

Vision for Vitality, Medicine & Engineering

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Introduction

As the modern era of brain health care and research approaches the quarter-century mark, there is a growing recognition across many related fields in medicine, life science, engineering and public of the need for the timely exchange of new knowledge and new insights from a diverse spectrum of disciplines, perspectives, and people. *Vitality, Medicine & Engineering* is launched to address this gap.

Vitality, Medicine & Engineering—or VM&E— is a peer-reviewed journal that address gaps in conceptual linkages and knowledge medicine, life/physical sciences, public health, and engineering. *VM&E* seeks the publication of content that can be understood by diverse international academic, professional, and general audiences. *VM&E* will publish multi-disciplinary peer-reviewed original research manuscripts, reviews, perspectives, and meeting reports as well as consumer-oriented content including news, policy reviews, and opinions. Thematic topic will include (and not be limited to) neuroscience, geriatrics, behavior, psychological, cardio-pulmonary science, sports medicine, medical/nursing care, nutrition, electrical/mechanical engineering, computer science/informatics, industrial/financial engineering/reimbursement, design, architecture and care, aging in place/assistive technologies, promotion of care interventions to sustain independence, development of instruments/tools to assess and monitor, and global health economics and policy.

Editorial Philosophy

The proliferation of translational research and the resulting translational knowledge now presents an important publication challenge for articulating new ideas and insights. The editorial vision for *Vitality, Medicine & Engineering* embraces the view of a balanced consideration of both the theoretical and the experimental aspects of research, as well as the practical application of medicine, public health, and

engineering. While there is no question about the importance of reporting novel data or new investigative techniques, there is now a growing imperative for authors to articulate their new insights, ideas, or hypotheses within the context of a summation of previous investigations and conceptual frameworks, placing their research in context. In addition to the commitment of upholding standards of excellence in peer review, the responsibility of the editors of *Vitality, Medicine & Engineering* also includes a fealty to the concerns of the people living with chronic diseases and disorders that reduce or preclude personal autonomy and independent living. It is the mission of *Vitality, Medicine & Engineering* to decipher these data, interpret trends, anticipate new science, help validate novel interventions and services, and ultimately advance new knowledge to accelerate improvement of global public health.

Lessening the burden of disability due to chronic diseases and disorders

Vitality, Medicine & Engineering will publish manuscripts that seek the novel development of effective, affordable, and equitable treatments and medical care services for persons with many chronic diseases and disorders that diminish quality life, reduce personal autonomy and independence. Presently, a key public health objective to combat these limitations is the identification of efficacious and effective new interventions (i.e., pharmacological, non-pharmacological, and medical and social care) particularly for under-served and under-represented populations. Going forward, this is an important editorial priority for *VM&E*, namely the publication of manuscripts that lessen the burden of disability due to chronic diseases and disorders and its comorbid conditions. Given the broad audience of *VM&E*, the publication of manuscripts on these topics will be of importance to numerous fields, research funders, health policy planners/decision-makers, and general health news consumers.

VM&E 2023;6:1-3

Published online May 24, 2023
<http://dx.doi.org/10.14283/VME.2023.1>

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Health Equity, Health Equality, and Sustained Lifespan Individualized Care

Although there is broad consensus that public health, scientific and medical research efforts should diminish disease and enrich life, there is growing concern for and among under-represented and under-served populations. Regrettably in some instances, public health and scientific research has given us the ability to prolong life without prolonging health. This results in increasing numbers of individuals at risk for numerous chronic diseases and conditions that.

Vitality, Medicine & Engineering is uniquely positioned through the use of editorials, virtual special issues/special topic sections, work groups/task forces and the editorial board to advocate and advance new thinking on research questions, methodologies, analytical approaches that expand opportunities to improve health equity, equality and individualized option for care across the lifespan.

Integrating Clinical Research, Clinical Care, Public Health and Engineering

An editorial priority of *Vitality, Medicine & Engineering* will be to publish research that further elucidates the neurobiology of many neurodegenerative disease and related brain diseases/disorders as neuropathologic entities and their temporal relationship to cognitive, behavioral and functional impairments. The heterogeneous underpinnings of many neurodegenerative disorders, its pathologies and its complex relationship to the cognitive/behavioral/functional impairments remains an important challenge for the medicine, life science, public health, and engineering. New knowledge and new analytical approaches are necessary to map better the multiple, non-linear, and non-sequential interactions of associated factors and temporal influences. *VM&E* will focus on research that validates technologies and algorithms for early pre-symptomatic detection of a many different brain disease and disorders, irrespective of pathology, in the general population and in routine health care populations.

