

Postgraduate Year One (PGY1) Pharmacy Residency

SETTING

The VA Palo Alto Health Care System is a 903 bed hospital and satellite outpatient clinic complex located in the greater San Francisco Bay Area of California. This major tertiary referral center consists of three medical center divisions and six satellite outpatient clinics. The Palo Alto Division, located in the foothills of the Coast Range Mountains, is comprised of ambulatory care clinics, and medicine, surgery, acute psychiatry, spinal cord injury, geriatric care, hospice, and blind rehabilitation inpatient beds. The Menlo Park Division, located seven miles away from Palo Alto, serves primarily chronic psychiatric, nursing home, respite, and domiciliary patients. The Livermore Division, located 40 miles east of Palo Alto, cares primarily for subacute medicine and nursing home patients. Satellite clinics are located in San Jose, Monterey, Stockton, Modesto, Sonora, and Capitola. The Health Care System is affiliated with Stanford University School of Medicine and University of the Pacific (UOP) and University of Southern California (USC) Schools of Pharmacy.

PHARMACY SERVICES

The Pharmacy Service provides 24-hour coverage seven days a week. Patient care is provided by a staff of more than 100 pharmacists, residents, students, and technicians practicing in the inpatient and ambulatory care setting. The pharmacy also provides a Pharmacoeconomics Center, Drug Information Service, and staff to participate on an array of local, regional, and national committees.

Inpatient Service. The decentralized inpatient pharmacy staff provides pharmaceutical care to veterans using a systematic process designed to ensure patients are educated and drug therapy is monitored. Care plans are developed based on individual patient needs and used in conjunction with computer-generated databases to monitor for drug indication, appropriateness, and achievement of therapeutic outcomes. New orders are evaluated in the context of this information with attention to drug dosing, drug interactions, adverse effects and drug allergies. Pharmacists' recommendations are communicated on patient care rounds or directly to the medical, surgical,

psychiatric, or extended care teams, and documented in electronic progress notes. The pharmacy also provides "code blue" coverage and staff to monitor total parenteral nutrition patients. Drug distribution is accomplished through centralized unit dose and IV admixture services. By utilizing automation and the technical support staff efficiently in the dispensing functions of the pharmacy, the system provides an opportunity for pharmacists to provide pharmaceutical care to their patients.

Ambulatory Care. The Outpatient Pharmacy Sections provide comprehensive pharmaceutical services for clinic patients, which include primary care management of patients in the General Medicine, Anticoagulation, Diabetes, and Home Based Primary Care (HBPC) Clinics. In 2005, we have expanded our clinical pharmacy coverage to include HIV and Mental Health Clinics, and have begun to utilize innovative telehealth strategies to provide care to patients at remote locations. In addition, we have recently added a new primary care pharmacy clinic to help meet VA performance measure initiatives which target high risk patients in need of medication optimization, including lipid, erythropoietin, and hypertension therapy.

Education and Training. Members of the pharmacy staff precept residents and UOP and USC clinical clerkship students. The weekly Residency Seminar Series, Journal Club, clerkship student therapeutics and case conferences add to the educational development of the pharmacy staff, residents and students.



Mission Statement

Upon completion of this residency, the pharmacist will be competent and confident in the provision of direct patient care in a wide spectrum of patient care environments. The pharmacist will be an effective, integral team member as well as efficient at independently solving problems. They will demonstrate excellent communication skills, develop clinical precepting skills and be leaders in the education of patients, health care providers and trainees. Leadership skills will be developed through the management of projects and working with administrators of the Pharmacy Service. Essential research skills will be developed and applied to pharmacy practices. Through all of these activities, the pharmacist will effectively utilize a variety of information and automation technologies.

RESIDENCY ACTIVITIES

The residency is a one-year postgraduate program that provides training and experience in Pharmacy Practice and Education. Patient care responsibilities are foremost; residents also receive instruction and experience in management, managed care, and research. A research project is required and a focus on economics, epidemiology, outcomes analysis, or health-care policy is suggested, but not mandatory.

