

**Executive Summary: HEAL Pain Research Priorities Workshop
Research Workforce and Training
Monday November 18th, 2024 1:00pm – 5:00pm EST**

Subcommittee members: Cheryl L Stucky, PhD (co-chair); Jennifer Haythornthwaite, PhD, (co-chair); Flavia Penteadro Kapos, PhD; Daniel Clauw, MD; Jamie Rhudy, PhD; Tom Norris; Eden Buell, BS; Roger Fillingim, PhD; Katelyn Sadler, PhD; Carolina Valencia, PhD; Laura Frey Law, MPT, MS, PhD; Bryan McKiver, MS, PhD; Alex Chamessian, MD, PhD

Introductory Remarks: Rob Gereau, PhD, Washington University School of Medicine, St. Louis, HEAL Strategic Planning Executive Committee Co-Chair

Part I. Addressing the Leaking Pipeline: Roger Fillingim, University of Florida, noted a major goal is to attract and retain people to the pain science “highway,” with on-ramps and off-ramps. Challenges particular to pain research are that it often doesn’t have a “home” in academic institutions or in the NIH; societal stigma; the insecurity of funding (and policy attention); and subjective nature of pain. Ways to increase traffic on the pain science path are to develop more public knowledge of chronic pain in society and create feeder programs into pain research; engage people with PWLE; and ensure adequate funding on the path. Challenges to retention on the pain science pathway include funding limitations and instability; need for protected research time particularly for physician scientists; inadequate institutional infrastructure; and poor mentorship. To encourage people to join the pain science path: make the journey and destination desirable; enhance infrastructure; engage people with lived experience (PWLE); emphasize positive aspects of pain research; advance a culture of well-being and support; and optimize mentorship.

Successes, Failures, and Gaps: Dan Clauw, University of Michigan Medical School, highlighted what he saw as training successes in place by HEAL and NIH. Challenges particular to physician scientists mean that institutions often can’t allow doctors to do research. More study sections for pain and itch studies would alleviate some competition. Clauw noted the positive impact of involving PWLE and the need for training of researchers and PWLE in how to best use their input in team science. Graduate and post-doctoral trainees need mentorship at institutions without pain infrastructure. Other needs include more training grants in preclinical/basic science; financial support for physician scientists; support for non-US citizens; opportunities for PWLE to join the research pipeline; protected time and training for mentoring for mid-career researchers; consider training needs for non-academic fields, e.g. communications, industry, policy; more low-burden funding opportunities; educational curriculum in pain for clinical, basic and physician researchers, and anyone in healthcare; training in communications and entrepreneurship in research workforce; and better communication between basic and clinical scientists, PWLE, and the public. Following these two sessions, participants broke into smaller groups for discussions on these topics.

PART II. Examples of Successful Workforce Development: Jennifer Haythornthwaite, Johns Hopkins University, interviewed leaders of pain research centers who identified key components of success as: sustained institutional support, both financial and moral; a strong leader who builds a collaborative approach to pain research; interdisciplinary faculty with strong partnerships and collaborations on research and education. Keys to success in retention include: community with close contact with faculty throughout training; mentoring; training in getting funding. She then interviewed leaders of large, productive, interdisciplinary cancer centers. Keys to success include: a community of collaborative clinicians and scientists with breadth and depth that generate ideas together and get training in grant-writing and mentorship; funding, which requires team science approach from basic to translational to population; training mechanisms for workforce development starts very early. Factors contributing to retaining investigators: strong industry relationships enabled fluidity with academia and industry; creating a “home” within the cancer center rather than a department; more resources to support early-career investigators to empower their success in funding, mentorship, and leadership. Summary of lessons learned: NIH and institutional leadership is crucial; fund and build strong local communities of pain researchers; reward interdisciplinary approaches; emphasize education starting as early as high school.

Moving Forward: Addressing the Issues: Cheryl Stucky, Medical College of Wisconsin, articulated the input from attendees thus far into potential goals:

Goal #1 Increase support for researchers across spectrum of career and increase awareness of these programs.

Goal #2 Create mission, vision to train leaders of pain centers doing excellent research.

Goal #3 Provide opportunities for protected time for research, mentorship, particularly for physician scientists; commitment from institutions; longitudinal research training in clinic; create mentoring programs and involvement for PWLE; facilitate cross-disciplinary mentoring.

Goal #4 Provide support opportunities for researchers in industry, biotech, education, communications; increase communication across field with the lay public.

Goal #5 Encourage range of translational research across diverse pain conditions, including rare conditions; build more bridges between basic, clinical scientists and PWLE, public community.

Goal #6 Funding for trainees: graduate, post-doctoral; reduce burden of application; expand pre-clinical opportunities; extend opportunities to non-US citizens; generate more pain-relevant NIH study sections.

Goal #7: Create structured pain curriculum for medical and graduate students, other levels; enhance training in entrepreneurship, industry; strengthen communication with various audiences.

Goal #8 Increase numbers of pain centers of excellence; fund pain education, increase presence at non-pain-science meetings.

Following these two sessions, participants broke into smaller groups for further discussion.