1. Adv Health Sci Educ Theory Pract. 2025 Apr;30(2):579-586. doi: 10.1007/s10459-024-10375-7. Epub 2024 Sep 12

What if we consider research teams as teams?

Research teams are an important means by which knowledge is generated in Health Professions Education (HPE). Although funding agencies encourage the formation of interdisciplinary and interprofessional research teams, we know little about how our interdisciplinary and interprofessional research teams are functioning, nor how best to ensure their success. Indeed, while HPE Scholarship Units and research environments have been the object of study, little work has been focused on research teams themselves. In this article, the authors propose that research teams should be studied as unique instantiations of teams where several individuals work together towards a common goal. Considering research teams as a team can encourage attention to how effective teams are built, supported, and celebrated, it can acknowledge that competent individuals may form incompetent teams, and it opens important avenues for future research. Turning our attention to better understanding how and when research teams thrive should support the development of more effective teams; resulting in reduced waste and redundancy, better mobilization of team members' time and skills, and enhanced knowledge generation. Considering research teams as teams, encourages an understanding that these teams require care, commitment, and effort to sustain them, and it acknowledges that pursuing research in a team context is both a collaborative and a social endeavour.

2. Syst Rev. 2025 Apr 28;14(1):94. doi: 10.1186/s13643-025-02813-3.

Impacts of clinical research units on clinical research - a systematic review of empirical studies

Background: Clinical research is essential for evidence-based decision-making in healthcare practice, but its conduct is hindered by various barriers. While previous studies suggest that clinical research units (CRUs) provide critical support and expertise for complex clinical research, their necessity for ensuring high-quality clinical research remains uncertain. The primary objective of this systematic review is to identify, assess, and summarize results of studies that empirically evaluated the impacts of CRUs on clinical research.
Methods: We conducted a comprehensive search of PubMed, Embase, Web of Science, and ProQuest Dissertations and Theses Global from inception to July 2024 to identify relevant studies. Study selection, quality evaluation, and data extraction were performed independently by two reviewers, with any disagreements resolved through discussion. Data extracted from the included studies were summarized in tables, and the synthesis were guided by a realist review approach.
Results: A total of 11 publications corresponding to 10 studies were included in the review. These studies involved 8 independent CRUs and 2 groups of CRUs. The settings in the CRUs operated were diverse, including general hospitals or medical centres, paediatric hospitals, professional sarcoma group, and others. The CRUs featured varied structures and staff compositions, with services tailored to the specific needs of local research teams, study types, and the availability of other research resources. The reported impacts of CRUs were consistently positive in terms of efficiency, quantity, and quality of clinical research. Following the establishment of the CRUs, the number of clinical research has increased by 5 to 23 annually.
Conclusions: The implementation of CRU enhances the efficiency, quantity, and quality of clinical research through process refinement, methodological support, resource pooling, reduced researcher workload, and adherence to good clinical practice (GCP), thereby ensuring patient safety and data integrity. Future research should include rigorous comparative studies, such as randomized controlled trials (RCTs) comparing outcomes with and without CRUs, to further validate these findings.

3. Account Res. 2025 Apr;32(3):233-262. doi: 10.1080/08989621.2023.2271394. Epub 2023 Oct 26.

Conceptualizing fairness in the secondary use of health data for research: A scoping review

With the introduction of the European Health Data Space (EHDS), the secondary use of health data for research purposes is attracting more attention. Secondary health data processing promises to address novel research questions, inform the design of future research and improve healthcare delivery generally. To comply with the existing data protection regulations, the secondary data use must be fair, among other things. However, there is no clear understanding of what fairness means in the context of secondary use of health data for scientific research purposes. In response, we conducted a scoping review of argument-based literature to explore how fairness in the secondary use of health data has been conceptualized. A total of 35 publications were included in the final synthesis after abstract and full-text screening. Using an inductive approach and a thematic analysis, our review has revealed that balancing individual and public interests, reducing power asymmetries, setting conditions for commercial involvement, and implementing benefit sharing are essential to guarantee fair secondary use research. The findings of this review can inform current and future research practices and policy development to adequately address concerns about fairness in the secondary use of health data.

