

UW-Madison School of Pharmacy 2006-2007 Assessment Report

I. Overview of Assessment in the School of Pharmacy

Assessment is a School-wide responsibility in the School of Pharmacy, with administration, faculty and students throughout the School engaged in the gathering, dissemination, and use of assessment information. We distinguish three general areas of activity:

- Student-level assessment focuses on teaching/learning in the context of specific courses or learning experiences. Instructors hold major responsibility for carrying out assessment of student learning outcomes and competencies. Division chairs, the School's Faculty Activities Review Committee, and mentoring committees provide oversight and feedback to individual faculty members.
- Academic program assessment addresses performance of courses and the curriculum. The School's Academic Planning Council (APC), chaired by the Dean, is the primary oversight body for 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 development, review, and revision of the professional and undergraduate program curricula and with the Graduate Studies Committee that addresses graduate programs in the School.
- Finally, School-level assessment addresses effectiveness of the School as a whole and/or of units within the School in fulfilling their stated mission. The Dean, associate/assistant deans, and division chairs share responsibility for assessing and facilitating improvement of the School's overall performance. The Academic Planning Council's role in strategic planning interfaces with improvement efforts within the School.

On July 1, 2007, new accreditation standards for the School's Doctor of Pharmacy (PharmD) program went into effect. These standards include a substantially expanded focus on assessment and evaluation. Several efforts have been undertaken in anticipation of this. Revision of several assessment tools and activities began in 2006-07; these are included in descriptions in Section II. In June, the School sent a 4-member team to participate in an assessment-focused institute sponsored by the American Association of Colleges of Pharmacy (AACP). Further revisions are planned in 2007-08, as described in Section IV.

II. Student-level and Academic 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 each academic program 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.

Information is presented on a program-by-program basis. Several additional details provide context for this report. 1) Many assessment activities were related to formal reviews of academic programs in the School. 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. School-wide Activity

The School's new Instructional Evaluation System was implemented in 2006-07. Grant support from the University Assessment Council facilitated development of this system. It provides each course

coordinator with the ability to tailor the course, instructor and teaching assistant evaluations for his/her course to address questions of specific interest. The summative evaluation process has been improved and a flexible process for formative evaluations is being developed. Feedback about this system will guide further revision of course and instructor evaluation construction and processing.

B. 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 2006-07 are as follows.

1. Accreditation Review

In 2005-2006, the School of Pharmacy was reviewed for accreditation by the Accreditation Council for Pharmacy Education (ACPE). This involved an extensive self-study by School faculty and staff (completed in January 2006) and a 3-day on-site visit by a 6-member external review team (completed in April 2006). At its June 2006 meeting, the ACPE Board of Directors voted to continue accreditation of the Doctor of Pharmacy program to June 30, 2012. This represents a full six-year accreditation cycle.

As follow up to this review, submission of an Interim Report is required by November 1, 2007, addressing recommendations made by ACPE. Among these recommendations is “continued development and implementation of the School’s assessment plans, including advancing the model of assessment to incorporate course level assessments.” As described in Section III, attention will be given to this during the 2007-08 year.

2. 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 and several percent above peer institutions. Aggregating results for the past 5 years, UW-Madison graduates’ pass rates have ranked #5 on NAPLEX and #6 on MPJE out of the 89 schools and colleges of pharmacy in the U.S.

3. Survey and Exit Interviews with Graduating PharmD Students

In Spring 2007, an online exit survey was conducted with all members of the PharmD Class of 2007. As part of our ongoing assessment program, this is our seventh year of such data gathering. Respondents provided self-assessments regarding a series of core pharmacy practice competencies that are goals the PharmD program. Other items addressed satisfaction with the curriculum; evaluation of student services and School climate; encouragement of professional and civic engagement; and post-graduation employment plans.

New accreditation standards for the PharmD program establish a uniform set of surveys that all schools and colleges of pharmacy are required to administer to their PharmD graduates. These must be administered at least once in each accreditation cycle and will provide data for peer-group comparisons. In 2006-07, we began phasing in use of questions included in this survey and will continue this process in 2007-08. We are using a controlled transition process so that we do not interrupt gathering of trend data assessing effects of curricular revisions that have been implemented over the past several years.

As in previous years, a random sample of the graduating class was selected to participate in exit interviews. This process provides a flexible mechanism for gathering more in-depth, qualitative information about areas where students and faculty share concerns. Following the process was put into place in 2004-05 to decide on focal areas for these interviews, the Educational Policy and Planning Committee reviewed and discussed results of Spring 2006 assessment surveys. Areas that received low or inconsistent assessments were identified and prioritized. Focal topics in 2007 addressed: 1) content and flow of the curriculum, 2) management education, and 3) professionalism. Exit interviews questions then were written to address these topics. Of the 25 graduates invited to participate, 20 actually completed interviews.

