

Pharmacy, PharmD

Program Description

The specific purpose/focus (mission) of the Doctor of Pharmacy (PharmD) professional degree program offered by the Texas A&M University Irma Lerma Rangel School of Pharmacy (SOP) is to ***“develop and inspire a diverse group of future leaders in pharmacy practice and pharmaceutical sciences through transformational education, innovative research, holistic care, and effective outreach and service”***. In order to achieve this specific purpose/focus (mission), the SOP PharmD professional degree students will:

1. Develop, integrate, and apply knowledge from the foundational sciences to optimize health-related decisions and recommendations at the patient and population level. **(LEARNER)**
2. Provide individualized, patient-centered pharmaceutical care. **(CAREGIVER)**
3. Manage medication use systems to optimize healthcare outcomes. **(MANAGER)**
4. Design health and wellness strategies to prevent and manage chronic diseases. **(PROMOTER)**
5. Integrate population-based data into the practice of evidence-based pharmacy. **(PROVIDER)**
6. Identify, communicate, resolve and prevent medication-related problems. **(PROBLEM SOLVER)**
7. Educate patients, caregivers and professional colleagues using effective communication techniques. **(EDUCATOR and COMMUNICATOR)**
8. Advocate for health-care needs on individual and population-based levels. **(ADVOCATE)**
9. Collaborate as a member of an inter-professional team for team-based, patient-centered care. **(COLLABORATOR)**
10. Demonstrate awareness and sensitivity to cultural and socioeconomic diversity and incorporate the traditions of diverse cultural groups into patient-centered care. **(INCLUDER)**
11. Engage in personal development & professionalism. **(SELF-AWARE and PROFESSIONAL)**
12. Develop new ideas to improve patient care by leading the advancement and achievement of the shared goals of the profession. **(INNOVATOR and LEADER)**

As the role of the pharmacist continues to evolve, the SOP PharmD professional degree program’s unique learning environment provides thorough, personalized education and training, creating lifelong learners prepared to meet tomorrow’s health care challenges. Guided by the SOP’s 10 Core Values (Care, Compassion, Innovation, Collaboration, Competence, Integrity, Respect, Community, Excellence and Leadership), the SOP continues to enhance the quality of lives in the border region, the state of Texas and beyond through its PharmD professional degree program.

The mission and core values of the SOP, which are integrally aligned with the mission and core values of the Texas A&M Health Sciences Center, provide the basis for the School’s strategic planning process.

Additional Information: The Rangel School of Pharmacy offers a four-year Doctor of Pharmacy (PharmD) professional degree program that is fully accredited by the Accreditation Council for Pharmacy Education (ACPE) and by the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC). Since opening in 2006, the school has grown to include two campuses, **Kingsville and College Station**. The School of Pharmacy welcomed the first cohort of students in the PharmD professional degree program to the College Station campus in Fall 2014. The expansion of a second campus in College Station marks a significant milestone for the Kingsville-based School, providing additional opportunities for student pharmacists in Texas and ultimately resulting in improved access to quality health care throughout the state. The Rangel School of Pharmacy’s PharmD professional

degree students can choose to enroll in Kingsville or College Station, receiving the same transformational education at either campus. With the two campuses, the School continues to offer one PharmD curriculum that runs concurrently in real time. Distance education technology is being utilized to deliver nearly all courses with the exception of practice and skills laboratories that are physically offered on each campus. Synchronous videoconferencing capabilities are utilized on both campuses to accommodate as many as five to six videoconference classrooms and meeting rooms that support the programmatic needs. The first, second, and third PharmD professional years (didactic education) are offered in Kingsville and College Station simultaneously (synchronously) while the fourth professional year (experiential education) consists of advanced clinical rotations throughout Texas. To ensure that there are no systematic differences between both the campuses (with respect to student outcomes), the School is/will be routinely gathering and reviewing varieties of matrix/measures of PharmD graduates such as (but not limited to): (a) performance on licensure exams [first-time NAPLEX (NABP) and MPJE (NABP) pass rates]; (b) PharmD graduation-on-time (%); (c) four(4) years versus five(5) years completion of PharmD program; (d) final PharmD GPA; (e) performance on external benchmark exams like PCOA (NABP) (administered to students at/nearing the end of pharmacy professional year 3 and Pre-NAPLEX (NABP) (administered to students at/nearing the end of pharmacy professional year 4); (f) performance on internal benchmark exams like OSCEs (administered to students during pharmacy professional years 1, 2 and 3), Benchmark-1 (a cumulative exam administered to students at the end of pharmacy professional year 1) and Benchmark-2 (a cumulative exam administered to students at the end of pharmacy professional year 2); (g) end-of-course evaluations by students every semester; and (h) student satisfaction data like AACP graduating student curriculum quality survey (administered at/nearing the end of pharmacy professional year 4) and graduating student exit interviews (administered at the end of pharmacy professional year 4).

Outcome 1 – LEARNER

The Irma Lerma Rangel School of Pharmacy (SOP) PharmD professional degree students will develop, integrate, and apply knowledge from the foundational sciences to optimize health-related decisions and recommendations at the patient and population level.

