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Catalyzing State Public Health Agency Actions to Prevent Injuries and Violence: Introductory Remarks

Roderick McClure, PhD

School of Medicine, University of New England, Armidale, New South Wales, Australia; and Division of Analysis, Research and Practice Integration (DARPI), National Center for Injury Prevention and Control, Centers for Disease Control and Prevention, Atlanta, Georgia.

The mission of the Centers for Disease Control and Prevention's National Center for Injury Prevention and Control (CDC's Injury Center) is "to prevent injuries and violence through science and action."¹ In this context, science and action are not separate and discrete components of the Injury Center's activity but integrated elements of the Injury Center's work. Recognizing that integration of science and action is a vital prerequisite to it accomplishing its mission, the Injury Center established a division with the express mandate to develop the methods and practices that support a unified approach to injury prevention. The Division of Analysis, Research and Practice Integration (DARPI) was established in 2013; over the subsequent 4 years, we have worked with our partners to develop the concepts and methods of an integrated approach.² The effectiveness of this approach is already being demonstrated in a range of projects, programs, and population-level change activities across the Injury Center and our various partner organizations, many of which are described in this issue of the *Journal of Public Health Management & Practice*. In this issue, the concepts, methods, and practices of this integrated approach are described, and case study illustrations are provided demonstrating how the Injury Center works with partners to support progress toward a society safe and free from injury and violence. We believe the model presented in this special issue, as described in Smith and Wilkins,³ has substantial implications for the injury prevention community and could be considered for widespread uptake by public health departments and their practice and research partners. Specifically, Smith and Wilkins³ describe the concepts of scholar-practitioner and practice-based research, with a focus on a type of participatory, practice-based research—action research—that is complementary to a scholar-practitioner model.

The Injury Center had already established relationships with (i) communities of researchers and practitioners using the Injury Center's national injury surveillance data (Web-based Injury Statistics Query and Reporting System [WISQARs]); (ii) state health departments through a variety of programs including the Core Violence and Injury Prevention Program (Core VIPP), the Rape Prevention and Education Program, Essentials for Childhood

Correspondence: Roderick McClure, PhD, School of Medicine, University of New England, Armidale 2329, NSW, Australia (rmcclure@une.edu.au).

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Initiative, the Domestic Violence Prevention Enhancements and Leadership Through Alliances, Focusing on Outcomes for Communities United with States (DELTA FOCUS); and (iii) academic research institutions through the Injury Control Research Centers (ICRCs). In fostering these relationships, DARPI specifically strengthened the network links between all sectors by being intentional in the collaboration with the Core VIPP and ICRC partners and showed what could be achieved from enhancing bidirectional relationship between science and action.⁴

A common goal was important to bring people together from across the spectrum of data, research, and practice, so each could see that despite differences in perspectives, everyone was really working to achieve the same ultimate goal—to reduce injury morbidity and mortality. Again, DARPI is poised to bring these pieces together not only through the practice and research partners mentioned earlier but also by the internal connections made with data and statistical expertise that is contained within the DARPI infrastructure. These supports include the WISQARS.

While reducing population-level morbidity and mortality is the ultimate goal, prevention is achieved not only by addressing outcomes but also by understanding the cause of these outcomes and changing causal factors to reduce the incidence of the consequent injury. Through the lessons learned from Core VIPP as described in Nesbit et al,⁵ DARPI shifted the discussion about injury causation away from proximal risk factor epidemiology and more toward a multilevel emphasis that recognized implementation complexity.⁵ The current Core cooperative agreement, Core State Violence and Injury Prevention Program (SVIPP), requires states to report indicators that measure impact on morbidity and mortality, as well as measures for shared risk and protective factors; this allows for an intermediate measure of impact that is not captured in morbidity and mortality data alone.⁶ As described by Wilkins et al,⁷ through working with practice and research partners, DARPI recognized that until practitioners can work with systemic and structural risks, their interventions will not reach the level of intensity, scale, influence, and sustainability that is required to make a difference at the population level.

One of the well-recognized challenges in injury prevention is the challenge of moving from “what works” (knowledge gained by research) to “how to make it work” (knowledge gained by practice). This challenge arises because science and action are so frequently considered separate activities. DARPI circumvents this research-to-practice block by integrating science and action. In focusing on the practice of science and the science of practice, DARPI encourages the development of scholar-practitioners and practitioner-scholars. The research-to-practice block is circumvented in the DARPI model because each new activity begins with participatory group of integrated stakeholders, coming together to agree on the problem that needs to be addressed and continuing to work together toward problem resolution.

A critical feature of the DARPI model, implied in the aforementioned paragraph, is that we do not see injury prevention as an application of quick and simple fixes. The grand challenges in public health need committed effort, over the long term, toward clear and consistent goals. DARPI’s approach acknowledges this and brings together the stakeholders who have investment in the problem and aims to engage them all in ongoing collaborative

activity. DARPI works with its stakeholders to continually improve people's understanding of the nature of the challenge under consideration, the elements of the system that have created the challenge, and the causal relationships that connect the elements. The boundary of the system under examination is defined, as is its purpose, and the intended and unintended consequences of the relationships between the elements are identified. Through a process of reflection and by repeatedly challenging the model with new information, the underlying assumptions of the model are exposed and the structure of the model refined to better explain the observed system behavior. An example of this process of reflection that not only challenged assumptions but also contributed to an increased focus on an emerging public health crisis is described in Deokar et al⁸ in this issue.

Deokar et al⁸ also describe the increasing understanding of the issue under consideration, stakeholders' activities relating to their problem adapt and improve and become increasingly effective. A process of rigorous and disciplined monitoring of the changes occurring in the system of interest, and reflection on the relationship between system changes and system outcomes, leads to further refinement of stakeholders understanding of the nature of the challenge under consideration and further improvement to the collective response. This approach is consistent with the notion of evidence-based intervention and has the advantage of incorporating a more comprehensive understanding both of what constitutes an intervention and what is meant by the term "evidence." Each of the articles in this supplement describes work undertaken within the framework of the systemic approach to injury prevention. Each of the articles demonstrates a different feature of this approach or a different application of some common features. Each of the articles describes activity at different stages in the continuously developing systemic learning and action in difference parts of the science-practice mix. In this supplement, the authors present concrete examples of how the Injury Center and DARPI are operationalizing the approach in efforts to improve the injury-related health of the nation.

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