C. 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 2006-07 year via exit interviews with graduating students and an online survey of all enrolled students. Exit interviews were completed by 7 of 10 graduating students. A new process for deciding on topics for exit interview was put into place in 2005-06, paralleling the process for the PharmD exit interviews described above. As with the PharmD exit interviews, this process provides a flexible mechanism for designing interviews in coming years. Focal topics for exit interviews in Spring 2007 were 1) the curriculum, 2) career advising, and 3) overall climate of the Pharmacology-Toxicology Program and the School of Pharmacy.

An online survey of all current Pharm-Tox students also was carried out in Spring 2007. This is the third consecutive year for this survey to be completed. Results from all years will be used in the Pharm-Tox program review that will be completed in 2007-08.

D. Graduate Programs

The School of Pharmacy offers graduate programs in three different areas. Professor Chuck Lauhon, Assistant Dean for Graduate Studies, had responsibility for general oversight of all graduate programs. 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 that began in 2006-07 and will be completed in 2007-08.

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. School-level Assessment

On July 1, 2007, *Standards 2007*, the new accreditation standards for all schools and colleges of pharmacy in the U.S., went into effect. These standards amplify the already strong emphasis on assessment of student learning outcomes found in previous standards. New requirements regarding School-level assessment and evaluation have been established in Standard No. 3: Evaluation of Achievement of Mission and Goals. This standard requires the school to have "an evaluation plan, based on assessment measures, that allows for a determination of the degree to which the mission and goals have been achieved." This substantially expands assessment activities beyond student outcomes, to include research, service and professional practice activities that collectively form the mission of the School of Pharmacy. This provides motivation for several assessment-related changes that are underway.

IV. Activities for 2007-2008

A. Strengthening the Assessment Infrastructure. To facilitate and support our growing assessment activities, resources have been allocated to strengthen and expand the School's assessment program.

A free-standing Assessment Committee has been created. Previously, the School's Educational Policy and Planning (EPP) Committee held responsibility for both curriculum and assessment activities. In Fall 2007, these responsibilities were formally divided into two separate committees

(Curriculum and Assessment) to facilitate expanded activity and provide clearer roles for each. The Assessment Committee has been designed to provide linkage to all major School constituencies. Committee members (and assessment-related responsibilities they represent) include: the Academic Planning Council (general oversight), Curriculum Committee (student learning outcome assessment), Experiential Education Program (clinical performance assessment), Dean's Advisory Council (programmatic assessment), Office of Instructional & Information Technology (data gathering and processing), and Student & Academic Affairs Office (data gathering, analysis and reporting). Each of the School's academic divisions is represented on the Committee; this is to facilitate information-sharing and encourage their roles in assessment and improvement efforts. Three students serve on the Committee to provide user perspectives. Finally, a School alumnus who is a clinical instructor and recently served on our Admissions Committee, provides an external perspective.

A new Director of Assessment has been hired. Successful implementation of the School's assessment plans requires converting large amounts of data gathered through ongoing assessment activities into information that is usable – and used – by faculty, staff and administration throughout the School. To provide increased emphasis and continuity in our assessment efforts, we have hired a Director of Assessment to join the Student and Academic Affairs Office. Assessment Committee members played active roles in identifying the need for and in recruiting this new staff member.

- B. Assessment Plans.** Charges to the Assessment Committee include drafting/revising various assessment plans. In conjunction with members of the Dean's Advisory Council, the Committee will develop a plan to evaluate the School's mission effectiveness. The existing assessment plan for the PharmD program will be revised to incorporate requirements established in *Standards 2007*. Assessment plans for the BS in Pharmacology and Toxicology Program and for the graduate programs will be presented for approval as part of the program reviews that will be completed in 2007-08.
- C. Monitoring the Instructional Evaluation System.** With successful implementation of our new course and instructor evaluation system, the Assessment Committee will continue to monitor the system's use, solicit feedback regarding implementation, and facilitate instructor use of this system.
- D. Doctor of Pharmacy Curriculum Revision.** Background preparation for review of the PharmD curriculum was initiated in 2005-06. In 2006-07, we undertook this review which will be completed in 2007-08. We are addressing 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*). Revision of the assessment plan for the PharmD program will be developed to link to revised curriculum.
- E. Completion of Program Reviews.** 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. Progress was made on these reviews during 2006-07. Work on the NRC's assessment of research doctorate programs consumed greater energy than was anticipated, though, slowing program review efforts. The review process is expected to conclude with a site visit by a committee composed of external members (selected by the SOP) and internal members (appointed by the Graduate School); this is anticipated during 2007-08.