Measure 1.1 – MEASURE-1: National First-time North American Pharmacist Licensure Examination (NAPLEX) Pass Rate for PharmD Professional Graduates

Data Collection: The Rangel School of Pharmacy PharmD Professional Degree Graduates take two examinations for licensure (NAPLEX and MPJE) that are both administered by the National Association of Boards of Pharmacy (NABP). **The *North American Pharmacist Licensure Examination (NAPLEX)* measures one’s ability to measure pharmacotherapy and therapeutic outcomes, prepare and dispense medication, and implement and evaluate information for optimal health care thereby measuring the PharmD professional degree graduate’s knowledge of the practice of pharmacy.**

NAPLEX PASSING SCORE: A PharmD graduate needs a minimum scaled score of 75 (range 0-150) to pass the NAPLEX. Candidates are allowed 5 attempts to pass the NAPLEX exam with a wait period of 45 days.

What Data is Gathered: First-time NAPLEX Pass Rate data for PharmD Professional Graduates. **First-time NAPLEX Pass Rate is a DIRECT MEASURE of student learning.**

How Data is Gathered: The national pharmacy licensure exam (NAPLEX) is administered by the National Association of Boards of Pharmacy (NABP) and measures a PharmD graduate's knowledge of the practice of pharmacy. It is used by the Boards of Pharmacy as part of their assessment of a PharmD graduate's competence to practice as a pharmacist and compares the results to national data. The NAPLEX data is collected by NABP at the School Level and compares/publishes the School Level results with the National data for ***First-time Attempts and All Attempts***.

From/By Whom is Data Gathered: The Rangel SOP Director of Assessment gathers the First-time NAPLEX Pass Rate data from the NABP Portal by authenticated login credentials approved by the Rangel School of Pharmacy Dean and NABP. NABP provides School Level data through the NABP Portal.

How Data Will Be Used For Program Assessment Purposes: Based upon the 2022 Class/Cohort Level First-time NAPLEX performance, the Office of Assessment (led by Dr. Simi Gunaseelan) in concert with the Office of Academic Affairs (led by Dr. Kim Tanzer) will work in tandem with faculty-at-large to review and ensure all '**didactic' curricular contents and assessments of student learning** are appropriately 'mapped' back to the NABP NAPLEX Competency Statements/Blueprint (<https://nabp.pharmacy/programs/examinations/naplex/competency-statements-2021/>).

Methodology or data analysis strategy: The First-time pass rates for NAPLEX School Level data will be used 'as-is' in its aggregated form from the on-line published data to determine the Class/Cohort Level performance. The School of Pharmacy compares its NAPLEX performance with the National Performance and the Texas State Performance for each year.

CAMPUS COMPARISON: The School of Pharmacy will NOT BE ABLE to disaggregate the 2022 NAPLEX data between students' performance in Kingsville Campus with students' performance in College Station Campus since NABP is no more providing individual Student Level data back to the School of Pharmacy.

Target 1.1

The Rangel School of Pharmacy leadership, in collaboration with university leadership and other stakeholders, established **thresholds and targets** for NAPLEX (First-time Pass Rates) based on the university mission and school mission of providing access to under-served communities along with a review of peer institution trends.

Threshold: 85% of PharmD professional degree graduates (Entire Class Cohort of Class of 2022) will pass the NAPLEX Pharmacy Licensure Exam on their 'First-Attempt'.

Target: 90% of PharmD professional degree graduates (Entire Class Cohort of Class of 2022) will pass the NAPLEX Pharmacy Licensure Exam on their 'First-Attempt'.

Target on CAMPUS COMPARISON: Since the School of Pharmacy will NOT BE ABLE to disaggregate the 2022 NAPLEX data between students' performance in Kingsville Campus with students' performance in College Station Campus, the School is not able to establish a target that there will be no discernible differences between the two campuses.

Finding 1.1: Not Met

As of January 30, 2023, the North American Pharmacist Licensure Examination (NAPLEX) First-time Pass Rate for the PharmD Class of 2022 is **75.5%**.

When the same PLO was measured compared to last time (January 25, 2022), the NAPLEX First-time Pass Rate for the PharmD Class of 2021 was **71.2%**. This time (January 30, 2023), the NAPLEX First-time Pass Rate for the PharmD Class of 2022 is **75.5%**.

The TAMU School of Pharmacy leadership, in collaboration with university leadership and other stakeholders, established targets (90%) and thresholds (85%) for the Pharmacy National Licensing Exams (NAPLEX and MPJE) based on the university mission and school mission of providing access to under-served communities along with a review of peer institution trends. The Covid-19 pandemic has disproportionately impacted the TAMU School of Pharmacy students' National Licensing Exams (NAPLEX and MPJE) performances. The School's leadership is determining/initiating strategies for increasing the National Licensing Exams pass rates on first attempt. As the very first initiative, the School has invested in/purchased 2 separate tools/resources (UWorld-RxPrep and ExamMaster) for all pharmacy students in their final professional year (P4 Year) for practice testing to adequately prepare for their National Licensing Exams (NAPLEX and MPJE) upon graduation

Measure 1.2 – MEASURE-2: National First-time Multistate Pharmacy Jurisprudence Examination (MPJE) Pass Rate for PharmD Professional Graduates

Data Collection: The Rangel School of Pharmacy PharmD Professional Graduates take two examinations for licensure (NAPLEX and MPJE) that are both administered by the National Association of Boards of Pharmacy (NABP). **The Multistate Pharmacy Jurisprudence Examination (MPJE) assesses competency and knowledge of pharmacy law.** The Multistate Pharmacy Jurisprudence Examination® (MPJE®) administered by the National Association of Boards of Pharmacy (NABP), combines federal- and state-specific questions to test the pharmacy jurisprudence knowledge of PharmD graduates. It serves as the pharmacy law examination in participating jurisdictions and tests a PharmD professional degree graduate's mastery of pharmacy law and compares the results to national data.

