

# UW-Madison School of Pharmacy 2005-2006 Assessment Report

## I. Overview of Assessment in the School of Pharmacy

Administration and faculty of the School of Pharmacy are engaged in the ongoing assessment program. We distinguish three general levels at which assessment is conducted: School-level (addressing administration of the School as a whole or units contained within), program-level (addressing performance of a specified curriculum), and course-level (focusing on teaching/learning in the context of specific courses).

At the School-level, the Dean, associate deans, and division chairs share responsibility for assessment. At the program-level, the Academic Planning Council (APC), chaired by the Dean, is the primary oversight body for school-wide program-level assessment activities. The APC shares program assessment responsibilities with the Educational Policy and Planning Committee (EPP), a standing committee within the School that has primary responsibility for curriculum development, review, and revision. At the course-level, individual instructors hold major responsibility for carrying out evaluation activities. Division chairs as well as faculty mentoring and review committees provide varying feedback and oversight roles.

## II. Program Assessment Activities

Tables 1 and 2 provide overviews of assessment-related activities in the School of Pharmacy. Table 1 uses the standard reporting grid to identify Academic Program and Student Outcomes assessment for all academic programs within the School. Table 2 provides more detailed information regarding assessment activities related to the Doctor of Pharmacy (PharmD) program, describing what is assessed and how it is assessed. Comparable documents are in development for other academic programs within the School.

Because the focus of this report is program assessment, information is presented on a program-by-program basis. Several additional details provide context for this report. 1) Many assessment activities in 2005-06 are related to formal program reviews. Reaccreditation of the Doctor of Pharmacy program was completed in 2005-06 and Background work was initiated for reviews of the MS/PhD programs and B.S Pharmacology-Toxicology program that are scheduled for 2006-07. 2) Only major assessment activities are described. Smaller-scale (e.g., course-specific) efforts are not included. 3) Some activities relate to more than one program. This is indicated, as appropriate.

### A. Doctor of Pharmacy (PharmD) Program

As Tables 1 and 2 indicate, the Doctor of Pharmacy Program is the focus of numerous assessment activities. Highlights of these activities in 2005-06 are as follows.

#### 1. Program Accreditation

A major School activity in 2005-2006 was review of the PharmD program by the Accreditation Council for Pharmacy Education (ACPE). This involved an extensive self-study by School faculty and staff and a 3-day on-site visit by a 6-member external review team.

The formal self-study document, completed and submitted to ACPE in January 2006, focused on ACPE's eight established standards areas: 1) mission, planning, and assessment, 2) organization

and administration, 3) curriculum, 4) students, 5) faculty; 6) library and educational resources, 7) physical and practice facilities, and 8) financial resources. The Self-Study Steering Committee was co-chaired by Profs. Ron Burnette, Barry Gidal, and Dave Mott. Eight faculty/staff subcommittees, corresponding to the eight program standards areas, addressed the standards. Subcommittee activities were coordinated with activities of the School's standing committees.

The Self-Study made extensive use of assessment results. In 2004-05, a series of surveys were conducted with current PharmD students, members of the Class of 2005, alumni from the Classes of 2001-2004, and Clinical Instructors, including those employing alumni from the Classes of 2001-2004. We utilized the similar items across all of these survey instruments, including a series of core pharmacy practice competencies that are goals the PharmD program. These have been assessed for multiple years. This approach allowed us to: 1) observe trends in learning and competency development among currently enrolled students, 2) gather alumni's current assessments of the PharmD program and compare these with parallel assessments made at the time of their graduation, and 3) identify employers' evaluations of the levels and areas of competency of PharmD program graduates.

On April 4-6, 2006, the ACPE-appointed external review committee completed their on-site visit. The ACPE Board of Directors met in June and granted accreditation for the Doctor of Pharmacy program until June 30, 2012; this 6-year period is the standard accreditation period. The ACPE Board has specified that an interim report addressing comments and recommendations in their final accreditation report be submitted to ACPE by November 1, 2007.

## **2. Survey and Exit Interviews with Graduating PharmD Students**

As part of our ongoing assessment plan, in Spring 2006, an online survey was conducted with all members of the PharmD Class of 2006. Respondents addressed the series of core pharmacy practice competencies that are goals the PharmD program.

As in previous years, a random sample of the graduating class was selected to participate in exit interviews. Of the 24 graduates invited to participate, 22 actually completed interviews. In 2005-06, a new process was put into place to decide on focal areas for these interviews. The Educational Policy and Planning Committee reviewed and discussed results of Spring 2005 assessment surveys. Areas that received low or inconsistent assessments were identified and prioritized. Exit interviews questions then were written to address the highest priority topics. This process will be used in coming years, this providing a flexible mechanism for gathering more in-depth, qualitative information about areas where students and faculty share concerns.

