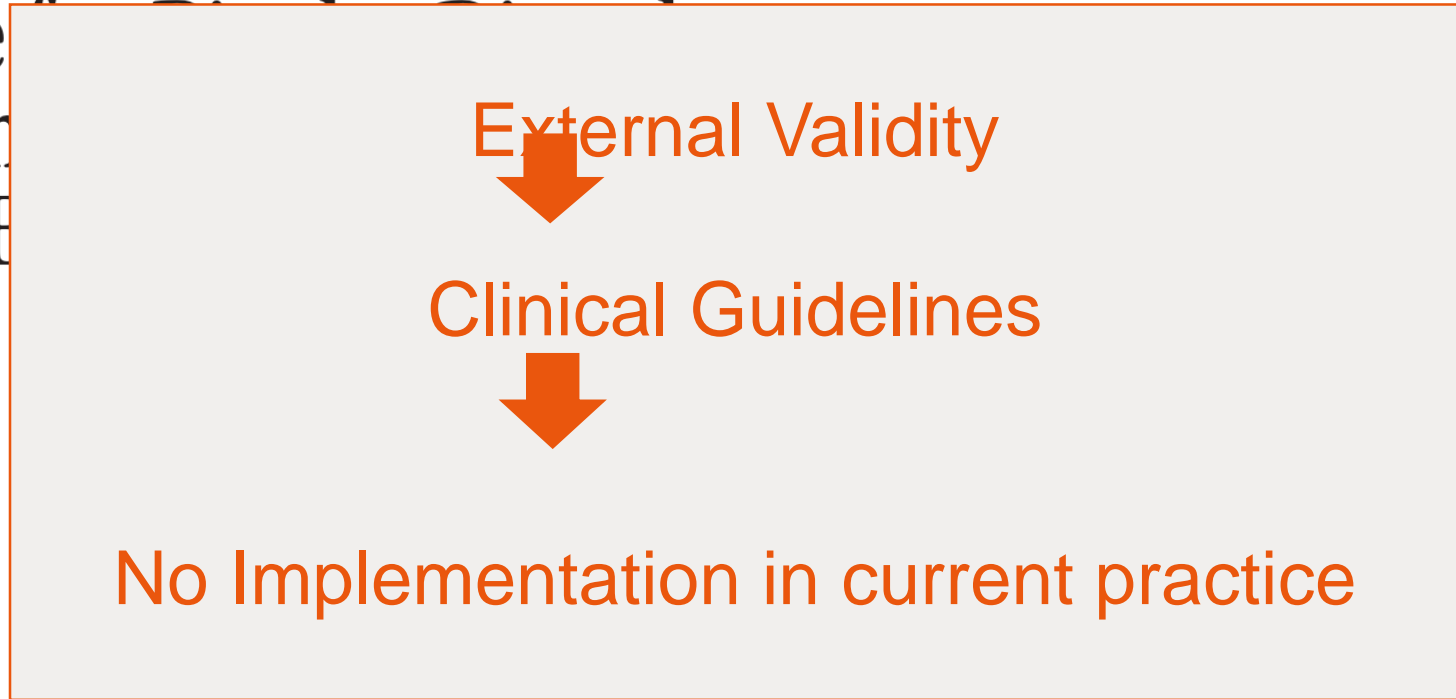# Implementation science in geriatric oncology

Florence Canouï-Poitrine

APHP/ UPEC/Inserm

Implementation science: why should I care?

Why shoud I care?

Collaborative Care
Part I. Intervention
in a Randomized

Mark S. Bauer, M.D.

External Validity

Clinical Guidelines

No Implementation in current practice

Disorder. Part II. Impact on Clinical
Outcome, Function, and Costs

Mark S. Bauer, M.D.

Implementation science: why should I care?

Default of implementation

- **« The Odyssey » of clinical innovation : centuries old**

- **Modern clinical research : 17 years in mean**

  - 7 years : clinical research
  - 10 years : translation to clinical practice

  Balas & Rosen, 2000.

Implementation science: why should I care?

