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Editorial

The *International Journal of Translational Medicine*: Defining the Journal's Mission, Scope, and Future Direction

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1. Introduction

The *International Journal of Translational Medicine* (IJTM) [1] was established in 2021 with a clear objective: to provide an international forum for publishing high-quality research that bridges fundamental scientific discovery and clinical medicine. Since its inception, the journal has sought to promote communication among investigators across the biomedical spectrum, including basic scientists, clinician-scientists, engineers, computational biologists, bioinformaticians, biotechnology innovators, and healthcare professionals, all working to accelerate the translation of scientific knowledge into improvements in human health.

The launch of IJTM coincided with a period of remarkable transformation in biomedical research. Rapid advances in genomics, molecular diagnostics, single-cell technologies, bioengineering, artificial intelligence, regenerative medicine, functional precision medicine, and human-derived experimental models have fundamentally changed how diseases are studied and how new therapies are developed. At the same time, healthcare systems have increasingly recognized that scientific innovation alone is insufficient; meaningful progress depends on the efficient translation of discoveries into interventions that improve diagnosis, treatment, prevention, and patient outcomes.

As these developments continue to reshape biomedical science, the concept of translational medicine has also evolved. Originally described as the process of moving discoveries "from bench to bedside," translational medicine is now widely understood as a dynamic, iterative discipline in which clinical observations generate new biological hypotheses, laboratory investigations reveal disease mechanisms, technological innovation enables novel diagnostic and therapeutic approaches, and clinical implementation generates new questions that stimulate further scientific discovery. Translation is therefore no longer viewed as a linear pathway but as a continuous cycle linking scientific investigation and clinical practice.

This evolution has broadened both the opportunities and the responsibilities of journals dedicated to translational medicine. Beyond disseminating scientific discoveries, such journals must set the standards for evaluating translational research, promote methodological rigor and reproducibility, encourage multidisciplinary collaboration, and facilitate communication among communities that have traditionally published in separate scientific disciplines.

In this rapidly evolving landscape, IJTM has steadily established itself as an international venue for clinically relevant, hypothesis-driven biomedical research. As the journal enters its sixth year of publication, it is appropriate to reaffirm its mission and further clarify its scientific identity and editorial philosophy. This editorial therefore serves three complementary purposes: to define the journal's contemporary interpretation of

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translational medicine, to explain the principles that guide editorial decisions, and to provide authors with a clearer understanding of the types of investigations that best reflect the journal's mission.

Rather than simply expanding the journal's scope, our objective is to articulate a coherent vision for translational medicine, which I call "Transformational Medicine," as an evolving scientific discipline. We believe that translational medicine should be defined not by the experimental methods employed, but by the significance of the clinical questions addressed and by the capacity of the resulting knowledge to advance human health. This philosophy underpins every aspect of IJTM's editorial mission and provides the framework for the journal's continued growth.

2. Five Years of Building the International Journal of Translational Medicine

Since publishing its inaugural issue in 2021, the *International Journal of Translational Medicine* has become an increasingly recognized international platform devoted exclusively to translational biomedical research. During this period, the journal has published contributions spanning virtually every major area of contemporary translational medicine, reflecting both the discipline's breadth and the multidisciplinary nature of modern biomedical investigation.

Research published in IJTM has covered oncology, cardiovascular medicine, neuroscience, immunology, regenerative medicine, infectious diseases, molecular diagnostics, precision medicine, stem cell biology, biomaterials, biotechnology, bioengineering, computational biology, artificial intelligence, and population health. Collectively, these studies illustrate the diverse scientific approaches used to investigate clinically relevant questions and translate findings toward improved patient care.

Equally important has been the journal's growing international reach. Contributions have come from investigators at academic institutions, healthcare systems, research institutes, biotechnology companies, and governmental organizations across multiple continents. This diversity reflects one of translational medicine's defining characteristics: meaningful advances rarely emerge from a single discipline but instead result from collaboration among investigators with complementary expertise in biology, medicine, engineering, computational sciences, and clinical practice.

