

PROFILE OF PHARMACY STUDENTS

Fall 2019

2018–19 Application Pool

Degrees Conferred 2018–19

- Professional degrees
- Graduate degrees

Fall 2019 Enrollments

- Professional degrees
- Graduate degrees

The AACP institutional research data-gathering and analysis system has been designed to collect and report information related to the U.S. pharmacy colleges and schools including more than 6,700 faculty, 61,000 students enrolled in professional programs, and 6,000 individuals pursuing graduate study. The system can efficiently provide information to characterize the pharmacy education enterprise and its constituents, to study trends, and to assist pharmacy college and school administrators, organizations in higher education, and the government in decision making about pharmacy and health education. For additional information contact AACP's Office of Institutional Research and Effectiveness.

American Association of Colleges of Pharmacy
1400 Crystal Drive
Arlington, Virginia 22202
703-739-2330
www.aacp.org

COPYRIGHT © May 2020
American Association of Colleges of Pharmacy

All rights reserved. Contents are the sole property of the American Association of Colleges of Pharmacy. Duplication for educational purposes of tables or figures or portions thereof is permissible with appropriate attribution to AACP.

AACP, the national organization representing and supporting all U.S. colleges and schools of pharmacy and their faculties, is committed to education and scholarship for improving drug therapy.

PROFILE OF PHARMACY STUDENTS FALL 2019

INTRODUCTION

The annual *Profile of Pharmacy Students* provides data on applications to first professional degree programs and degrees conferred and student enrollment in professional and graduate degree programs at the 144 U.S. colleges and schools of pharmacy with accredited (full, candidate and precandidate status) professional degree programs as of fall 2019. This *Profile* presents data describing:

- the pharmacy application pool for 2018–19 (i.e., applications for admission in fall 2019);
- degrees conferred data 2018–19 and related long-term trends; and
- student enrollments for fall 2019 and related long-term trends.

In this report:

Pharm.D.1 refers to the doctor of pharmacy degree awarded as the first professional degree.

Pharm.D.2 refers to a postbaccalaureate degree.

First professional degrees refer to the total of baccalaureates (B.S. in pharmacy, B.Pharm.) plus Pharm.D.1 degrees.

White refers to citizens or permanent residents having origins in any of the original peoples of Europe, the Middle East, or North Africa.

Black or African American refers to U.S. citizens or permanent residents having origins in any of the black racial groups of Africa.

Hispanic or Latino refers to U.S. citizens or permanent residents of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin, regardless of race.

Asian refers to U.S. citizens or permanent residents having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian Subcontinent, including, for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam.

Native Hawaiian or Other Pacific Islander refers to U.S. citizens or permanent residents having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.

American Indian or Alaska Native refers to U.S. citizens or permanent residents having origins in any of the original peoples of North and South America (including Central America) who maintains cultural identification through tribal affiliation or community attachment.

Two or more races refers to U.S. citizens or permanent residents who are not Hispanic/Latino and identify themselves by more than one race.

Unknown refers to U.S. citizens or permanent residents whose race and ethnicity are not known.

International/Foreign refers to citizens of a foreign country/ permanent residents of a country other than the U.S.

Unknown/Other Gender refers to individuals with unknown or other gender, regardless of race/ethnicity or citizenship.

June 30, 2005 marked the official expiration of the ACPE standards for baccalaureate in pharmacy (B.S. Pharmacy) degree programs, in accordance with the transition to the Doctor of Pharmacy (Pharm.D.) as the sole accredited professional degree program in the United States. Some colleges/schools of pharmacy conferred degrees in the B.S. Pharmacy program until 2004–05. For longitudinal and school-specific tables regarding this degree program please contact the Association's Office of Institutional Research & Effectiveness.

METHODS

The data in this *Profile* were gathered using five separate online survey instruments in October 2019. Submission of data was requested by December 13, 2019.

The *2018–19 Application Pool Survey* requested information on applicants who applied for admission and submitted all required application materials during the academic year September 2018 to August 2019 for the class entering fall 2019. One hundred and forty-four institutions (100 percent response) submitted data. Numbers reported represent the number of applications, not applicants, and may represent multiple applications submitted by individual applicants.

The *Undergraduate and Professional Pharmacy Degrees Conferred Survey 2018–19* and the *Graduate Pharmacy Degrees Conferred Survey 2018–19* were completed by one hundred and forty-four institutions (100 percent response).

