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REVIEW

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Falling pass rates on the North American Pharmacist Licensure Examination signal an emerging crisis for a growing number of pharmacy schools

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Abstract

The North American Pharmacist Licensure Examination (NAPLEX) is a major assessment metric for graduates pursuing licensure and the institutions from which they graduated. Before 2014, the mean NAPLEX first-time pass rate was roughly 95% every year. Mean pass rates have fallen dramatically since then to less than 80%, with many schools currently unable to achieve a 70% pass rate. Such a drastic decline in NAPLEX performance constitutes a crisis for many schools. Changes to the exam blueprint, administration, and scoring provide a partial explanation for the decline, but the issue of cause ultimately comes down to one simple question: What has changed over the last 10 years that is making it more difficult for graduates to pass NAPLEX on the first attempt? The effects of excessive academic expansion, beginning in 2000, cannot be overlooked. The newest schools, established after 2009, and accelerated (3-year) programs, many of which are also new, appear to be particularly vulnerable. In 2023, 16 pharmacy schools had first-time pass rates below 65%. Nine (56%) of those schools opened after 2009 and seven (44%) were accelerated programs. Newer schools have had to compete for a limited supply of qualified faculty, administrators, preceptors and experiential training sites, while also striving to meet enrollment targets amid a dwindling applicant pool. The ability to overcome the NAPLEX crisis depends on first establishing a more effective process of assessing NAPLEX results—one that measures the right metrics in the right way—and upholds fair, but rigorous, quality standards. Stakeholders need access to actionable information and the most relevant, useful data available. The purpose of this article is to provide evidence that the Academy is facing a legitimate crisis and offer four recommendations by which assessment and understanding of the crisis can be enhanced.

KEYWORDS
NAPLEX, pharmacy accreditation, program assessment

Daniel L. Brown: retired.

1 | BACKGROUND: ANATOMY OF A CRISIS

Exams are the bedrock of academic assessment. Test results not only define student success but also function as measures of program effectiveness. The North American Pharmacist Licensure Exam (NAPLEX) is administered by The National Association of Boards of Pharmacy (NABP) as a qualification for licensure to ensure that graduates are sufficiently competent to practice pharmacy. The utility of NAPLEX has expanded over the years to include school pass rate as a measure of program quality.[1] The ACPE requires schools to report and analyze NAPLEX pass rates as part of the accreditation process.[2] Although limited in scope as a quality measure, NAPLEX remains the most objective, universally applicable metric for program assessment.[3,4]

Passing NAPLEX was once thought to be a routine rite of passage—the final validation that a graduate is ready to practice pharmacy. Not long ago, NAPLEX results collectively served as a testament to the effectiveness of pharmacy education. It was a time during which pharmacy graduates could rest assured that the historical odds of passing NAPLEX on the first attempt were heavily in their favor—well over 90%.

But times have changed. North American Pharmacist Licensure Examination results over the last 10 years convey a different prospect for new graduates. It is becoming clear that the pattern of falling pass rates is not a transient phenomenon that is about to correct itself back to a sense of normalcy. The downward trend seems to be heading toward a new normal that belies the outstanding successes of the past.

A decade of worsening NAPLEX results serves as verification that the Academy is facing an unprecedented crisis that cannot be rationalized, downplayed, or ignored. Not all schools are affected to the same degree, but the crisis is sufficiently widespread among schools to constitute a legitimate concern that must be addressed.[5]

2 | PURPOSE OF THIS REPORT

It is beyond the scope of this report to suggest specific corrective actions that individual pharmacy programs can take to improve the NAPLEX performance of their graduates. That challenge is unique to each program and practical solutions have thus far proven to be elusive. The purpose of this article is to provide evidence justifying the assertion that the Academy is facing a legitimate crisis and offer four recommendations by which to enhance assessment and understanding of the crisis.

