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Editorials

The Healthcare Bubble Through the Lens of Pain Research, Practice, and Policy: Advice for the New President and Congress

As the United States struggles with health-care reform, an opportunity exists to consider how pain research and practice can serve as a model to inform the broader national reform and policy debate.^{2,3} Ensuring healthcare quality (ie, effectiveness, efficacy, and access to healthcare) requires sound research to benefit individuals and society.⁴ Pain has reached epidemic proportions. The epidemic coincides with problems in accessing quality healthcare, medical errors, and healthcare disparities throughout the entire system.

Similar to the general population, people living with pain often face financial and other structural barriers to quality healthcare and pain care (including the absence of insurance, underinsurance, and poverty). Thus, undiagnosed, untreated, and undertreated pain remains a significant public health problem.¹² Overall, pain significantly diminishes health-related quality of life and financial well-being, yielding increased disability, functional limitations, and increased depression and anxiety (including post-traumatic stress disorder) among pain patients, compared with the general population.^{5,9} New knowledge is a critical tool. Thus, pain research provides many opportunities to direct practice and policy—including economic, health, and social policy—but federal funding for pain research is lacking.

A unique database, the article by Bradshaw et al¹ provides evidence that funding for pain research has continued to decline since 2005. The National Institutes of Health (NIH) is a major funding source for biomedical research. Thus, it is disturbing to see a continued downward trend in total NIH funding and for NIH primary pain research funding in particular. Overall, the NIH allocated minimal funding—less than 1%—to primary pain research. A modest, initial 12% increase in funding oc-

curred from 2003 to 2004 and was followed by a 9.4% annual reduction from 2004 to 2007. More specifically, when measured as the percentage of total NIH funding, primary pain research funding reached a high of 0.78% in 2004 and fell steadily to a low of 0.6% in 2007. Surprisingly, the reduction in primary pain research funding was greater than the overall NIH funding reduction. Thus, there is a “recession” in total funding with an accompanying “depression” in primary pain research funding. This is a critically important consideration as the prevalence of pain continues to increase, with nearly 100 million people currently living with pain.

When combined with increasing survival from cancer and catastrophic injuries and aging baby boomers (ie, Americans born between 1946 and 1960), pain will increase in prevalence, interfere with successful aging, and have immediate and long-lasting individual and socioeconomic consequences. Important considerations include (1) the elderly population (>65 years old) use more medications to control pain than any other segment of the population, and (2) the baby boomers will become elderly in less than 3 years.^{5,9} Without improving the ability to assess and treat chronic pain, the increasing prevalence will have devastating socioeconomic and health consequences for all Americans.

Diminished federal funding may compromise quality of treatment and threaten the research infrastructure necessary to (1) develop hypotheses that extend pain research (from bench, bedside, or the community level) to understand the underlying mechanisms and expression for both pain and analgesia; (2) encourage and support trainees and scholars who are focusing their careers on pain research (jeopardizing an already fragile academic pipeline); (3) design inno-

vative models and interventions to improve the quality of pain care; and (4) disseminate and translate research findings to a broader audience (eg, patients, clinicians, researchers, and policy makers). A robust and innovative interdisciplinary pain research agenda—from bench to bedside to community to policy, using a representative and diverse population across the lifespan—is needed. Adequate funding is required to implement this innovative pain research agenda and to improve the nation's overall health status.

An examination of expenditures is fundamental to conversations on healthcare reform. Overall, pain complaints cost the United States more than cancer and diabetes combined.¹² Although pain complaints are a leading cause for all physician visits, healthcare costs, and disability in the United States, pain assessment and management is a neglected topic. The efforts of the Joint Commission on Accreditation of Hospitals and Healthcare Organizations and the Veterans Health Administration have allowed pain to emerge as a health system priority.¹¹ Their leadership seemed to be the needed impetus to generate increased research funding for primary pain research.

Unfortunately, the Bradshaw article shows that whereas pain has reached epidemic proportions, it is essentially a silent epidemic with few NIH dollars devoted to primary research. There is a glaring gap between the dollars spent for medications, lost work productivity, worker's compensation, and long-term disability when compared with the amount devoted to primary pain research. Thus, a perfect storm is brewing and our society will continue to pay an increasingly higher toll for pain complaints while failing to seize the opportunity to reduce its burden.

The literature provides overwhelming evidence for sociodemographic determinants (eg, race, age, gender, and class) as important factors in preserving health and wellness while also influencing healthcare system access and quality.¹⁰ In fact, the NIH and the federal government (as stated in *Healthy People 2010*) identified the following priorities: reduction and elimination of healthcare disparities; and promotion of health and well-being.¹³ In no other areas are healthcare disparities more troubling and the suffering more profound than in the area of pain.

Additionally, minimal attention has been paid to the correlation between experimental and clinical differences in the pain experience

and their long-term health implications. Race, gender, age, and community-related differences in the pain experience are well documented, with the pain complaints of women, minorities, and the elderly receiving less attention.^{6,7} There is a critical need for research designed to understand the underlying mechanisms for differences in the pain experience. Together, these issues illustrate considerable obstacles to quality pain while highlighting the significant public health and policy implications. There is a clear disconnect between goals for pain relief and the funding for pain research.

Despite increasing awareness, we are confronted with the predicament of clinician variability in pain education, knowledge, and decision-making in combination with problematic access and limited federal dollars.⁸ These issues confront the larger discussion and complicate efforts necessary to improve the quality of both pain and health care.

The limited knowledge of healthcare professionals contributes to suboptimal assessment and treatment and to diminished well-being. Educational efforts for patients, clinicians, and the public must be based on sound principles and must be rigorously tested, if efforts designed to optimize the quality of pain will be effective.

Scientific advances have led to a better understanding of pain mechanisms and the ability to alleviate suffering. Yet, challenges remain, and more research is needed. Consistent with the NIH's goal to improve the nation's health, a science-based platform for conducting basic, clinical, translational, community-based, and health services pain research is needed. New hope arises with the recent passage of the National Pain Care Policy Act by the U.S. House of Representatives and its introduction in the U.S. Senate, but much more work is still required. Establishing an interdisciplinary pain research agenda is imperative to improve the state of the science and to inform clinical care, particularly for vulnerable and underserved populations. This will require collaboration among the scientific, public health, and clinical communities.

A science-based foundation for evidence-based guidelines must inform and direct efforts by patients, researchers, clinicians, advocacy groups, and policy makers to address this problem for millions of Americans. Fundamental improvements in healthcare delivery and reductions in healthcare expenditures cannot

occur without improving and understanding pain. As healthcare reform discussions continue, it is crucial that pain is included in a meaningful manner. Potential gains are achievable only when the United States commits to a worthwhile investment in a substantive primary pain research agenda.

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