Over the past five years, IJTM has also expanded its Editorial Board, developed numerous Special Issues on emerging areas of biomedical research, and continued to strengthen the scientific quality and visibility of its published work. As with any developing journal, continued growth will be measured not only by traditional bibliometric indicators but also by the journal's ability to attract innovative research that influences scientific thinking and ultimately contributes to improvements in patient care.

Journal Metrics

1. Year established: 2021
2. CiteScore: 2.8 (2025)
3. Total manuscript submissions: 666
4. Published articles: 255
5. Acceptance rate: 37% (2026)
6. Countries represented by authors: USA, Italy, Japan, UK, Germany and other countries
7. Special Issues published: 94
8. Article views: 1,203,398 times
9. Article downloads: 260,845 times
10. Editorial Board members: 32

11. Current indexing services: Scopus, DOAJ, and Other databases (https://www.mdpi.com/journal/ijtm/indexing, accessed on 25 September 2026)

These milestones demonstrate steady progress during the journal's formative years. More importantly, they offer an opportunity to reflect on the broader role IJTM seeks to play within the international scientific community. Rather than serving merely as another venue for biomedical publication, the journal aspires to become a recognized forum for defining, advancing, and disseminating translational science across disciplinary boundaries.

The maturation of IJTM also offers an appropriate opportunity to revisit an essential question: What distinguishes translational medicine from other forms of biomedical research? The answer to this question ultimately defines the journal's identity and serves as the foundation for its editorial philosophy.

3. Translational Medicine Today: Defining the Discipline

Few areas of biomedical science have evolved as rapidly or as profoundly as translational medicine. Since the term gained prominence more than two decades ago, its definition has expanded considerably, reflecting changes in biomedical research, technological innovation, and healthcare delivery. Although translational medicine was initially viewed primarily as the process of transferring discoveries from the laboratory to the clinic, that interpretation no longer fully captures the complexity of contemporary biomedical science.

Today, translational medicine is recognized as a multidisciplinary scientific enterprise that integrates basic research, technological innovation, clinical investigation, and implementation science to improve human health. Rather than a single stage of biomedical research, it spans a continuum in which clinical challenges stimulate fundamental investigation, biological discoveries generate innovative diagnostic and therapeutic strategies, and clinical implementation yields new observations that initiate subsequent cycles of scientific discovery. Translation is therefore best understood as an iterative process rather than a linear pathway.

This evolution has fundamentally changed how translational research should be evaluated. Historically, studies were considered translational only if they demonstrated a direct progression from laboratory discovery to clinical application. However, this narrow interpretation excludes many investigations that have transformed medicine. Clinical observations have repeatedly generated fundamental biological discoveries, while advances in engineering, computational sciences, imaging, and biotechnology have often preceded their eventual integration into routine clinical practice. Likewise, implementation science, health technology assessment, and real-world evidence have become essential components of the translational continuum, ensuring that scientific innovations ultimately improve patient outcomes.

Consequently, translational medicine should not be defined by where research begins or by the experimental methodologies employed. A study may originate in the clinic, in the laboratory, in an engineering laboratory, through computational modeling, or from population-based research. What unites these diverse approaches is a common objective: addressing clinically meaningful questions and generating knowledge that advances human health.

This broader interpretation has significant implications for scientific publishing. Journals dedicated to translational medicine should evaluate manuscripts based on their scientific purpose rather than their disciplinary origin. Clinical investigations, mechanistic laboratory studies, bioengineering innovations, computational analyses, artificial intelligence applications, and implementation research all contribute to translational medicine when they advance understanding of human disease or improve clinical care.

Accordingly, the *International Journal of Translational Medicine* adopts a broad and inclusive definition of translational medicine. We recognize translational research as any rigorous scientific investigation that seeks to bridge fundamental discovery and clinical application, regardless of where it enters the translational continuum. The defining characteristic is not the methodology itself but the investigation's ability to generate clinically relevant knowledge with the potential to influence diagnosis, prevention, treatment, or healthcare delivery.

This philosophy reflects the increasingly interdisciplinary nature of biomedical research and acknowledges that meaningful advances often arise from collaboration among investigators with diverse scientific backgrounds. It also provides the conceptual framework for the editorial mission of IJTM.

