One Easy Piece

Rho Chi 2008 Lecture

William H. Campbell, MS PhD
University of North Carolina at Chapel Hill

One of the classic movies of modern film making, "Five Easy Pieces," starred the incomparable Jack Nicholson as counterculture hero-cum-pianist. Using the piano as a metaphor for rebellion against societal barriers to individual freedom and honest expression, Mr. Nicholson's character embarked on a quixotic pursuit to play five pieces of music on the piano. Mastering these pieces would demonstrate, symbolically at least, his version of reality was superior to the reality of mainstream America. In the end, of course, exactly the opposite occurred, as his deranged view of reality proved to be incompatible with any version of "normal," or with the tolerance levels of modern society. And so I stand before you as the 2008 Rho Chi Lecturer, offering my version of reality to mainstream pharmacy under the less ambitious title "One Easy Piece." You will judge whether my piece is a symphony or a cacophony, but be assured I am deeply honored by your selection and for your consideration of my remarks.

Rho Chi is an academic organization, indeed the academic organization in pharmacy. Our motto is taken from Rene' Descartes' proof that our reality is fact, not chimera, as captured in his assertion, "I think, therefore I am." In that tradition I am asking us to revisit our Cartesian roots and ponder the reality of our existence as pharmacy educators by asking: What is an Academic Program in Pharmacy?

To most of us the immediate response will be familiar; an academic program in pharmacy is a collection of coursework, facilities, faculty, administrative policies, budget, operating procedures, and other resources organized into a curriculum for pharmacy students. To assure minimum quality, these resources must be structured to meet standards and guidelines of an accrediting body, the American Council on Pharmaceutical Education (ACPE). We are all well aware of that periodic exercise to assure minimum quality; i.e., the self-study process followed by site-visit report and Council thumbs-up or thumbs-down. As a survivor of six self-study exercises while a faculty member and/or dean at a school of pharmacy, as an occasional site-visit team member representing ACPE, and as a participant in accreditation matters for other health professions I have reluctantly concluded that we have lost our way in assuring minimum standards in pharmacy education. Let me put it in the starkest possible terms, our approach to defining an academic program is fatally flawed.

I base my conclusion in equal parts upon the current (2007) Standards for Accreditation of Doctor of Pharmacy Programs and the recent experience of accrediting new academic programs. It is clear to me the current approach causes us to focus excessively, if not exclusively, on individual elements of the curriculum while ignoring the all-important context in which that curriculum is delivered. In summary I believe our approach is fundamentally flawed because we have come to view an academic program in pharmacy as simply a delivery system for curriculum elements.

Our current system of ambiguous standards and piecemeal check-offs constitute the error in logic known as *reductio ad absudum; i.e.,* we have reduced all the curriculum pieces into an irreducible

minimum, but in the process have lost sight of a unifying goal. In a previously published commentary I have observed that the current (2007) PharmD accreditation standards deleted Pharmaceutical Care as the foundation of pharmacy practice and education. (1) In place of Pharmaceutical Care, an institution is now invited to advance its preferred philosophy of practice and education, and lacking any enforceable boundaries on practice philosophy, almost any approach is acceptable. Not surprisingly this leads to a circumstance where almost any curriculum is acceptable.

Economists have long recognized and described this condition under the rubric "bad money drives out good money." Briefly, this means when gold coins and counterfeit (e.g., copper) coins are mingled in the marketplace, gold coins will disappear in preference to counterfeits because people will understandably horde gold but exchange copper. Until a monetary authority prohibits entry of counterfeit coins, new entries will be predominantly copper. We have a similar situation in pharmacy education, where "gold standard" institutions are declining entry into academic pharmacy because their "gold minted" programs would not be differentiated by the (in this case academic rather than monetary) authority. In economics this leads to collapse of monetary systems as confidence declines in the value of money. In pharmacy education, I would suggest the same principle applies.

If we continue to define an academic program in pharmacy as simply a delivery system for curriculum elements, and if there is little control over what constitutes an acceptable curriculum, then the principle of "bad money drives out good money" tells us exactly what will happen: academic programs will not enter at a "24-carat" level, but at a "1-carat" level. In other words, the competition will be to find the least expensive way to deliver the least expensive curricular elements. If the goal is to simply push information through students in the most efficient manner, then human resources (aka faculty) are the least efficient mode of instruction.

It seems clear this goal can be better accomplished by liberal use of emerging technologies. The iPod, MP4, or other personal digital assistant (PDA) can easily store all the information required for a pharmacy curriculum, can deliver it in an interactive manner with both audio and visual capability, and do all this on a 24/7 basis. There may be some need for a human element to distribute the hardware and update the software, but we can certainly eliminate most of those pesky and expensive resources called faculty. In fact, I believe the next logical step in pharmacy education's current evolution is to establish an "iPod School of Pharmacy." This virtual school should be able to handle all of the manpower needs attracting startup programs.

