

# Researchers advocate for new approaches to biomedical research

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Two deans from the UC Davis School of Medicine have outlined several approaches to biomedical research workforce development, a topic that is currently under scrutiny by the U.S. National Institutes of Health. Their ideas were published today in *Science Translational Medicine* in a focus article titled, "Creating the future biomedical research workforce," and is available [online](#).

"In this era of scarce resources and a stagnant job market, careful planning for the direction of biomedical research is critical," said Frederick J. Meyers, executive associate dean of the UC Davis School of Medicine and an author of the article. "We have the best and brightest young people coming through our system, and we all deserve for them to have the greatest opportunities to make important scientific progress."

According to the article, strategic biomedical [workforce development](#) can help eliminate health inequities and improve [population health](#). Key to achieving these goals is ensuring rapid translation of basic [scientific discovery](#) to practical application. Currently, it often takes decades for an important discovery in the laboratory to actually benefit people.

"Biomedical research should have the goal of producing sustainable improvements in health and include the full range of early translational research efforts," said Claire Pomeroy, UC Davis vice chancellor for human health sciences and dean of the School of Medicine and co-author of the article. "True health gains will occur only if we move beyond the current paradigm and embrace real-life assessment of

innovations."

Biomedical research workforce development, the authors wrote, requires new approaches because of today's increasingly complex scientific and technically sophisticated knowledge base, which includes the fields of bioinformatics, statistics, genomics, nanotechnology and regenerative biology.

"The biomedical research workforce must evolve with our rapidly changing scientific development," said Pomeroy. "Biomedical science trainees require a new set of core knowledge competencies in addition to the traditional scientific disciplines so that they can optimize their potential to make important and relevant discoveries."

To ensure that the new research workforce will function as part of complex systems, training resources will need to be directed more toward interdisciplinary collaboration rather than single discipline-specific training, which is the more common focus at present. For example, grants should be more often awarded to groups of scientists from different fields attacking a problem from different angles.

Another way to foster the clinical relevance of biomedical research is to promote partnerships between academia and industry, a relationship that has traditionally been considered suspect in academic institutions.

"Industry has resources and expertise that academic institutions should utilize," said Meyers. "New partnerships between the private and public sectors will create an environment that judges the value of novel research and technology according to their contributions to solving health issues as well as to economic vitality."

The article also points out that biomedical research workforce development should be aimed at coping with transition as the baby-boom

generation retires, often leaving a gap not only in experience but in the ability to acquire important grant funding. "How will the United States bridge the impending 'valley of retirement' as current NIH grant holders begin to vacate our universities and academic health centers?" the authors ask in the article. They recommend that increasing mentoring and training grants will help ensure a smooth transition of knowledge, technical skills and leadership capabilities.

The focus article was published to provide input to the Advisory Committee to the Director of the U.S. National Institutes of Health, which is currently examining the future of the [biomedical research](#) workforce. The NIH Director's task force can recommend alignment of available training resources with new goals and repurpose workforce development resources from NIH as well as private foundations. In the article, Meyers and Pomeroy encourage other clinical and translational researchers to share insights with the task force before the deadline for comment, October 7, 2011.

Provided by University of California - Davis

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