The *Enrollment Survey — Fall 2019 Professional Pharmacy Degree Programs* and the *Enrollment Survey — Fall 2019 Graduate Degree Programs in the Pharmaceutical Sciences* were completed by hundred and forty-four institutions (100 percent response).

ACKNOWLEDGMENT

The American Association of Colleges of Pharmacy wishes to express its appreciation to the deans of its member institutions and members of their faculty and staff who completed the surveys. The 100% percent return for all the surveys is testimony to the institutions' commitment to the goals of this report.

Jamie N. Taylor, B.A.
Director of Institutional Research

Nancy T. Nguyen, M.P.P.
Associate Director of Institutional Research

Estela J. Lopez, M.P.A.
Institutional Research Coordinator

HIGHLIGHTS

In 2018–19, there were 50,842 applications submitted to first professional degree programs at schools and colleges of pharmacy.

The number of Pharm.D. as a first professional degrees awarded decreased to 14,800 in 2019 compared to 14,905 in 2018.

The attrition rate for the class of 2019 increased to 12.6 percent compared to 12.1 percent in 2018. The attrition rate includes academic dismissals, student withdrawals, and delayed graduations.

Enrollments in all professional years decreased 2.9 percent and the number of first professional year enrollments decreased 5.5 percent.

The number of Pharm.D. degrees conferred to individuals already holding a professional baccalaureate in pharmacy increased to 312 in 2019 compared to 205 in 2018. The number of individuals enrolled in postbaccalaureate Pharm.D. programs decreased to 622 in 2019 from 764 enrolled in fall 2018.

The number of M.S. degrees conferred increased 7.7 percent in 2018-19 and the number of Ph.D. degrees conferred remained flat at 600 in 2018–19.

SUMMARY

2018–19 APPLICATION POOL

- From September 2018 through August 2019, one hundred and forty-three (143) colleges and schools reported receiving 50,842 applications to the Doctor of Pharmacy (Pharm.D.1) as the first professional degree programs.
- The majority (63.3 percent) of the applications were submitted by females; 36.6 percent were submitted by males. The gender was not reported or unknown for 0.1 percent of applications.
- Underrepresented minorities submitted 22.9 percent of the applications (Black or African American, 13.5 percent; Hispanic or Latino, 9.2 percent; Native Hawaiian or Other Pacific Islander, 0.1 percent; American Indian or Alaska Native, 0.1 percent). Over 3 percent (3.1%) of applications were from applicants that identified as two or more races.
- Over seventy-seven percent (77.5 percent) of the applications to colleges and schools were submitted by individuals who had three or more years of postsecondary education. The breakdown of applications by postsecondary education includes 36.6 percent by applicants that had completed three or more years of postsecondary education without earning a degree; 38.1 percent by applicants that held a baccalaureate; 2.4 percent by applicants that held a master's degree; and 0.4 percent by applicants that held a doctoral degree.
- Applications received by colleges and schools of pharmacy were equally submitted by in-state (49.6 percent) and out-of-state residents (50.4 percent).

PROFESSIONAL (Pharm.D.) DEGREES CONFERRED 2018–19

- The total number of first professional degrees conferred (N=14,800) decreased 0.7 percent from 2017–18.
- Women received 62.0 percent of the first professional degrees conferred, men received 37.3 percent, and unknown/other gender received 0.6 percent of the first professional degrees conferred.
- White Americans received the majority of Pharm.D.1 degrees (49.8 percent). Asian Americans received 25.6 percent of the Pharm.D.1 degrees. Underrepresented minorities accounted for 14.8 percent (Black or African American, 8.5 percent; Hispanic or Latino, 5.7 percent; Native Hawaiian or Other Pacific Islander, 0.3 percent; American Indian or Alaska Native, 0.3 percent) of all Pharm.D.1 degrees conferred in 2018-19. Degree recipients that identified as two or more races received 3.0 percent of all Pharm.D.1 degrees and percentage of foreign, nonpermanent residents of the U.S. was 2.6 percent. Less than 1 percent (0.6) of degree recipients were of unknown/other gender regardless of race/ethnicity and citizenship.
- The number of Pharm.D.2 degrees conferred (n=312) increased by 52.2 percent from 2017–18.
- More women than men received Pharm.D.2 degrees: women, 67.9 percent; men, 32.1 percent.
- The percentage of Pharm.D.2 degree recipients who were foreign, nonpermanent residents of the U.S. was 14.1, down from 14.6 percent in 2017–18.