## **3. National Licensing Examination Pass Rates**

Graduates of the School of Pharmacy professional (PharmD) program seeking professional licensure in Wisconsin must complete national pharmacy board examinations and state licensure testing. Graduates' performance on these exams is a key direct measure of program outcomes that we continue to monitor. The North American Pharmacists Licensure Examination (NAPLEX) is used for licensure in all states in the U.S. The Multistate Pharmacy Jurisprudence Exam (MPJE) is a state-specific exam that combines elements of federal and Wisconsin pharmacy law.

Table 3 provides comparison of UW-Madison School of Pharmacy graduates pass rates for each of these exams with national passing rates. Historically, University of Wisconsin-Madison School of Pharmacy graduates have been very successful on these examinations. This trend continues with UW graduates generally having passing rates 5-10% above national rates.

## **B. B.S. Pharmacology and Toxicology Program**

The School offers one undergraduate degree, the B.S. Pharmacology and Toxicology (Pharm-Tox). Taught chiefly by faculty of the School's Pharmaceutical Sciences division, this degree provides academic background for careers in the pharmaceutical industry, in government agencies, or as preparation for graduate or professional study. Admission to the program is competitive and requires two years of preparatory coursework. Following admission, students enroll in a 4-semester sequence of core courses (e.g., pharmacology, toxicology, drug delivery, laboratory techniques) and electives.

Each Pharm-Tox student is required to complete a laboratory-based Independent Study research project with a member of the program faculty. The project is presented during the senior seminar required in the final semester of the program. It provides direct assessment of student outcomes.

Student outcomes were indirectly assessed during the 2005-06 year via exit interviews with graduating students and an online survey of all enrolled students. Exit interviews were completed by 12 of 14 graduating students. A new process for deciding on exit interview questions was put into place in 2005-06. This process paralleled the process for the PharmD exit interviews described above. Like the PharmD exit interviews, will provide a flexible mechanism for designing interviews in coming years. An online survey of all current Pharm-Tox students also was carried out in Spring 2006. These results along with results from the 2004-05 survey will be used in the Pharm-Tox program review that is planned for 2006-07.

## **C. Graduate Programs**

The School of Pharmacy offers graduate programs in three different areas. In 2005-06, Professor Dan Rich, Associate Dean for Research and Graduate Studies, had responsibility for general oversight of all graduate programs; Professor Warren Heideman has now assumed this role. Program faculty provide oversight of enrolled students and of operations in the respective program.

### **1. M.S./Ph.D. Programs in Pharmaceutical Sciences and in Social and Administrative Sciences**

The Pharmaceutical Sciences division offers the M.S. and Ph.D. degrees and uses the general processes in drug development – drug discovery, drug action, and drug delivery – as a unifying rubric. The Social and Administrative Sciences (SAS) division also offers the M.S. and Ph.D. degrees. Most students' programs draw on traditional social science disciplines (e.g., economics, sociology, psychology); concentrations in continuing education in pharmacy and in history of pharmacy also are possible.

Assessment activities in the Pharmaceutical Sciences and the Social and Administrative Sciences graduate programs parallel one another. Three types of direct assessment are conducted: 1) completion and defense of an M.S. thesis or a Ph.D. dissertation, 2) written and oral preliminary examinations for all Ph.D. students, and 3) annual review of each student's progress by program faculty. Planned indirect assessments will include student and alumni surveys that are being developed as part of the 10-year reviews for these programs scheduled for 2006-07.

### **2. M.S. Pharmacy Program**

The Master of Science in Pharmacy is a terminal Master's degree that emphasizes hospital pharmacy management. The program is offered in coordination with the UW Hospital and Clinics as a two-year combined residency and academic degree program (i.e., Pharmacy Practice Management/M.S.).

The M.S. Pharmacy program is accredited by the American Society of Health-system Pharmacists (ASHP) as a Specialized Residency, with the most recent review occurring in 2004. Extensive assessment activity is required as part of the residency accreditation process. Beginning prior to entering the program and repeated at 2-month intervals, student learning and competencies are monitored throughout a student's enrollment in the program. Each student is required to complete a Pharmacy Practice project, providing a capstone assessment.