3 | A PERSISTENT PATTERN OF DECLINE

From 2005 through 2015, the national pass rate for all first-time takers fluctuated slightly within the range of 90%–97%.[6,7] It has not exceeded 90% since 2015. In 2016, the national pass rate fell to 85.9%, then rebounded and remained reasonably constant until 2020, with results during those 4 years ranging from 88.0% to 89.5%.[7] Thereafter, the decline progressed further, with national pass rates of 81.8%, 77.7%, and 78.6%, respectively, from 2021 to 2023.[6]

TABLE 1 Comparison of the 3-year average of first-time NAPLEX pass rates of US pharmacy schools for 2011 to 2013 and 2021 to 2013.[6]

Metric	NAPLEX pass rates 2011–2013[a]	NAPLEX pass rates 2021–2023[a]
Mean pass rate of all US schools	96.2% ($n = 104$)	78.8% ($n = 142$)
Range of low to high pass rates	82.2%–100%	54.8–95.3%
Standard deviation (SD)	4.2%	10.5%
2 SD units below mean	87.8%	57.8%
Distribution of school pass rates		
90s	97 (93.3%)[b]	11 (7.7%)[c]
80s	7 (6.7%)[b]	62 (43.7%)[c]
70s	0 (0%)	39 (27.5%)[c]
60s	0 (0%)	27 (19.0%)[c]
<60	0 (0%)	3 (2.1%)[c]

Abbreviations: NAPLEX, North American Pharmacist Licensure Exam.
[a]Results are only included for schools that graduated a class in all 3 years.
[b]Percent of the 104 schools that had graduates complete NAPLEX in the years 2011 to 2013.
[c]Percent of the 142 schools that had graduates complete NAPLEX in the years 2021 to 2023.

Table 1 is based on 3-year averages covering two time periods that are 10 years apart, 2011 to 2013 and 2021 to 2023. This method of averaging three consecutive years of NAPLEX pass rates was proposed by Nau, Aronson, and Warholak.[1] The intention is to balance year-to-year fluctuations that might skew the interpretation of results from a single year. Table 1 shows a drop in mean NAPLEX pass rate of 17.4% between 2013 and 2023. Almost all schools had a pass rate above 90% in 2011 to 2013, while nearly half of schools had a pass rate below 80% in 2021 to 2023.

3.1 | Variable performance among schools

Of even greater concern is a dramatic change in the distribution of pass rates among schools between 2013 and 2023. For some schools, the decline in NAPLEX pass rates over the past 10 years has been negligible, while for others, it has been profound. Such disparities in NAPLEX performance among graduates are associated with specific program characteristics. Williams and colleagues conducted a statistical analysis of first-time NAPLEX pass rates from 2014 to 2016 to identify performance differences based on various school categories.[8] The following four characteristics were associated with significantly higher NAPLEX pass rates: (1) being located in an academic medical center, (2) being a public, rather than private institution, (3) being established before 2000, and (4) being a traditional 4-year

TABLE 2 Ranking of US pharmacy schools by average first-time NAPLEX pass rates over the 3-year period of 2021 through 2023.[6]