4. The Scientific Philosophy of IJTM

The defining characteristic of the *International Journal of Translational Medicine* is not a preference for specific experimental methodologies or biomedical disciplines. Rather, the journal is distinguished by the scientific questions it seeks to address. Editorial decisions are therefore guided by a central principle: the translational significance of the investigation.

Every manuscript submitted to IJTM should demonstrate a clear link between the research and a clinically relevant problem. This link need not imply immediate clinical implementation, nor does it require that every study include patient data or therapeutic interventions. Instead, authors should explain how their investigation contributes to the broader process by which biomedical discoveries ultimately improve human health.

Within this framework, studies using molecular biology, cell biology, immunology, pharmacology, pathology, bioengineering, computational biology, artificial intelligence, molecular imaging, epidemiology, public health, biotechnology, or clinical investigation are considered equally appropriate. What matters is not the discipline itself but whether the work advances understanding of disease, improves diagnostic or therapeutic strategies, validates innovative technologies, or provides knowledge that facilitates future clinical translation.

This philosophy recognizes that translational medicine extends beyond the traditional interface between laboratory science and clinical research. Advances in computational biology increasingly inform diagnostic decision-making; engineering innovations accelerate therapeutic development; artificial intelligence enhances disease detection and prognostic modeling; and implementation science ensures that validated discoveries are incorporated into clinical practice. Each of these disciplines contributes to translation when directed toward clinically meaningful objectives.

At the same time, IJTM places particular emphasis on hypothesis-driven, disease-oriented research. Descriptive investigations, although valuable within their respective disciplines, should clearly articulate how their findings advance understanding of human disease or inform future clinical applications. Similarly, technological innovations should demonstrate their potential relevance to biomedical investigation or patient care rather than focusing solely on methodological development.

Ultimately, IJTM seeks to publish investigations that advance the translational process itself. Whether a study begins with a clinical observation, a mechanistic laboratory discovery, an engineering innovation, or a computational approach is secondary. The principal criterion is whether the research contributes meaningful knowledge that advances medicine along the continuum from scientific discovery to improved health outcomes.

This editorial philosophy reflects our belief that translational medicine is fundamentally problem-driven rather than discipline-driven. It promotes multidisciplinary collabo-

ration and provides authors, reviewers, and editors with a coherent framework for assessing translational significance across diverse areas of biomedical science.

5. The Scope of the Journal: Four Pillars of Translational Medicine

To reflect this editorial philosophy, the scope of IJTM is organized around four complementary pillars that together encompass the modern translational research ecosystem.

5.1. Clinical Investigation and Human Studies

Clinical research remains the foundation of translational medicine. IJTM welcomes prospective and retrospective clinical investigations, clinical trials, observational studies, implementation science, biomarker validation, molecular diagnostics, therapeutic monitoring, precision medicine, imaging studies, comparative effectiveness research, and carefully documented case reports or case series that generate novel biological or therapeutic hypotheses. Clinical studies are expected not only to report outcomes but also to provide mechanistic insight or identify new directions for future investigation.

5.2. Mechanistic and Experimental Biology

Understanding the biological mechanisms underlying human disease remains essential for successful translation. The journal encourages hypothesis-driven investigations that employ molecular and cellular biology, immunology, pharmacology, pathology, physiology, stem cell biology, regenerative medicine, organoids, patient-derived tissues, xenograft models, genetically engineered models, and other experimental systems to elucidate disease mechanisms or identify new therapeutic opportunities. Experimental studies should maintain a clear connection to clinically relevant questions and discuss their potential implications for human disease.

5.3. Translational Technologies and Biomedical Innovation

Technological innovation has become one of the principal drivers of translational medicine. IJTM welcomes studies involving biotechnology, bioengineering, medical devices, molecular imaging, computational biology, bioinformatics, digital pathology, artificial intelligence, machine learning, and clinical decision-support systems. Research describing novel technologies should demonstrate their potential to improve biomedical investigation, facilitate diagnosis, enhance therapeutic development, or support evidence-based clinical decision-making.

