

•

[10 Years of The Wire](#)

Advertisement

opinion

[Health](#)

Medical Science: Regulatory Capture, Conflicts of Interest and the Search for Independent Knowledge



[Prashant Bhushan and Jacob Puliyeel](#)

27/Dec/2025

5 min read



The decline in trust in medical science reflects not a rejection of science itself, but concern about how science is produced, regulated, and communicated.



A detail from a painting of a hospital by Edward Bawden. Photo: Public domain/Wikipedia.

Public confidence in medical science and public health institutions has declined markedly in recent years, particularly following the COVID-19 pandemic. While scientific self-correction is often cited as evidence of medicine's robustness, repeated post-marketing drug withdrawals, regulatory failures, and documented conflicts of interest have raised concerns about systemic weaknesses in drug approval, medical education, and scientific publishing.

Modern medicine rests on public trust—trust that therapies are rigorously tested, regulators act independently, and clinical guidance is grounded in unbiased evidence. However, surveys from multiple countries indicate declining confidence in health authorities, pharmaceutical companies, and peer-reviewed medical journals, particularly since the COVID-19 pandemic. While scepticism toward science is not new, the scale and persistence of current distrust suggest structural rather than episodic causes.

Current Time 0:02

/

Duration 2:04

Advertisement
Advertisement

Drug Withdrawals and the Limits of Post-Marketing Surveillance

Drug withdrawals are often framed as evidence of scientific progress, as adverse effects may become apparent only after widespread use. However, several high-profile cases illustrate more fundamental failures in pre-approval testing and post-marketing oversight. Examples include rofecoxib (Vioxx), withdrawn due to increased cardiovascular risk; thalidomide, linked to severe congenital malformations; fenfluramine/phentermine (Fen-Phen), associated with valvular heart disease; and ranitidine, recalled due to contamination with probable carcinogens. These cases have fuelled public perceptions that commercial imperatives can override patient safety, particularly when regulatory systems rely heavily on industry-funded trials and manufacturer-led post-marketing surveillance.

Regulatory Capture and Conflicts of Interest

A substantial body of scholarship documents conflicts of interest within regulatory agencies and advisory committees. The “revolving door” phenomenon – movement of personnel between regulatory bodies and industry – has been described in the United States, Europe, and elsewhere . Studies show that advisory committee members with financial ties to pharmaceutical companies are more likely to support product approval.

Advertisement

Similar concerns extend to medical education and scientific publishing. Industry funding of continuing medical education, academic departments, and clinical trials has been shown to influence research agendas, study design, outcome reporting, and interpretation. Even when disclosures are made, conflicts of interest may continue to shape conclusions in subtle but consequential ways.

COVID-19 as a Watershed Moment

The COVID-19 pandemic intensified existing tensions between public health urgency and evidentiary rigor. Governments worldwide implemented unprecedented non-pharmaceutical interventions, followed by mass vaccination campaigns using vaccines authorised under emergency or conditional regulatory pathways.

Safety signals, such as vaccine-induced immune thrombotic thrombocytopenia associated with adenoviral vector vaccines, led several countries to restrict or suspend their use . Regulatory agencies and the World Health Organization maintained that the overall benefits of vaccination outweighed the risks, particularly during periods of high transmission. However, the speed of vaccine deployment, evolving guidance, limited public access to raw trial data, and inconsistent acknowledgement of uncertainty contributed to mistrust, especially when dissenting scientific voices were marginalised rather than engaged.

Evidence, Controversy, and Data Transparency

Advertisement

A central concern raised by critics has been the lack of transparent, stratified analyses comparing outcomes by vaccination status while adequately controlling for age, comorbidities, and prior infection. While numerous observational studies suggest that COVID-19 vaccines reduced severe disease and mortality during early waves, critics argue that long-term safety data, excess mortality analyses, and adverse event surveillance require greater openness and independent replication .

Failures in pharmacovigilance reporting systems – particularly in low- and middle-income countries – have further undermined confidence, as under-reporting of adverse events limits meaningful risk assessment.

Scientific Publishing and Data Integrity

The pandemic also exposed weaknesses in scientific publishing. Several COVID-19–related studies were later corrected or retracted, and concerns were raised regarding selective

reporting, accelerated peer review, and undisclosed conflicts of interest. Although such problems are not unique to COVID-19 research, their prominence during a global crisis amplified public scepticism toward medical journals previously regarded as authoritative.

