

## PRESIDENT'S MESSAGE

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# “Pain Is a Public Health Problem” –What Does That Mean and Why Should We Care?

In recent years AAPM's Presidents have selected a theme to emphasize during their term of office even as they continue to support the diverse range of activities conducted by this inclusive professional society. AAPM's immediate Past President Bill McCarberg chose pain control in primary care based upon his decades of experience as a family medicine physician and pain specialist. His predecessor Sean Mackey co-chaired, with Linda Porter of the National Institutes of Health, the panel that produced a comprehensive National Pain Strategy presenting specific plans to advance multiple dimensions of pain. This monumental effort (see below) was a prime focus of his presidency. Earlier Presidents have emphasized patient advocacy, the safe use of opioids, and the needs of veterans returning from combat. I have selected “pain is a public health problem” as the focus of my term; this AAPM President's Message describes the context and implications of this choice.

In May of 1999, shortly before assuming his uniquely successful, ongoing role as inaugural Editor-in-Chief of *Pain Medicine*, Rollin (“Mac”) Gallagher wrote a visionary essay for a topical issue on chronic pain in *Medical Clinics of North America*. Titled “Primary Care and Pain Medicine”, this essay bore the subtitle “A community solution to the public health problem of chronic pain”. Drawing upon his own education (he holds a Masters in Public Health as well as an MD), he proposed a model of chronic pain that integrated – as an epidemiologist might – environment, host and causative agents in the progression from injury to chronic disability. Presciently, he called for community-based rehabilitation of the patient with chronic pain based upon a collaboration between primary care provider and pain medicine specialist. This stratified model of care was articulated further in a later white paper by Mac and two other senior leaders of AAPM, Phil Lippe and Michel Dubois.

Also in the Spring of 1999, a Tufts PhD medical sociologist colleague Kathy Lasch and I received approval to launch a new program on pain research, education and policy (PREP). From its outset PREP was situated within Tufts' Public Health program. We noticed that the more outside-the-box a fledgling program was, the greater its chance of being housed in that program. We surmised this was driven by frugality, i.e., to reduce overhead by sharing administrative support and office space among start-up programs. The vagueness of most people's perceptions of the mission of public health programs offered a form of camouflage within which obscure young programs could quietly nest.

Initially, we often found ourselves explaining to academic and clinical colleagues (not to speak of prospective students) why we weren't part of a “hard science” department such as neuroscience. Only over time did we appreciate our good fortune to have been born into a public health milieu. In the beginning, we did not fully grasp the implications of the population-based perspective of public health, that espoused the World Health Organization (WHO) perspective as not simply the absence of disease but rather “a state of physical, mental and social well-being”, that emphasized prevention, and that taught about WHO's model of the social determinants of health.

Fast forward to the present. In 2011, one of the nation's most prestigious medical advisory bodies, the Institute of Medicine (IOM, now “Academy of Medicine”) issued a “blueprint for transforming prevention, care, education and research” in which the first chapter after the Introduction is titled “Pain as a Public Health Challenge”. Its Preface declared “We believe pain arises in the nervous system but represents a complex and evolving interplay of biological, behavioral, environmental and societal factors that go beyond simple explanation. Knowledge of pain needs to be enriched from the molecular and genetic to the cellular, neural network and systems levels”. Under Sean Mackey's leadership and with the involvement of many AAPM members, a National Pain Strategy has been drafted to advance the IOM report's “recommendation 2-2 [; to] create a comprehensive population health-level strategy for pain prevention, treatment, management and research.” Our Australian and New Zealand Faculty of Pain Medicine colleagues, under the leadership of Professor Cousins and others, have developed pain-related educational programs for health professionals and more recently, the public at large, through the “PainAustralia” project.

Surprised and delighted, like Moliere's character discovering he had been speaking in prose without knowing it, pain medicine is now realizing that many of its clinical, research and educational efforts involve traditional areas of public health: epidemiology, biostatistics, preventive medicine, health policy and health services. Public health was defined nearly a hundred years ago by one of its founders as “the science and art of preventing disease, prolonging life and promoting health through organized efforts and informed choices of society, organizations, public and private communities and individuals.” A broader definition of public health has been advanced by the American Public Health

Association: "Public health promotes and protects the health of the people and the communities where they live, learn, work and play. While a doctor treats people who are sick [s/c], those of us working in public health try to prevent people from getting sick or injured in the first place. We also promote wellness by encouraging healthy behaviors." The APHA definition goes on to provide examples of other public health activities such as education or tracking disease outbreaks.

