

## **“How can I continue to identify research opportunities without the oversight of a preceptor or program director?”**

Jacob Beyer, Pharm.D.

PGY2 at University of Colorado Hospital

University of Colorado Skaggs School of Pharmacy and Pharmaceutical Sciences

Anschutz Medical Campus

Aurora, CO

This is a great question and one that I'd like to break into a few parts.

First, I think that identifying research opportunities begins with a curious mind. Asking and identifying relevant research questions arises from inquisitiveness, which is often grounded in experience and making connections among those experiences. There is a wonderful TED talk by Steven Johnson titled “Where Good Ideas Come From.” I'd encourage you to watch it. In the talk, he discusses the evolution of good ideas and innovations. Identifying research opportunities is no different. Here is a link to the talk:

[http://www.ted.com/talks/steven\\_johnson\\_where\\_good\\_ideas\\_come\\_from?language=en](http://www.ted.com/talks/steven_johnson_where_good_ideas_come_from?language=en).

Second, a preceptor, program director, or another experienced individual is often helpful in identifying and posing relevant questions for young practitioners and learners because the preceptors and program directors are grounded in experience, making it easier for them to recognize opportunity and ask relevant questions. Their role in identifying relevant questions is often invaluable and ensures that the research conducted by the learner or trainee is purposeful and framed in the appropriate context. As you move away from the role of trainee or learner, you enter more of a stage of independence with respect to becoming grounded in your own experiences and in making your own connections. With that said, although you may no longer have that oversight you once had in place as a trainee, it will serve you well to identify a mentor or surround yourself with the experience of others. Mentors serve to enrich your thinking, expand your curiosity, and refine your ideas. Mentors are invaluable to helping you shape your research opportunities. Over time, with a curious mind and an awareness of what is evolving and changing around you, you, too, should naturally develop the ability to ask interesting and relevant questions. And, if you find the right mentors, these opportunities and your ability to ask really interesting questions will be greatly enriched. Importantly, though, this is a process and may take some time.

Finally, and to build on my comments above about the role of mentors, even when you think you have identified that ideal research opportunity or have arrived at a relevant and interesting question, socializing that question with others is key. Although the oversight that you may have been accustomed to as a learner is no longer in place, it is essential that you work with others to discuss the opportunity, better define and refine the question, and determine how best to go about addressing it. The greatest piece of advice I can offer to students, residents, fellows, and junior faculty is never to underestimate the role of a mentor. Although the perception of “oversight” as it may be defined for students or residents in training is removed, it must be replaced with a deep appreciation for the role of mentoring.

When I think back to the research opportunities that I have had, they have all come about because of curious minds, a series of experiences from a team of people that were built and connected over time, a deep appreciation for the perspectives and insights of others, and a begging of questions,

such as “why is this a problem?”, “what evidence is needed?”, “how can we make this better?”, “what information does the profession, health care, society need in order for this area of science or practice to advance?”, and “how will our work advance those efforts?”

I lead a session in one of our master’s programs on this very topic of identifying relevant research questions, and I recommend the following article to our students: “Developing Great Research Questions” (Lipowski EE. Am J Health Syst Pharm 2008;65:1667-70). It is an insightful piece with lots of practical advice. One of my favorite quotes can also be found in this article and comes from a reporter once writing about the process of scientific inquiry and discovery. He writes:

*Discoveries rely very little on blind luck or grand strokes of genius and much more on solid logic, a talent for comparison and a mind so steeped in a discipline that it can recognize an unexpected clue for what it’s worth.*

In closing, I’d offer the following advice:

1. **Be curious.** Ask and explore why things are the way they are, and then carefully examine the literature or existing evidence base to learn more about this problem and what others have done or may be doing to address it. This is an important step.
2. **Share your ideas and questions with others.** This serves to enrich your own thinking, refine your questions, ensure relevance and importance, and shape the eventual opportunity. Be open to adapting your original thinking. Giving due diligence to getting the question right and asking a relevant and important question is essential.
3. **Don’t be afraid to seek guidance.** In fact, I can assure you that it will serve you well. Find a mentor. Surround yourself with a team. Collaboration is key to anyone’s success.
4. **Form a strong team.** Identify mentors, complementary talent, and the expertise needed to refine your approach and ultimately carry out the work you envision needs to be done. It doesn’t matter whether the research opportunity or project is big or small, a team (the right team) will always make it better.
5. **Ensure that the work is purposeful** and contributes to advancing the practices and systems within which you work. Ask yourself, what’s next, once this question is addressed. Where will this lead? Why is this work important? Ideally, good research questions should:
  - Meet important goals or fill a need;
  - Fit within the mission of the organization;
  - Garner support;
  - Garner resources (although this is more likely over time);
  - Be measurable;
  - Be completed within a reasonable time;
  - Have relevance to decision-makers;
  - And, ideally, be part of a larger plan.
6. **Remember, it is a process.** Good questions do not come to us overnight. The right research opportunities take time to develop and unfold and come about through a series of experiences and conversations that are brought to life by curiosity and a determination to make a difference.

Mary Roth McClurg, Pharm.D., MHS  
Associate Professor and Associate Director, Eshelman Institute for Innovation  
UNC Eshelman School of Pharmacy  
University of North Carolina at Chapel Hill  
Chapel Hill, North Carolina