GRADUATE DEGREES (M.S. and Ph.D.) CONFERRED 2018–19

- The number of M.S. degrees (n=1,128) increased 7.7 percent from 2017–18.
- The number of Ph.D. degrees (n=600) remained flat from 2017–18.
- More women than men earned M.S. degrees (women, 63.8 percent; men, 35.9 percent; unknown/other gender, 0.3 percent) in 2017-18; however, more men than women earned Ph.D. degrees (women, 45.2 percent; men, 52.5 percent; unknown/other gender, 2.3 percent). There have only been two years since AACP began collecting data (2008-09 and 2012-13) in which women earned more Ph.D. degrees than men.
- Underrepresented minorities received 11.3 percent of the M.S. degrees (Black or African American, 5.9 percent; Hispanic or Latino, 5.0 percent; Native Hawaiian or Other Pacific Islander, 0.1 percent; American Indian or Alaska Native, 0.4 percent), slightly up from 11.1 percent in 2017–18. Degree recipients that identified as two or more races received 1.4 percent of all M.S. degrees. Most M.S. degrees were received by White Americans (37.4 percent) and individuals who are foreign, nonpermanent residents of the U.S. (33.2 percent). Asian Americans received 12.1 percent of the M.S. degrees. Students of unknown/other gender regardless of race/ethnicity or citizenship received 0.3 percent of all M.S. degrees conferred.
- By discipline, the most M.S. degrees conferred were in social and administrative sciences (37.9 percent). The next highest percentage was in pharmaceuticals (27.7 percent), followed by medicinal chemistry (16.4 percent), pharmacology (8.2 percent), pharmacy practice (8.0 percent), and other disciplines (1.9 percent).
- Underrepresented minorities received 6.0 percent of the Ph.D. degrees (Black or African American, 2.8 percent; Hispanic or Latino, 2.3 percent; Native Hawaiian or Other Pacific islander; 0.0 percent; American Indian or Alaska Native, 0.8 percent), up from 4.8 percent in 2017–18. Degree recipients that identified as two or more races received 0.8 percent of all Ph.D. degrees conferred and Asian Americans received 10.8 percent. The percentage of Ph.D. degree recipients who were foreign, nonpermanent residents of the U.S. was 49.5, down from 57.2 percent in 2017–18.
- By discipline, the most Ph.D. degrees conferred were in pharmaceuticals (39.3 percent). The next highest percentage was in medicinal chemistry (19.3 percent), followed by pharmacology (17.2 percent), pharmacy practice (10.8 percent), social and administrative sciences (9.8 percent), and other disciplines (3.6 percent).

Fall 2019 Enrollments

- 60,594 students were enrolled in the Doctor of Pharmacy (Pharm.D.1) as the first professional degree programs.
- There was a 2.9 percent decrease in enrollments from fall 2018 in the professional years (includes four years for Pharm.D.) of the Pharm.D.1 degree program.
- Underrepresented minorities accounted for 17.0 percent of Pharm.D.1 degree enrollments (Black or African American, 9.3 percent; Hispanic or Latino, 7.2 percent; Native Hawaiian or Other Pacific Islander, 0.2 percent; American Indian or Alaska Native, 0.4 percent) in fall 2019. Students that identified as two or more races accounted for 3.1 percent of all first professional degree enrollments.
- The number of Pharm.D.2 students enrolled (n=622) decreased by 18.6 percent from fall 2018.
- There were 97 students enrolled in traditional full-time Pharm.D.2 degree programs in fall 2019. There were an additional 525 students enrolled in nontraditional programs in fall 2019.
- At the M.S. and Ph.D. levels the greatest numbers of full-time students were enrolled in the discipline of pharmaceuticals (39.8 percent and 38.2 percent, respectively).
- More females than males were enrolled full-time in M.S. programs as well as full-time in Ph.D. programs. Females accounted for 64.5 percent of full-time students in M.S. programs and 51.5 percent of full-time students in Ph.D. programs.
- The percentage of full-time M.S. students who were underrepresented minorities (Black or African American, 3.9 percent; Hispanic or Latino, 6.9 percent; Native Hawaiian or Other Pacific Islander, 0.1 percent; American Indian or Alaska Native, 0.3 percent) increased from 10.5 percent in fall 2018 to 11.2 percent in fall 2019. Nearly 2 percent (1.7) of all M.S. full-time enrollments were students that identified as two or more races. International/foreign students account for the majority of full-time M.S. enrollments at 47.9 percent as of fall 2019.
- The percentage of full-time Ph.D. students who were underrepresented minorities (Black or African American, 4.4 percent; Hispanic or Latino, 4.0 percent; Native Hawaiian or Other Pacific Islander, 0.1 percent; American Indian or Alaska Native, 0.3 percent) increased from 8.3 percent in fall 2018 to 8.8 percent in fall 2019. Over 1 percent (1.2) of all Ph.D. full-time enrollments were students that identified as two or more races. International/foreign students also account for the majority of full-time Ph.D. enrollments at 48.6 as of fall 2019.