Issues that attract special attention from the public health community affect large numbers of people and exact a substantial societal burden; are amenable to prevention; and have a social justice dimension such as originating in resource inequities, low socioeconomic status, or social exclusion. WHO has described the social determinants of health as "the conditions in which people are born, grow, work, live and age, and the wider set of forces and systems shaping the condition of daily life". In the US, social determinants of health figure prominently in the Healthy People 2020 project, that has highlighted five key areas for data gathering and intervention: economic stability, education, social and community context, health/health-care, and neighborhood/built environment. Fascinating WHO white papers on the social determinants of health (in part produced by a prestigious WHO Commission and nine global knowledge networks established by that WHO Commission) are especially relevant to pain. For example, the monograph prepared by WHO's Social Exclusion Knowledge Network (SEKN) defines exclusion as a "dynamic, multi-dimensional process driven by unequal power relationships interacting across four main dimensions – economic, political, social and cultural – and at different levels." Echoing independently conceived papers by Kenneth Craig and also this writer on the merits of conceptualizing pain as a population-based, top-down phenomenon, SEKN's major monograph opens with an African aphorism: "A person is a person because of other people". It is impossible to read this WHO literature without thinking of the well-described marginalization and stigmatization of patients with pain, extending into inequities of access to pain assessment and treatment based upon race, ethnicity and socioeconomic status.

The overlap between issues of interest to pain medicine and public health extends to another aspect less often commented upon but very timely. Frequently, unintended negative consequences occur when a well-meaning intervention targets one component of a complex, dynamic system. By definition, a system involves a set of elements whose interactions follow a stable pattern over time, i.e., resist temporary disruptions. Examples of unintended negative consequences of interventions in the public health literature include the selection of drug-resistant pathogens following widespread use of antibiotics; increased cigarette intake among smokers following the introduction of low tar cigarettes and better filters; an upsurge in risky behaviors and HIV infection following broader availability of improved antiretroviral therapies; and liberalized prescribing of opioids intended to reduce pain and suffering,

followed by increasing diversion of prescription opioids and multiple damaging consequences on society at large. These and many other examples teach us that just as pharmacotherapy often employs a multimodal approach that targets several nociceptive pathways, population-based pain prevention and control benefit from addressing multiple dimensions of pain including its social determinants.

Accepting the population-based, public health nature of pain prevention and control confronts pain medicine with a major challenge. If we compare pain medicine and other medical efforts that address significant numbers of the entire population, it simply has not yet achieved the level of evidence-guided practice that other important initiatives have. What would our reaction be if an oncology consultant wanted us to start a chemotherapeutic regimen off-the-cuff, without informing his or her decision by referring to the aggregate of clinical evidence? Or told us that the outcomes of therapy would not be monitored? This or similarly casual approaches to treating infectious disease or cardiac disease would not be accepted. Granted, individual variability to tissue injury and responses to analgesic therapy render assessment of the success of pain control more difficult than assessment of the success of cancer treatment, where tumor size is an indisputable marker; diabetes, where serum glucose and hemoglobin A1c ranges are monitored; or hypertension, to cite just a few examples. But it is urgent that healthcare providers agree now upon suitable, standardized outcomes to track in order to improve care of future patients with pain by gathering data on those now under our care. The increasing availability of "big data" drawn from electronic health records of populations under care, and the increasing refinement of pain-related outcomes instruments suitable for everyday clinical practice, provide optimism that pain medicine can become more rooted in evidence and outcomes assessment. Other types of evidence ranging from molecular biology to narrative are also of great relevance to understanding the experience of pain, its prevention, and control. But in my view, the continued survival of pain medicine will depend upon our specialty quickly meeting the same standards of evidence, outcomes and hence credibility as other disciplines that address major public health burdens.

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