Advertisement

Spillover Effects on Broader Medical Practice

Erosion of trust has not remained confined to COVID-19 vaccines. Surveys now indicate declining uptake of routine immunisations in some regions, alongside growing scepticism toward widely prescribed medications. Critics have questioned reliance on surrogate endpoints and marginal absolute risk reductions in areas such as lipid-lowering therapy, particularly for low-risk populations. When such debates occur without clear communication of uncertainty and benefit-risk trade-offs, they further strain the physician-patient relationship.

The Indian Regulatory Context

In India, declining trust in medicines and vaccines has been compounded by long-standing weaknesses in drug regulation. The primary legal framework governing pharmaceuticals is the Drugs and Cosmetics Act, 1940, and the Drugs and Cosmetics Rules, 1945, administered by the Central Drugs Standard Control Organization (CDSCO) under the Ministry of Health and Family Welfare.

Multiple Parliamentary Standing Committee reports have documented serious deficiencies in regulatory capacity, including inadequate staffing, lack of technical expertise, weak enforcement, and excessive reliance on manufacturer-submitted data. The 59th Report of the Parliamentary Standing Committee on Health and Family Welfare (2012) described the CDSCO as functioning without adequate scientific expertise and reported approval of several drugs without required clinical trials in India.

Subsequent reforms, including Schedule Y and its replacement by the New Drugs and Clinical Trials Rules, 2019, were intended to strengthen ethical oversight, informed consent, and post-marketing surveillance. However, implementation has remained uneven. Pharmacovigilance in India, formally addressed through the Pharmacovigilance Programme of India, continues to suffer from under-reporting of adverse drug reactions and limited transparency.

Judicial scrutiny has further highlighted regulatory failures. In *Swasthya Adhikar Manch v. Union of India* (2013), the Supreme Court suspended approvals of new drugs, citing concerns over lax enforcement of clinical trial norms and patient safety violations. Recent incidents involving contaminated pharmaceutical exports linked to deaths abroad have again exposed regulatory lapses in manufacturing oversight and quality control.

Indian jurisprudence permits the filing of Public Interest Litigation (PIL), a distinctive legal mechanism that relaxes the traditional requirement of *locus standi*, allowing individuals or groups to seek judicial intervention on matters affecting the public interest even if they are not directly aggrieved. PIL has been widely used to address issues of human rights, environmental protection, and governmental accountability. In *Jacob Puliyel v Union of India*, a PIL challenging COVID-19 vaccination mandates, the Supreme Court of India held

that bodily autonomy is an integral component of the fundamental right to privacy under Article 21 of the Constitution and that vaccine mandates were unconstitutional in the absence of evidence that vaccination prevented transmission of SARS-CoV-2 from one person to another. The Court emphasised that public health measures must satisfy the test of proportionality and cannot override individual autonomy when the claimed community benefit is not supported by scientific evidence.

Can Artificial Intelligence Help Restore Trust?

As patients and clinicians struggle to evaluate complex and sometimes contradictory medical information, AI-based decision-support tools are increasingly proposed as aids to clinical judgment. Such systems can synthesise vast bodies of literature and identify patterns beyond human capacity, but they also inherit biases present in underlying data, including publication bias and industry influence. AI needs to evolve further to overcome these challenges, by flagging conflicts of interest and weighting evidence quality. This ability for autonomous ethical evaluation needs to be developed before Artificial Intelligence begins to live up to what its name proclaims.

Conclusion

The decline in trust in medical science reflects not a rejection of science itself, but concern about how science is produced, regulated, and communicated. Strengthening regulatory independence, ensuring data transparency, reforming conflict-of-interest norms, and engaging openly with scientific dissent are essential steps toward restoring credibility. AI has become a useful adjunct in this process, but it cannot yet substitute for ethical and institutional reform within medicine.

Prashant Bhushan is a public interest lawyer.

Dr Jacob Pulliyel was the Head of Pediatrics at St Stephens Hospital, Delhi & a member of the National Technical Advisory group on Immunisation of India.

Advertisement

This article went live on December twenty-seventh, two thousand twenty five, at forty-four minutes past nine at night.