Tables

2018–19 Application Pool

Table 1: Total Number of Applications to First Professional Degree Programs in 2018–19	11
Table 2: By Gender and Race/Ethnicity of Applicant	15
Table 3: By Gender and State of Residency of Applicant	15
Table 4: By Gender and Previous Postsecondary Experience of Applicant	15

Degrees Conferred

Longitudinal

Table 5: By Degree and Gender, 1965–2019	16
Table 6: Annual Percent Change in Number of Pharmacy Degrees Conferred 1984–2019 Over Previous Year	20
Table 7: Percent of Pharmacy Degrees Conferred 1984–2019 by Gender	21
Table 8: Estimated Attrition Rates for First-Professional Degree Classes 1984–2019	22
Table 9: Progression Rates for First-Professional Degree Classes 2008–19	23

Longitudinal by Gender and Race/Ethnicity, 1985–2019

Table 10: Doctor of Pharmacy Degrees Conferred as First Professional Degrees (Pharm.D.1)	24
Table 11: Postbaccalaureate Doctor of Pharmacy Degrees (Pharm.D.2)	26
Table 12: Master of Science Degrees (M.S.)	28
Table 13: Philosophy Degrees (Ph.D.)	30

Longitudinal by Race/Ethnicity, 1985–2019

Table 14: Doctor of Pharmacy Degrees Conferred as the First Professional Degree (Pharm.D.1)	32
Table 15: Postbaccalaureate Doctor of Pharmacy Degree (Pharm.D.2)	34
Table 16: Master of Science Degree (M.S.)	36
Table 17: Philosophy Degree (Ph.D.)	38

Longitudinal by Residency/Citizenship, 1985–2019

Table 18: Doctor of Pharmacy Degree Conferred as the First Professional Degree (Pharm.D.1)	40
Table 19: Postbaccalaureate Doctor of Pharmacy Degree (Pharm.D.2)	41
Table 20: Master of Science Degree (M.S.)	42
Table 21: Doctor of Philosophy Degree (Ph.D.)	43

Summary of Degrees Conferred, 2018–19

Table 22: By School, Degree, and Gender	44
Table 23: By State, Degree, and Gender	50

Degrees Conferred 2018–19 by School, Gender, and Race/Ethnicity

Table 24: Doctor of Pharmacy Degrees Conferred as First Professional Degrees (Pharm.D.1)	52
Table 25: Postbaccalaureate Doctor of Pharmacy Degrees (Pharm.D.2)	59
Table 26: Master of Science (M.S.)	60
Table 27: Doctor of Philosophy Degrees (Ph.D.)	63

Summary of Graduate Degrees Conferred, 2018–19

Table 28: Degree, Gender, and Discipline	66
--	----

Master of Science Degrees (M.S.) Conferred 2018–19 by School, Gender, and Race/Ethnicity

Table 29: Medicinal Chemistry	67
Table 30: Pharmacology	69
Table 31: Social and Administrative Sciences.	71
Table 32: Pharmacy Practice	73
Table 33: Pharmaceutics	74
Table 34: Other Disciplines.	76

Doctor of Philosophy Degrees (Ph.D.) Conferred 2018–19 by School, Gender, and Race/Ethnicity

Table 35: Medicinal Chemistry	77
Table 36: Pharmacology	79
Table 37: Social and Administrative Sciences.	81
Table 38: Pharmacy Practice	83
Table 39: Pharmaceutics	84
Table 40: Other Disciplines.	87

Enrollments

Summary of Full-Time Enrollments Fall 2019

Table 41: By School, Degree, and Gender	88
---	----

First Professional Degree Enrollments

Fall 2019 Enrollments by School, Gender, and Expected Graduation Year

Table 42: Doctor of Pharmacy as the First Professional Degree (Pharm.D.1) Programs	95
--	----

Longitudinal—Summary of Annual Changes in Enrollments 1982–2019

Table 43: First Professional Degree (Baccalaureate, Pharm.D.1) Programs.	104
--	-----