MPJE PASSING SCORE: A PharmD graduate needs a minimum scaled score of 75 (range 0-100) to pass the MPJE. Candidates are allowed 5 attempts to pass the MPJE exam with a wait period of 30 days.

What Data is Gathered: First-time MPJE Pass Rate data for PharmD Professional Graduates. **First-time MPJE Pass Rate is a DIRECT MEASURE of student learning.**

How Data is Gathered: The national pharmacy licensure exam (MPJE) is administered by the National Association of Boards of Pharmacy (NABP) and measures a PharmD graduate's mastery of pharmacy law (federal and state specific). It is used by the Boards of Pharmacy as part of their assessment of a PharmD graduate's competence to pharmacy law and compares the results to national data. The MPJE data is collected by NABP at the School Level and compares/publishes the School Level results with the National data for **First-time Attempts and All Attempts.**

From/By Whom is Data Gathered: The Rangel SOP Director of Assessment gathers the First-time MPJE Pass Rate data from the NABP Portal by authenticated login credentials approved by

the Rangel School of Pharmacy Dean and NABP. NABP provides the School Level data through the NABP Portal.

How Data Will Be Used For Program Assessment Purposes: Based upon the 2022 Class/Cohort Level First-time MPJE performance, the Office of Assessment (led by Dr. Simi Gunaseelan) in concert with the Office of Academic Affairs (led by Dr. Kim Tanzer) will work in tandem with faculty-at-large to review and ensure all **'didactic' curricular contents and assessments of student learning** are appropriately 'mapped' back to the NABP MPJE Competency Statements/Blueprint (<https://nabp.pharmacy/programs/examinations/mpje/competency-statements/>).

Methodology or data analysis strategy: The First-time pass rates for MPJE School Level data will be used 'as-is' in its aggregated form from the on-line published data to determine the Class/Cohort Level performance. The School of Pharmacy compares its MPJE performance with the National Performance and the Texas State Performance for each year.

CAMPUS COMPARISON: The School of Pharmacy will NOT BE ABLE to disaggregate the 2022 MPJE data between students' performance in Kingsville Campus with students' performance in College Station Campus since NABP is no more providing individual Student Level data back to the School of Pharmacy.

Target 1.2

The Rangel School of Pharmacy leadership, in collaboration with university leadership and other stakeholders, established **thresholds and targets** for MPJE (First-time Pass Rates) based on the university mission and school mission of providing access to under-served communities along with a review of peer institution trends.

Threshold: 85% of PharmD professional degree graduates (Entire Class Cohort of Class of 2022) will pass the MPJE Pharmacy Licensure Exam on their 'First-Attempt'.

Target: 90% of PharmD professional degree graduates (Entire Class Cohort of Class of 2022) will pass the MPJE Pharmacy Licensure Exam on their 'First-Attempt'.

Target on CAMPUS COMPARISON: Since the School of Pharmacy will NOT BE ABLE to disaggregate the 2022 MPJE data between students' performance in Kingsville Campus with students' performance in College Station Campus, the School is not able to establish a target that there will be no discernible differences between the two campuses.

Finding 1.2: Not Met

As of January 30, 2023, the Multistate Pharmacy Jurisprudence Examination (MPJE) First-time Pass Rate for the PharmD Class of 2022 is **85.6%**.

When the same PLO was measured compared to last time (January 25, 2022), the MPJE First-time Pass Rate for the PharmD Class of 2021 was 79.8%. This time (January 30, 2023), the MPJE First-time Pass Rate for the PharmD Class of 2022 is 85.6%.

The TAMU School of Pharmacy leadership, in collaboration with university leadership and other stakeholders, established targets (90%) and thresholds (85%) for the Pharmacy National Licensing Exams (NAPLEX and MPJE) based on the university mission and school mission of providing access to under-served communities along with a review of peer institution trends. The Covid-19 pandemic has disproportionately impacted the TAMU School of Pharmacy students' National Licensing Exams (NAPLEX and MPJE) performances. The School's leadership is determining/initiating strategies for increasing the National Licensing Exams pass rates on first attempt. As the very first initiative, the School has invested in/purchased 2 separate tools/resources (UWorld-RxPrep and ExamMaster) for all pharmacy students in their final professional year (P4 Year) for practice testing to adequately prepare for their National Licensing Exams (NAPLEX and MPJE) upon graduation.

Measure 1.3 – MEASURE-3: National Pharmacy Curriculum Outcomes Assessment (PCOA) Performance for PharmD Professional Year 3 Students

