Informing policy and practice priorities to support the sustainability, spread and scale of Tech-Enabled Remote Monitoring (TERM) in health and care

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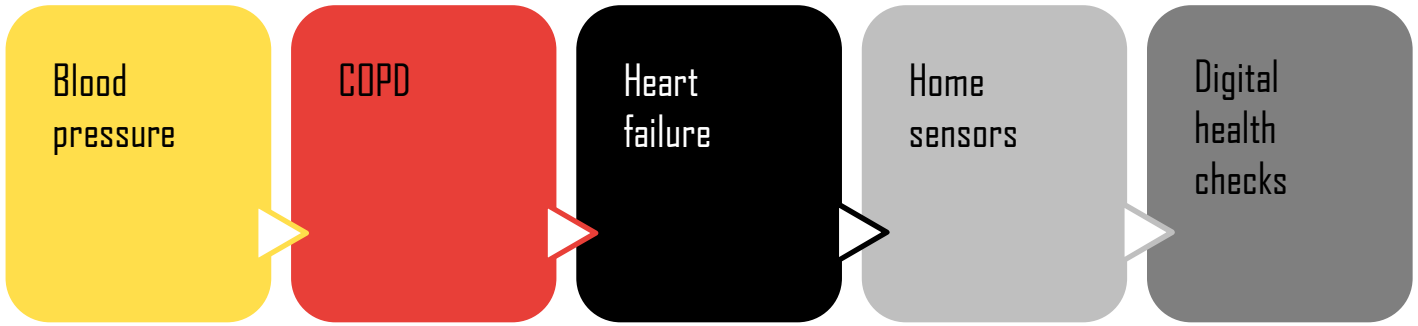
Introduction and workshop overview

Context: about Decide

- **Decide** (**D**igitally **e**nabled **c**are **i**n **d**iverse **e**nvironments): rapid evaluation centre focused on tech-enabled remote monitoring (TERM) and associated tech-enabled care
- NIHR funded, delivered in partnership between Oxford University and RAND Europe
- TERM is a key part of the policy vision for NHS and social care improvement and transformation to improve care quality, prevent unnecessary admissions and manage demand/capacity for in-person services
- HSRUK conference as an opportunity for collective reflection and sharing of learning from TERM evaluations taking place across the country, to consider implications for policy and practice

Use of technology, devices, or apps to support people to monitor and manage their health/well-being with remote support by health or care professionals



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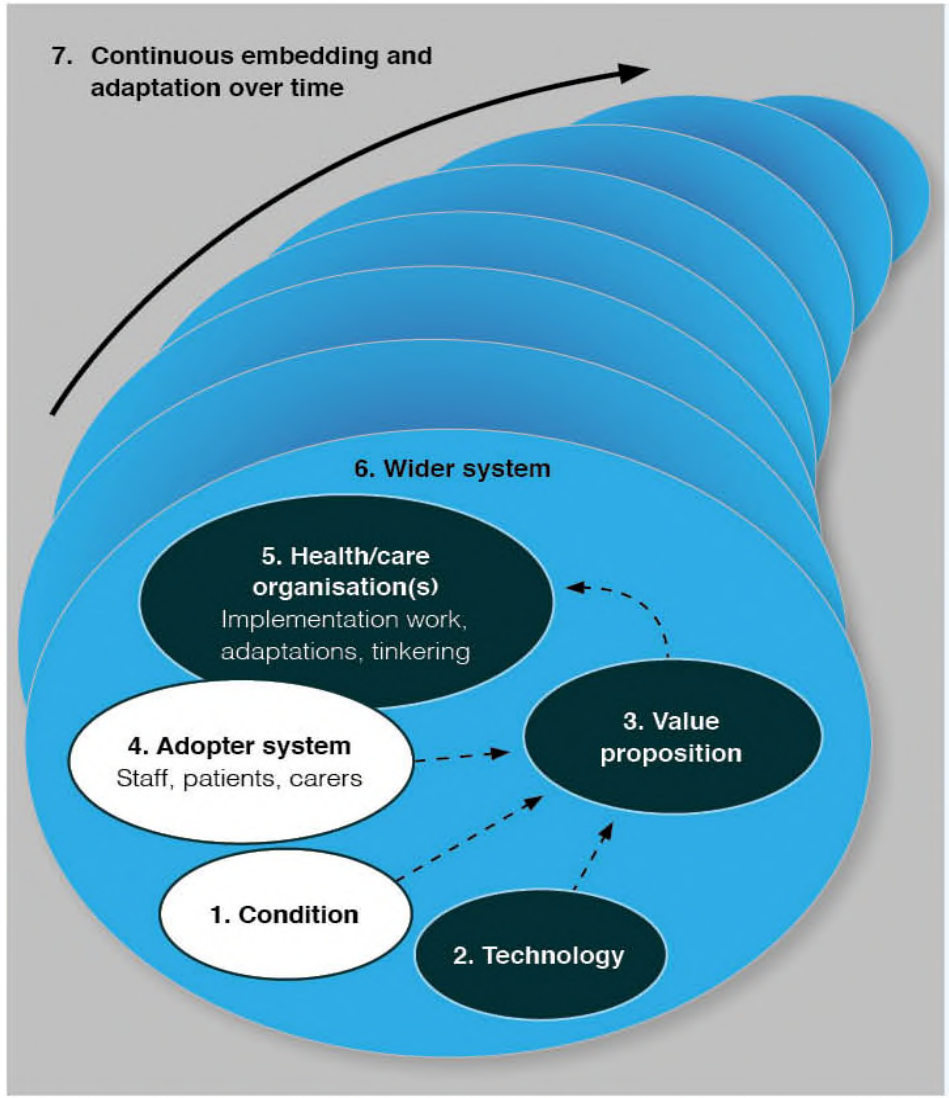
All Decide evaluations are theory-driven