### III. PLANS FOR 2006-2007

- A. Completing and Implementing New Instructional Evaluation System.** This involves review and revision of: questions for gathering students' assessments of courses, instructors, and teaching assistants; data collection procedures; and feedback processes used in courses throughout the School of Pharmacy. Grant support from the University Assessment Council is facilitating this undertaking. The new evaluation process will improve summative evaluations and provide a flexible process for formative evaluations. An instructional staff survey was created based on the Purdue Instructional and Course Evaluation System (PICES). Course instructors then were asked to complete the survey online to identify items they felt best met their needs vis-à-vis instructor and course evaluations. The EPP Committee is reviewing results of this survey and revising the course and instructor evaluations to incorporate survey findings.
- B. Program Reviews.** The self-study required for re-accreditation of the PharmD program provides an excellent foundation for review of other academic programs within the School. In 2005-06, a preliminary planning committee began background work for formal reviews of the School's three graduate programs as well as the B.S. Pharmacology and Toxicology program. Our plan is to complete these reviews during 2006-07 and to coordinate this with activities involved in the National Research Council's assessment of research doctorate programs. The review process will conclude with site visit by a committee composed of external members (selected by the SOP) and internal members (appointed by the Graduate School); this is anticipated for Spring 2007. Four working groups will be established and each will address one of the four programs being reviewed. A steering committee will coordinate efforts across these committees and facilitate site visit arrangements.
- C. Development of Assessment Plans for Remaining School of Pharmacy programs.** Review and approval for the Assessment Plan for the Doctor of Pharmacy (PharmD) Program was given in Fall 2005. Assessment plans for the BS in Pharmacology and Toxicology Program and for the graduate programs will be completed and presented for approval as part of the program reviews in 2006-07.
- D. Doctor of Pharmacy Curriculum Review and Revision.** Background preparation for review of the PharmD curriculum was initiated in 2005-06. In 2006-07, we will formally begin this review. In this process, we will address 1) areas we identified in our recent self-study as needing improvement, 2) feedback provided by our accrediting agency, ACPE, as part of the program accreditation process, and 3) new accreditation standards (*Standards 2007*) that go into effect for all Doctor of Pharmacy programs as of July 1, 2007. We anticipate that that the complete curriculum review and revision process will require two years.

Submitted by:  
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**Table 1: Academic Program and Student Outcomes Assessment Activity, 2005-2006**

			Direct Indicators/Measures									Indirect Indicators/Measures					
Major/Academic Program	Level	Has Assessment Plan	National Exams	Local Exams	Capstone Course(s)	Embedded Testing	Student Portfolios	Thesis or Dissertation	Pre-Test/Post-Test	Other Milestone Evaluation	Student Surveys	Exit Surveys	Alumni Surveys	Employer Surveys	External Surveys	Other Indirect Measures	
756	Pharmacy (Pharm D)	Professional	Yes	<b>1,2</b> (A)	<b>3</b> (A)	<b>4</b> (A)	—	—	—	—	<b>5</b> (A)	<b>6,7</b> (3),(A)	<b>8</b> (A)	9 (3)	10 (A)	—	<b>11,12</b> (6),(A)
750	Pharmacology and Toxicology	Bachelors	No	—	—	<b>13</b> (A)	—	—	—	—	—	<b>14</b> (3)	<b>15</b> (A)	16 (*)	—	—	—
744	Pharmaceutical Sciences	Graduate	No	—	—	—	—	—	<b>17</b>	—	<b>18,19</b> (A),(A)	20 (*)	—	21 (*)	—	—	—
912	Social and Administrative Sciences in Pharmacy	Graduate	No	—	—	—	—	—	<b>17</b>	—	<b>18,19</b> (A),(A)	20 (*)	—	21 (*)	—	—	—
G756	Masters in Pharmacy	Graduate	Yes	—	—	—	—	—	<b>22</b>	—	<b>18</b> (2 mo)	—	<b>23</b> (A)	24 (5)	—	—	11 (6)

**Key:**

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| 1 Multistate Pharmacy Jurisprudence Examination (MPJE)     | 13 Independent Study/Senior Seminar                  |
| 2 North American Pharmacist Licensure Examination (NAPLEX) | 14 Current Pharmacology -Toxicology Students Surveys |
| 3 Patient Consultation Examination                         | 15 Pharmacology-Toxicology Student Exit Interviews   |
| 4 Advanced Practice Clerkships                             | 16 Pharmacology-Toxicology Alumni Survey             |
| 5 Objective Standardized Clinical Examination (OSCEs)      | 17 Thesis/Dissertation                               |
| 6 Current PharmD Students Survey                           | 18 Progress Reviews                                  |
| 7 Clerkship Evaluations                                    | 19 Preliminary Examinations                          |
| 8 New PharmD Graduates Survey and Exit Interviews          | 20 Current Graduate Students Survey                  |
| 9 Recent PharmD Alumni Survey                              | 21 Graduate Alumni Survey                            |
| 10 Clinical Instructors/Employers Survey                   | 22 Pharmacy Practice Project                         |
| 11 Accreditation Review                                    | 23 MS Pharmacy Exit Interviews                       |
| 12 Clerkship Forums  | 24 MS Pharmacy Alumni Survey                         |