Schools in top third		Pass rate	Schools in middle third		Pass rate	Schools in bottom third		Pass rate
1	U Nebraska	95.3	49	U Cincinnati	84.1	97	Midwestern Chicago	75.1
2	South Dakota State	94.8	50	Presbyterian[a]	84.0	98	U Arizona	74.9
3	U North Carolina	94.2	51	U Kentucky	83.9	99	Albany	74.3
4	U Puerto Rico	94.2	52	U Toledo	83.8	100	D'Youville[a]	74.2
5	U Michigan	93.0	53	Western New England[a]	83.7	101	St. Joseph's U (PCP)[b]	74.1
6	Thomas Jefferson	92.3	54	U Louisiana Monroe	83.5	102	Medical College WI[a,c]	73.9
7	Butler	92.2	55	Palm Beach Atlantic	83.4	103	Hampton	73.7
8	U California San Diego	91.8	56	U Washington	83.3	104	St. Johns	73.6
9	U Pittsburg	91.4	57	Harding	83.1	105	Manchester[a]	73.2
10	U Wisconsin	91.0	58	U Montana	82.7	106	West Coast[a]	73.2
11	Northeastern	90.2	59	Creighton	82.7	107	Fairleigh Dickinson[a]	73.0
12	Union	89.7	60	U Minnesota	82.6	108	KGI[a]	73.0
13	Ohio State	89.6	61	Auburn	82.4	109	Husson	72.7
14	Virginia Commonwealth	89.6	62	Wilkes	82.3	110	Shenandoah	72.4
15	U Texas Austin	89.1	63	U New England	81.8	111	Texas A & M	71.1
16	U California SF[c]	89.0	64	Belmont	81.6	112	Binghamton[a]	70.2
17	U Kansas	88.9	65	Drake	81.5	113	Rosalind Franklin[a]	69.2
18	U Georgia	88.5	66	Florida A & M	81.1	114	LECOM[c]	69.2
19	Wayne State	88.3	67	Loma Linda	81.1	115	South College[a,b]	69.2
20	Western	88.3	68	U Tennessee	81.1	116	U Saint Joseph[a,b]	68.8
21	North Dakota State	88.2	69	Samford	80.6	117	Wingate	68.8
22	Duquesne	88.1	70	Ferris State	80.5	118	California Northstate	68.4
23	U Colorado	88.1	71	Regis	80.5	119	U Texas Tyler[a]	68.2
24	Rutgers	87.9	72	U South Carolina	80.5	120	UM Eastern Shore[a,c]	67.6
25	U Oklahoma	87.7	73	Texas Tech	80.4	121	U Charleston	67.3
26	Southern Illinois	87.5	74	Texas Southern	79.0	122	Sullivan[c]	67.3
27	U Arkansas	87.1	75	U Utah	78.7	123	Midwestern Glendale[c]	67.2
28	U Southern California	86.9	76	U Iowa	78.3	124	Pacific[c]	67.2
29	U Findlay	86.8	77	West Virginia	78.2	125	Appalachian[c]	67.2
30	U Florida	86.4	78	U New Mexico	78.1	126	U Texas El Paso[a]	66.6
31	U Incarnate Word	86.4	79	Roseman[c]	77.9	127	Marshall[a]	66.3
32	U Rhode Island	86.3	80	U Wyoming	77.8	128	CHSU[a]	66.1
33	Southwestern Oklahoma	86.2	81	U Connecticut	77.8	129	Long Island	65.9
34	Oregon State	85.8	82	Touro U New York	77.5	130	South University[c]	65.8
35	U Maryland	85.7	83	High Point[a]	77.4	131	Marshall B. Ketchum[a]	65.3
36	Purdue	85.6	84	Nova Southeastern	77.4	132	MCPHS Boston	65.2
37	Campbell	85.3	85	U Mississippi	77.2	133	William Carey[a,c]	64.8
38	Concordia[a]	85.3	86	Temple	77.1	134	Howard	64.8
39	U of the Pacific[c]	85.3	87	Idaho State	76.9	135	Notre Dame	64.4
40	Chapman[a,c]	85.2	88	NEOCOM	76.7	136	Roosevelt[a,c]	62.4
41	U Missouri	84.9	89	Touro U California	76.7	137	U Hawaii	62.1
42	SUNY at Buffalo	84.8	90	Cedarville[a]	76.4	138	MCPHS Worcester[c]	60.9
43	U South Florida[a]	84.6	91	Washington State	76.2	139	Larkin[a,c]	60.7
44	St. Louis COP	84.5	92	U North Texas[a]	76.1	140	PCOM Georgia[a]	58.8
45	East Tennessee State	84.3	93	Mercer	76.1	141	Xavier U of Louisiana	58.8
46	Ohio Northern	84.3	94	U Illinois	76.0	142	Chicago State	54.8

(Continues)

TABLE 2 (Continued)

Schools in top third		Pass rate	Schools in middle third		Pass rate	Schools in bottom third		Pass rate
47	St. John Fisher	84.3	*95*	MUSC	75.9	*143*	AUHS[a,c]	36.2[d]
48	U Houston	84.1	*96*	Lipscomb	75.6			

Note: University of California at Irvine is not included in the table because it had not yet graduated a class as of 2023.
Abbreviations: AUHS, American University of Health Sciences; CHSU, California University of Health Sciences; COP, College of Pharmacy; KGI, Keck Graduate Institute; LECOM, Lake Erie College of Osteopathic Medicine; MCPHS, Massachusetts College of Pharmacy and Health Sciences; MUSC, Medical University of South Carolina; NAPLEX, North American Pharmacist Licensure Examination; NEOCOM, Northeast Ohio Medical University; PCOM, Philadelphi College of Osteopathic Medicine; PCP, Philadelphia College of Pharmacy; SF, San Francisco; U, University of; UM, University of Maryland; WI, Wisconsin.
[a]These schools enrolled their first class after 2009.
[b]Philadelphia College of Pharmacy is now part of St. Joseph's University in Philadelphia.
[c]These schools offered an accelerated (3-year) PharmD program during 2021–2023.
[d]American University of the Health Sciences did not graduate a class in 2021. Its pass rate is the average of 2022 and 2023.