1. **CONDITION**
   - Nature of condition or illness
   - Comorbidities
   - Sociocultural factors
2. **TECHNOLOGY**
   - Material properties
   - Knowledge to use it
   - Knowledge generated by it
   - Supply model
   - Who owns the intellectual property?
3. **VALUE PROPOSITION**
   - Supply-side value (to developer)
   - Demand-side value (to patient)
4. **ADOPTERS**
   - Staff (role, identity)
   - Patient (passive vs active input)
   - Carers (available, type of input)
5. **ORGANISATION(S)**
   - Capacity to innovate in general
   - Readiness for this technology
   - Nature of adoption and/or funding decision
   - Extent of change needed to organisational routines
   - Work needed to plan, implement and monitor change
6. **WIDER SYSTEM**
   - Political/policy context
   - Regulatory/legal issues
   - Professional bodies
   - Sociocultural context
   - Interorganisational networking
7. **EMBEDDING AND ADAPTATION OVER TIME**
   - Scope for adaptation over time
   - Organisational resilience

Note: Adapted from Greenhalgh T, et al. 'Beyond adoption: a new framework for theorizing and evaluating nonadoption, abandonment, and challenges to the scale-up, spread, and sustainability of health and care technologies'.[1]

- **Non-adoption, Abandonment, and challenges to Scale-up, Spread, and Sustainability framework** (NASSS) as key sensitising device and analytical tool
- **Complementary theoretical and disciplinary traditions** (e.g. dialectics, coevolutionary perspectives on science and technology, diffusion of innovations, organisational routines, information infrastructure)

Workshop focus and aims

Core focus: What are the priorities for national and regional decisionmakers to support the sustainability, spread and scale of tech-enabled remote monitoring in health and care, and how can the research community inform priorities for action and their implementation?

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Associated aims:

- To enable collective reflection, discussion and knowledge-sharing
- To consider implications from current learning for health and care transformation efforts, and discuss opportunities for translation and impact
- To identify evidence gaps where further research/evaluation is needed
- To help in strengthening a community of practice in tech-enabled care research/evaluation.