5.4. Precision Medicine and Human Disease Models

The emergence of patient-specific experimental systems has transformed translational research by enabling direct investigation of human disease biology and therapeutic response. IJTM strongly encourages studies using patient-derived organoids, primary human tissues, explants, xenografts, induced pluripotent stem cells, organ-on-chip technologies, functional precision medicine platforms, and other human-relevant disease models. These approaches offer increasingly sophisticated opportunities to predict therapeutic response, investigate disease heterogeneity, identify biomarkers, and accelerate the development of individualized treatment strategies.

Together, these four pillars capture the broad and evolving landscape of contemporary translational medicine. They underscore that the journal's scope is defined not by individual disciplines but by their collective contribution to advancing understanding of disease and improving patient care. By embracing research across the entire translational continuum, IJTM seeks to foster multidisciplinary collaboration while maintaining a clear, consistent focus on clinically meaningful scientific discovery.

6. Editorial Expectations: What Defines an Excellent IJTM Manuscript?

As the field of translational medicine continues to expand, the diversity of methodologies and scientific disciplines represented in the journal will inevitably grow. Consequently, editorial decisions cannot rely solely on subject matter or experimental approach. Instead, manuscripts should be evaluated for their scientific rigor, translational relevance, and potential to advance biomedical knowledge toward clinical application.

Although translational investigations may differ substantially in design, scope, and methodology, the strongest contributions share several key characteristics. They address important clinical questions, employ rigorous scientific methods, generate new biological or technological insight, and clearly explain how their findings advance the broader translational continuum. Above all, they establish a logical connection between the research conducted and its potential to improve human health.

To facilitate consistent evaluation by authors, reviewers, and editors, IJTM encourages investigators to consider four fundamental questions when preparing their manuscripts:

1. What clinically relevant problem does this study address?

Every translational investigation should begin with a clearly articulated unmet clinical need. Whether the research focuses on disease mechanisms, diagnostic technologies, therapeutic development, or healthcare implementation, authors should explain why the scientific question is important and how it advances understanding or management of human disease.

2. What new knowledge does the study generate?

Translational research should extend beyond confirming existing observations. Manuscripts should provide novel mechanistic insight, validate innovative technologies, identify clinically meaningful biomarkers, improve disease modeling, evaluate therapeutic strategies, or generate evidence to inform future research or clinical practice.

3. How does the study advance translation?

Not every investigation will immediately change clinical practice, nor should it be expected to. Nevertheless, authors should clearly explain how their findings advance the translational process. This contribution may include elucidating disease mechanisms, improving diagnostic accuracy, enabling personalized therapeutic selection, validating emerging technologies, supporting clinical decision-making, or facilitating implementation within healthcare systems.

4. What is the potential impact on patients or healthcare?

The discussion should go beyond interpreting the experimental findings and address their broader significance. Authors should consider how the work may ultimately influence diagnosis, prognosis, treatment, prevention, healthcare delivery, or future scientific investigation. Even early-stage laboratory studies should explicitly discuss their translational implications rather than confining conclusions to experimental observations.

These questions are not intended as rigid publication criteria but as a conceptual framework reflecting the journal's editorial philosophy. They encourage investigators to maintain a clear focus on the clinical significance of their work while recognizing that translational progress often advances incrementally rather than through isolated breakthroughs.

In addition to translational relevance, IJTM places equal emphasis on scientific rigor and reproducibility. The growing complexity of biomedical research demands transparent reporting, robust experimental design, appropriate statistical analyses, and, whenever feasible, independent validation of key findings. The journal strongly encourages adherence to internationally recognized reporting standards, including the EQUATOR Network

guidelines for individual study designs, thereby promoting transparency and facilitating reproducibility across the biomedical literature.

Increasingly, translational medicine also depends on multidisciplinary collaboration. Clinical investigators, laboratory scientists, engineers, computational biologists, data scientists, public health researchers, and biotechnology innovators contribute complementary expertise that enables scientific questions to be addressed more comprehensively than any single discipline could. IJTM therefore particularly welcomes collaborative investigations that integrate diverse scientific perspectives while maintaining a coherent translational objective.

Ultimately, the journal seeks manuscripts that not only report high-quality science but also clearly demonstrate how that science contributes to improving human health. The most successful submissions are those in which translational significance is evident throughout the manuscript, from the formulation of the hypothesis to the interpretation of the results and the discussion of future clinical implications.

