Commentary

Simplifying the PharmD Curriculum

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1. Introduction

When seeking to improve, advance, or transform products, processes, or even professions, our first inclination as humans is to add something new. More features, more rules, more components, more offerings, and more checkboxes tend to be our default solution. However, at some point, additions may become the problem rather than the solution.

In 2000, the doctor of pharmacy (PharmD) degree was mandated as the entry-level pharmacy degree in the United States. Since then, hundreds of novel drugs have been approved by the Food and Drug Administration. Technology and digital health have transformed health care delivery, and the scope of pharmacy practice has evolved. Pharmacy education has continued to expand in both depth and breadth not just to keep pace with advancements in pharmacotherapy, biomedical and pharmaceutical sciences but also to prepare learners for a rapidly changing practice environment. These challenges of adapting curricula to current and future practice needs are only expected to continue.

To ensure that graduates are “practice-ready”, several different stakeholders have developed or expanded curricular requirements or expectations. The current Accreditation Council for Pharmacy Education (ACPE) accreditation standards, last updated in 2016, includes 25 standards, which is significantly more than peer professions such as medicine (12 standards), nursing (4 standards), and dentistry (6 standards). The sheer number of standards contributes to high and perhaps unnecessary workload and cost to students, faculty, and staff. In addition, the curricular standards mandate specific content, credits, contact hours, and processes as opposed to competencies. Multiple other curricular guidance documents including the Center for the Advancement of Pharmacy Education (CAPE) educational outcomes, the core Entrustable Professional Activities (EPA), the Pharmacists’ Patient Care Process, the Interprofessional Education Collaborative competencies, and the North American Pharmacy Licensure Exam competency statements also provide guidance on what schools should teach and pharmacy graduates should be able to do.

Schools and colleges responded to the inundation of requirements by modifying their curricula. Curricular modifications such as added content, assessment strategies, patient care activities, and cocurricular activities are all important advances in pharmacy education but have created dense and overloaded curricula. This phenomenon of curricular overload has been referred to in the higher education literature as curricular hoarding, complexity, bloat, drift, and hypertrophy.

Although some programs might “wear curricular complexity as a badge of honor”, evidence shows that curricular complexity does not imply quality. If we continue to add to a curriculum without removing content or increasing the completion time, the result is a curriculum that is bursting at the seams. If ignored, this will have major negative implications on students, faculty, programs, and ultimately patients. Curricular overload can result in poor retention and student burnout, and less time for students to explore or engage in intellectual, scholarly, or entrepreneurial activities. Furthermore, it can place extra stress on faculty and educational staff tasked with delivering, assessing, and overseeing the curriculum. Finally, it can tempt us to move more content to prerequisites which only shifts the complexity issue to the preprofessional curricula, which could decrease access and affordability.

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2. The Case for Simplifying

Simplifying the PharmD curriculum is not easy, but the potential benefits of doing so justify the efforts. First, lightening the workload of students and faculty would likely have positive effects on mental health. Workload is a significant contributor to faculty exhaustion and fatigue, which correlates strongly with many different factors of mental health and reduced well-being. Second, the overall teaching and learning experience can be improved if there is less content to teach. From the instructor’s perspective, when there is less content to “cover”, more time can be allocated to effective teaching practices that promote student mastery. When there is content overload, students may be forced into a game of “learning” just enough to get the grade they want in the course at the expense of engagement, long-term retention, intellectual curiosity, and creativity. The educational process should afford students the ability to actually think and reflect what they are learning vs rushing from course to course and exam to exam just to “keep up”. Perhaps one of the reasons why so many students feel unprepared for Advanced Pharmacy Practice Experience rotations is that they realize the study strategies they used in pharmacy school allowed them to perform well on exams, but at the expense of a more solid understanding of what they needed to learn. A final potential benefit of simplifying the pharmacy curriculum is that the overall cost of instruction should go down. Cost is one of the major issues in higher education today and everyone involved in the delivery of education should be taking measures to reduce those costs without sacrificing quality. Although streamlining our pharmacy curricula would likely not, in and of itself, result in significantly lower tuition expenses for students, any savings from a reduction in labor costs for the design, delivery, assessment, and documentation of education could be passed along and/or reinvested in students.

3. Barriers to Simplifying

Problems that develop over a long period of time and for a variety of reasons are not simple to solve and the issue of curricular overload is no exception. There are a number of different philosophical, organizational, and psychological barriers to simplifying pharmacy curricula. Adams and colleagues showed in their research, humans by nature, rarely “subtract” when solving problems. We tend to address issues by “adding”, whether that be through training, policies, content, etc. and may be part of the reason why we are in this situation to begin with. In our attempts to correct the issue of curricular complexity, we truly need to subtract and resist any natural urges to add more rules and procedures while doing so.

The root cause of pharmacy education’s curricular complexity problem may be because of the lack of universal agreement among programs or faculty about what exactly constitutes “practice-ready” and what every PharmD graduate needs to be able to do upon graduation. In efforts to expand the role of pharmacists within the health care system and/or to set their programs apart from others, the expected skills and abilities required of PharmD graduates seem to be steadily increasing. The 2021–22 American Association of Colleges of Pharmacy (AACP) Council of Faculties Faculty Affairs Committee discovered in their year-long study of curricular hoarding that “practice-ready” means different things to different people. To some, it means the basic clinical skills to pass the North American Pharmacy Licensure Exam, whereas others set the standards higher with the intent that graduates should be ready to pursue additional postgraduate training, fellowships, or leadership positions.