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Workshop agenda

Agenda item	Time slot
Introduction and workshop overview	13:45 – 13:50
Scene-setting: sharing learning from Decide evaluations	13:50 – 14:10
Facilitated discussion related to workshop aims (group work)	14:10 – 14:35
Feedback from group work and discussion in plenary	14:35 – 15:00

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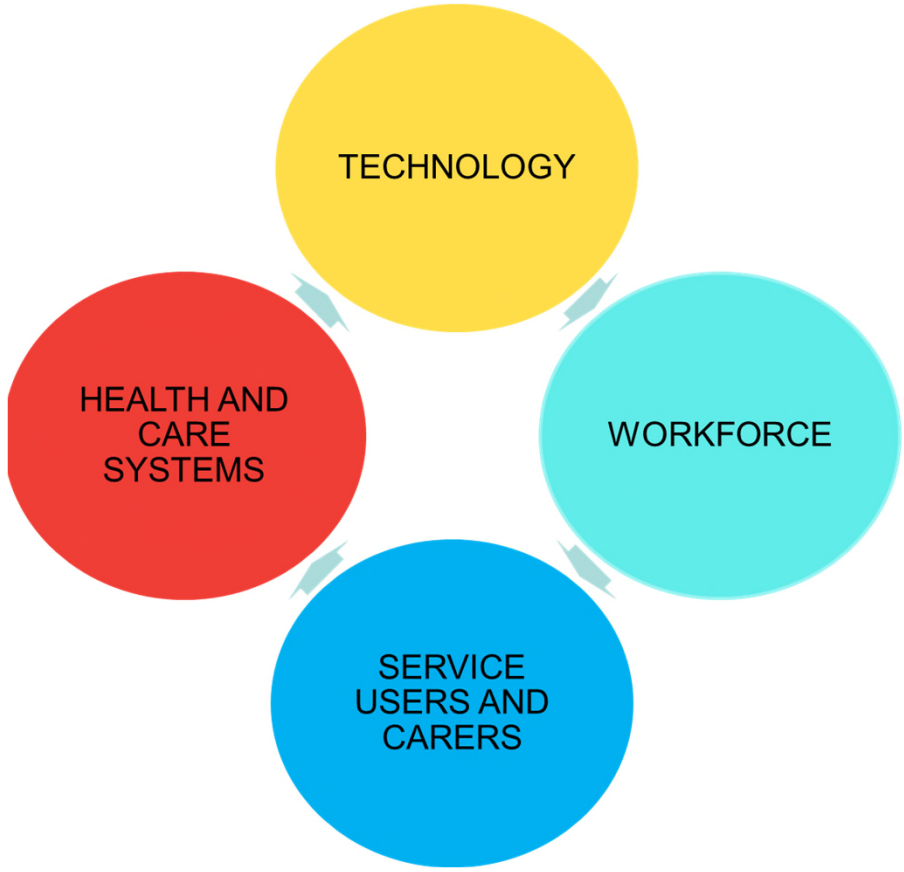
Scene-setting: sharing learning from Decide evaluations

Decide's evaluations across health and social care are surfacing a series of cross-cutting themes

- State of the evidence base
- Nature of pathways
- Influences on implementation, scale and spread



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An evolving evidence base

What we know:

- Substantial diversity in implementation pathways
- Growing number of tech providers with different offers
- Interventions of different scale
- Mainly single clinical pathway focus in primary care

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Evidence gaps:

- Scarcity of evidence on service utilisation impacts and cost-effectiveness
- Evidence of impact on service users varies
- Lack of evidence of impact on carers
- Need for improved evidence on implementation, spread, scale and casual relationships

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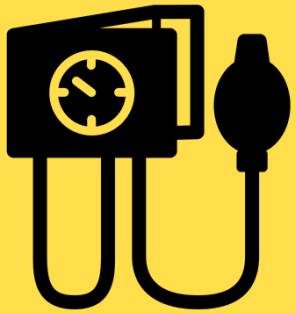

TECHNOLOGY AND SUPPLIERS: Influences and emerging themes

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Technology: co-evolution of tech and service

Continual adaptation of technology offer aims to help meet context-specific service and patient needs

- **Personalisation**: user-interface, alert thresholds, monitoring frequency and duration, scale of use
- **Incremental innovation and improvements**: interoperability, user-friendly data communication
- **Radical innovation**: smartphone capabilities to measure vital signs, machine learning and AI
- **Supplier differentiation:** distinct value propositions in a competitive landscape

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Technology: co-evolution of tech and service

Continual adaptation of technology offer aims to help meet context-specific service and patient needs

Technological and data dependability and reliability is dependent on environmental factors and human agency

- **Device stability and connectivity**
- **Robustness of data interpretation** in context

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Technology: co-evolution of tech and service

Continual adaptation of technology offer aims to help meet context-specific service and patient needs