Required Rotations: Residents may be required to do their rotations at another division within the Health Care System, other than Palo Alto.

Ambulatory Care (12 weeks)

Pharmacy residents are responsible for managing patient health care needs in the following clinics: Anticoagulation, General Medicine, Diabetes, Telehealth, and Home Based Primary Care. Residents evaluate drug regimens for efficacy, adherence, and adverse effects, make appropriate adjustments in the medication regimen, and order necessary laboratory tests. Residents spend 4 hrs/ wk in the Outpatient Pharmacy providing direct patient care. Teaching opportunities include precepting pharmacy students and providing education to patients, caregivers, and staff.

Internal Medicine (6 weeks)

The pharmacy resident on the medicine rotation plays an active role in managing patients admitted to the medicine service. The patient care team consists of an attending physician, pharmacy resident, medical residents, interns, and students. The pharmacy resident provides this team with drug information and patient-specific medication recommendations with the goal of improving patient outcomes. Other activities include participating in daily MIICU and work rounds, monitoring patient medication therapy, reporting adverse drug reactions, pharmacokinetic monitoring and performing patient admission interviews. Teaching opportunities include giving inservices to health care staff and precepting pharmacy students.

Drug Information (6 weeks)

On this service, the resident is responsible for answering health-system drug information requests, writing and editing drug use criteria, conducting medication use evaluations, writing patient education newsletters, and participating in journal club and medical center health care policy. The resident also participates in the health care system's adverse drug reaction reporting program and provides pharmaceutical information and economic analyses for the Medication Management Committee.

Geriatrics (6 weeks)

Residents round with interdisciplinary teams on the Subacute Care Unit and are required to perform monthly medication reviews and optimize medication regimens in elderly patients. In addition, residents evaluate medication adherence and educate geriatric patients during daily rounds with the medical team and during discharge counseling.

Critical Care (6 weeks)

Residents participate as an active member of an interdisciplinary intensive care team consisting of medicine, surgery and anesthesia physicians, an ICU pharmacist, and a clinical dietician. The patient population consists of both surgical (cardiovascular, general, vascular, neurologic) and medical (cardiology and pulmonary) patients. Residents recommend drug regimens for efficacy, evaluate adverse effects, dosing, and laboratory tests and provide drug information to the team and nursing staff. Learning is focused on hemodynamic monitoring, infectious diseases, fluid and electrolyte balance, acid-base disorders, total parenteral nutrition, and ICU pharmacoeconomics.

Managing Pharmaceutical Care: Projects and Conference (year long)

Residents, preceptors, and guest lecturers discuss on a weekly basis various aspects of the changing health care and pharmaceutical care delivery environment. Topics include: pharmaceutical care, clinical pathways, disease management, journal-manuscript process, biostatistics in outcome measurements, quality of life assessment tools, prescriber profiling, and pharmacoeconomics. Residents also explore the pharmacist's role in the development of health care policy by serving as an active member of a health care committee throughout the entire year. Committees include: Regional Pharmacy Benefits Management (PBM) Committee, Local P&T Committee, Regional Clinical Pharmacy Specialists Workgroup, Patient Education Committee, Regional Pharmacoeconomics Workgroup, Residency Committee and the Medication Safety Committee.

Service (one weekend day every 3-4 weeks)

The primary responsibility of the resident is to provide patient education to all patients being discharged from the hospital. The resident will gain familiarity with outpatient drug distribution activities, and will learn how to verify inpatient orders during their Internal Medicine, Geriatrics and Critical Care rotations.

Elective Rotations (choice of 2-4)

Psychiatry

Residents are active members of a multidisciplinary team consisting of psychiatrists, psychologists, social workers, nurses, and students. Residents are integral in the implementation of clozapine therapy, drug monitoring, providing drug information to the staff, and educating the patients.