BUT….. It is not only a question of time

Table II. Landmark Clinical Trials and Current Rate of Use for Selected Procedures

Clinical Procedure	Landmark Trial	Current Rate of Use
Flu vaccination	1968 [7]	55% [8]
Thrombolytic therapy	1971 [9]	20% [10]
Pneumococcal vaccination	1977 [11]	35.6% [8]
Diabetic eye exam	1981 [4]	38.4% [6]
Beta blockers after MI	1982 [12]	61.9% [6]
Mammography	1982 [13]	70.4% [6]
Cholesterol screening	1984 [14]	65% [15]
Fecal occult blood test	1986 [16]	17% [17]
Diabetic foot care	1993 [18]	20% [19]

66

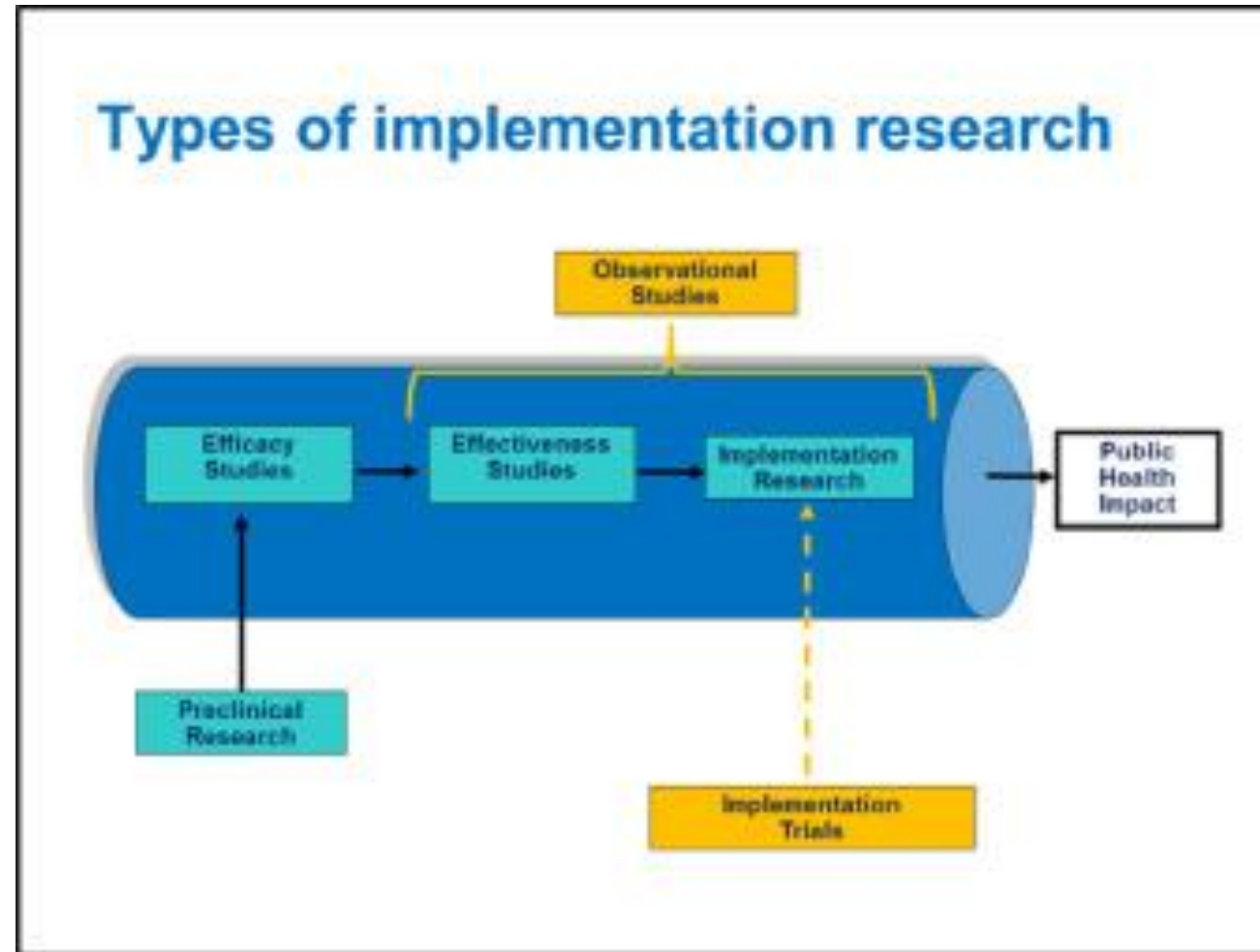Balas & Rosen, 2000.

Implementation science: why should I care?