Technological and data dependability and reliability is dependent on environmental factors and human agency

There is a lack of solutions to seamlessly cater for complex patients in integrated systems

- **Clinical / condition specific use** of tech-enabled remote monitoring in primary care
- **Fragmented care pathways and technologies** across primary, acute and social care

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WORKFORCE: Influences and emerging themes

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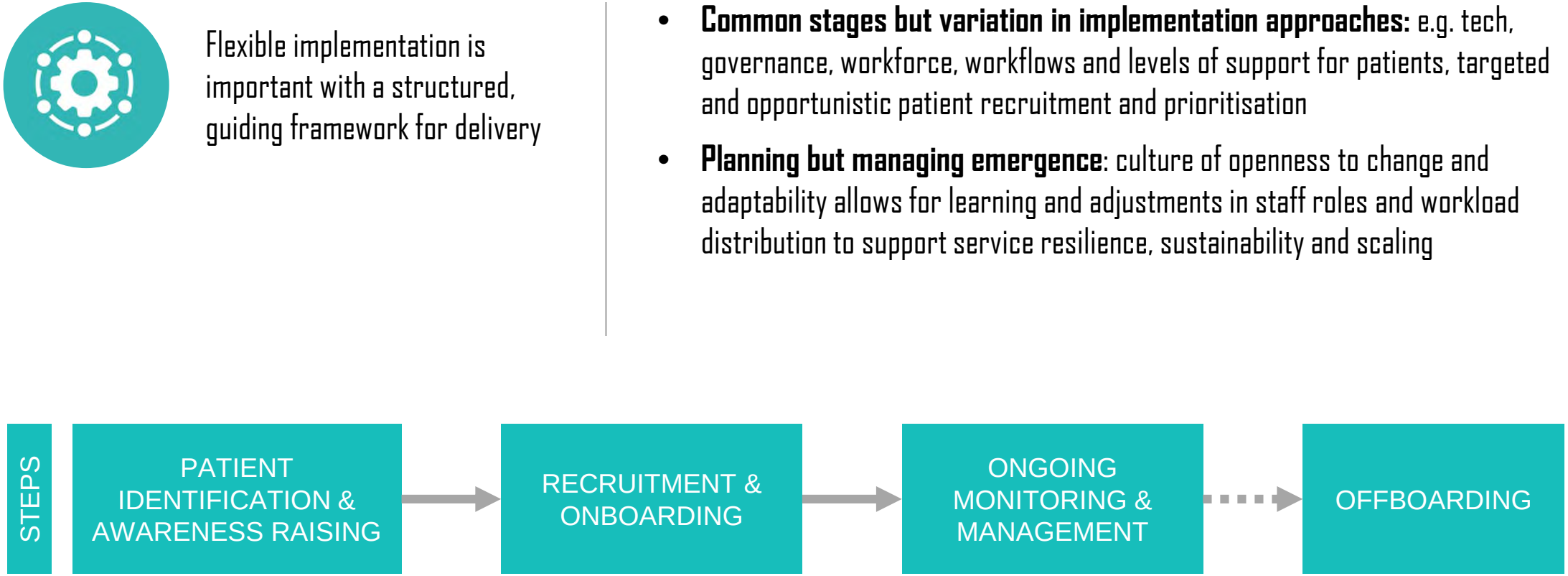
Workforce: changing nature of work and workforce

Flexible implementation is important with a structured, guiding framework for delivery

- **Common stages but variation in implementation approaches:** e.g. tech, governance, workforce, workflows and levels of support for patients, targeted and opportunistic patient recruitment and prioritisation
- **Planning but managing emergence**: culture of openness to change and adaptability allows for learning and adjustments in staff roles and workload distribution to support service resilience, sustainability and scaling



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Workforce: changing nature of work and workforce

Flexible implementation is important with a structured, guiding framework for delivery

Role, workforce and workload reconfiguration is inherent in TERM pathways

- **Articulation work for adjustment and alignment in multiprofessional teams:** new activities and roles, pooled working, role clarity and dedicated time/capacity
- **Shifts in balance of work across clinical and non-clinical roles,** and away from GPs, with changes in triage approaches and risk management
- **Tech mediates the nature of interactions between staff** (and staff and patients). Reduced demands for some activities and increased for others, with hidden work
- **Parallel TERM and traditional monitoring pathways as essential,** but impact on workload