VM&E encourages researchers from epidemiology, information science, bioinformatics and primary/family medicine to play expanded roles in both submitting and reviewing research. The Journal will support

and guide efforts to expand application of modern epidemiological methods with more targeted research between various exposures, behaviors, lifestyles, social determinants of health as well as potentially precipitating disease (e.g., subclinical cardiovascular disease), and pathological features of AD. The Journal will also promote collaboration through meetings, task forces and special topic sections, the linkage of epidemiological methods together with computational systems biology approaches to study relationships between exposures, epigenetics, transcriptomics, metabolomics, proteomics, and the pathogenesis of many chronic disease and disorders. Finally, and perhaps most importantly, these efforts must be examined in diverse multi-national, multi-cultural populations that includes samples taken beyond the clinic that consider important strata such as geographical, racial, sex/gender, socio-economic, cultural/ethnic, as well as other factors.

Journal Operations

The composition of *Vitality, Medicine & Engineering*'s editorial board reflects the multi-disciplinary nature of research. The membership includes broad representation from experts in such areas as neurology, general medicine, psychiatry, geriatrics, psychology, genetics, molecular biology, epidemiology, sociology, biostatistics, mathematics, computational science, health services research, health economics, financial engineering, political science, and public policy. Among the Journal editors, the roles of Executive Editor, Deputy Executive Editor, Senior Associate Editor, Associate Editor, Senior Editor and Statistical Editor would be appointed. Given the increasing quality, complexity, and number of submissions as well as the increasing demand by authors for quality and rapid reviews of manuscripts, the *Vitality, Medicine & Engineering* editors will be given autonomy and responsibility to evaluate new submissions for publication.

Editorial board membership has also sought diversification based on geography, nationality, and gender. As an English-language journal, that has a growing international audience, *Vitality, Medicine & Engineering* will explore additional opportunities to recruit and retain qualified, editorial members, particularly among non-native English language speakers. Also, intellectual diversification among the editorial board members is essential to establishing the

Journal's reputation for editorial independence. A commitment to viewpoint diversity fosters promotion of new ideas and countervailing approaches, methods, and theories. To help facilitate this overall goal, *Vitality, Medicine & Engineering* will establish several editorial board committees including Recruitment and Nominations, Research Ethics and Conflicts, and Task Force/Special Topics Sections.

Vitality, Medicine & Engineering will seek to increase audience engagement by developing uniquely clear and concise on-demand web-content related to the care and treatment of Alzheimer's disease in partnership with Serdi (the publisher). In addition to traditional peer-reviewed manuscripts, *Vitality, Medicine & Engineering* will support the production of digital weekly content, curated by the editors, covering the most important news, published research and "trends-heard-in-the-field". Based on *Vitality, Medicine & Engineering's* thematic interests, content could be produced and published using

a variety written articles, video abstracts, visual abstracts, augmented reality (AR) illustrations, infographics, animations, video podcasts, and live town-hall style webinars.

Conflicts of Interest

Ara S. Khachaturian, Ph.D. is an Officer and director of the Campaign to Prevent Alzheimer's Disease (PAD 20/20) and; Officer, director and employee of Khachaturian and Associates; Founding executive-editor of Alzheimer's & Dementia, The Journal of the Alzheimer's Association (retired), Founding executive-editor of Alzheimer's & Dementia: Translational Research & Clinical Intervention (retired), Founding executive-editor of Alzheimer's & Dementia: Diagnoses, Assessment & Disease Monitoring (retired); Executive Officer and Director, Brain Watch Coalition; Senior Research Fellow, University of Nevada Las Vegas, National Supercomputing Institute & Dedicated Research Network; Received payments through organizational affiliations for grants, contracts, consulting fees, honoraria, meeting support, travel support, in-kind research/professional support over the last 36 months from the Alzheimer's Association, Acadia Pharmaceuticals, Alzheon, Biogen, Clinical Trials Alzheimer's Disease Conference, Davos Alzheimer's Consortium, Eisai, Eli Lilly & Company, RELX Plc, High Lantern Group, International Neurodegenerative Disorders Research Center, and Serdi Publishing.