Examples of Successful Workforce Development

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Interviews with 4 Pain Research Center Leaders

Michael Gold, PhD
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Roger Fillingim, PhD
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University of Washington

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Washington University

Interviews with 4 Pain Research Center Leaders

- What have been the **TOP factors**, events, programs, etc that have been the MOST influential components in developing your pain research center?

1. **INSTITUTIONAL SUPPORT** from leadership

Interviews with 4 Pain Research Center Leaders

- What have been the **TOP factors**, events, programs, etc that have been the MOST influential components in developing your pain research center?

2. **STRONG LEADER:** Leads center, valued in primary department, leader in primary department, some have leadership institutional roles

Interviews with 4 Pain Research Center Leaders

- What have been the **TOP factors**, events, programs, etc that have been the MOST influential components in developing your pain research center?

3. **INTERDISCIPLINARY FACULTY:** share primary interest in pain research, develop strong partnerships, collaborate in research and education

Interviews with 4 Pain Research Center Leaders

- What **ADDITIONAL** internal and/or external resources/programs/systems do you think are required for your pain research center to develop further?

1. **Center Mechanism**: infrastructure, stability, multiplier
2. **Pain-specific training grants**, expand the T32 (grad students AND PDs) and T90 (International PDs)
3. **Investigator Funding:** (e.g, Canadian Research Chairs) across all career stages: people, rather than projects are funded

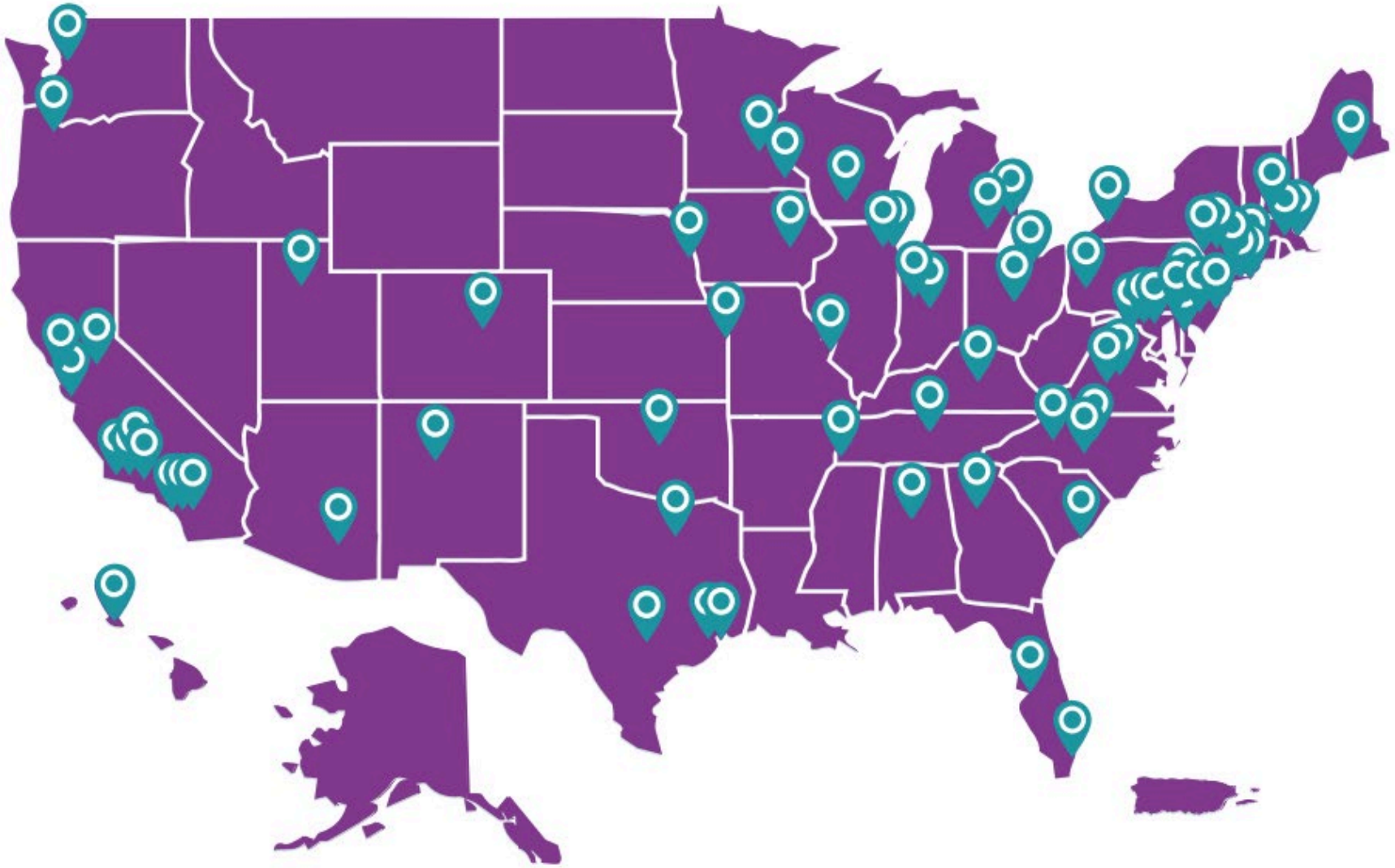
Interviews with 4 Pain Research Center Leaders

- How has the field **RETAINED** researchers?

