do not come together to leverage mutual problem identification and collective solving."

"It would be helpful to have a clear, mapped out end-to-end pathway, so people know what's needed to successfully progress from one stage to the next and can be on the front foot."



Transforming the NHS through end-to-end support to drive innovation



Thank you!

Professor Rebecca Shipley

Chief Research Officer, UCLPartners

November 2025