professional program, rather than an accelerated 3-year program.[8] These findings have been corroborated in subsequent reports.[9,10]

Table 2 lists schools in rank order, based on 3-year averages of first-time NAPLEX pass rates for 2021 through 2023. The top third of rankings in the table is represented mostly by public institutions that are traditional 4-year programs and were established prior to 2000. Schools in the lower third are predominantly private institutions established after 2000. Furthermore, of the 29 newest schools that were established after 2009, 20 (69%) are listed in the bottom third of pass rate rankings, as are 15 (79%) of the 19 accelerated (3-year) programs. In 2023, 16 schools had a first-time pass rate below 65%.[6] Nine (56%) of those schools opened after 2009, and seven (44%) were accelerated programs.[6]

4 | ROOT CAUSES OF THE CRISIS

It is understandable that a striking reduction in NAPLEX pass rates over a relatively short period of time would lead to speculation about potential root causes. Precipitating factors are likely to be complex, multifaceted, and difficult to pinpoint. Despite increasing efforts to describe the crisis, little is known about the specific fundamentals that are causing it.

The disruptive effects of the coronavirus disease 2019 (COVID-19) pandemic on education probably also interfered with student efforts to prepare for NAPLEX.[7,11] Effects of the pandemic on pharmacy education will most likely persist well into the future, but it is unlikely that COVID-19 is a primary root cause of a crisis that predates its existence and has continued to worsen since 2020.[5] COVID-19 is better identified as a confounding factor that has exacerbated, but not caused, the crisis.

The issue of cause ultimately comes down to one simple, albeit perplexing, question: What has changed since 2013, aside from NAPLEX itself, that is making it more difficult for graduates to pass NAPLEX on the first attempt? Since it takes 4 years to complete most pharmacy programs, that question could be amended to explore what has changed since 2009. At this point, probable causes generally fall into two major categories: factors affecting the difficulty of the exam and factors affecting the readiness of graduates to pass the exam.

4.1 | Changes to NAPLEX

NAPLEX underwent a blueprint change in 2015 to place greater emphasis on clinical assessment and therapeutics.[10] In 2016, format and scoring of the exam were modified, the number of questions increased from 185 to 250, and the time allotment expanded from 4.5 to 6 hours.[10] Corresponding to these testing changes, along with a new method of determining the passing standard, there was a statistically significant drop in NAPLEX pass rates in 2016, though some decline had already occurred in 2014 and 2015.[8,10] Pass rates dropped again sharply in 2021, corresponding to another blueprint change that went into effect that year.[5,10]

Ried and colleagues conducted a comprehensive study to determine, in part, whether the 2015 and 2016 changes to NAPLEX affected pass rates.[10] NAPLEX results from 2008 to 2015 were compared to results from 2016 to 2020. The study showed a statistically significant difference between pass rates before and after the NAPLEX changes. A subsequent drop in pass rates after the blueprint change of 2021, from 88.4% in 2020 to 81.3% in 2021, supports the conclusions of Ried and colleagues.[6,10]

The study did not address why blueprint and other testing changes negatively affected NAPLEX pass rates or whether such changes might have adversely affected the validity of the exam. Based on NABP's long history of successfully managing NAPLEX, it is reasonable to assume that changes to the exam were justifiable and valid. The magnitude of the 2021 drop and the fact that pass rates declined even further in 2022, suggest that factors beyond the exam itself are contributing to lower pass rates.[12]

4.2 | Excessive academic expansion

An era of unbridled academic growth commenced in 2000, when there were 80 pharmacy schools.[13] By 2009, the number of schools had risen

to 114, the pharmacist shortage that precipitated the expansion had been resolved, and signs were already beginning to appear that the pharmacist job market was becoming saturated.[14] Despite ample evidence that the need for new schools no longer existed, 30 more schools opted to open after 2009, and some existing programs continued with plans to increase class size or add a satellite campus.[13]

Executive leaders of the American Association of Colleges of Pharmacy and ACPE jointly published a commentary in 2012, stating that the proliferation of new schools was not negatively affecting NAPLEX pass rates.[15] Their impressions were accurate at the time, albeit premature. They did not foresee the repercussions of academic expansion that were about to unfold.