1. **COMMUNITY:** Close contact and relationship with faculty throughout training, effective mentoring, and comprehensive preparation to be successful in pain research competing for NIH funding

71 NCI-designated Cancer Centers in the US:
13 CA Centers; 51 Comprehensive CA Centers; 7 Basic Lab CA Centers

NCER INSTITUTE



SOURCE: cancer.gov/grants-training/policies-process/overview/grants-process.pdf

71 NCI-designated Cancer Centers in the US:
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NIH NATIONAL CANCER INSTITUTE

- Foundation for basic, translational, and clinical research activities, including the following:

  - Biology
  - Genomics
  - Causes
  - Childhood Cancer
  - Clinical Trials
  - Diagnosis
  - Prevention
  - Screening & Early Detection
  - Treatment
  - Public Health
  - Global Health
  - Cancer Health Disparities

SOURCE: cancer.gov/grants-training/policies-process/overview/grants-process.pdf

Interviews with 4 NCI CA Center Leaders

Aimee James, PhD
Washington U

Lee Nadler, MD
Dana Farber/Harvard

William Nelson, MD
Johns Hopkins U

Nilo Salama, PhD
U of Washington

Interviews with 4 NCI CA Center Leaders

- What have been the **TOP factors**, events, programs, etc that have been the MOST influential components to the growth and development of the large, interdisciplinary, collaborative, productive CA research workforce we enjoy in 2024?

Interviews with 4 NCI CA Center Leaders

NIH NATIONAL CANCER INSTITUTE

- What have been the **TOP factors**, events, programs, etc that have been the MOST influential components to the growth and development of the large, interdisciplinary, collaborative, productive CA research workforce we enjoy in 2024?

1. **COMMUNITY:** Building a strong, local interdisciplinary community of clinicians and scientists who collaborate and develop ideas in teams

Interviews with 4 NCI CA Center Leaders

NIH NATIONAL CANCER INSTITUTE

- What have been the **TOP factors**, events, programs, etc that have been the MOST influential components to the growth and development of the large, interdisciplinary, collaborative, productive CA research workforce we enjoy in 2024?

2. **FUNDING CENTERS:** REQUIRE team science across the full range of CA research from basic to translational/clinical to population health

Interviews with 4 NCI CA Center Leaders

NIH NATIONAL CANCER INSTITUTE

- What have been the **TOP factors**, events, programs, etc that have been the MOST influential components to the growth and development of the large, interdisciplinary, collaborative, productive CA research workforce we enjoy in 2024?

3. **TRAINING MECHANISMS:** from small to large $$, dedicated to education and career development, and encourage workforce development early in the individual's career

NCI Funding Opportunities for Cancer Training

The career stage indicated is when an applicant is eligible to apply for each award.

CRTEC

+ High School

+ Post Bacc

PREDOCTORAL	POSTDOCTORAL	EARLY CAREER INVESTIGATOR	ESTABLISHED INVESTIGATOR
F30, F31-D, F99/K00*	F32, K01-D, K08-D, K22-D^, K25, Early K99/R00*^, K99/R00*^	K01-D, K08-D, K25, K43	D43, K12-PI, K12-PI-D, K25, R25-PI, R25-PI-D, T32-PI
Individual Fellowship (F) awards designed to train you in all areas of cancer research. The F99/K00 is a phased award that helps predoctoral researchers advance to a postdoctoral cancer research position.	Individual Fellowship (F) & Career Development (K) awards are designed to prepare postdoctoral cancer researchers for research independence. The NCI K22 awards are activated after tenure track academic appointments are secured.	Early career researchers are transitioning to fully independent positions as investigators with academic appointments. Individuals from low-or-middle-income countries can apply for K43 awards.	Predoctoral and postdoctoral researchers can apply at R25 and T32 organizations to be trained on those awards. Postdoctoral clinical scholars can be appointed to K12 awards. Individuals at low-and-middle-income countries can participate on D43 awards.

Loan Repayment Programs (LRPs)

Supplements to Active Awards to Promote Diversity, Re-entry, and Re-integration in Cancer Research Careers

KEY

F = Fellowship
K = Career Development
R = Research
T = Training

-D = Awards available to promote diversity in addition to the parent funding opportunity
* = Non-U.S. citizens eligible to apply
^ = NIH Intramural postdocs eligible to apply
-PI = The principal investigator of the application must be an established investigator

SOURCE: cancer.gov/grants-training/training/funding

Interviews with 4 NCI CA Center Leaders

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- What have been the **ADDITIONAL factors**, events, programs?

4. CA Center finances are strong and can address $ shortcomings (e.g., physician-scientist salaries)
5. Working with state agencies, local schools and community colleges
6. CTSA network, particularly for physician-scientists (KL2)

Interviews with 4 NCI CA Center Leaders

NIH NATIONAL CANCER INSTITUTE

- How has the field **RETAINED researchers**?

1. Strong industry relationships have enabled fluidity between academia and industry
2. Creating a “home” in the CA Center rather than home department (e.g., biostatisticians)
3. Resources for early investigators empower them and contribute to their success in competing for funding

Summary: Lessons Learned for further discussion

- NIH and Institutional leadership is critical
- Fund and build strong, local communities that develop investigators' identities as successful pain researchers
- Reward interdisciplinary approaches that are translational across the full spectrum (T0: basic science to T5: population-level implementation)
- Emphasize education, training, and career development across all career stages, starting in high school