How did we reach this point? In my view our rush to *reductio ad absurdum* has been propelled by one overriding fact, we have failed to recognize and meet our social contract in pharmacy education. The term "social contract" stems from the radical philosophers of the Age of Enlightenment. Kant, Hegel , and yes, Descartes, pondered the basis of authority between those who govern and those who are governed. The medieval view was that people (the governed) surrendered all freedoms in return for protection and security. Even the cruelest regime was justified, according to the old social contract, if its subjects were protected from deadly invasion and starvation. The Age of Enlightenment challenged this view, and asserted that people's freedoms could never be taken away but must be guaranteed by government. Under this philosophy the authority to govern is given by the people, not taken by the

government, and basic freedoms must be guaranteed. Two great revolutions, in the United States and France, cemented this philosophy as a core of western civilization. It follows that all institutions of modern society (e.g., professions, governments, religions) have a social contract. That a social contract is stated or unstated, honored or broken, burdensome or convenient, cannot obviate that a social contract exists. Every social institution has a social contract because it holds authority over people, and an institution cannot long endure if it fails to meet that social contract.

In my view the clearest evidence of a broken social contract in pharmacy education is the contrast between what we expect of our students, and what we expect of ourselves as educators. The American Association of Colleges of Pharmacy (AACP) adopts pharmaceutical care as the foundation for pharmacy education, and every academic program is a member of AACP so presumably subscribes to this philosophy. (2) Consistent with this philosophy, we require students to "accept responsibility for the outcomes of drug therapy."(3) We tell our students it is not enough to simply perform technical tasks in an accurate and efficient manner; it is not sufficient to make sure the prescription is valid, the medication is accurately dispensed, the container is labeled, and the patient is counseled. No, these are necessary but insufficient tasks. What is required is that students must also accept responsibility for the outcomes of care. If technical tasks are performed accurately but an avoidable adverse drug event occurs, we would grade the student to be deficient. If the student performed all necessary tasks but there was a failure in therapy because the patient was confused about regimen, we would grade the student performance to be unacceptable. In other words, the social contract we impose on students is to accept responsibility for the outcomes of their actions.

In contrast, we measure our performance as educators based solely on the technical tasks we perform; i.e., of delivering curricular elements. We perform the technical tasks of providing information to students and testing their comprehension, and if they meet our criteria we judge ourselves to be successful. We lecture and precept our students and if they "pass" we give ourselves a successful grade. If our students graduate, pass a licensure exam, and enter practice we consider our academic program to be a success, and award accreditation. We have delivered our curriculum, the students have completed it, end of story. Except it isn't the end of the story, because the real question is whether our efforts in pharmacy education are having an impact on the profession of pharmacy and on the patients being served by our graduates. Can we perform our technical tasks as educators "correctly," but see medication errors, failed therapy and adverse drug events escalate, and still claim we are successful educators? I say "No," and to do so is hypocrisy. If we are honest we must admit that we as educators are failing to meet our social contract. Which brings us to the question of, what is the social contract of pharmacy education?

Before tackling that question I believe the experience of medical education can be instructive. In a landmark study of medical education sponsored by the Pew Foundation, investigators explored the social contract of medical education. (4) Their effort was stimulated by a desire to identify a model for medical education that would maximize opportunities and minimize risks during the 21st century. They were seeking a model that would reflect academic medicine's highest aspirations while providing the greatest protection against economic, technological, political and other threats. The question posed was, "what does society expect of academic medicine, and what environment is required to meet that

expectation?" It is not the purpose of this paper to recount or analyze the conclusions drawn by medical educators, rather it is to briefly describe the process and suggest similarities with pharmacy education.

The authors' first step was to identify society's expectations of medical education, and to distil that into a succinct statement. Using a consensus process of leaders in education, the authors concluded that society wanted two things above all else from medical education:

1. Advances in life-saving and life-sustaining biomedical research.
2. Meeting society's needs for primary care physicians.

Next the authors constructed a way to measure whether these needs were being met by individual schools of medicine. The method for measurement is unimportant, other than to say it relied upon generally accepted methods that that would be recognized by pharmacy educators. At that time there were 121 medical schools in the United States and a ranking was completed of all schools according to each of the above stated needs. Table 1 shows simulated, not actual, results:

1. Ranking of 121 Medical Schools

A.	B.
Biomedical Research Ranking	Primary Care Physician Ranking
Medical School #1-R	*Medical School #1-PC*
Medical School #2-R	*Medical School #2-PC*
Medical School #3-R	*Medical School #3-PC*
Medical School #4-R	*Medical School #4-PC*
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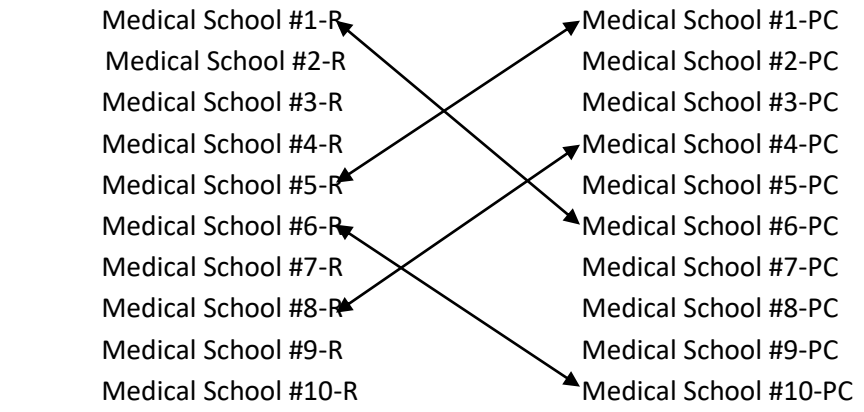
Medical School #121-R	*Medical School #121-PC*

Column A lists in descending order the 121 schools of medicine according to their productivity in biomedical research, and Column B lists the 121 schools according to their productivity in primary care physicians. Some educators would argue that the two missions, research and primary care training, are not only difficult to conduct within the same organization, but are impossible. Others would argue that excellence in one area contributes to excellence in the other area, and that a synergy exists between the two missions. To address these contrasting views, the authors asked what proved to be their most insightful question, "to what extent was there overlap between the two groups?"

The Top-10 schools of medicine in each ranking were then compared side-by-side to determine overlap and synergy at the highest level of performance. Table 2 shows simulated results.

Table 2. Overlap in Ranking of Top-10



If productivity in achieving these two missions were evenly distributed, one would expect each program in Column A to have a probability of approximately .8 (10/12.1) of appearing in each decile of column B. Thus, we would expect one program in the top decile of Column A of Table 1 to also be in the top decile of Column B. Surprisingly, the overlap was much greater, with four programs appearing in the top decile for both missions. The authors concluded that quite the opposite from being competing missions, these were complementary missions in medical education. The term "Bimodal School of Medicine" emerged from this study, meaning a model of academic medicine that was best positioned to meet the challenges of the21st century and which could achieve excellence in two highly differentiated, but socially valued missions.

Far more relevant to our discussion about pharmacy education, however, was the next step. The four overlapping programs (University of California-Los Angeles, University of California-San Diego, University of North Carolina, and University of Washington) were analyzed in-depth to determine what common threads allowed them to achieve such uncommon success. The programs were found to be similar in numerous characteristics, but the most central theme was a qualitatively and quantitatively greater engagement in the profession of medicine. These programs saw professional practice as a foundation upon which research and teaching rested and invested heavily in creating this foundation. Individual examples were numerous but could be placed in the following broad categories:

Delivery and testing of new models of medical care
Initiatives targeting unique health needs of local population
Medical care intended to improve morbidity and mortality of region
Commitment to train/retrain practitioners in state-of-the-art practice methods

Synergy between postgraduate medical education and professional education
Unique relationship with practitioners in terms of practice support (e.g., AHEC)
Acceptance of responsibility for the outcomes of medical education

Space does not allow even a cursory discussion of the varied activities within each category. Suffice to say the bimodal medical schools excelled at meeting their social contract because they were committed to understanding the medical care needs of their geographical area, and willing to invest their scarce resources in meeting those needs. Reading between the lines (since this was not a controlled, randomized, double-blind study) it appeared these programs operated on the principle that academic medicine requires an individual and collective commitment to advance the practice of medicine…not just to deliver curricular elements. In fact they would argue it is impossible to deliver a curriculum without being simultaneously committed to delivering progressive medical care. This stands in stark contrast to the iPod School of Pharmacy approach, which seems to be moving farther away from engagement with the profession.

Moving back to pharmacy education and the original question, "What is an academic program in pharmacy?" I see two, vastly different futures. One future, the one that leads to excellence and positions academic pharmacy to optimize its potential in the 21st century, is what I call the "Social Contract" approach. The other future, labeled the "iPod School of Pharmacy" approach, leads to greater isolation between academic pharmacy and professional practice, further compression of teaching, and separation of pharmacy students from other health professions. Table 3 summarizes these features.

Two Futures for Academic Pharmacy:

A "Social Contract" Approach	An "iPod" Approach
Engagement in the profession	Isolation from the profession
Academic environments rich in collaborative practice	Academic environments lacking in interdisciplinary health delivery
Programs to demonstrate progressive pharmaceutical care practice (e.g. "Asheville Project")	More condensed ("bits and bytes") approach to curriculum
Integration of Faculty/Academic resources dedicated to patient care	"5-year PharmD"
Commitment to the advancement of practice and practitioners	More measurement of student processes, less of professional practice outcomes
Synergies between postgraduate and professional programs	Declining ratio of Full-time Faculty FTE/ Student FTE
Practice-based Outcomes Assessment	Vocational/Technical School Model

As a placeholder for discussion, and recognizing my database is insufficient to place a 95 percent confidence level on this statement, I nonetheless offer the following hypothesis: easily 40 percent of all academic programs adhere to an "iPod" Model of pharmacy education, and at least 80 percent of new programs follow the "iPod" model.