Table 2 provides documentation that the NAPLEX pass rates of programs established since 2000 are, in most cases, lower than the pass rates of programs that existed prior to 2000. The rapid and prolonged influx of new pharmacy schools created a constant demand for faculty, administrative leaders, preceptors, and experiential training sites. When finite resources are in short supply, it can be difficult for new upstart programs to compete for resources. Schools with an insufficient number of faculty or a lack of experienced faculty might find it more difficult to meet the intense demands of developing, delivering, and assessing an effective curriculum, complying with accreditation standards and requirements, and meeting the co-curricular needs of their students.[10]

Another consequence of excessive expansion first became apparent in 2014, when the pharmacy applicant pool began to shrink, even as the number of students needed to fill incoming classes continued to grow.[9,14] The Academy eventually reached a point of critical mass, with not enough qualified applicants to fill the vacant seats.[7] It became difficult for schools to meet enrollment targets, and in some cases, progressed into a struggle to survive.[9]

In response to enrollment difficulties, many schools have lowered the minimum required grade point average for admission to 2.5 or less.[16] Before 2009, less than half of Pharmacy College Application Service (PharmCAS) applicants were admitted to a pharmacy program.[17] Only the most qualified made the cut. The percent of applicants admitted has risen annually ever since, with almost 90% of the PharmCAS applicant pool granted admission over the last 4 years.[7,17] NABP speculated that discontinuation of the Pharmacy College Admission Test might be hindering the ability of schools to identify the most qualified candidates.[11] These findings suggest that admissions practices of some schools might not be as selective as they used to be, resulting in students being admitted who would not have made it into pharmacy school in the past. Such observations should not be construed to mean that pharmacy students today, overall, are academically inferior or somehow less qualified. Most students are as qualified and capable as ever, but it is reasonable to conclude that a growing subset of students is not fully prepared to succeed in a doctoral program.

4.3 | Proliferation of accelerated programs

Accelerated programs are a relatively new phenomenon in pharmacy education. Of the 19 3-year programs that graduated a class in 2023, all but three were established after 2000, and nine started after 2009 (Table 2). An unexpected development in recent years has been the conversion of traditional 4-year programs to 3-year programs. In 2023, three schools, West Coast University, Touro University California, and D'Youville University, elected to transition their programs from traditional to accelerated.[18–20]

This new pattern of existing traditional schools choosing to condense a doctoral program into one less year of training should cause alarm. The temptation to make the change amid ongoing enrollment struggles is understandable, based on the potential for increased revenue and the assumption that the lure of graduating a year earlier can serve as an enticing recruitment tool. However, some students find it difficult to navigate a Doctor of Pharmacy program in 4 years, let alone three. Accelerated programs tend to place greater strain on both students and faculty, with less time for rest and recovery within the program.

Condensing a pharmacy program from 4 years to three is a precarious undertaking that is not without risk, especially considering the low NAPLEX pass rates being achieved by many accelerated programs.[8,9] Research is warranted to explore factors that might be contributing to lower NAPLEX pass rates among schools with accelerated programs. Until such time as these factors are better understood, traditional programs should exercise extreme caution before finalizing a decision to accelerate.

In 2023, Regis University endeavored to creatively minimize the potential risk to their students by instituting a novel accelerated program option that affords students the opportunity to choose between a 3- and 4-year track after completing the first semester.[21]

5 | THE PRIMARY MITIGATION STRATEGY

Brandon and Romanelli provide a comprehensive account of the multifaceted issues surrounding the decline in NAPLEX first-time pass rates, which they refer to as a "conundrum."[7] They also describe a variety of interventions that have been employed by pharmacy schools to resolve the conundrum. Primary among the mitigation efforts are programs and materials that prepare students to pass NAPLEX on the first attempt. Such programs include detailed review books, practice tests, study guides, memorization aides, test-taking strategies, and live or video review presentations by experts.[22] The programs, which are often purchased from vendors, are delivered by schools in a variety of ways.

