

# ALTERNATIVE VIEWPOINTS

## Clinical Scientist Ph.D. Program Panacea: Where's The Data?

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While the recent ACCP Commentary and Position Paper recommends a demise of fellowships and a switch towards more Ph.D. programs, the evidence to support such a move is scant. There should be no impetus to make such a switch without first understanding the nature of the pool of applicants for research training programs and comparing the scholarly output of pharmacists with both types of degree at the same stage of their career. Instead of driving more people toward Ph.D. training, I believe that we will simply drive more pharmacists away from research altogether. In addition, we need to defend the value of clinical research that improves patient care regardless of the level of funding secured to support such research.

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I want to thank the ACCP Research Affairs Committee for their service in constructing the commentary on the recommended education for pharmacists as competitive clinical scientists.<sup>1</sup> While I agree with many of the sentiments expressed in their commentary, I think that there are several points that should be made. I hope that these points are not viewed as a dismissal of much of their work with which I agree.

While there are definite advantages to Ph.D. training for clinical scientists versus fellowship training [4 years duration, extensive coursework, and wider net of professionals involved in training]; there are also important drawbacks [poor pay, long-term commitment, more schooling]. After working at McDonalds and the Veterans Administration Hospital every weekend and a couple days a week while I was a student at the Albany College of Pharmacy, I couldn't personally justify the added time commitment to complete a Ph.D. In addition, I enjoyed the hands-on experience of rotations and could not

have seen myself going back to the classroom for yet more coursework.

I am surprised that such definitive guidance on the demise of fellowships was made by the committee and approved by ACCP without querying current and past fellows to see if they would have preferentially chose a Ph.D. program if one were available. Likewise, I would have liked to hear whether the currently available Ph.D. programs are having a flood of applicants they cannot handle, thus spurring a desire for additional programs to be established across the country. It is my understanding that this is not the case. In discussions with our past and current fellows, I found that none of them would have gone the Ph.D. route. I strongly suspect that eliminating fellowships will not drive many more applicants to these Ph.D. programs but rather, into non-research career tracks.

Fellowships and Ph.D. programs can be two means to the goal of producing researchers. Maintaining both paths is more likely to satisfy the market's desire for more clinical researchers than eliminating a route that is well-suited for people capable and inclined to do clinical research.

I also worry that the biggest advantage of our fellowship, the hands-on training and exposure to multiple projects, would suffer in the

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constraints of a Ph.D. program. If we are to offer two years of coursework, 1 year of residency training, and one year for a thesis for a Ph.D., where is the time for hands on training and exposure to multiple projects so the students can find their passion and really hone their skills? I have seen many M.S./Pharm.D. programs that are, in fact, simply M.S. programs. All the time is consumed with coursework, fellows aren't around to recruit subjects in normal business hours, and the quality of the projects they complete doesn't match up. While laboratory research can be done after hours and on weekends, clinical research requires patient involvement and the researchers have to be there to recruit them and collect their data. Is there data showing that Ph.D. graduates do better 5 years down the line than those with fellowship training? This type of data is important to an evidence-based researcher.

I was a bit perplexed by the rationale given by the committee for ending pharmacy fellowships and replacing them with Ph.D. programs. The ACCP Commentary states: "Because the stated purpose of fellowship programs is to develop "independent researchers," which, by implication, means those with the highest likelihood of success for funding, and because the state of fellowship training varies considerably, ACCP believes that pharmacy fellowship programs should move toward becoming degree-granting programs."<sup>1</sup> So because a standard definition of a fellowship has not been applied, the entire fellowship-training route should be abandoned? Did the group evaluate the consistency of training from fellowship programs that are approved by ACCP? Did they consider using the term "research fellowship" and reserving it only for programs that provide rigorous training?

