

Chapter 7.1

How to become a successful researcher

Paul Barach
André A.J. Van Zundert

Learning objectives

The chapter will help readers to:

- Gain a mastery of varied research methodologies to answer timely scientific questions.
- Conduct field research in real-world and natural environments, gaining a deeper understanding and appreciation of the research topics and a respect for the research participants.
- Work autonomously, set clear goals, be organized and have a good research plan while meeting deadlines and expectations.
- Understand the value of mentorship and collaborative research, learning to lead with questions and mature listening and communication skills.

Introduction

- There is a growing implementation gap in applying health research findings into practice.
- This lack of success in translating research-based scientific findings into routine practice, policy and personal behaviour changes continues to contribute to much morbidity and suffering.
- **Research waste** occurs when the right research is not being done or when research findings are not being implemented effectively and sustainably.



How to become a health researcher

- Talk and listen carefully to patients, practitioners, administrators and front-line workers to understand their needs and mindsets when you wish to offer solutions to address health and wellness concerns.
- Broaden your perspectives by observing patients in their natural settings and in the interactions with practitioners.
- Learn how to ask and address complex questions when designing and conducting research.
- Develop effective written and oral communication skills and the ability to present and defend your ideas and recommendations.



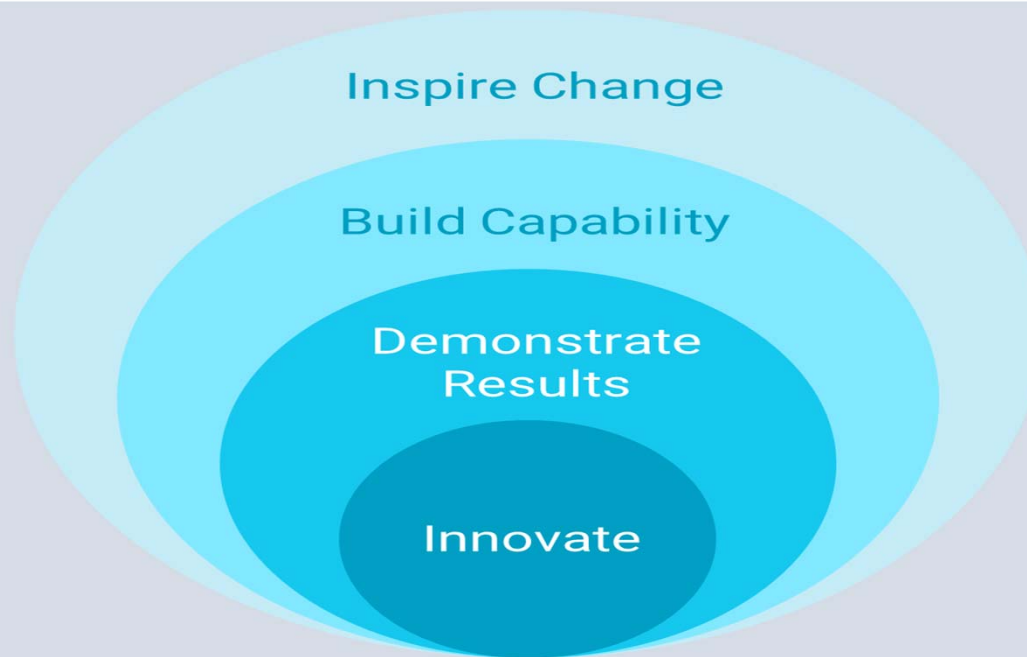
Pursuing a career in health research

- Obtain formal education and qualifications (such as a Bachelor's, Master's and doctoral degrees)
- Train at well regarded academic and/or healthcare institutions.
- Join a research-based lab for an internship or to join ongoing study.
- Help a senior scientist in their research work (e.g., collecting data, interpreting results and writing reports).
- Read widely (academic papers and reference articles and well written popular science media) within, and beyond your research areas.