Liebovitz and colleagues conducted a detailed survey of current practices regarding NAPLEX preparation.[22] Of 141 schools surveyed, 100 (71%) responded, and 87 (87%) of the respondents reported having a formal NAPLEX preparedness program. Of the 87 schools with a program, 67 required it as a stand-alone course. North American Pharmacist Licensure Examination preparation has not only become common as a pregraduation activity, but it is an integral part of the curriculum in many schools. Only 13% of respondents indicated that the school did not offer a NAPLEX preparation program, with some stating that the school's high pass rates obviate the need for a supplemental program.[22]

Regardless of how NAPLEX review programs are administered and which activities a school chooses to implement, there is a lack of evidence to support the premise that such programs improve NAPLEX outcomes.[22] No single program has proven more effective than the others.[12] Regarding their overall efficacy, a continued decline in national pass rates despite the marked proliferation of the NAPLEX preparation industry, calls into question the heavy reliance on such programs as a primary mitigation strategy. No matter how sophisticated these programs might be or how diligently a school engages students in NAPLEX-related activities, it appears that the primary determinant of success is a student's own level of motivation to prepare for the exam.[12]

Over the last 10 years, the NAPLEX conundrum has grown into a crisis—one that has prevailed despite robust efforts on the part of those schools most affected. It is becoming increasingly apparent that the crisis cannot be resolved by simply ramping up NAPLEX preparation activities and coercing students to study for an exam that is months away. It is time to explore different strategies and design better methods of intervention.[5] New approaches can best be developed by first reexamining how NAPLEX data are being reported and assessed.

6 | DISCUSSION: FOUR NEW APPROACHES TO MANAGING NAPLEX DATA

6.1 | Standard deviation deserves greater attention

Attempts to analyze the NAPLEX crisis have focused on the decreasing trend of mean pass rates as the primary metric when comparing performance changes over time. Unfortunately, the mean pass rate represents only one element of the NAPLEX performance crisis. As illustrated in Table 1, the most striking change over the last 10 years is an alarming increase in the spread of pass rates between the highest and lowest performing schools. Most schools have been affected to some extent, with modest decreases in pass rates, but a growing number of schools have been disproportionately impacted, achieving pass rates that continue to fall farther behind the higher scoring schools.[6] As a result, the distribution of pass rates among schools has become more pronounced, producing a marked increase in SD.

Prior to 2016, when NAPLEX pass rates were high and distribution was minimal, values for standard deviation (SD) ranged from 3% to 5%.[8] The pattern has since changed considerably, with SD rising to more than 10%.[6] In addressing the NAPLEX crisis, one obvious goal is to increase mean pass rate by raising the pass rates of as many schools as possible. An even greater, although less conspicuous goal, should be to lower the SD.

Recommendation 1: NAPLEX stakeholders should monitor and assess changes in SD along with changes in mean pass rate. A goal of decreasing the SD of school pass rates closer to 5% should be pursued as vigorously as the goal of increasing the mean pass rate closer to 90%.

6.2 | Pass rates are best viewed through a wide lens

The era of declining NAPLEX performance has led to wider fluctuations in year-to-year pass rates. The impact of annual variation can be minimized, and a truer representation of a school's NAPLEX performance can be accomplished, by evaluating the average of a school's pass rates over a 3-year period.[1] This is in keeping with how NABP currently reports 3 years of data at a time.[6]

Recommendation 2: NABP should add a fourth column to its annual NAPLEX report to include, for each school, the average pass rate for the three years. ACPE should change the basis of NAPLEX program assessment from annual pass rate to a rolling 3-year average.

6.3 | First-time failure is not necessarily failure

There is a difference between failure and delayed success. First-time NAPLEX failure is not a permanent indicator that a graduate is unfit to practice pharmacy. Graduates who pass NAPLEX on a second attempt are just as qualified for licensure as those who pass the first time. Extenuating circumstances in one's personal life, physical ailments, and test anxiety can significantly hinder performance on a high-stakes exam, especially on the first attempt.

It is limiting and shortsighted to base NAPLEX performance assessment exclusively on the results of first-time attempts. North American Pharmacist Licensure Examination pass rates would yield a truer representation of program effectiveness if the assessment process included consideration of whether graduates who failed a first attempt were able to pass a re-take in timely fashion. That approach would be akin to a remediation program or a competency-based educational process in which students are afforded additional opportunity to achieve a predetermined performance standard.