7. Defining the Boundaries: What Falls Outside the Scope of IJTM?

A clearly defined scope is essential not only for identifying the research a journal aims to publish but also for clarifying which types of studies are better suited for dissemination elsewhere. As translational medicine has expanded, its boundaries have broadened, sometimes creating uncertainty among authors about whether their work aligns with the mission of journals dedicated to translational science. Providing explicit guidance benefits authors, reviewers, and editors alike by promoting consistent editorial decisions and ensuring that published manuscripts collectively reinforce the journal's scientific identity.

Although IJTM encompasses a broad range of biomedical disciplines, publication decisions are guided by one fundamental principle: the research must have clear translational significance. Consequently, studies that lack an identifiable connection to clinically relevant questions or that do not advance understanding of human disease or healthcare are generally better suited for more specialized disciplinary journals.

Examples include descriptive basic science investigations that offer limited mechanistic insight or fail to establish potential clinical relevance; methodological or engineering studies focused solely on technical development without demonstrating biomedical application; computational analyses that generate predictive models without biological validation or clinical interpretation; and clinical reports that merely describe outcomes without advancing mechanistic understanding or informing future therapeutic strategies.

Similarly, educational research, healthcare administration studies, veterinary investigations that lack direct relevance to human disease, and manuscripts focused exclusively on institutional processes or policy issues without translational implications generally fall outside the journal's mission.

Importantly, exclusion from the journal's scope should not be taken as a judgment of scientific quality. Many investigations of outstanding methodological rigor are appropriately published in journals devoted to basic biology, engineering, computer science, clinical specialties, or public health. Rather, IJTM seeks research in which these disciplines converge on clinically meaningful scientific questions.

This distinction reflects the journal's editorial philosophy. The defining feature of translational medicine is not the scientific discipline from which research originates but rather the extent to which it contributes to the continuum linking discovery, innovation, clinical investigation, and improved patient care.

8. Looking Ahead: The Future of Translational Medicine

Translational medicine is entering a period of unprecedented scientific opportunity. Advances that once progressed independently are increasingly converging to transform how diseases are understood, diagnosed, and treated. The next decade will likely see a closer integration of molecular biology, engineering, computational science, clinical investigation, and implementation research than at any previous time in biomedical history.

Artificial intelligence is already reshaping diagnostic imaging, digital pathology, clinical decision support, drug discovery, and predictive modeling. At the same time, single-cell sequencing, spatial transcriptomics, multi-omics integration, and advanced molecular imaging are providing increasingly detailed insights into disease biology at unprecedented resolution. These technologies are not replacing traditional biomedical investigation; rather, they are expanding its capacity to generate clinically actionable knowledge.

Equally transformative is the rise of human-derived experimental systems and functional precision medicine. Patient-derived organoids, xenografts, explants, induced pluripotent stem cells, organ-on-chip platforms, and other advanced human models are narrowing the long-standing gap between experimental biology and clinical medicine. By more faithfully recapitulating human disease, these systems are improving biomarker discovery, accelerating therapeutic development, and enhancing the prediction of patient-specific treatment responses. Their integration with genomic, proteomic, metabolomic, and functional analyses is enabling increasingly sophisticated approaches to precision medicine.

Beyond technological innovation, the future of translational medicine will depend on successfully implementing scientific discoveries into routine healthcare. Real-world evidence, implementation science, health technology assessment, regulatory science, and learning healthcare systems are becoming essential components of the translational continuum. Demonstrating clinical efficacy alone is no longer sufficient; effective translation requires that innovations be accessible, reproducible, cost-effective, and capable of improving healthcare at the population level.

These developments also underscore the importance of multidisciplinary collaboration. No single discipline has all the expertise needed to address contemporary biomedical challenges. Progress increasingly depends on integrated teams that combine clinical insight, biological investigation, engineering innovation, computational analysis, and healthcare implementation. Scientific journals play a critical role in fostering this integration by providing platforms where diverse perspectives converge on common translational objectives.