In addition, when did becoming an independent researcher mean having the highest likelihood for funding? I thought that an independent clinical researcher has the ability to identify a clinical problem, hypothesize a solution, test the potential solution in a scientifically defensible way, draw conclusions, and publish the information for the betterment of society. There is no doubt that universities covet federal dollars, but that does not mean that the goal of pharmacy research should shift from research intended to solve a clinical dilemma to filling the coffers of the university with indirect costs. Two of our publications in *JAMA* were funded for less than \$1,000 and our Atrial

Fibrillation Suppression Trials (AFIST) have had important impact on patient care across the country without securing federal funding.<sup>2-7</sup> The lack of federal funding should not diminish the value of these and other projects conducted by clinical pharmacy researchers.

Finally, I am surprised that the ACCP Commentary did not mention the Agency for Healthcare Research and Quality (AHRQ), a federal agency that has ample funds supporting clinically relevant research. Even with the NIH roadmap, there is still a bias towards more mechanistic than clinical research at the NIH, except for the funding of mega-trials or studies in under-represented populations. Perhaps we are focusing too narrowly on a single federal agency to direct the future training of our scholars.

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#### Authors' Reply

We agree with Dr. White that there are many examples of clinical pharmacists who have gained research experience during their careers, with or without completing a pharmacy "fellowship" training program, and have been successful in garnering major funding support. We also agree that many clinical researchers have completed important projects for small sums of money. However, our committee was charged with analyzing the present state of clinical and translational research training within the field of pharmacy, and providing a vision for the future

for those individuals who wish to become “competitive clinical scientists.” We do not believe that securing small amounts of funds on occasion would qualify one to be a competitive scientist.

We agree that NIH (or AHRQ) should not be the only focus of funding, but such funding is clearly not only coveted most by universities but also available in the largest amounts. Further, the ability to succeed with NIH bodes well for other submissions. We would also like to clarify that the committee does not suggest doing away with fellowships altogether nor does it place any stigma on developing oneself as a scholar in whatever methods are possible. What we need in pharmacy is more research from many pharmacists. ACCP is clearly committed to developing researchers (even some who might be competitively funded) through its Focused Investigator Training (FIT) program as well as the Research and Scholarship Academy.

The committee believed that the current structure of many 1 to 2 year fellowship programs does not adequately prepare researchers to be competitive in the future and thus encouraged merging fellowship training with a degree program whenever feasible. Though we understand some of the barriers that Dr. White points out in terms of degree program coursework taking away time when patients might need to be recruited, we believed that in order to enhance consistency of training for the student who is looking to become a clinical scientist, graduate coursework would be beneficial. Clearly there are some excellent fellowship programs for pharmacy clinical scientists and the ACCP fellowship program review process does enhance consistency. Further, selected programs with didactics along with on-the-job research experience do offer some fellows the additional opportunity to become independent researchers.

However, we do not believe that fellowships are any longer a viable approach for the development of our future clinical pharmacists as competitively funded translational or clinical scientists. An important source of our recommendation lies in the trends identified in

tenure guidelines at most research-intensive institutions. Without focused, formalized and recognized post-doctoral research training, we envision that pharmacy faculty might continue to “dabble” in research in the face of barriers such as a 5–7 year tenure probationary period, requirements for significant peer-reviewed funding (NIH required in some cases), and an increasingly competitive funding environment.

Dr. White has described a number of barriers to creating a “flood of applicants” to Ph.D. programs, including lower pay. He also implies that Ph.D. candidates are disadvantaged by not participating in multiple projects. We would note that there is similarly not a flood of recent graduates toward the available fellowships and that they pay poorly as well. We are also unaware of a stipulation that Ph.D. candidates cannot participate in multiple projects during their training prior to the dissertation. Successful completion of focused, well-designed dissertation projects are a requirement of all accredited graduate programs and guarantee at least one highly developed experience. As pointed out in our commentary, we believe that institutions will need to be creative in determining ways to better pay their candidates and should consider allowing them some time to work as a pharmacist, particularly if it maintains or advances their clinical skills in a patient population related to their research.<sup>1</sup>

To conclude, we continue to believe that to be a competitive clinical scientist for the future, advanced education and training should be pursued through a degree granting mechanism. We are also encouraged that new opportunities within the CTSA programs will further provide an avenue for research education, training and mentorship for pharmacy scientists.

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