Clinical innovation: a *social* process with multiple determinants well beyond the evidence supporting the innovation itself. Everett Rogers' Diffusion of Innovations (1962)

« Using traditional RCT even very pragmatic and close to Real-world conditions is not sufficient to garantee public health impact » Bauer & Mauer , 2020

DIALOG

Cancéropôle
Île-de-France

Implementation science: what is it?

- Scientific study of methods to promotote the systematic uptake of research findings into routine practice and hence to improve quality and effectiveness of health services Eccles and Mittman, 2006

- NOT to establish the health impact

- Identify **uptake barriers and facilitators** across multiple levels of context

- Develop and apply **implementation strategies** that overcome these barriers and enhance the facilitators to increase the uptake of evidence-based clinical innovations. Bauer & Mauer , 2020

Implementation science: what is it and how to do it?

Types of implementation research

Mauer and Bauer, 2020

Implementation science: what is it and how to do it?

Table 1 Implementation outcome variables

Implementation outcome	Working definition*	Related terms†
Acceptability	The perception among stakeholders (for example, consumers, providers, managers, policy makers) that an intervention is agreeable	Factors related to acceptability (for example, comfort, relative advantage, credibility)
Adoption	The intention, initial decision, or action to try to employ a new intervention	Uptake, utilisation, intention to try
Appropriateness	The perceived fit or relevance of the intervention in a particular setting or for a particular target audience (for example, provider or consumer) or problem	Relevance, perceived fit, compatibility, perceived usefulness or suitability
Feasibility	The extent to which an intervention can be carried out in a particular setting or organisation	Practicality, actual fit, utility, trialability
Fidelity	The degree to which an intervention was implemented as it was designed in an original protocol, plan, or policy	Adherence, delivery as intended, integrity, quality of programme delivery, intensity or dosage of delivery
Implementation cost	The incremental cost of the implementation strategy (for example, how the services are delivered in a particular setting). The total cost of implementation would also include the cost of the intervention itself	Marginal cost, total cost‡

1 of 2

Peters, BMJ, 2013

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Objective	Implementation question	Research methods and data collection approaches
Describe	What are the possible factors and agents responsible for good implementation of a health intervention? For enhancing or expanding a health intervention?	Qualitative methods: : grounded theory, ethnography, phenomenology, case studies and narrative approaches; key informant interviews, focus groups, historical reviews
		Quantitative: network analysis, cross sectional surveys
		Mixed methods: combining qualitative and quantitative methods
Influence	Is a health outcome plausibly due to the implemented intervention rather than other causes?	Qualitative methods, Mixed methods, Cross-sectional repeated surveys, before-after, time-series, pragmatic and cluster RCT, difference-in-difference designs; effectiveness-implementation hybrid methods
Explain	How and why does implementation of the intervention lead to effects on health behaviour, services, or status in all its variations?	Quali, Mixed methods and quantitative methods Participatory action research
Predict	What is the likely course of future implementation?	Quantitative: agent based modelling; simulation and forecasting modelling; data extrapolation and sensitivity analysis (trend analysis, econometric modelling) Qualitative: scenario building exercises; Delphi techniques from opinion leaders
		Peters, BMJ, 2013

Implementation science in GO

◻ **Challenges to be overcome (McKenzie, JGO, 2020):**
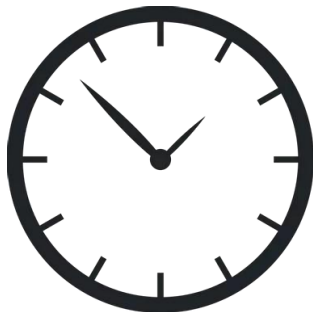- ◻ **Pre-therapeutic GA**
- ◻ **Geriatric interventions/management during cancer care.**
- ◻ **Inclusion of older patients in Clinical Trials**

Implementation of geriatric assessment in oncology settings: A systematic realist review

Gordon A.G. McKenzie *, Alex F. Bullock, Sarah L. Greenley, Michael J. Lind, Miriam J. Johnson, Mark Pearson

Wolfson Palliative Care Research Centre, Hull York Medical School, Allam Medical Building, University of Hull, Hull HU6 7RX, United Kingdom

Take home messages

- Be aware that results of a pivotal RCT are far to be the finish line

- Integrate implementation science in RCT may speed the diffusion

- Investigate the conditions of implementation at different levels

- Incorporate social scientist, economist, system ingeneer, health care provider in implementation studies

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Thank you !

https://dialog-oncogeriatrie.fr/

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