IJTM intends to remain at the forefront of this evolving landscape. The journal will continue to support innovative research across the translational continuum while upholding high standards of scientific rigor, methodological transparency, and clinical relevance. Emerging fields, including functional precision medicine, artificial intelligence, advanced human disease models, regenerative medicine, molecular diagnostics, digital health, computational biology, and implementation science, will remain areas of particular interest as they continue to redefine the future of biomedical research.

More broadly, IJTM seeks not only to publish translational research but also to help shape the discipline itself. By encouraging collaboration across traditional scientific boundaries and promoting investigations that address clinically meaningful questions, the journal aims to facilitate the ongoing exchange of knowledge between discovery science and patient care.

As translational medicine evolves, the journal will evolve with it, adapting its scope, embracing new scientific paradigms, and maintaining its commitment to publishing research that advances both biomedical knowledge and human health.

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9. Closing Remarks

Since its establishment in 2021, the *International Journal of Translational Medicine* has evolved alongside a discipline undergoing rapid transformation. The remarkable convergence of molecular biology, engineering, computational sciences, artificial intelligence, advanced human disease models, and clinical investigation is redefining both biomedical research and healthcare. As scientific boundaries continue to blur, journals devoted to translational medicine have an increasingly important responsibility not only to disseminate new discoveries but also to provide a coherent framework for evaluating, integrating, and advancing multidisciplinary research.

This editorial reaffirms IJTM's commitment to that mission. By emphasizing clinically meaningful questions rather than specific methodologies or disciplinary boundaries, the journal embraces the diversity of modern translational medicine while maintaining a clear and consistent editorial philosophy. Our objective is not merely to broaden the journal's scope but to strengthen its scientific identity by defining the principles that guide editorial decisions and distinguish IJTM from both basic science and specialty clinical journals.

As the field continues to evolve, so too will the journal. Emerging technologies, novel experimental models, advances in computational medicine, and new approaches to healthcare implementation will continue to reshape translational research. IJTM will remain responsive to these developments, adapting its editorial priorities while upholding the fundamental principle that has guided the journal since its inception: publishing rigorous, hypothesis-driven research that advances biomedical knowledge toward meaningful improvements in human health.

The continued success of IJTM depends on the collective efforts of its Editorial Board, reviewers, authors, and readers. Their expertise, scientific rigor, and commitment to excellence have laid the foundation for the journal's continued growth. We are deeply grateful for their contributions and look forward to working together to further strengthen IJTM as an internationally recognized forum for translational science.

10. Conclusions

Translational medicine has matured into a distinct scientific discipline that extends far beyond the traditional "bench-to-bedside" concept. It integrates clinical observation, fundamental biology, engineering, computational science, technological innovation, implementation research, and population health to address complex medical challenges. Progress in this field depends not only on scientific discovery but also on the effective integration of knowledge across traditionally separate areas of biomedical investigation.

The International Journal of Translational Medicine was founded to serve this interdisciplinary community. As the journal enters its next phase of development, its mission remains clear: to publish rigorous, hypothesis-driven, clinically relevant research that advances understanding of human disease and facilitates the translation of scientific discoveries into improved healthcare. By evaluating manuscripts for translational significance rather than disciplinary origin, IJTM provides a forum where innovative ideas from diverse scientific fields can converge on common clinical objectives.

Looking ahead, we envision IJTM as more than a repository of scientific publications. We aspire for the journal to become a catalyst for multidisciplinary collaboration, a platform for emerging technologies and innovative methodologies, and a trusted reference for investigators seeking to bridge the gap between discovery science and clinical practice. We welcome contributions from researchers across the biomedical sciences who share this commitment to improving human health through translational investigation.

Ultimately, the future of medicine will be determined not by individual disciplines working in isolation, but by their ability to collaborate to address clinically meaningful

problems. The most important discoveries of the coming decades will emerge at the interfaces of biology, medicine, engineering, computation, and public health. By providing an international forum where these disciplines intersect, the International Journal of Translational Medicine seeks not merely to publish translational research but to help define the future direction of translational medicine itself.

Conflicts of Interest: The author declares no conflict of interest.

Reference

1. IJTM Home Page. Available online: https://www.mdpi.com/journal/ijtm (accessed on 12 May 2020).

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