Data Collection: The Pharmacy Curriculum Outcomes Assessment (PCOA) is a **comprehensive standardized national assessment tool** developed and administered by National Association of Boards of Pharmacy (NABP) to provide an independent, objective, and external standardized measure of student performance in United States PharmD professional curricula. This is a mandated assessment by the Accreditation Council for Pharmacy Education (ACPE) administered to the PharmD Professional Year 3 Students nearing the completion of their PharmD Didactic Curriculum. This national exam is administered by NABP to ensure that the PharmD professional students are ready to embark into the advanced PharmD Experiential Curriculum through the Advanced Pharmacy Practice Experiences (APPE) offered in their Final Professional Year 4 thereby making them 'APPE-Ready'. The PCOA is administered by NABP in a computer-based format. The Schools/Colleges of Pharmacy provide the test location and facilities needed to assist NABP in securely administering the PCOA to the students. The PCOA is required for all pharmacy individuals nearing the completion of their didactic curriculum to meet Pharmacy Standard 24: Assessment Elements of the ACPE (Accreditation Council for Pharmacy Education) Accreditation Standards and Key Elements for the Professional Program in Pharmacy Leading to the Doctor of Pharmacy Degree (Standards 2016). **PCOA assesses student performance in the entire didactic curriculum and compares the results to national data.** The Total PCOA assessment (225-question) is broken down into four (4) individual major PCOA content areas: (a) Basic Biomedical Sciences (10% of the assessment) (b) Pharmaceutical Sciences (33% of the assessment) (c) Social/Behavioral/Administrative Sciences (22% of the assessment) (d) Clinical Sciences (35% of the assessment). The Rangel College of Pharmacy completes its didactic curriculum at the end of the 3rd year (Spring Semester) and therefore the PCOA is administered around that time. The 2023 PCOA was administered online (by NABP Proctors) to '104' TAMU SOP 3rd year pharmacy students (Class of 2024) during **April 12-14, 2023**, with '63' students tested from Kingsville Campus and '41' students tested from College Station Campus.

What Data is Gathered: The (i) Total PCOA data and (ii) Four Individual PCOA Content Areas data on (a) Basic Biomedical Sciences (b) Pharmaceutical Sciences (c) Social/Behavioral/Administrative Sciences (d) Clinical Sciences) for PharmD Professional Year 3 Students. **PCOA (Total and Four Individual Content Areas) is a DIRECT MEASURE of student learning.**

How Data is Gathered: The PCOA data (Total and Four Individual Content Areas) is collected by NABP both at the individual Student Level and at the College (Class/Cohort) Level and compares the results with the National data.

From/By Whom is Data Gathered: The Rangel SOP Director of Assessment gathers the PCOA data (Total and Four Individual Content Areas) from the NABP Portal by authenticated login credentials approved by the Rangel School of Pharmacy Dean and NABP. NABP provides both the individual Student Level data and School Level data through the NABP Portal. Unlike the licensure (NAPLEX and MPJE) student individual data that cannot be provided to the School of Pharmacy without individual student's consent, NABP can provide the PCOA individual Student Level data to the School of Pharmacy directly without any consent needed by the PharmD Professional Year 3 students.

How Data Will Be Used For Program Assessment Purposes: Based upon the Class/Cohort Level PCOA performance, the Office of Assessment (led by Dr. Simi Gunaseelan) in concert with the Office of Academic Affairs (led by Dr. Kim Tanzer) will work in tandem with faculty-at-large to review and ensure all '**didactic' curricular contents and assessments of student learning** are appropriately 'mapped' back to the NABP PCOA Content Areas/Blueprint (<https://nabp.pharmacy/programs/examinations/pcoa/content-areas/>).

The Pharmacy 3rd year PCOA (comprehensive external benchmark exam) has shown to be a strong predictor of our pharmacy graduates' first-time NAPLEX (licensure exam) success/failure. Hence, the school (program leadership and faculty) is investing more time in this key PCOA assessment area to ensure that our pharmacy graduates are successful in their final licensure exam (NAPLEX).

Methodology or data analysis strategy: The Rangel School of Pharmacy determines its internal target (**Passing Score**) Total PCOA Cutoff score as 1 Standard Deviation (STD) from the National Average PCOA Total Score (National Average PCOA Total Score – 1 STD value). The STD value is provided by NABP and is calculated from the National PCOA Student Scores. **Thus, any student who scored at or higher than the internal target cut-off in the Total PCOA is considered passing.** Based upon the target cut-off score, each of the PharmD Professional Year 3 students' PCOA performance will be analyzed and represented graphically where every point in the graph will indicate a student. From the graph we will be able to make inference on the 2023 PCOA students' performance w.r.t. overall PCOA Total Score to determine the number and % of students falling under the 3 categories - 'Low Performers' (National Average – 1STD and National Average + 1STD). Since the target is based on the national performance, every year the Total PCOA target performance will change.

Additionally, the students' performance within each of the four (4) Individual PCOA Major Content Areas tested will also be analyzed based upon the targeted cut-off scores (**Passing Scores**) within each of the 4 PCOA areas. The Cut-off Scores within each of the 4 PCOA areas will be calculated exactly the same way as the cut-off score of the Overall PCOA Total Score which is National Average Score (each PCOA Area) – 1 STD value (each PCOA Area). The 4 STD values for each of the 4 PCOA Areas are also provided by NABP. **Thus, any student who scored at or higher than the internal target cut-off in the each of the 4 PCOA Areas is considered passing.** Based upon the cut-off scores for each of the 4 PCOA Areas, each of the PharmD Professional Year 3 students' PCOA performance within each of the 4 areas will be analyzed and represented graphically where again every point in the graph indicates a student. From each

of the graphs, we will be able to determine the number and % of students falling under the 3 categories - 'Low Performers' (National Average – 1STD and National Average + 1STD). Since the target is based on the national performance, every year the 4 PCOA Areas target performance will change.

The School of Pharmacy compares its PCOA performance with the National Performance for each year. The aggregated PCOA data will further be **disaggregated** to compare students' performance between College Station campus/Kingsville campus and between Race/Ethnicity.

CAMPUS COMPARISON: The School of Pharmacy will disaggregate the 2023 PCOA data between students' performance in Kingsville Campus with students' performance in College Station Campus.