NABP currently reports two metrics of NAPLEX results: first-time pass rate and all time pass rate. All-time pass rate is derived from the combination of first-time attempts and all re-takes within a calendar year, for all graduates of a school, regardless of when they graduated. The variability of re-take patterns of graduates who failed their first attempt greatly limits the utility of all-time pass rate as a comparative assessment metric. ACPE does not require all-time pass rate to be reported as part of the accreditation process.

There is a need for a new, more functional NAPLEX metric, one which explicitly identifies the extent to which graduates of a given program were able to pass NAPLEX within the year of graduation, whether on the first attempt or a retake. This could be achieved by creating the year-end pass rate, which would be derived by converting the status of "fail" to "pass" for graduates who pass a re-take within the same year as the failed first attempt. For example, if two schools have 50 out of 75 graduates pass their first attempt, the first-time pass rate would be 67% for both schools. Assuming 15 graduates from one school pass a retake and 4 graduates from the other school pass a retake, within the same year, the year-end pass rate for the schools would be 87% and 72%, respectively.

First-time pass rate should remain the primary NAPLEX metric, but not the only metric. Including year-end pass rate as a part of NAPLEX assessment would offer meaningful insight into each school's performance that could not have been gleaned from the first-time pass rate alone. A high year-end pass rate should serve as a mitigating factor when assessing a low first-time pass rate.

Recommendation 3: *NABP should replace all time pass rate with year-end pass rate in its annual NAPLEX report. ACPE should amend its NAPLEX monitoring policy to include reporting of year-end pass rates and provide guidance on how year-end pass rates can be applied to augment the assessment of first-time pass rates.*

6.4 | Low standards subvert the pursuit of high quality

In its annual NAPLEX report, NABP includes the SD along with the mean of first-time pass rates.[6] It also includes the value of 2 SD units below the mean, the significance of which relates to ACPE accreditation standards. A new ACPE policy codifies a performance benchmark that schools are required to meet, based on the mean pass rate minus 2 SD.[23] As of July 1, 2025, any school with a first-time NAPLEX pass rate that fails to meet the benchmark will be notified of the need to conduct a self-assessment and implement an action plan. Repeat occurrences within a 7-year period will trigger further consequences, ranging from a focused evaluation to a meeting with the ACPE Board, and eventually progressing to probation or withdrawal of accreditation.[23]

6.4.1 | Shortcomings of the current SD-based pass rate benchmark

The recent pattern of lower mean NAPLEX pass rates with a higher SD makes the current ACPE benchmark (2 SD below the mean) questionable as a method of establishing a legitimate performance threshold. Based on recent NAPLEX performance patterns, it sets the bar too low. Comparing NAPLEX results from 2013 to 2023, the mean pass rate decreased from 95.6% to 77.5%, but the SD more than doubled, from 5.1% to 10.7%.[6] Based on the 2 SD below the mean pass rate standard, the minimum acceptable pass rate changed from 84.4% to 56.1% over the 10 years. It is difficult to comprehend how a pass rate of 56.1% should meet the standard for NAPLEX performance.

The effectiveness of the new ACPE policy, no matter how well intentioned, will be hampered if it relies on standards that lack sufficient rigor. ACPE and other stakeholders need to collaboratively develop a better method for determining the quality standard for NAPLEX pass rate. A fixed value might be preferable, such as a benchmark set at 65% or 70%, which is well in line with historic academic assessment standards. If the SD method is to continue, a smaller SD adjustment, such as 1 SD or 1.5 SD below the mean, would produce a more legitimate expectation of NAPLEX performance.

6.4.2 | Report promotes a new NAPLEX metric: Total failures

Shcherbakova, Pesaturo, and Pezzuto expressed similar concerns in a recent commentary, suggesting that the 2 SD below the mean threshold employed by ACPE is insufficiently stringent and does not adequately hold schools accountable for low pass rates.[24] However, instead of suggesting ways to improve upon the current pass rate benchmark, they propose leaving the 2 SD pass rate method in place and adding a second metric by which to identify schools that might require accreditation action. The additional methodology involves determining the total count of first-time failures for every school and then deriving a new benchmark, the 'maximum accepted failure count,' by determining the failure count that is 2 SD above the mean of total failures for all schools.[24]

As an example, based on 2023 NAPLEX results, Shcherbakova and colleagues determined that any school with ≥35 total failures should be flagged for monitoring, regardless of the school's pass rate or class size.[24] They acknowledge that their proposed method might appear to be disadvantageous for large pharmacy programs but explain that none of the top 10 pharmacy programs in 2023, according to *US News and World Report*, had ≥35 total failures, despite having an average graduating class size of 125.[24] That statement is accurate, but the experience of 10 elite programs is insufficient evidence to refute the possibility of bias against large schools.