Infectious Disease

Residents are active members of the infectious disease consult team and are primarily responsible for evaluating patient medication therapy, reporting adverse reactions, pharmacokinetic monitoring, and recommending patient specific drug regimens. Residents attend the HIV clinic, ID grand rounds presentations, precept pharmacy students, and provide drug information to the health care staff.

Advanced Ambulatory Care

Additional experience in the ambulatory care clinic setting is provided on this rotation. Residents are able to choose from a variety of settings, including HIV, and Mental Health clinics, as well as our Livermore Division General Medicine and Anticoagulation clinics.

Pharmacoeconomics

Residents work in conjunction with the Pharmacoeconomic Center to develop and implement strategies to provide a cost-effective pharmacy benefit for our patients and analyze outcomes of these strategies.

Research (up to 4 weeks)

Residents may spend a block of time devoted to their residency project. Residents learn integral tools to complete their mandatory research project, which may include: research design, writing protocols, biostatistics, epidemiology, economics, pharmacokinetic modeling, drug analysis, and computer-based support of outcomes research.

Off-Site Electives have included pharmaceutical companies, managed care organizations, ambulatory care clinics, cardiology, pediatrics, and bone-marrow transplant.

<u>Benefits</u>

ACLS Certification
Health Insurance
Paid educational leave
Free Parking

Vacation - 13 days / year
Sick leave - 13 days / year
All federal holidays off
Lab Coats

Current Residency Class 2006-2007

Yen Bui, PharmD (UOP)
Nela Chang, PharmD (Western University)
Diem Huynh, PharmD (USC)
Cam-Van Nguyen, PharmD (UOP)
Doan Nguyen, PharmD (UCSD)
Suzannah Patterson, PharmD (UCSF)
Nancy Wu, PharmD (Univ. of Michigan)

RESIDENT RESEARCH PUBLICATIONS

A major focus of our program is to enhance the ability of the resident to apply scientific research methods to complete an evaluative project. Projects are selected by the resident and are conducted under the guidance of research preceptors. Past residents' research projects have resulted in many valuable contributions to the medical literature. The following is a sampling:

1. Mathews S, Cole J, Ryono R. Anticoagulation-related outcomes in patients receiving warfarin after starting levofloxacin or gatifloxacin. *Pharmacotherapy* 2006;26(10):1446-51.
2. Khorashadi S, Hasson NK, Cheung RC. Incidence of statin hepatotoxicity in patients with hepatitis C. *Clin Gastroenterol Hepatol* 2006;4:902-7.
3. Yee JL, Hasson NK, Schreiber DH. Drug-related emergency department visits in an elderly population. *Annals of Pharmacother.* 2005; 39(12): 1990-5.
4. Gee MT, Hasson NK, Hahn T, Ryono RA. Outcomes of a tablet splitting program in patients taking HMG-CoA Reductase Inhibitors. *J Managed Care Pharm* 2002;8(6):353-9.
5. Faltermier AM, Hasson NK, Cox D, Lum BL. The impact of a telephone care pharmacy program on health care resource utilization. *JMCP* 2000;6(3):217-21.
6. Puentes E, Puzantian T, Lum BL. Prediction of valproate serum concentrations in adult psychiatric patients using bayesian model estimations with NPEM2 population pharmacokinetic parameters. *Ther Drug Mon* 1999;21:351-4.
7. Gong C, Hasson NK, Lum BL. Impact of a diabetes disease management clinic on the total glycosylated hemoglobin of patients with type 2 diabetes mellitus. *JMCP* 1999;5(6):511-5.
8. Mole L, Ockrim K, Holodniy M. Decreased medical expenditures for care of HIV-seropositive patients: The impact of highly active antiretroviral therapy at a US Veterans Affairs Medical Center. *Pharmacoecon* 1999;16(3):307-15.d
9. Nguyen DP, Hasson NK. Perioperative management of patients on long-term warfarin therapy. *Hosp Pharm* 1999;34(1):103-7.