In a recent commentary, Brown asked an important question “are we creating graduates that are over-trained and under-utilized?” His proposal for a tiered pharmacy degree system is not without debate, but it highlights the lack of consensus on the term “practice-ready” and a growing concern that the requirements placed upon today’s pharmacy graduates are more challenging and somewhat unrealistic as curricular content steadily increases. Simplifying the PharmD curriculum seems particularly challenging in the context of AACP’s current strategic plan that includes a major strategic priority to lead the transformation of pharmacy education and practice, which requires the expansion of patient-centered pharmacy practice. This transformation will likely further exacerbate differences in opinion of what a pharmacy graduate should be able to do. It will take a thoughtful and disciplined approach by the Academy to address this strategic initiative without adding curricular requirements.

One of the biggest barriers to simplifying our curricula is the combination of ever-increasing accreditation requirements and other guidance documents such as the CAPE outcomes, EPAs, etc. Fulford and colleagues recently argued that these guidelines and standards were created from different (but valuable) perspectives with little to no integration or alignment, resulting in multiple criteria that every program is trying to meet and forcing educators to “shift resources to meeting checklists versus innovating their curriculum”.

Finally, reforming entire systems such as a curriculum is a time- and resource-intensive endeavor. Given the current workload and stress on pharmacy educators, it is hard for many faculty to imagine undertaking the work that an extensive project like this would dictate. Even programs that attempt to do this may struggle with aspects of change management. Strong leadership and support of the endeavor is necessary, so are methods and processes to successfully come to a consensus about what should be included in a more streamlined curriculum.

4. Call to Action

The issues of curricular complexity and overload involve numerous contributing factors at various levels. There are no simple solutions and addressing these issues will require bold actions by all involved with the design, delivery, and assessment of pharmacy education. The 2021–2022 Council of Faculties Faculty Affairs Committee report contains several recommendations, which are described below and summarized in Table 1.

**Table 1**

<table>
<thead>
<tr>
<th>Level</th>
<th>Recommendation</th>
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<td>AACP</td>
<td>Develop unified pharmacist professional identity</td>
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<td>Set minimum competencies for an entry-level pharmacist</td>
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<td></td>
<td>Provide schools with programming, training, and guidance</td>
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<td></td>
<td>Collaborate with ACPE and other stakeholders</td>
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<td>Individual institutions</td>
<td>Develop and implement strategies to maximize curricular efficiencies</td>
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<td>Empower and support curriculum committees</td>
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<td>Recognize and reward faculty members</td>
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<td>Faculty</td>
<td>Distinguish between “need-to-know” and “nice-to-know”</td>
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<tr>
<td></td>
<td>Use effective and efficient teaching methods to minimize cognitive overload</td>
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Abbreviations: AACP, American Association of Colleges of Pharmacy; ACPE, Accreditation Council for Pharmacy Education
4.1. How the Academy Can Simplify

Serious discussion and reform must begin at the highest levels of the Academy, with assistance, cooperation, and intentional effort from AACP and ACPE. AACP must develop a unified pharmacist professional identity and set clear, concrete, and achievable minimum competency expectations for an entry-level pharmacist that all programs can follow. AACP should also provide schools with programming, training, and guidance on how to develop, revise and maintain curricula that are efficient and effective as well as increase dissemination and recognition of curricular efficiency efforts. AACP and ACPE must collaborate to reduce and streamline the overall number of standards, eliminate redundancies, and lessen the burden of reporting requirements. The standards should integrate and correspond with other requirements such as the CAPE outcomes and EPA statements. Finally, the standards should be revised to reflect competencies as opposed to content, time, or processes. Additional collaboration with other key stakeholders, including the Joint Commission of Pharmacy Practitioners, National Association of Boards of Pharmacy, and other pharmacy organizations such as American Society of Health-System Pharmacists would be ideal to consider the broader context as well as the potential implications on licensure and postgraduate training.

4.2. How Individual Programs Can Simplify

Although there is guiding work that needs to take place at the Academy level, individual programs must develop and implement strategies to maximize curricular efficiencies on their own campuses. Administratively, programs need to prioritize the time and effort necessary to accomplish this goal. Programs must emphasize that the curriculum is a collaborative effort and ensure that the most common medications and disease states are covered at an appropriate level and depth. Curriculum committees need to be empowered, supported, and charged with addressing curricular efficiency. To do this successfully, programs must recognize and support faculty members who are committed to addressing curricular efficiency by rewarding them with internal grants, awards, distinction on performance and promotion reviews, and development opportunities. One of the most challenging aspects of reducing curricular complexity at the program level is coming to consensus on what content could be eliminated or streamlined, but there are models and examples in the literature that programs can follow to engage in meaningful dialog and make difficult decisions.

4.3. How Faculty Can Simplify

Individual faculty members are ultimately responsible for the depth and breadth of the content they teach and the way in which they teach it. They are vital in executing the curriculum in a way that does not increase undue workloads. The first step is to distinguish between “nice-to-know” and “need-to-know” content to mitigate drift, bloat, or hoarding. In reviewing and prioritizing content to develop entry-level pharmacists, they must accept that content itself can quickly become outdated and embracing the value of transferable skills like problem-solving. Elective courses, not the required curriculum, are the place for advanced, specialty, and/or niche topics. Second, faculty must use evidence-based teaching practices that are effective and efficient to minimize student cognitive overload and meet the needs of the modern learner.

5. Conclusion

Evidence suggests that our natural approach to solving problems is through additive changes rather than refining, simplifying, replacing, or subtracting. It is time to take a different approach to address curricular modification. Simplifying the PharmD curriculum, in a way that does not negatively impact the advancement of the profession, is a critical issue for the Academy. It requires buy-in, action, and collaboration by all stakeholders, including the Academy, accreditors, individual institutions, and individual faculty members.

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Author Contributions

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References


