

THE COVID-19 PANDEMIC ACROSS THE ACADEMY

Pharmacy Education Crosses the Rubicon

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The pandemic caused by the novel coronavirus identified in 2019 (COVID-19) has resulted in seismic changes throughout society. Accordingly, academia has been forced to adapt. Changes across all aspects of teaching and instruction have occurred. Students have departed campuses and prospects of their return remain unclear. The Academy, which is generally reluctant to change, has been forced to make rapid adjustments. Among other issues, pharmacy schools and colleges have been forced to mitigate changes to experiential education. Tremendous resources and energy have been invested to actuate the changes that have occurred. In many ways, the disruptions forced upon pharmacy education may usher in a new normal. The likelihood for even a partial return to the customary way of doing things appears increasingly unlikely.

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INTRODUCTION

The pandemic caught us at a time of significant transformation within the pharmacy profession and more specifically within academic pharmacy. Schools and colleges were still dealing with vestiges of curricula that were either just about to be reformed or had very recently undergone a makeover.¹ Foremost on many minds across the Academy was the significant recession the profession was experiencing, underscored by declining pharmacy school applicant rates and a job market for graduates that had markedly retracted.^{2,3} Now, as the COVID-19 pandemic spreads across the globe, an avalanche of change has engulfed us professionally and drastically altered almost every aspect of our lives.

When the pandemic found us, it might be fair to say that pharmacy schools across the United States were in various stages of recreating themselves in terms of both professional and graduate education. Updated accreditation standards always introduce some change, but by 2019 most pharmacy schools had at least in part mitigated the changes brought on by the Accreditation Council for

Pharmacy Education (ACPE) Standards 2016. What was less clear was how colleges and schools would react to declining enrollments, a disrupted job market, and an ever more competitive residency environment.^{4,5} Scanning the existing landscape of professional and graduate programs across the Academy in early 2020 revealed a broad spectrum of curricula with a patchwork of delivery models.^{6,7} Doctor of Pharmacy (PharmD) degree programs continued to range from three-year accelerated offerings to the more traditional four-year curricula, with many schools continuing to operate distance campuses. The PhD and Master of Science (MS) programs in the pharmaceutical sciences, biomedical sciences and soci-administrative sciences continue to be largely stagnate in historical models of apprenticeship training.

The Pre-COVID-19 Period

Over at least the last two decades, existing methods of teaching and learning in the United States had been challenged.⁸ Educators kept hearing that primary and secondary school systems were shifting their educational models and paradigms. The digital age was accelerating the pace with which new information was being generated and was heralding in new ways of connecting with and manipulating data.⁹⁻¹⁰ Learning management systems for individual courses had become as expected as the syllabus

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itself. We were also told that learners were changing, that millennials and Generation Z would come to us with different expectations in terms of faculty-student interactions, classroom design, and content delivery.¹¹ Many educational institutions, including Harvard and Stanford, developed massive open online courses (MOOCs) intended to allow greater and unobstructed public access to course content. Medical schools began exploring accelerated programs that might shorten the time to earn a medical degree to three years.¹² Lastly, the influence on higher education of ever more sophisticated and seamless video capture technologies [eg, ECHO360 (Reston, WA)] was undeniable.¹³

In general, the pre-COVID-19 global response of the Academy to changes around us might have been described as incremental. Perhaps lending to the conservative and detail-oriented nature of pharmacists, we tend to defer to and otherwise rely upon time-honored processes and vestiges supplemented by a preponderance of evidence. This measured reaction to the change led to piecemeal adoptions of various technological formats and a patchwork array of delivery methods across the Academy. A variety of active-learning approaches were slowly creeping into curricula.¹⁴ After surveying what and how we taught across the Academy, some faculty members were driving and advocating for significant change while others were content with the status quo.

Pivoting to Respond to the COVID-19 Crisis

The transformation of higher education began in early March 2020 as institution after institution began to systematically move away from normal operations. In most instances, campuses were evacuated, leaving students as well as faculty and staff members displaced. Faculty members scrambled to move instruction from live, face-to-face platforms to online distance-education formats. Interruptions to the normal delivery of instruction in practice courses and laboratories, as well as in experiential education would be significant. Health systems and other practice sites across all health professions scrambled to develop policies and procedures to deal with and mitigate the presence of student learners in care environments. New means of assessment and testing were devised and quickly implemented. Faculty members moved to administer examinations distantly using various technological security frameworks or by opting to use open-book testing. Few, if any, aspects of academic life would be spared, including commencement exercises. Many pharmacy-specific issues surfaced, including but not limited to the effects of physical closures and social distancing on an already precarious applicant pool, the availability and feasibility of intermediate and advanced

pharmacy practice experiences, and prospects of on-time graduation and licensure for the classes of 2020 and 2021.