4. Clin Kidney J. 2025 Feb 20;18(4):sfaf059. doi: 10.1093/ckj/sfaf059. eCollection 2025 Apr.

When the whole is greater than the sum of its parts: why machine learning and conventional statistics are complementary for predicting future health outcomes

An artificial intelligence boom is currently ongoing, mainly due to large language models, leading to significant interest in artificial intelligence and subsequently also in machine learning (ML). One area where ML is often applied, prediction modelling, has also long been a focus of conventional statistics. As a result, multiple studies have aimed to prove superiority of one of the two scientific disciplines over the other. However, we argue that ML and conventional statistics should not be

competing fields. Instead, both fields are intertwined and complementary to each other. To illustrate this, we discuss some essentials of prediction modelling, elaborate on prediction modelling using techniques from conventional statistics, and explain prediction modelling using common ML techniques such as support vector machines, random forests, and artificial neural networks. We then showcase that conventional statistics and ML are in fact similar in many aspects, including underlying statistical concepts and methods used in model development and validation. Finally, we argue that conventional statistics and ML can and should be seen as a single integrated field. This integration can further improve prediction modelling for both disciplines (e.g. regarding fairness and reporting standards) and will support the ultimate goal: developing the best performing prediction models for the patient and healthcare provider.

5. Prehosp Disaster Med. 2025 Apr;40(2):61-63. doi: 10.1017/S1049023X25001517. Epub 2025 Apr 11.

Analysis of Paired Data

A common and unfortunate error in statistical analysis is the failure to account for dependencies in the data. In many studies, there is a set of individual participants or experimental objects where two observations are made on each individual or object. This leads to a natural pairing of data. This editorial discusses common situations where paired data arises and gives guidance on selecting the correct analysis plan to avoid statistical errors.

6. Br J Anaesth. 2025 Apr;134(4):909-913. doi: 10.1016/j.bja.2025.01.008. Epub 2025 Feb 4

The misunderstood P-value: why statistical significance is not enough in clinical practice

P-values have traditionally guided clinical research, but over-reliance on them can lead to misinterpretation and poor decision-making. This article highlights common misconceptions about P-values and suggests incorporating the minimum clinically important difference (MCID) along with other metrics such as effect sizes and Bayesian methods. Evidence-based practice is essential in anaesthesiology, and research findings should be evaluated in the context of patient outcomes to guide clinical decisions.

7. Med Humanit. 2025 Apr 4:medhum-2025-013268. doi: 10.1136/medhum-2025-013268. Online ahead of print.

Health beyond statistics: a capabilitarian revision of Daniels' theory of just health

This paper examines how the biostatistical theory (BST), as endorsed by Norman Daniels' account of just health, can be integrated with the capabilities approach to address the 'lowering functioning objection'. This objection argues that the BST could mistakenly define a population as healthier if the prevalence of a certain pathology increases and becomes the new statistical norm. To tackle this issue and offer a more coherent and normatively robust account of just health, the paper introduces a two-tiered model. The first tier retains the biostatistical model to provide a non-comprehensive, evidence-based foundation for health, focusing on the distribution of biological functionings within a population. The second tier introduces a capabilitarian survey that normatively assesses whether the new statistical norm supports or hinders the achievement of valuable capabilities. This integration enables a more holistic, flexible, pluralistic and context-sensitive understanding of health, framing it as a quasi-normative meta-capability-namely, a capability grounded in biological functionings but not reducible to them, which is essential for achieving other valuable capabilities. After explaining the rationale for this integration and outlining a Rawlsian-inspired approach to selecting valuable capabilities, I conclude by suggesting the implications of this model for Daniels' theory.

8. Entropy (Basel). 2025 Apr 21;27(4):448. doi: 10.3390/e27040448.

A Snapshot of Bayesianism

Students are told in basic probability classes that there are two main "schools" of statistics, the frequentist and the Bayesian, and that those different views of how to approach statistical inference problems arise from two different views of the meaning of probability [...].

9. J Hand Surg Eur Vol. 2025 Apr 12:17531934251330978. doi: 10.1177/17531934251330978. Online ahead of print.

Avoiding pitfalls in conducting hand surgery research - potential consequences of common errors in statistical analyses

Although errors in statistical analyses can seriously distort scientific findings, they remain relatively common in hand surgery research. In this article we demonstrate potential consequences of four commonly made mistakes: unnecessary dichotomization, ignoring data clustering, applying prediction modelling methods for examining independent associations and violating the assumptions of logistic regression. We use real-life examples from our reviewing experience to demonstrate how these commonly made errors can influence results and conclusions, and therefore, impact clinical decision-making. Through these, we hope to further raise awareness of the importance of avoiding errors in statistical analyses, so we can strive towards providing reliable answers to research questions in hand surgery.

شرکت پژوهشگران مطالعات بالینی سلامت شفا

۰۲۱-۸۸۹۲۹۸۸۸

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