COMPARISON BASED UPON RACE/ETHNICITY: The 2023 PCOA data will be disaggregated into individual Student Level data (provided by NABP to the Rangel SOP) to compare the performance between URM Students (*Hispanic and Black/African American*) and Non-URM Students (*Asian, White and Mixed Race*).

Target 1.3

Target 1a: 90% of the PharmD Professional Year 3 students (Entire Class Cohort of Class of 2024) should achieve the Passing Score for **Overall Total PCOA** based upon the internal target cut-off score as determined by the Rangel School of Pharmacy for 2023.

Target 1b: 90% of the PharmD Professional Year 3 students who are Hispanic Students (Class of 2024) should achieve the Passing Score for **Overall Total PCOA** based upon the internal target cut-off score as determined by the Rangel School of Pharmacy for 2023.

Target 1c: 90% of the PharmD Professional Year 3 students who are Black/African American Students (Class of 2024) should achieve the Passing Score for Overall Total PCOA based upon the internal target cut-off score as determined by the Rangel School of Pharmacy for 2023.

Target 2a: 85% of the PharmD Professional Year 3 students (Entire Class Cohort of Class of 2024) should achieve the Passing Score for the **PCOA Area-1: Basic Biomedical Sciences** based upon the internal target cut-off score as determined by the Rangel School of Pharmacy for 2023.

Target 2b: 85% of the PharmD Professional Year 3 students who are Hispanic Students (Class of 2024) should achieve the Passing Score for the **PCOA Area-1: Basic Biomedical Sciences** based upon the internal target cut-off score as determined by the Rangel School of Pharmacy for 2023.

Target 2c: 85% of the PharmD Professional Year 3 students who are Black/African American Students (Class of 2024) should achieve the Passing Score for the **PCOA Area-1: Basic Biomedical Sciences** based upon the internal target cut-off score as determined by the Rangel School of Pharmacy for 2023.

Target 3a: 85% of the PharmD Professional Year 3 students (Entire Class Cohort of Class of 2024) should achieve the Passing Score for the **PCOA Area-2: Pharmaceutical Sciences** based upon the internal target cut-off score as determined by the Rangel School of Pharmacy for 2023.

Target 3b: 85% of the PharmD Professional Year 3 students who are Hispanic Students (Class of 2024) should achieve the Passing Score for the **PCOA Area-2: Pharmaceutical Sciences** based upon the internal target cut-off score as determined by the Rangel School of Pharmacy for 2023.

Target 3c: 85% of the PharmD Professional Year 3 students who are Black/African American Students (Class of 2024) should achieve the Passing Score for the **PCOA Area-2: Pharmaceutical Sciences** based upon the internal target cut-off score as determined by the Rangel School of Pharmacy for 2023.

Target 4a: 85% of the PharmD Professional Year 3 students (Entire Class Cohort of Class of 2024) should achieve the Passing Score for the **PCOA Area-3: Social/Behavioral/Administrative Sciences** based upon the internal target cut-off score as determined by the Rangel School of Pharmacy for 2023.

Target 4b: 85% of the PharmD Professional Year 3 students who are Hispanic Students (Class of 2024) should achieve the Passing Score for the **PCOA Area-3: Social/Behavioral/Administrative Sciences** based upon the internal target cut-off score as determined by the Rangel School of Pharmacy for 2023.

Target 4c: 85% of the PharmD Professional Year 3 students who are Black/African American Students (Class of 2024) should achieve the Passing Score for the **PCOA Area-3: Social/Behavioral/Administrative Sciences** based upon the internal target cut-off score as determined by the Rangel School of Pharmacy for 2023.

Target 5a: 85% of the PharmD Professional Year 3 students (Entire Class Cohort of Class of 2024) should achieve the Passing Score for the **PCOA Area-4: Clinical Sciences** based upon the internal target cut-off score as determined by the Rangel School of Pharmacy for 2023.

Target 5b: 85% of the PharmD Professional Year 3 students who are Hispanic Students (Class of 2024) should achieve the Passing Score for the **PCOA Area-4: Clinical Sciences** based upon the internal target cut-off score as determined by the Rangel School of Pharmacy for 2023.

Target 5c: 85% of the PharmD Professional Year 3 students who are Black/African American Students (Class of 2024) should achieve the Passing Score for the **PCOA Area-4: Clinical Sciences** based upon the internal target cut-off score as determined by the Rangel School of Pharmacy for 2023.

Target on CAMPUS COMPARISON: There will be no significant differences on the 2023 PCOA Student Performances between the two campuses (Kingsville Campus and College Station Campus) in the Overall Total PCOA and Four Individual PCOA Content Areas.