**Schedule notes:** **Bold** = completed in 2005-06 (2 mo) = every 2 months (A) = annual (3) = every 3 years (5) = every 5 years (6) = every 6 years (\*) = planning in process

**Table 2: Core Assessment Activities for the Doctor of Pharmacy (PharmD) Program**

ACTIVITY	WHAT ASSESSED	WHO/ ASSESSED	WHEN
<b>Capstone Evaluation</b>			
• Objective Structured Clinical Exams (OSCEs)	Students' clinical skills and professionalism	2 <sup>nd</sup> , 3 <sup>rd</sup> , and 4 <sup>th</sup> year PharmD students (all)	1 or 2 times annually
• Communication practical exam	Students' patient consultation skills	3 <sup>rd</sup> year PharmD students (all)	Annually
• Advanced practice clerkships	Students' clinical skills and professionalism	4 <sup>th</sup> year PharmD students (all)	Each 7 or 8 week rotation
<b>National Testing &amp; Standards</b>			
• North American Pharmacist Licensure Examination (NAPLEX)	Graduates' knowledge, judgment, and skills required as an entry-level pharmacist	Graduates seeking licensure	Following graduation
• Multistate Pharmacy Jurisprudence Exam (MPJE)	Graduates' knowledge of federal- and state-specific laws	Graduates seeking licensure	Following graduation
• Wisconsin patient consultation exam	Graduates' patient consultation skills	Graduates seeking licensure	Following graduation
• Program self-study and re-accreditation review	Curriculum, students, faculty, facilities, etc.	Students, faculty/staff and School	Regular 6-year cycle
<b>Other Measures</b>			
• Student/graduate surveys: 3 versions	<u>Core content:</u> Self-assessment of 11 competency areas; satisfaction (overall and specific program areas); School climate; pre-pharmacy curriculum.		
– New Graduate Survey	– Core + career employment plans	4 <sup>th</sup> year PharmD students (all)	Annually in April/May
– Current Student Survey	– Core	1 <sup>st</sup> , 2 <sup>nd</sup> and 3 <sup>rd</sup> year PharmD students (all)	Every 3 years
– Alumni Survey:	– Core + career/employment information	Alumni from past 6 years (sample)	Every 3 years
• Course evaluations		Enrolled students (all)	Each semester
• Academic Progress case analysis	Students' curricular progression and professionalism and factors affecting each	PharmD students (all)	Annually
• Graduation and attrition rates	Students' program completion	PharmD students (all)	Annually
• Grade point averages and trends	Students' course performance	PharmD students (all)	Annually
• Advanced Practice Clerkship Site Evaluation	Clerkship sites and preceptors	4 <sup>th</sup> year PharmD students (all)	Each 7 or 8 week rotation
• New Graduate Exit Interviews	Special topics (varying over time)	4 <sup>th</sup> year PharmD students (sample)	Annually
• Clinical Instructor Survey	Students' clinical skills; Clerkship program	Advanced practice clerkship instructors	Annually
• Clinical Instructor Forums	Special topics (varying over time)	Advanced practice clerkship instructors	Annually

**Table 3: National Licensing Examination Pass Rates, 1999-2005**

Year	North American Pharmacist Licensure Examination (NAPLEX)		Multi-state Pharmacy Jurisprudence Examination (MPJE) 1st time examinees		
	UW-Madison SOP Graduate Success Rate*	National Success Rate	UW-Madison SOP Graduate Success Rate on Wisconsin MPJE*	UW-Madison SOP Graduate Success Rate on Other States' MPJE	National Success Rate
1999	97.7%	84.6%	100.0%	100.0%	92.5%
2000	100.0%	88.8%	95.9%	93.0%	92.0%
2001	98.1%	90.5%	98.7%	96.0%	92.1%
2002	98.0%	91.2%	94.9%	96.9%	89.3%
2003	100.0%	89.9%	98.8%	98.7%	85.6%
2004	99.3%	87.7%	94.9%	92.1%	87.5%
2005	96.9% <sup>#</sup>	84.7% <sup>#</sup>	96.5%	95.8%	88.0%

\* Predominantly B.S. Pharmacy graduates until 2000; all Pharm.D. graduates as of 2001

<sup>#</sup> Includes results using old and new NAPLEX passing standards