Editorial

Journal of INDEPENDENT MEDICINE

Science Before Advocacy: Why Medicine Loses Its Moral Authority Without Evidence

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In the cold passages of the hospital, a once routine procedure went tragically wrong. Without reliable data to guide advocacy, a novel treatment was prematurely endorsed, bypassing rigorous testing. The patient, whose trust was sacred, suffered unnecessary harm. Medicine holds a distinct moral position in society. Its authority is based on data-driven analysis and truth-seeking, not persuasion or popularity. Medicine is expected to communicate with humility, rigor, and devotion to evidence. Advocacy in health care is effective when based in science; without it, it becomes mere ideology.

In recent years, the medical field has undergone a troubling inversion. Advocacy has increasingly preceded evidence. Positions are announced before data are examined, and conclusions are defended even as contradictory findings accumulate. In this environment, organizations that purport to "speak for medicine" often act less as scientific bodies and more as political actors. The result is not simply confusion, but erosion of trust—the most fragile and essential currency in health care.

This editorial asserts a basic principle: advocacy in medicine requires science to be meaningful and morally legitimate. History shows that medical progress results from disciplined inquiry, challenging data, and the willingness to revise beliefs in light of evidence.

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A Historical Lesson Medicine Keeps Forgetting

The tension between belief and evidence is not new. In the 18th century, James Lind's controlled observations aboard the HMS Salisbury demonstrated that citrus fruits prevented scurvy—a disease that had killed tens of thousands of sailors. Yet it took decades for the British Admiralty to act, not because the science was unclear, but because tradition and authority resisted change. (1) Advocacy existed, but without institutional devotion to evidence, it failed.

Ignaz Semmelweis demonstrated that handwashing reduced puerperal fever by 80% in obstetric wards. Despite clear data and correct conclusions, his findings were rejected because they challenged established beliefs, resulting in continued unnecessary deaths. (2) Advocacy against Semmelweis prevailed while science was disregarded.

The Flexner Report of 1910 is often portrayed as a pure triumph of science over ideology in medical education, but its true legacy is more nuanced and instructive. Commissioned by the Carnegie Foundation and implemented in close alignment with major philanthropic forces of the era, including Rockefeller-backed institutions, the report elevated laboratory science, standardized curricula, and university affiliation as defining features of legitimate medical training. These reforms unquestionably improved rigor and reduced unsafe practices. At the same time, the report effectively narrowed the scope of acceptable inquiry by marginalizing schools that incorporated herbalism, eclectic medicine, or other non-dominant therapeutic traditions—often not through open scientific debate, but through withdrawal of funding and institutional support. In this way, Flexner helped establish a centralized medical orthodoxy that privileged certain models of science while excluding others. The enduring lesson is not that reform was misguided, but that science must remain independent of financial, institutional, or ideological capture. When standards are enforced without ongoing inquiry, science risks becoming doctrine. Medicine advances not through enforced consensus, but through continuous questioning and a

willingness to revise even its most entrenched assumptions. (3)

The Rise and Misuse of Medical Advocacy

Advocacy plays an important role in medicine, driving improvements in patient safety, access, and ethics. The HIV/AIDS movement is a key example, but its success relied on meticulous clinical trials, virologic endpoints, and transparent data sharing. (4) Advocacy supported science rather than replacing it.

Problems arise when advocacy ceases to be subject to falsifiability. Organizations that adopt unquestionable positions stop functioning as scientific bodies and become belief systems.

John Ioannidis' work on why most published research findings are false revealed systemic weaknesses in biomedical research, such as publication bias, selective reporting, and financial conflicts of interest. (5) Although many institutions resisted his findings, critique is essential for scientific progress.

Today, critique is often mislabeled as "*misinformation*" when it contests prevailing narratives. This shows a misunderstanding of science, which is not determined by press releases. To help distinguish productive skepticism from actual misinformation, consider these criteria: First, assess the transparency of evidence presented; credible critiques will be backed by clear, reproducible data. Second, evaluate whether alternative viewpoints are acknowledged; true scientific research welcomes challenges and engages with differing opinions. Lastly, consider the motivation behind the critique—whether it seeks to further understanding or merely disrupt consensus.