Establish your research interests

- Consider the following questions as you narrow your research focus, to support a successful line of inquiry in Health EDRM:
 - Why is this research needed now?
 - Who cares about and will be affected by this phenomenon or research question?
 - Will the research, if successful, make a difference to the people, communities, leadership and systems affected by health emergencies and disasters?
 - Why are you and your team well-suited to study this problem?
- Researchers must describe and demonstrate their research interests to secure funding, academic positions and employment.
- Reading existing research articles can help advance your knowledge, trigger new ideas and help avoid duplication of studies.

A Scientific Method for Improvement



Start writing early

Strong and clear writing skills are the important skill needed for successful achieving grant funding (Chapter 7.3) and well regarded publications (Chapter 7.7). It will be important for you to:

- Learn to formulate your ideas in the form of a hypothesis and the aims for a study.
- Learn about different types of articles and how to best to conduct a literature search and review (Chapter 2.6).
- Be realistic when planning and managing your time and expect delays.
- Gain experience in manuscript writing, formatting, referencing, determining authorship, reporting data, grant reviewing and peer review. Seek feedback often and learn to acknowledge and be grateful for all feedback.

Two Kinds of Impact

Citation impact: Academic Community

- Journal articles
- Conference presentations

Social impact: Everyone Else

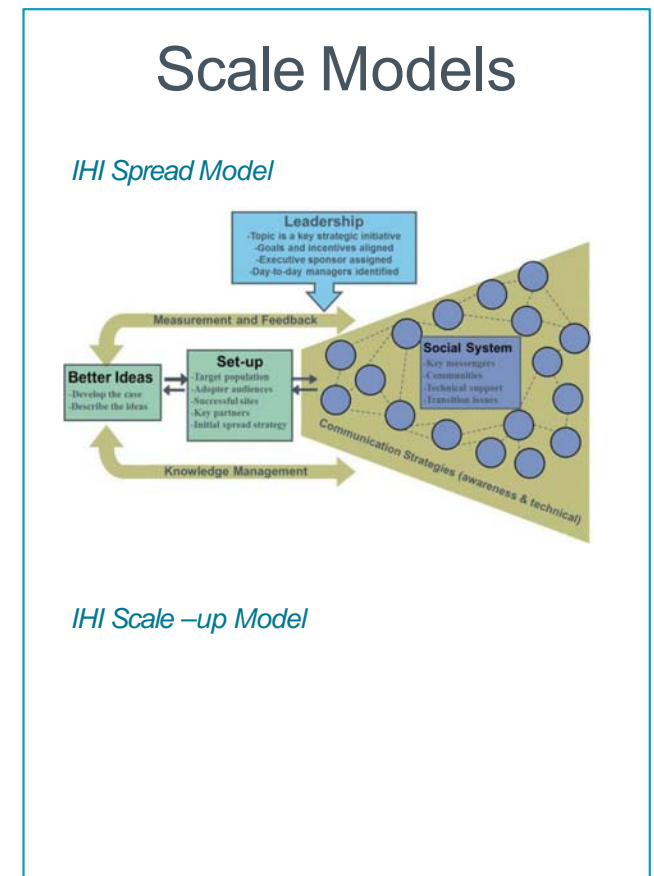
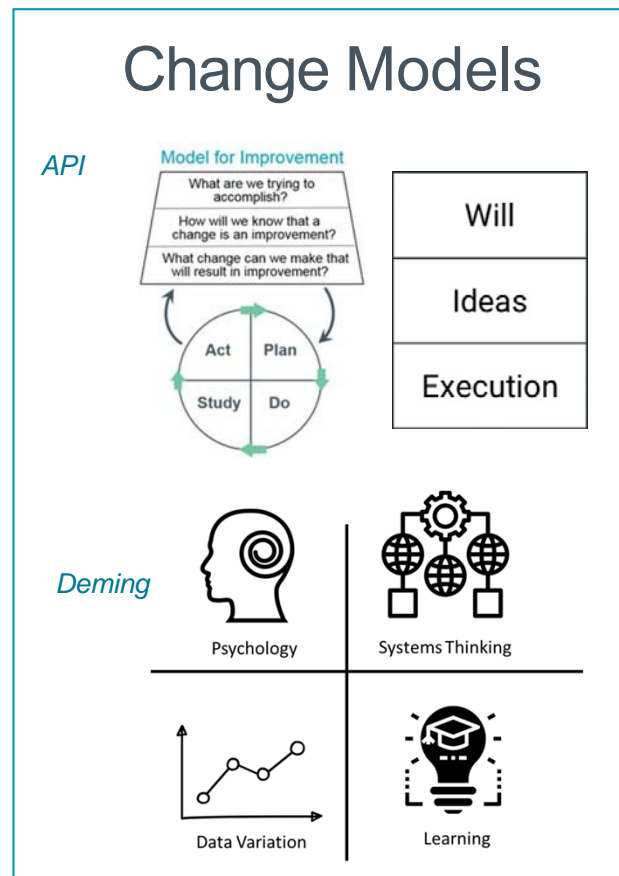
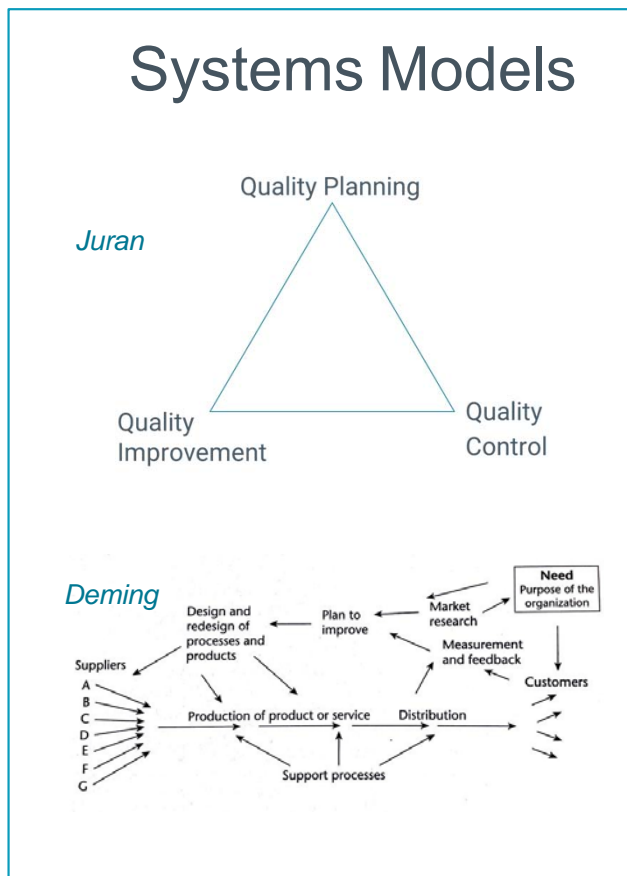
- Creating jobs
- Improving health
- Improving the environment
- Influencing policy



