

UCSF School of Pharmacy Doctor of Pharmacy (PharmD) Educational Outcomes

Patient and Population-based Care (*IOM; UCSF Mission; SOP Mission; Dept Clin Pharm Mission*)

- Exhibit knowledge of and confidence with the pharmacist's role in health care systems (e.g., hospital, ambulatory care, community practice settings) and the provision of longitudinal care (*SOP EO1; ACPE Standards 9 and 12, Guideline 14.5 (continuity of care); wording modified from SOM*)
- Gather complete patient histories in an organized fashion, appropriate to the situation and inclusive of cultural, social, educational, economic, and other patient-specific factors affecting self-care behaviors, medication use and adherence (*ACPE Guideline 9.1, Standard 12, Guideline 12.1; CAPE 1; wording modified from SOM*)
- Anticipate patients' needs, participate in the creation of individualized disease management and/or prevention plans including patient self-management and behavior change (*ACPE Guideline 12.1; CAPE 1; wording modified from SOM*)
- Analyze, assess and optimize self-care and medication management plans (*ACPE Standard 9 and Guideline 12.1; CAPE 1; wording modified from Draugalis AJPE 2002*)
- Prioritize, manage, and document patient care activities efficiently (*concept and wording modified from SOM*)
- Provide preventative health services for individuals and populations (*ACPE Standard 12, Guideline 12.1, and Appendix A (JCPP Vision 2015); CAPE 3*)
- Follow universal precautions and sterile technique (e.g., immunization delivery, point-of-care testing) (*concept and wording from SOM*)

Scientific and Clinical Foundations (*ACPE Standard 13 and Appendix A (JCPP Vision 2015); UCSF Mission; SOP Strategic Plan; Dept Pharm Chem website; Dept BETS mission*)

- Describe the importance of discovery and the scientific foundations of health care and apply that understanding to the practice of evidence-based care (*ACPE Guideline 13.1; SOP Mission and Strategic Plan; Dept Pharm Chem website; Dept BTS mission; Dept Clin Pharm Philosophy; wording modified from SOM*)
- Describe the pathophysiology of human disease at molecular, cellular, systems, and whole organism levels (*ACPE Appendix B; SOP Strategic Plan; wording from SOM*)
- Describe how physical, psychological, social, cultural, and environmental processes contribute to the etiology, pathogenesis, and manifestations of human health and disease (*ACPE Appendix B; SOP Strategic Plan; wording from SOM*)
- Describe the natural history of illness and strategies for promoting health and preventing illness (*concept and wording from SOM*)
- Describe medication activity (therapeutic and toxic) at the molecular, cellular, systems, and whole organism levels (*ACPE Guideline 12.1; SOP Strategic Plan; Dept BTS mission; Dept Pharm Chem website*)
- Apply mathematical principles to therapeutic and adverse response to medications and pharmacy practice (*SOP EO2; ACPE Appendix B*)
- Apply sound scientific principles and incorporate evidence and best practices when making decisions (*SOP EO2 and 5; CAPE 1*)
- Demonstrate the ability to develop and implement evidence-based programs and protocols based upon analysis of epidemiological, pharmacoeconomic, and medication-use data and risk-reduction strategies (*ACPE Guideline 12.1; modified CAPE 1*)

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Practice-based Learning and Improvement (IOM)

- Apply quality improvement principles to pharmacy practice (*SOP EO 6; IOM; ACPE Guideline 12.1; CAPE 2*)
- Use information technology to access, evaluate and manage information and to integrate evidence from scientific studies into practice (*ACPE Guideline 12.1 and Appendix B; CAPE 2; wording from SOM*)
- Apply evidence-based practice, including knowledge of study design and statistics, to the care of individual patients and populations (*ACPE Guideline 12.1; CAPE 1*)
- Analyze one's own performance systematically and develop individualized plans for improvement and learning (*SOP EO10; ACPE Guideline 11.1; CAPE 1-3; wording modified from SOM*)

Interpersonal and Communication Skills (IOM)

- Establish and maintain a collaborative and constructive pharmacist-patient relationship (*SOP EO3; CAPE 1; wording modified from OSU 1.5.1 and SOM*)
- Effectively and empathetically discuss serious, sensitive, or difficult topics with patients (*SOP EO3; ACPE Appendix B; wording from SOM*)
- Elicit patients' needs and preferences and incorporate them into the therapeutic management plan (*ACPE Guideline 9.1, Standard 12, and Guideline 12.1; CAPE 1; wording modified from SOM*)
- Assess and validate the ability of patients and their agents to obtain, process, understand and use health- and medication-related information (*ACPE Guideline 12.1 and Appendix B; wording modified from OSU 1.4.5*)
- Share relevant information with patients and their agents from diverse backgrounds at a level appropriate for the individual or group (*SOP EO3; ACPE Guideline 12.1 and Appendix B; CAPE 1*)
- Present information in an organized, logical fashion appropriate for the clinical situation, including assessment and plan (*ACPE Guideline 12.1 and Appendix B; wording from SOM*)
- Cooperate, collaborate, communicate and integrate care on interprofessional teams to ensure that care is continuous and reliable (*SOP EO4; IOM; ACPE Guideline 9.1, Standard 12, Guideline 12.1, Guideline 14.5, Appendix B; CAPE 1; Dept Clin Pharm Philosophy*)