Change in Enrollments by School Fall 2018 to Fall 2019

Table 44: Doctor of Pharmacy as the First Professional Degree (Pharm.D.1).	105
--	-----

Fall 2019 Enrollments by School, Gender, and Race/Ethnicity

Table 45: Doctor of Pharmacy as the First Professional Degree (Pharm.D.1) Programs	110
--	-----

Minority Enrollments in First Professional Degree (Pharm.D.1) Programs

Table 46: By School, Fall 2019	118
--	-----

Table 47: Longitudinal, Fall 1988 to Fall 2019	121
--	-----

Longitudinal—Enrollments in First Professional Degree (Baccalaureate, Pharm.D.1) Programs, 1985 to 2019

Table 48: Race/Ethnicity.	122
-----------------------------------	-----

Table 49: By Gender	123
-------------------------------	-----

Fall 2019 Enrollments in Doctor of Pharmacy as the First Professional Degree (Pharm.D.1) Programs

Table 50: By School and Residency	124
---	-----

Table 51: By School and State of Residency	128
--	-----

Postbaccalaureate Doctor of Pharmacy Degree (Pharm.D.2) Enrollments

Fall 2019 Enrollments by School, Gender, and Expected Graduation Year

Table 52: Full-Time	134
-------------------------------	-----

Table 53: Nontraditional.	134
-----------------------------------	-----

Fall 2019 Enrollments by School, Gender, and Race/Ethnicity	
Table 54: Full-time and Nontraditional.	135
Longitudinal	
Table 55: By Type of Program and Gender Fall 1987 to Fall 2019.	136
Fall 2019 Enrollments by School, Type of Enrollment and Source of Baccalaureate	
Table 56: Postbaccalaureate Doctor of Pharmacy Degree (Pharm.D.2) Programs	137
Fall 2019 Enrollments by School and Residency	
Table 57: Traditional Full-Time Enrollments.	137
Table 58: Nontraditional.	137

Graduate Degree Enrollments

Fall 2019 Full-Time Enrollments in Master of Science Degree (M.S.) Programs by School and Gender	
Table 59: By Discipline	138
Table 60: By Race/Ethnicity	142
Table 61: Medicinal Chemistry, by Race/Ethnicity	146
Table 62: Pharmacology, by Race/Ethnicity.	148
Table 63: Social and Administrative Sciences, by Race/Ethnicity.	150
Table 64: Pharmacy Practice, by Race/Ethnicity	152
Table 65: Pharmaceuticals, by Race/Ethnicity	154
Table 66: Other Disciplines, by Race/Ethnicity.	156
Fall 2019 Full-Time Enrollments in Doctor of Philosophy Degree (Ph.D.) Programs by School and Gender	
Table 67: By Discipline	157
Table 68: By Race/Ethnicity	161
Table 69: Medicinal Chemistry, by Race/Ethnicity	165
Table 70: Pharmacology, by Race/Ethnicity.	168
Table 71: Social and Administrative Sciences, by Race/Ethnicity.	170
Table 72: Pharmacy Practice, by Race/Ethnicity	172
Table 73: Pharmaceuticals, by Race/Ethnicity	173
Table 74: Other Disciplines, by Race/Ethnicity.	177
Fall 2019 Part-Time Enrollments by School, Gender, and Discipline	
Table 75: Master of Science Degree (M.S.) Programs	178
Table 76: Doctor of Philosophy Degree (Ph.D.) Programs	180
Fall 2019 Enrollments by Type of Enrollment (Full-Time, Part-Time), Discipline, and Source of Previous Degree Earned	
Table 77: Master of Science Degree (M.S.) Programs	182
Table 78: Doctor of Philosophy Degree (Ph.D.) Programs	182

Appendix A

Nonlicensure-eligible Baccalaureates Conferred in the Pharmaceutical Sciences 2018–19	
Table A-1: By School, Gender, and Race/Ethnicity	184

Appendix B

Fall 2019 Participation by School, Gender, and Race/Ethnicity

Table B-1: Fellowship Programs (Post-Ph.D. and Post-Pharm.D.)	187
Table B-2: Post-Ph.D. Research Fellowship Programs	191
Table B-3: Post-Pharm.D. Research Fellowship Programs	193
Table B-4: Residency Programs (PGY1 and PGY2)	197
Table B-5: PGY1-Pharmacy Residency Programs	203
Table B-6: PGY1-Community Pharmacy Residency Programs	207
Table B-7: PGY1-Managed Care Pharmacy Residency Programs.	211
Table B-8: PGY2 Residency Programs (all types).	212