Finding 1.3: Partially Met

The PCOA was administered using online proctoring with ProctorU by the National Association of Boards of Pharmacy (NABP) between the 3-day testing window of **April 12, 2023, to April 14, 2023**, to the TAMU School of Pharmacy Class of 2024 (104 students) towards the end of the P3 Year. This standardized exam assesses student performance in the didactic curriculum in four major content areas (Basic Biomedical Sciences, Pharmaceutical Sciences, Social/Behavioral/Administrative Sciences and Clinical Sciences) and compares the results to national data. **The TAMU School of Pharmacy has determined the 2023 PCOA Cutoff Passing scores as 1 Standard Deviation (1 STD) from the Class Mean Scaled Scores for the Total PCOA and for each of the individual PCOA Areas.** (*Note: Due to inaccurate National Reference Standards provided by NABP, the TAMU SOP was unable to use the national data to determine the PCOA Cutoff Passing scores and therefore used the Class Cohort data as the reference standard instead.*)

Therefore, the 2023 TAMU SOP PCOA Passing Scores/Cutoff scores were calculated as follows:

| | TAMU SOP Class Mean Scaled Scores | TAMU SOP Class 1 STD | TAMU SOP Class Mean Scaled Score - 1STD (PCOA Cut-Off/Passing Scores) |
|---|--|-----------------------------|--|
| PCOA TOTAL SCORE | 343 | 47 | 296 |
| PCOA Area-1: Basic Biomedical Sciences | 346 | 76 | 270 |
| PCOA Area-2: Pharmaceutical Sciences | 351 | 51 | 300 |
| PCOA Area-3: Social/Behavioral/Administrative Pharmacy Sciences | 330 | 64 | 266 |

A synopsis of the 2023 PCOA Exam performance for the Class of 2024 PharmD 3rd Year Pharmacy Students (P3) is provided below:

| | PCOA Overall Total | PCOA Area-1 | PCOA Area-2 | PCOA Area-3 | PCOA Area-4 |
|--|--------------------|-------------|-------------|-------------|-------------|
| # P3 Students (Class of 2024) | 104 | 104 | 104 | 104 | 104 |
| Highest Score (TAMU SOP) | 473 | 560 | 500 | 516 | 464 |
| Lowest Score (TAMU SOP) | 224 | 206 | 241 | 199 | 181 |
| Mean Score (TAMU SOP Class Mean) | 343 | 346 | 351 | 330 | 342 |
| 1 STD (TAMU SOP Class Mean) | 47 | 76 | 51 | 64 | 49 |
| 2 STD (TAMU SOP Class Mean) | 93 | 153 | 103 | 128 | 98 |
| Score @1 STD below TAMU SOP Class Mean (PCOA Cut-Off "Passing Score") | 296 | 270 | 300 | 266 | 293 |
| Score @2 STD below TAMU SOP Class Mean | 250 | 193 | 248 | 202 | 244 |
| # TAMU SOP Students performing at 2 STD below the TAMU SOP Class Mean (<u>SOP LOWEST Performers</u>) | 1 | 0 | 1 | 1 | 2 |
| # TAMU SOP Students performing at 1 STD below the TAMU SOP Class Mean (<u>SOP LOW Performers</u>) (# PCOA Failing Students) | 13 | 12 | 18 | 24 | 17 |
| Score @1 STD above TAMU SOP Class Mean | 390 | 422 | 403 | 394 | 391 |
| Score @2 STD above TAMU SOP Class Mean) | 436 | 499 | 454 | 458 | 440 |
| # TAMU SOP Students performing at 1 STD above the TAMU SOP Class Mean (<u>SOP HIGH Performers</u>) | 15 | 14 | 12 | 15 | 13 |
| # TAMU SOP Students performing at 2 STD above the TAMU SOP Class Mean (<u>SOP HIGHEST Performers</u>) | 3 | 3 | 3 | 1 | 3 |

| 2023 PCOA Content Areas | Total # P3 Students Failing PCOA Exam | 2023 PCOA Exam (Passing %) | Target MET/NOT MET |
|---|---------------------------------------|----------------------------|-------------------------------|
| PCOA TOTAL SCORE | 13 | 87.5% | Target of 90%: NOT MET |
| PCOA Area-1: Basic Biomedical Sciences | 12 | 88.5% | Target of 85%: MET |
| PCOA Area-2: Pharmaceutical Sciences | 18 | 82.7% | Target of 85%: NOT MET |
| PCOA Area-3: Social/Behavioral/Administrative Pharmacy Sciences | 24 | 76.9% | Target of 85%: NOT MET |
| PCOA Area-4: Clinical Sciences | 17 | 83.7% | Target of 85%: NOT MET |

KEY FINDINGS

1. All but thirteen (13) students passed the PCOA Overall Total Exam with a score at or above **296**. Thus, the 2023 PCOA Overall Total Exam **passing percentage is 87.5%**. (Target of 90%: **NOT MET**)
2. All but twelve (12) students passed the PCOA Area-1 (Basic Biomedical Sciences) Exam with a score at or above **270**. Thus, the 2023 PCOA Area-1 Exam **passing percentage is 88.5%**. (Target of 85%: **MET**)
3. All but eighteen (18) students passed the PCOA Area-2 (Pharmaceutical Sciences) Exam with a score at or above **300**. Thus, the 2023 PCOA Area-2 Exam **passing percentage is 82.7%**. (Target of 85%: **NOT MET**)
4. All but twenty-four (24) students passed the PCOA Area-3 (Social/Behavioral/Administrative Pharmacy Sciences) Exam with a score at or above **266**. Thus, the 2023 PCOA Area-3 Exam **passing percentage is 76.9%**. (Target of 85%: **NOT MET**)
5. All but seventeen (17) students passed the PCOA Area-4 (Clinical Sciences) Exam with a score at or above **293**. Thus, the 2023 PCOA Area-4 Exam **passing percentage is 83.7%**. (Target of 85%: **NOT MET**)

DISAGGREGATED 2023 PCOA DATA (Based upon CAMPUS Breakdown)