Evidence-Based Medicine Was Never About Authority

Evidence-based medicine (EBM), as defined by Sackett and colleagues, was meant to integrate the best available evidence with clinical expertise and patient values. (6) Over time, EBM has shifted from a method to a tool for enforcement.

Guidelines, designed to support clinical judgment, are increasingly used as substitutes for it. Advocacy organizations often reference "the science" without engaging in the scientific process. Selective citation and the ignoring of dissenting data turn uncertainty into an apparent moral failure.

Sir Austin Bradford Hill, in his address on causation, emphasized humility, caution, and the provisional nature of inference. (7) Today, this humility is often lacking, and assertions are made as certainties before sufficient long-term data are available.

Advocacy that does not allow for uncertainty becomes dogma.

When Advocacy Replaces Inquiry, Patients Pay the Price

Medical history contains many examples of well-intentioned advocacy that preceded evidence and resulted in harm. Hormone replacement therapy was promoted for cardiovascular protection before trials revealed increased risks. (8) Antidysrhythmic drugs were used based on theory until trials showed increased mortality. (9) These were failures of scientific discipline, not compassion.

Advocacy without science not only fails to help but also misleads. This risk is especially significant in public health, where policies impact millions. Suppressing uncertainty weakens trust. Patients recognize when institutions advocate positions rather than present data, leading toward skepticism.

The Role of Independent Scientific Organizations

Independent medical organizations are essential in this context. Independence is defined by the freedom to ask difficult questions, not by opposition to government or mainstream institutions. To provide measurable criteria for independence, organizations should ensure funding transparency, engage in open peer review, and maintain a strict separation between their operational budget and external influences. Establishing a clear checklist, such as scheduled audits, public disclosure of conflicts of interest, and conformance to moral standards, can further clarify what constitutes an 'independent' organization. These guardrails help readers envisage replicating this model.

Unlike organizations that issue policy statements without original research, the *Independent Medical Alliance* supports clinical investigation, observational studies, data synthesis, and open discussion of limitations. Disagreement is expected and keeps medicine dynamic. In this model, advocacy is a responsibility that follows inquiry, not a starting point.

Why Science Is a Moral Obligation in Medicine

Medicine is not morally neutral; its decisions affect lives in significant ways. The ethical principle of

non-maleficence, which compels practitioners to first do no harm, stresses the importance of scientific discipline. Science in medicine is not simply technical; it is ethical. Each scientific safeguard fulfills a dual role: ensuring methodological soundness and sustaining this moral duty. Advocating without evidence replaces responsibility with mere belief, may lead to to harm where no harm should exist.

The Cochrane Collaboration was founded on the principle that systematic review and transparency reduce harm. (10) It recognized that passion and authority cannot replace data. Scientific thoroughness, as stipulated in the Declaration of Helsinki, is at the core of responsible research. (11) Organizations that value messaging over science lose their moral authority. Advocacy without evidence becomes coercive rather than compassionate.

Reclaiming the Proper Order: Science First, Advocacy Second

The solution is not cynicism or silence, but renewed commitment. Medical organizations must return to first principles:

- Ask questions before issuing answers
- Fund research before formulating policy
- Admit uncertainty before declaring consensus
- Protect dissent as a scientific asset

Science progresses slowly, while advocacy moves quickly. Medicine must avoid confusing speed with virtue.

The Independent Medical Alliance demonstrates that rigorous science and principled advocacy remain sequential obligations, not opposites. Advocacy is earned via diligent work.

Conclusions

Medicine does not need louder voices; it needs more truthful ones. History shows that advocacy without science often fails, sometimes with serious consequences. Science without advocacy may go unnoticed. Only advocacy grounded in careful, humble, and transparent science deserves medicine's trust.

To retain its moral authority, medicine must remember its foundation: a consistent devotion to evidence, even when inconvenient.

The author has no conflicts of interest in the preparation of this manuscript.

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