We are not likely to find any pharmacist still living with memories of how the 1918 Spanish Flu epidemic impacted pharmacy education, but we now know for ourselves what disruption of traditional education feels like. Prior to the pandemic, the term “disruption” had become popular in the academic and business world; however, before COVID-19, most of us did not understand what living in a state of disruption actually entailed. While some have implied that the COVID-19 pandemic was unpredictable, science tells us otherwise, and despite our attention to the lessons that history provided, perhaps we were overly complacent. Regardless, we now find ourselves at a new place and time in the trajectory of pharmacy education and higher education in general. The pandemic has forced many changes upon us. Traditional face-to-face courses and, in some cases, entire degree programs are being taught using distance technology. Faculty members and students alike are adjusting to working and learning from home. Instructors charged with skills-based education that typically occurs in laboratories and other simulated environments are finding creative ways to accomplish learning objectives without significantly compromising outcomes. Some have hastily developed electives to address learning around COVID-19, while others have developed service-learning opportunities (eg, compounding of hand sanitizer) focused on issues related to the pandemic. Experiential education is adapting to paradigms of practice that fall outside of a typical nine-to-five, eight-hour day, while anticipating what appears to be a near-assured move of clinical care towards hybrid telemedicine for the foreseeable future if not permanently.

Looking to the Future

Around 49 BC, Julius Caesar and his legion had done the unthinkable by expanding the Roman empire into the area known as Gaul (present day Germany). In doing such, Caesar had established himself as a competent and formidable general. Despite the Senate ordering Caesar to subsequently disband his legion, he was soon leading them in full gear back into the capital city of Rome. Caesar was aware that marshalling his army into Rome against the Senate’s authority would be deemed treasonous and would set into motion a series of consequential and irreversible events. At the time, the Rubicon River served as the northern boundary of the Roman Empire. Caesar would famously cross the Rubicon with his legion in tow, marking the point of no return.

Perhaps time will tell if pharmacy education has truly crossed the Rubicon. The pandemic has certainly forced

us into a state of out-of-the-box thinking and creative problem-solving. We are proving to ourselves that we can change, and we can do so faster than we ever thought possible. We have experienced failures and successes, but in general the Academy has achieved the unthinkable. In many ways, it is difficult to believe that we will ever go back to what was once considered normal. The genetic underpinnings of education has undergone forced mutation and a new, more resilient, wild type has emerged. Increasingly, we are learning that it was never truly about bricks and mortar. One might argue that our new approaches now put us into greater congruence with platforms used by primary and secondary education systems as well as other areas in higher education. Thinking more creatively about what and how we teach professional and graduate students frees us to reassess the need for constant face-to-face platforms and envision the constraints of credit hours or traditional four-year or three-year accelerated degree programs.

In every crisis, opportunity can be found. Finding opportunity in the midst of the COVID-19 crisis was not as difficult as it first appeared it would be. We have found new ways to teach and deliver content, we have harnessed creativity to achieve outcomes, and we have forced ourselves to approach old problems with fresh ideas. In doing all these things we have freed ourselves from the constraints of a classroom that has to have four walls, a podium, and a PowerPoint projector, or a laboratory that has to have dispensing benches and laminar hoods. We have experimented with new ways to assess students' performance that do not involve a physical room and proctors. We have also challenged our accreditation body to think more creatively about how pharmacists are educated. We have become more malleable. Perhaps most importantly we have proven to ourselves that we can indeed change, and that maybe it was time to.

It has been said that the deeper the crisis the greater the opportunity. The COVID-19 pandemic, with all its direct and collateral damage and despair, has afforded us some lessons and opportunities. We have learned of the collective cost of complacency. We now truly know and appreciate what a disruption really feels like. When the pandemic is over, it will have become a part of our generation's collective memory and history, and it will shape us as we make decisions moving forward. Perhaps COVID-19 has taught us that we (students, faculty and staff members, and administrators) are stronger than we thought we were.

CONCLUSION

Every sector of society now longs for a return to normalcy. However, we should acknowledge that "normal" as we once knew it will likely never be the same. Our classrooms will likely never look the same again. Some may resist the changes that have and are taking place, but the wheels have been set in motion. When Caesar proceeded in returning to Rome, he knew his actions would change everything. He is said to have famously uttered to his legion in Latin "*alea iacta est*," the die is cast. In much the same way, the future course of pharmacy education is now set: we have crossed the Rubicon.

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