

Digitalisation supporting knowledge into practice in health systems

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The enduring challenge of implementation

- Evidence of widespread and persistent gaps between evidence and practice in healthcare
 - Eg: guidelines being applied less than half of **the time** (Mickan, S., Burls, A., & Glasziou, P. (2011). Patterns of “leakage” in the utilisation of clinical guidelines: a systematic review. *Postgrad Med J*, 87(1032), 670–679)
- Reasons for variation are not well understood
 - Not all variation negative or harmful
 - But levels clearly problematic
- Challenge of complexity
 - Implementation has to reflect social, context-sensitive and dynamic nature of innovation adoption (Horton, B. T. J., Illingworth, J. H., & Warburton, W. H. P. (2018). Overcoming Challenges In Codifying And Replicating Complex Health Care Interventions. *Health Affairs*, 37(2), 191–197.)
- Addressing requires a robust model
 - “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”



A. Video



B. m-health for epilepsy



C. Care organising apps



G. GPS tagging for dementia



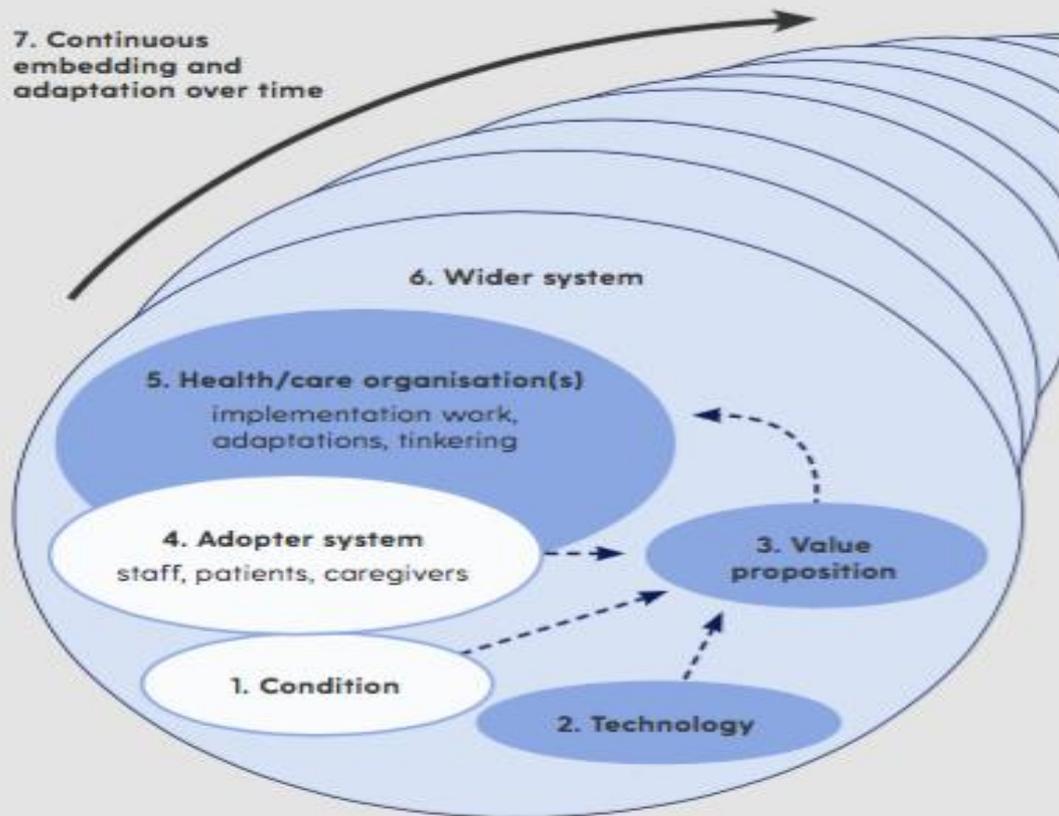
E. Risk analytics to reduce hospital admissions



D. Telehealth for heart failure



F. Pendant alarms



1. CONDITION

- Nature of condition or illness
- Comorbidities
- Socio-cultural factors

2. TECHNOLOGY

- Material properties
- Knowledge to use it
- Knowledge generated by it
- Supply model
- Who owns the IP?

3. VALUE PROPOSITION

- Supply-side value (to developer)
- Demand-side value (to patient)

4. ADOPTERS

- Staff (role, identity)
- Patient (passive v 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
- Socio-cultural context
- Inter-organisational networking

7. EMBEDDING AND ADAPTATION OVER TIME

- Scope for adaptation over time
- Organisational resilience

SIMPLE

Straightforward
Predictable
Few components

COMPLICATED

Multiple interacting
components or
issues

COMPLEX

Dynamic,
unpredictable, not
easily disaggregated
into constituent
components



What does this mean for measuring progress in the digitalisation of European health systems?

- Improvement in a complex system is context-specific learning
 - So measurement has also to be context-specific
 - Focused on supporting learning, rather than external accountability
 - Providing systems that enable local teams to define, record, monitor and use the data that they want, in a timely way

The wider agenda: organisational innovation in health

to-reach
transferring innovation in health systems

- Digitalisation as part of the wider challenge of implementation..
- ..but also provides a new set of tools.
- Our challenge is to find ways of digitalisation supporting local, context-specific learning

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