Professionalism

- Demonstrate personal/professional development, through ongoing self-directed learning and self reflection (*SOP EO9; ACPE Guideline 11.1; CAPE 1-3; Oath of a Pharmacist; wording modified from SOM*)
- Demonstrate sensitivity and responsiveness to culture, race/ethnicity, age, socioeconomic status, gender, sexual orientation, spirituality, disabilities, and other aspects of diversity and identity (*IOM; ACPE Guideline 9.1, Standard 12, Guideline 12.1; wording from SOM*)
- Respond to the needs of patients and society, superceding one's own self-interest (*ACPE Appendix A (JCPP Vision 2015); Oath of the Pharmacist; wording from SOM*)
- Advocate for access to necessary medications, devices and services for all patients (*Dept Clin Pharm Vision and Philosophy*)
- Practice ethically, including maintaining patient confidentiality, responding to errors in care and professional misconduct (including plagiarism), and understanding principles of ethical research (including conflicts of interest and obtaining appropriate informed consent) (*SOP EO9; ACPE Guideline 9.1 and Standard 12; CAPE 1, wording modified from SOM*)
- Demonstrate a commitment to caring for and advocating for all patients, including the underserved and/or those populations disproportionately affected by disease (*Dept Clin Pharm Vision and Philosophy; wording modified from SOM*)
- Demonstrate respect, compassion, integrity, accountability and dependability while interacting with patients, families, and other health professionals (*ACPE Guideline 9.1 and Appendix B; wording modified from SOM*)

Systems-based Practice

- Analyze and apply legal and regulatory principles directing drug development and approval and medication distribution, use and management systems (*SOP EO7; CAPE 2; wording modified from FL SUCCESS Competency*)

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- Coordinate, provide, and assess safe, accurate and time-sensitive medication distribution (*ACPE Standard 12; CAPE 2*)
- Identify and describe different types of medication delivery systems (*ACPE Appendix B; wording modified from SOM*)
- Manage human, physical, medical, informational, fiscal, and technological resources (*UCSF SOP E07; ACPE Guideline 12.1; CAPE 2; wording from OSU 2.2*)
- Describe the health care system and recognize ways to systematically assess and improve health care and prevent medication errors, and apply these skills to a specific problem (*ACPE Guideline 12.1; CAPE 2; wording modified from SOM*)
- Describe basic principles of health care finance, how methods and costs affect health care and medication delivery, and methods for controlling costs while optimizing access (*wording modified from SOM*)
- Identify methods for evaluating cost-effectiveness and cost-benefit of medication use (*ACPE Guideline 12.1; CAPE 2*)

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REFERENCES

- UCSF SOP Educational Outcomes (EOs, adopted May 2006)
 1. Provide patient-centered pharmaceutical care
 2. Apply fundamental scientific and mathematical principles to pharmacy practice
 3. Communicate effectively with patients
 4. Work collaboratively on interprofessional teams
 5. Base decisions on sound science and best evidence
 6. Apply quality-improvement principles to pharmacy practice
 7. Manage medication-use systems
 8. Promote public health and wellness
 9. Practice in an ethical and professional manner
 10. Maintain professional competence
- Institute of Medicine (IOM). Health Professions Education: A Bridge to Quality. Greiner AC, Knebel E, Editors. Committee on the Health Professions Education Summit. The National Academies Press, Washington DC, 2003.
- Accreditation Council for Pharmacy Education (ACPE). Accreditation standards and guidelines for the professional program in pharmacy leading to the Doctor of Pharmacy degree. Adopted January 15, 2006; effective July 1, 2007. Available at: <http://www.acpe-accredit.org/standards/default.asp>.
- Center for the Advancement of Pharmaceutical Education (CAPE). Educational Outcomes. American Association of Colleges of Pharmacy, 2004. Available at: <http://www.aacp.org/resources/education/Pages/CAPEEducationalOutcomes.aspx>
 1. Educational Outcomes (domains delineated in CAPE document)
 1. Provide pharmaceutical care
 2. Systems management
 3. Public health
- Draugalis JR, Slack MK, Sauer KA, Haber SL, Vaillancourt RR. Creation and implementation of a learning outcomes document for a Doctor of Pharmacy curriculum. Am J Pharm Educ 2002;66:253-60.
- System of Universal Clinical Competency Evaluation in the Sunshine State (SUCCESS). Comprehensive list of competencies and definitions used by Colleges of Pharmacy in Florida. Available at: <http://www.cop.ufl.edu/doty/success/help/scomps.htm>
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- American Association of Colleges of Pharmacy (AACP). Oath of a Pharmacist. 2007. Available at: <http://www.aacp.org/resources/academicpolicies/studentaffairspolicies/Documents/OATHOFAPHARMACIST2008-09.pdf>.
- University of California, San Francisco (UCSF). Advancing health worldwide. A strategic plan for the University of California, San Francisco. 2007. Available at: http://strategy.ucsf.edu/pdf/ucsf_strategic_plan.pdf.
- School of Pharmacy, University of California, San Francisco (UCSF). Mission. September 5, 2007. <http://pharmacy.ucsf.edu/about/mission/>.
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- Department of Clinical Pharmacy, School of Pharmacy, University of California, San Francisco (UCSF). Our Mission, Vision, Core Values, Philosophy and History. Available at: <http://clinicalpharmacy.ucsf.edu/about/>.
- Department of Pharmaceutical Chemistry, School of Pharmacy, University of California, San Francisco (UCSF). A message from the chair. Available at: <http://pharmchem.ucsf.edu/>

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- Department of Bioengineering and Therapeutic Sciences, School of Pharmacy, University of California, San Francisco (UCSF). Mission. Available at: <http://bts.ucsf.edu/about-the-department/mission/>.
- UCSF School of Medicine (UCSF SOM) Medical School Curriculum Program Objectives. Available at: <http://www.medschool.ucsf.edu/curriculum/competencies/>.