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SERVICE USERS AND CARERS: Influences and emerging themes

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Service users and carers: the changing dynamics of agency

TERM pathways change relationships and interactions between those delivering and those receiving care

- **Changing service user / carer roles and responsibilities in managing their own health/wellbeing:** range from taking their own readings to responsibility for acting on alerts
- **Empowerment vs. enforcement of self-management:** empowerment is given normative values, but do patients all want to be empowered that TERM services assume?
- **Informal carer roles in TERM pathways:** e.g. engaging with monitoring data, helping make sure tech works, liaising with health and care staff, wraparound 'hidden' work)

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Service users and carers: the changing dynamics of agency

TERM pathways change relationships and interactions between those delivering and those receiving care

Inequalities in access and/or experience impact on TERM suitability

- **Appropriateness of TERM for specific patent groups:** influenced by intersectionality of digital literacy, socioeconomic, cultural, cognitive and internet access related inequalities
- **Dialectical tensions of reassurance vs raising anxiety and trust vs vigilance:** Different types of patients can react differently to the same tech

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HEALTH AND/OR CARE SYSTEM: Influences and emerging themes

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Health and care system: roles, functions and processes ‘in the making’

Interactions between organisational, local/regional and national health and care system decisionmakers vary in nature and intensity

- **Governance at regional/local institutional or organisational levels with associated trade offs between autonomy and control: (**e.g. ICBs/PCNs, local authorities, GP practices)
- **Diverse types of support from system leaders depending on governance and relationships:** financial, care delivery, convening and knowledge sharing

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Health and care system: roles, functions and processes 'in the making'

Interactions between organisational, local/regional and national health and care system decisionmakers vary in nature and intensity

A lack of clarity on commissioning criteria and routes impedes long-term service stability

- **Serendipitous and relational commissioning not uncommon**, in part related to a lack of upfront clarity and/or detailed requirements for a TERM service;
- **Limited long term funding commitments compounded by gaps in evidence base**: short term budget cycles, limited quantitative evidence of impacts on service utilisation and cost-effectiveness

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Health and care system: roles, functions and processes 'in the making'

Interactions between organisational, local/regional and national health and care system decisionmakers vary in nature and intensity

A lack of clarity on commissioning criteria and routes impedes long-term service stability

A landscape in need of regulatory advancement

- **Tech regulation complexity as both a safeguard and a challenge** to making the most of tech possibilities
- **New type of services raising new regulatory issues:** new staff roles and new activities in service delivery

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GROUP WORK

Looking to the future…implications for policy, practice and research

Group work guidance (14:10 – 14:35)

- On each table: draft recommendations for policy and practice based on Decide work
- Group A and B:
  - (1) National policy makers and regional/local decisionmakers and
  - (2) Suppliers of technology
- Group C and D:
  - (3) Service providers and the workforce and
  - (4) Service users/carers
- Nominate a rapporteur to feedback key takeaways (3 min per group)

- Consider what you have heard today, Decide's draft recommendations **and your own research and experiences:**

1

- **RECOMMENDATIONS:** Do these recommendations resonate and are any more important than others- **what are your top 3**? What is missing? Does your own research suggest anything else to consider?
- **EVIDENCE GAPS:** What are the biggest evidence gaps where further research/evaluation can help?

2

- **EVOLVING GOVERNMENT POLICY AND 10- YEAR PLAN**: How can recommendations be put into practice , including in light of scale and spread? What are the key requirements for implementing needed policy actions?

3

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PLENARY FEEDBACK AND DISCUSSION

Looking to the future…implications for policy, practice and research

Plenary discussion (14:35-15:00)

1. **RECOMMENDATIONS:** Do these recommendations resonate and are any more important than others- **what are your top 3**? What is missing? Does your own research suggest anything else to consider?

- **EVIDENCE GAPS:** What are the biggest evidence gaps where further research/evaluation can help?

2. **EVOLVING GOVERNMENT POLICY AND 10- YEAR PLAN**: How can recommendations be put into practice , including in light of scale and spread? What are the key requirements for implementing needed policy actions?

3.
   - (1) National policy makers and regional/local decisionmakers
   - (2) Suppliers of technology
   - (3) Service providers and the workforce and
   - (4) Service users/carers

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