The report specifically named six programs that had ≥35 total failures in 2023.[24] It is not coincidental that three of the targeted programs had 189, 201, and 213 graduates take the exam, respectively, and the other three schools had a range of 118 to 156 graduates.[6] The fact that 10 large programs successfully maintained a failure count below 35 does not alleviate concerns that total failure count is inherently biased against large schools and preferentially lenient in favor of small schools.

6.4.3 | ACPE adds total failures metric to NAPLEX policy

At its June 2024 meeting, the ACPE Board of Directors approved the inclusion of total first-time NAPLEX failures as a second metric for assessing NAPLEX performance.[25] A school will now be flagged if its total first-time failure count is ≥30, even if the first-time pass rate falls within the 2 SD below the mean benchmark. According to ACPE policy, any program so identified will receive a letter encouraging the program to undertake a root cause analysis and implement corrective measures as needed.[23]

The new ACPE policy is inequitable because it holds large schools to a higher standard than small schools. North American Pharmacist Licensure Examination performance standards should apply equally to all programs, regardless of class size. Under the policy, a school with 200 graduates is obviously at greater risk of being flagged for having ≥30 failures than a school with only 50 graduates. In 2023, 41 schools had 50 or fewer graduates take NAPLEX for the first time, meaning

that 60% or more of the cohort would have to fail NAPLEX to reach the benchmark of 30 failures. These programs are essentially exempt from accountability according to the policy.

Total failures is a flawed metric because it focuses exclusively on failures while ignoring the equal importance of passes. A functional NAPLEX metric must account for the relationship between both passes and failures, which is reflected in the pass rate. If one school has 50 graduates and another school has 200 graduates, and both have a 70% pass rate, the smaller school will have 35 passes and 15 failures, whereas the larger school will have 140 passes and 60 failures. It would be erroneous to interpret that the higher failure count of the larger school indicates that the school's graduates did not perform as well as graduates of the smaller school. It is true that the larger school had 45 more failures, but it also had 105 more passes because the ratio of passes to failures is the same for both schools. Their pass rates were identical, and despite the difference in total failures, their performances on NAPLEX were equivalent.

Pass rate remains the most effective metric for conducting a comparative assessment of NAPLEX performance among schools. The metric is fine, but the current method of deriving the benchmark for that metric needs to be adjusted, to produce a standard that is more in line with the Academy's expectations of academic quality.

Recommendation 4: (*a*) *ACPE should reconsider and rescind the decision to use total first-time failures as a NAPLEX assessment metric*. (*b*) *ACPE should change the NAPLEX pass rate benchmark to either a fixed value of ≥65%* (*or ≥70%*) *or retain the SD-based method, but modify the benchmark to 1 SD below the mean* (*or 1.5 SD below the mean*). (*c*) *ACPE should include in the NAPLEX monitoring policy a process for periodically monitoring and adjusting the NAPLEX pass rate benchmark, as needed.*

7 | CONCLUSION

Uncompromised quality is the foundational cornerstone of all health professions. There can be no greater priority for pharmacy schools than upholding the highest standards of quality and excellence. The NAPLEX crisis has created a perilous dilemma for the profession of pharmacy because it calls into question whether the quality of pharmacy education is deteriorating. The crisis is not likely to be a short-term or self-limiting phenomenon. Precipitating factors, though not yet fully understood, are likely to persist, or even worsen, for years to come.

It is incumbent upon pharmacy leaders to restore a level of academic reliability that is beyond repute, comparable to what existed prior to 10 years ago. A prudent first step in crisis management would be to ensure that stakeholders have access to actionable information, as well as the most relevant, useful data available. Overcoming the NAPLEX crisis will require a more effective process of comparative program assessment—one that measures the right metrics in the right way, and upholds fair, rigorous quality standards. Perhaps there will come a day in the not-too-distant future when commercial NAPLEX preparation programs will be obsolete, and administrators will no longer have to face the unveiling of their school's pass rate with trepidation.

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CONFLICT OF INTEREST STATEMENT

The author declares no conflicts of interest.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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