Disaggregating findings of 2023 PCOA data between students' performance in Kingsville Campus versus College Station Campus: On a yearly basis, the Pharmacy 3rd year National PCOA (Pharmacy Curricular Outcomes Assessment) performance is explicitly used to examine the potential impact of mode of delivery and geographic location on student learning. Since the College of Pharmacy has 2 campuses (College Station and Kingsville),

the PCOA (which is a **direct measure** of students' comprehensive Year 1 – Year 3 didactic learning and a national external benchmark exam) administered just prior to the students' Final Year 4 (Year 4 is a year-long experiential learning) is a very useful data to compare and contrast PCOA performance between Kingsville campus students and College Station campus students. The Pharmacy 3rd year 2023 PCOA data were gathered to compare and contrast PCOA performance between Kingsville students and College Station students. The aggregated data of the PCOA Overall Total Exam and the Four Individual PCOA Major Content Areas Exam were **disaggregated** to compare students' performances based upon the 2 campuses – College Station and Kingsville as shown in the table.

| TAMU SOP Class 2023 P3 PCOA Exam | Kingsville Campus (Mean Scaled Scores) | College Station Campus (Mean Scaled Scores) |
|---|--|---|
| PCOA Overall | 345 | 340 |
| PCOA Area-1: Basic Biomedical Sciences | 337 | 360 |
| PCOA Area-2: Pharmaceutical Sciences | 340 | 369 |
| PCOA Area-3: Social/ Behavioral/ Administrative Pharmacy Sciences | 320 | 345 |
| PCOA Area-4: Clinical Sciences | 338 | 350 |

| 2023 PCOA Content Areas | Kingsville Campus Total # Students Failing | Kingsville Campus 2023 PCOA Exam (Passing %) | Kingsville Campus Target MET/NOT MET | College Station Campus Total # Students Failing | College Station Campus 2023 PCOA Exam (Passing %) | College Station Campus Target MET/NOT MET |
|---|--|--|---|---|---|--|
| PCOA TOTAL SCORE | 11 | 83% | Target of 90%: NOT MET | 2 | 95% | Target of 90%: MET |
| PCOA Area-1: Basic Biomedical Sciences | 8 | 87% | Target of 85%: MET | 4 | 90% | Target of 85%: MET |
| PCOA Area-2: Pharmaceutical Sciences | 14 | 78% | Target of 85%: NOT MET | 4 | 90% | Target of 85%: MET |
| PCOA Area-3: Social/Behavioral/Administrative Pharmacy Sciences | 17 | 73% | Target of 85%: NOT MET | 7 | 83% | Target of 85%: NOT MET |
| PCOA Area-4: Clinical Sciences | 11 | 83% | Target of 85%: NOT MET | 6 | 85% | Target of 85%: MET |

KEY FINDINGS

Observations Based upon Campus (Kingsville versus College Station) Breakdown:

1. **College Station Campus** PharmD Professional Year 3 students **MET TARGET** on PCOA Overall Total 'Mean Scaled Scores'.
2. **Both Kingsville Campus and College Station Campus** PharmD Professional Year 3 students **MET TARGET** on PCOA Area-1: Basic Biomedical Sciences 'Mean Scaled Scores'.
3. **College Station Campus** PharmD Professional Year 3 students **MET TARGET** on PCOA Area-2: Pharmaceutical Sciences 'Mean Scaled Scores'.
4. **Both Kingsville Campus and College Station Campus** PharmD Professional Year 3 students **DID NOT MEET TARGET** on PCOA Area-3: Social/Behavioral/Administrative Sciences 'Mean Scaled Scores'.
5. **College Station Campus** PharmD Professional Year 3 students **MET TARGET** on PCOA Area-4: Clinical Sciences 'Mean Scaled Scores'.

DISAGGREGATED 2023 PCOA DATA (Based upon RACE/ETHNICITY Breakdown)

Disaggregating findings of 2023 PCOA data for Class of 2024 to determine students' performance based upon Race/Ethnicity:

| 2023 PCOA Exam Class of 2024 P3 <u>Total</u> Students: 104 Class of 2024 P3 <u>Hispanic</u> Students: 50 Class of 2024 P3 <u>African American/Black</u> Students: 6 | # P3 Total Students Failing 2023 PCOA Exam | Passing % on 2023 PCOA Exam of Total Students | #P3 Hispanic Students Failing 2023 PCOA Exam | Passing % on 2023 PCOA Exam of Hispanic Students | # P3 Black Students Failing 2023 PCOA Exam | Passing % on 2023 PCOA Exam of Black Students |
|---|---|--|---|---|---|--|
| PCOA TOTAL SCORE | 13 | 87.5% | 10 | 80% | 0 | 100% |
| PCOA Area-1: Basic Biomedical Sciences | 12 | 88.5% | 6 | 88% | 1 | 83.3% |
| PCOA Area-2: Pharmaceutical Sciences | 18 | 82.7% | 10 | 80% | 2 | 66.7% |
| PCOA Area-3: Social/Behavioral/ Administrative Pharmacy Sciences | 24 | 76.9% | 13 | 74% | 0 | 100% |
| PCOA Area-4: Clinical Sciences | 17 | 83.6% | 12 | 76% | 0 | 100% |

KEY FINDINGS

Observations Based upon Race/Ethnicity Breakdown:

1. **African American/Black** PharmD Professional Year 3 students **MET TARGET** on PCOA Overall Total 'Mean Scaled Scores'.
2. **Hispanic** PharmD Professional Year 3 students **MET TARGET** on PCOA Area-1: Basic Biomedical Sciences 'Mean Scaled Scores'.
3. Both **African American/Black and Hispanic** PharmD Professional Year 3 students **DID NOT MEET TARGET** on PCOA Area-2: Pharmaceutical Sciences 'Mean Scaled Scores'.
4. **African American/Black** PharmD Professional Year 3 students **MET TARGET** on PCOA Area-3: Social/Behavioral/Administrative Sciences 'Mean Scaled Scores'.
5. **African American/Black** PharmD Professional Year 3 students **MET TARGET** on PCOA Area-4: Clinical Sciences 'Mean Scaled Scores'.