Recognizing some of my colleagues may misinterpret these and take offense, let me offer the following clarification. This is not an elitist claim to restrict pharmacy education to academic medical centers. While these environments represent the ideal setting for pharmacy education, I am personally and painfully aware that some academic medical centers have treated pharmacy education like a poor stepchild, and an academic medical center is not a guarantee of immunity from professional isolation. Moreover, there are numerous examples where pharmacy programs outside academic medical centers have developed excellent pharmacy programs due to enlightened leadership and creative affiliations. My message is certainly not a Luddite warning against instructional technology, for we need to embrace and adopt technology in any way that helps our students and faculty. Nor is this a proposal for an untested approach to accreditation, for medical and dental education have long been required to show a substantial engagement in practice as a curricular prerequisite. Interestingly, 2008 finds law schools discussing implementation of a new accreditation standard that will require programs to demonstrate positive impact on the legal profession. Lastly it is not a call for a moratorium on new programs, for I believe there are many outstanding academic centers that could develop superb, and needed, academic pharmacy programs. But let us be honest, a university that lacks strong basic science programs, is isolated geographically and philosophically from pharmacy and other health professions, and lacks the means or will to create progressive pharmaceutical care practice cannot mount a quality program in academic pharmacy.

Since I felt compelled to clarify what I was not saying, above, I should reiterate what I am saying. This is a plea to recognize that we are losing our authority as educators through the inconsistent and incompatible manner in which academic pharmacy is defined. No one can look at the current system of pharmacy education and pretend that all academic programs share a common DNA. We are a broken, bifurcated system that lacks a common mission. The most fundamental mission of a profession is to determine the unique skills it requires, and to stipulate the requisite education. We have failed in that mission. I must say this is also a public statement of private concerns. For while some may be offended at my comments, in truth everything stated today has been discussed in corridors, bars, and private meetings for a decade. If this is a real concern let the sunlight in, if it isn't, stop the carping. And yes, it is an appeal to end hypocrisy in pharmacy education. Between our most distinguished and least distinguished programs is a chasm that defies rational explanation. It is unfair to our students and to our profession to ignore this gap, and to pretend it does not exist even as it widens.

Summary: I have argued that our current "system" of pharmacy education is broken. The key word in that statement is "system," because there are many excellent programs and people in pharmacy education, and brilliant teaching and research occurs on a daily basis. However a system that cannot coherently define its standards of entry and exit, cannot in truth be called a system. I believe the way

forward requires us to implement a candid and unavoidably painful process of defining our social contract. The model of medical education can be instructive, and the most useful step we can take is to acknowledge our obligation as educators to accept responsibility for the outcomes of our education; to hold ourselves to the same standard we hold our students. From this we will point we will be forced to forge partnerships between academic pharmacy and professional practice that is fundamentally different, and far greater in scope, than anything we have experienced in the past. The ultimate test is whether we can create progressive pharmaceutical care practice within the rubric of an academic pharmacy program.

I urge a distinguished group of educators and practitioners be commissioned to address the question of academic pharmacy's social contract. This group would identify the environment and resources required to fulfill this contract, and to draft accreditation standards and guidelines for this purpose. The process whereby accreditation standards are revised is cumbersome, slow, and promotes compromise to a fault. If anything more than modest change is to be accomplished, it is essential that independent initiative focused on real change must occur. And that is why my message is to an assemblage of Rho Chi members.

Some would say, "Why Rho Chi?" since we are merely a scholarly society without leverage in the political dynamics of pharmacy associations. However Rho Chi members are uniquely positioned to understand the threat to academic authority posed by inconsistent standards, incompatible programs, and loss of intellectual authority. You are the intellectual capital of academic pharmacy and you have the greatest stake in a strong system of pharmacy education. You are also members and leaders in all of pharmacy's organizations and your voice has unequalled authority. Clearly Rho Chi is not the organization to pursue this message, but Rho Chi members, I hope, will carry this message to their different member organizations and be activists for reinventing pharmacy education. So rather than say, "Why Rho Chi?" I would ask rather, "If not Rho Chi, then who?"

We have two choices, to address this issue that has been long bubbling below the surface, or to continue to ignore it. Addressing it will require courage and enormous effort, but delay will only make more difficult that inevitable day of resolution. I urge you to begin immediately, and I again thank you for your very kind attention to my remarks.

References

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