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Table 1: Academic Program and Student Outcomes Assessment Activity, 2006-2007

Major/Academic Program		Level	Has Assessment Plan	Direct Indicators/Measures								Indirect Indicators/Measures					
				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	1,2 (A)	3 (A)	4 (A)	—	5 (*)	—	—	6 (A)	7,8 (3),(A)	9 (A)	10 (3)	11 (A)	—	12,13 (6),(A)
750	Pharmacology and Toxicology	Bachelors	No	—	—	14 (A)	—	—	—	—	—	15 (3)	16 (A)	17 (*)	—	—	—
744	Pharmaceutical Sciences	Graduate	No	—	—	—	—	—	18	—	19,20 (A),(A)	21 (*)	—	22 (*)	—	—	—
912	Social and Administrative Sciences in Pharmacy	Graduate	No	—	—	—	—	—	18	—	19,20 (A),(A)	21 (*)	—	22 (*)	—	—	—
G756	Masters in Pharmacy	Graduate	Yes	—	—	—	—	—	23	—	19 (2 mo)	—	24 (A)	25 (5)	—	—	12 (6)

Key:

- 1 Multistate Pharmacy Jurisprudence Examination (MPJE)
- 2 North American Pharmacist Licensure Examination (NAPLEX)
- 3 Patient Consultation Examination
- 4 Advanced Practice Clerkships
- 5 Electronic Portfolios
- 6 Objective Structured Clinical Examination (OSCEs)
- 7 Current PharmD Students Survey
- 8 Clerkship Evaluations
- 9 New PharmD Graduates Survey and Exit Interviews
- 10 Recent PharmD Alumni Survey
- 11 Clinical Instructors/Employers Survey
- 12 Accreditation Review
- 13 Clerkship Forums

- 14 Independent Study/Senior Seminar
- 15 Current Pharmacology -Toxicology Students Surveys
- 16 Pharmacology-Toxicology Student Exit Interviews
- 17 Pharmacology-Toxicology Alumni Survey
- 18 Thesis/Dissertation
- 19 Progress Reviews
- 20 Preliminary Examinations
- 21 Current Graduate Students Survey
- 22 Graduate Alumni Survey
- 23 Pharmacy Practice Project
- 24 MS Pharmacy Exit Interviews
- 25 MS Pharmacy Alumni Survey

Schedule notes: **Bold** = completed in 2006-07 (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
Capstone Evaluation			
• Objective Structured Clinical Exams (OSCEs)	Students' clinical skills and professionalism	2 nd , 3 rd , and 4 th year PharmD students (all)	1 or 2 times annually
• Communication practical exam	Students' patient consultation skills	3 rd year PharmD students (all)	Annually
• Advanced practice clerkships	Students' clinical skills and professionalism	4 th year PharmD students (all)	Each 7 or 8 week rotation
National Testing & Standards			
• 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
Other Measures			
• 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 th year PharmD students (all)	Annually in April/May
– Current Student Survey	– Core	1 st , 2 nd and 3 rd 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 th year PharmD students (all)	Each 7 or 8 week rotation
• New Graduate Exit Interviews	Special topics (varying over time)	4 th 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: Licensing Examination Pass Rates, 2002-2006

Year	North American Pharmacist Licensure Examination (NAPLEX) Pass Rates			Multi-state Pharmacy Jurisprudence Examination (MPJE) Pass Rates		
	UW-Madison SOP Graduates	Peer Group* (n=11)	All ACPE-accredited Schools and Colleges of Pharmacy (N=89)	UW-Madison SOP Graduates	Peer Group* (n=11)	All ACPE-accredited Schools and Colleges of Pharmacy (N=89)
2002	100.0%	97.8%	95.5%	95.6%	92.4%	88.2%
2003	100.0%	98.0%	95.1%	98.9%	89.3%	85.1%
2004	99.3%	98.8%	96.6%	94.2%	91.8%	87.1%
2005 [#]	98.2%	96.4%	91.3%	96.2%	93.2%	88.6%
2006	98.3%	96.4%	94.2%	96.3%	92.1%	88.8%
5-year average	99.1%	97.5%	94.2%	96.1%	91.7%	87.5%

* Peer group members: Illinois at Chicago, Iowa, Michigan, Minnesota, Purdue, Ohio State, California-San Francisco, North Carolina at Chapel Hill, Texas at Austin, and Washington

[#] Includes results using old and new NAPLEX blueprint and passing standards; new blueprint and standards used in following year