Doing action research in the field

- Field research brings you closer to how work is done, vs work-as-imagined and overcomes the lack of data by filling gaps and helps with the collection of supporting material.
- Field research supplements other data and helps frame the research question (Chapter 3.5). It provides insights from the field into existing data and helps inform you about the culture and workflow context of the people working in the field.
- Mixed methods are used in field research, and results in richer, nuanced and high-quality stories and data (Chapter 4.13).
- Conducting field research can broaden your perspectives, opening new lines of inquiry and understanding.
- Field research data can be applied to routine clinical risk management and disaster service care improvement.

Three Models that Reflect Use of the Science of Improvement



After IHI, 2023

Find an expert and nurturing mentor

- Having a mentor is key to your success. Nurturing mentors are associated with favourable behavioural, attitudinal, health-related, relational, motivational and career outcomes.
- Mentoring increases the likelihood of publishing, better academic and career growth, and higher research productivity.
- Mentors can introduce their mentees to a wide network of collaborators from different disciplines.
- Mentors should educate rather than give orders. They should leave final decisions to the mentee.
- Mentorship is a two-way process: the mentee must be committed and hardworking.

Conclusions

- It is important to choose research topics that are important to you and will have an impact.
- Try to choose to work with the best people at the right university, healthcare system or NGO. They will guide, mentor and support your growth, joy and long term career success.
- Conducting research can be challenging and time-consuming, so ensure that you choose topics that you are passionate about.



Key messages (1)

- Research is exciting, rewarding and innovative, can improve the evidence base for policies, reduce uncertainties and lead to improvements in patient care, practice and policy.
- Formal education is the foundation of a career as a researcher, but other key skills and practical training are vital too – such as refining your critical thinking and problem solving abilities, a strong work ethic, good project management and communication skills, and being deeply reflective about your work while being receptive to feedback.

Key messages (2)

- It is important to establish your research interests. Ask yourself: Why is my research needed now? Who cares about this phenomenon or research question? Will my research, if successful, make a difference to the people and systems affected by health emergencies and disasters? Why am I and my team well suited to study this problem?
- Research projects should be scientifically sound and guided by ethical principles in all their aspects.
- Doing research in the field can help you fill gaps in the data, improve data quality and provide ancillary data. It can also give you and your research team a more nuanced and meaningful understanding of the context of a problem and potential challenges and suitability of proposed solutions.

Key messages (3)

- Try to find the right mentor. They can be incredibly instrumental to your career success.
- Research implementation is essential and while it may seem straightforward requires careful advanced planning, multiple stakeholder involvement, addressing other contextual constraints to increase chances for programme stickiness, scale up success and long term sustainability.
- The best research consists of an iterative process of learning, is typically incremental and is constantly being infused by everyday work experiences and hard-earned lessons by researchers working closely with frontline practitioners and staff to provide exceptional, high quality and patient-centered care.

Further readings

Harris R. *Rigor Mortis. How Sloppy Science Creates Worthless Cures, Crushes Hope, and Wastes Billions.* 2017

Highlights cultural problems in academic research and how it contributes to wasteful, poor research practices and, indirectly, fake science.

Good Clinical Practice Course. <https://www.nihr.ac.uk/health-and-care-professionals/learning-and-support/good-clinical-practice.htm>

Online introduction to good clinical practice (GCP): an international quality standard for doing clinical trials.

Sacks O. *The Man Who Mistook His Wife for a Hat and Other Clinical Tales.* Summit Books. 1985.

Recounts case histories of patients inhabiting the compelling world of neurological disorders.

Schwartz K, Vilquin JT. *Building the translational highway: toward new partnerships between academia and the private sector.* *Nature Medicine.* 2003; 9: 493-5.

Discusses how redesigning research and clinical practices in a horizontal and vertical aligned manner helps bridge the divide between researchers and clinicians to enhance patient outcomes and wellness.

Skloot R. *The Immortal Life of Henrietta Lacks.* Crown Publishing. New York 2010.

The story of Henrietta Lacks, highlighting the importance of research ethics and the lasting influence of the HeLa cell line on cancer research.

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- Grant-Writing Tips for Graduate Students.** Chronicle of Higher Education. 2019.
- Towards a Learning System for Enhanced Recovery After Surgery (ERAS): Embedding Implementation and Learning Evaluation.** In: Ljungqvist O, Urman R, Francis F, editors. Enhanced Recovery After Surgery: A Complete Guide to Optimizing Outcomes. New York: Springer Books. 2020.
- Does Mentoring Matter? A Multidisciplinary Meta-Analysis Comparing Mentored and Non-Mentored Individuals.** Journal of Vocational Behavior: 2008: 72(2): 254-67.

Contact information

Professor Paul Barach, MD, MPH

Thomas Jefferson University, UK; Sigmund
Freud University, Austria

Paul.Barach@Jefferson.edu &

Pbarach@gmail.com

Professor André van Zundert, MD PhD

Professor & Chairman Discipline of
Anesthesiology, The University of
Queensland

vanzundertandre@gmail.com &

a.vanzundert@uq.edu.au

**Health EDRM Research Network
Secretariat**

**WHO Centre for Health Development
(WHO Kobe Centre)**

Email: wkc_tprn@who.int