The TAMU School of Pharmacy is unable to truly compare the 2023 PCOA data with the 2022 PCOA data due to inconsistent National Reference Standards provided by NABP.

Use of Results

Specific Program Learning Outcome (PLO): The TAMU School of Pharmacy PharmD students will develop, integrate, and apply knowledge from the foundational sciences to optimize health-related decisions and recommendations at the patient and population level (LEARNER)

Curricular Change: A 1-credit hour course was modified due to the consistently low performance (for 3 consecutive years) on one content area on the 3rd year pharmacy students' external comprehensive benchmark exam (Pharmacy Curriculum Outcomes Assessment, aka, PCOA). This PCOA is one of the important DIRECT MEASURES of the above stated program learning outcome (PLO: LEARNER). Overall PCOA data is broken down into 4 PCOA Areas: Area1-Basic Biomedical Sciences; Area2-Pharmaceutical Sciences; Area3- Social/Behavioral/Administrative Sciences and Area4-Clinical Sciences. Since this is an external comprehensive benchmark exam, the School's performance is compared on a National level. Therefore, the School receives scores from the National Association of Boards of Pharmacy (NABP) on the Overall PCOA data as well as the individual 4 PCOA areas data while comparing the School's performance on each of the PCOA areas with the National performance. Over several years, although the School has performed higher on the Overall PCOA as well as higher on the individual areas in comparison to the National average, the Area4-Clinical Sciences difference in average scores between the School and the National has been very small unlike the other PCOA areas where the difference between the School average and National average is higher. Thus, a **1-credit hour Pharmacy 3rd year "Pharmacy Professionalism" course was modified** to provide more targeted review sessions on the PCOA Area4-Clinical Sciences with the intent to observe a higher School performance w.r.t National performance in this specific PCOA area. This data informed action (a curricular change) was specifically designed to strengthen the "LEARNER" specific program learning outcome, PLO (PLO defined above).

Implementation Timeline: Since this action is still being continued from the last reporting year, the implementation has already begun. However, the TAMU SOP needs to monitor the improvement in student learning for 2 - 3 consecutive years to ensure that this curricular change made a positive impact.

Party Responsible for Implementation: TAMU SOP Associate Dean for Academic Affairs and TAMU SOP Director of Assessment who are both also Course Coordinators for the 1-credit hour "Pharmacy Professionalism" course (as mentioned above).

Rationale: The PCOA Area4-Clinical Sciences contents taught through the targeted review sessions (as mentioned above) are closely related to the PCOA Area4-Clinical Sciences Assessments administered by the National Association of Boards of Pharmacy (NABP).

Since the above action will be implemented again during Spring 2024 to the P3 students of the Class of 2025, the P3 students' Benchmark Exam performances administered in May 2024 will be a direct measure whether the action improved student learning.

During the AY2021-2022, the 3rd year pharmacy students' external comprehensive benchmark exam performance (especially, Pharmacy Curriculum Outcomes Assessment aka, PCOA) data were collected for 3 consecutive years and were reviewed by the TAMU SOP Director of Assessment. After thorough review, the findings were presented at the School's General Faculty meeting (hosted by the School's CEO Dean) where all faculty and program leadership were in attendance. The presentation focused on specific key content areas that showed students' deficiencies for the consecutive 3 years. Based upon the identified deficiencies within the key content areas, the faculty who were subject matter experts (SMEs) on these specific areas offered/are offering review sessions followed by assessments to prepare the 3rd year pharmacy students on better performance on the following year PCOA specifically pertaining to those ongoing deficient areas (PCOA Area4-Clinical Sciences). The School will continue offering these review sessions prior to each year's PCOA in addition to SME faculty reinforcing these contents within the curriculum early-on to address the key content deficiencies thereby resulting in a continuous programmatic improvement. The Pharmacy 3rd year PCOA Area4-Clinical Sciences (comprehensive external benchmark exam) has shown to be a strong predictor of our pharmacy graduates' first-time NAPLEX (licensure exam) success/failure. Hence, the TAMU SOP (program leadership and faculty) is investing more time in this key PCOA assessment area to ensure that our pharmacy graduates are successful in their final licensure exam (NAPLEX).

Status Update on a Previous Action

The above-mentioned action (curricular change) was implemented during AY2021-2022 (Spring 2022), but due to inconsistent National Reference Standards provided by the National Association of Boards of Pharmacy (NABP) for the 2022 PCOA (administered during May 2022), the TAMU SOP was unable to accurately determine whether the previously identified action improved student learning outcomes.

Moving forward the TAMU SOP will develop an internal home-grown P3 Benchmark Exam (administered to 3rd year pharmacy students at the end of their P3 Year just prior to their Final P4 Advanced Pharmacy Practice Experiences (APPE) Year) to measure student achievement (PLO: LEARNER) since **the external P3 Benchmark Exam (PCOA) is being discontinued by NABP.**