For more information and application materials:
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RESIDENCY PRECEPTORS

Clinical staff serve as preceptors in their areas of expertise. The following are our current faculty.

Ambulatory Care

Ann Byler, Pharm.D. Dr. Byler received her Pharmacy degree from UC San Francisco in 1991 and completed the VA Palo Alto Residency in 1992. She has worked as a Clinical Pharmacy Specialist in our ambulatory care clinics since July 1992.

Sora Y. Han, Pharm.D. Dr. Han received her Pharmacy degree from University of the Pacific in 2002 and completed the VA Palo Alto HCS Residency in 2003. She has been an Ambulatory Care Clinical Pharmacy Specialist since 2003.

Lisa B. Lee, Pharm.D. Dr. Lee received her Pharmacy degree from the University of North Carolina at Chapel Hill in 2004 and completed the Carolinas Medical Center Ambulatory Care Pharmacy Practice Residency in 2005 (Charlotte, NC). She has been the Lead Ambulatory Care Clinical Pharmacy Specialist since March 2006.

Emily Moore, Pharm.D. Dr. Moore received her Pharmacy Degree from UC San Francisco in 2004 and completed the VA San Francisco Primary Care Residency in 2005. She has been an Ambulatory Care Clinical Pharmacy Specialist since 2005.

Kristin To, Pharm.D. Dr. To received her Pharmacy degree from UC San Francisco in 1994 and completed the UC Davis Pharmacy Practice Residency in 1995 and a Primary Care Residency at VA San Francisco in 1996. She has worked as an Ambulatory Care Clinical Pharmacy Specialist since May 1997.

Heidrun Utz, Pharm.D. Dr. Utz received her Pharmacy degree from UC San Francisco in 1989 and completed the VA Palo Alto Pharmacy Residency in 1990. She has been an Ambulatory Care Clinical Pharmacy Specialist since 1992.

Fred Yee, B.S., R.Ph. Mr. Yee received his Pharmacy degree from the University of the Pacific in 1981 and completed the VA Palo Alto Residency in 1982. He has been an Ambulatory Care Clinical Pharmacy Specialist since 1984.

Critical Care

Janell Kobayashi, Pharm.D. Dr. Kobayashi received her Pharmacy Degree from UC San Francisco in 2001 and completed the VA Palo Alto Residency in 2002. She has worked here as an Inpatient Clinical Pharmacy Specialist since September 2003.

Bonnie Marty, B.S., R.Ph., BCPS Ms. Marty received her Pharmacy degree from the University of Wisconsin, Madison in 1980 and is board certified in pharmacotherapy. She has worked as a Critical Care specialist since 1984. She is also an ACLS instructor for the VAPAHCS.

Geriatrics

Sara Lee, Pharm.D., CGP Dr. Lee received her Pharmacy degree from University of the Pacific in 1997 and completed the West Los Angeles VA Geriatric Specialty Residency

Program in 1998. She has been a Geriatric Clinical Pharmacy Specialist at VAPAHCS since 2006.

Medicine

Mylinh Ho, Pharm.D., BCPS Dr. Ho received her Pharmacy degree from the University of the Pacific in 1999 and completed the VA Palo Alto Residency in 2000. She joined the VA Palo Alto Pharmacy Service in 2000 and works as Clinical Specialist in Internal Medicine.

Kari Kobayashi, Pharm.D. Dr. Kobayashi received her Pharmacy degree from the University of Southern California in 2004 and completed the VA Palo Alto Residency in 2005. She has worked as a Clinical Pharmacy Specialist on our Medicine Service since 2005.

Patti Togioka, Pharm.D. Dr. Togioka received her Pharmacy Degree from UC San Francisco in 2004 and completed the VA Palo Alto Residency in 2005. She has worked as a Clinical Pharmacy Specialist on our Medicine Service since 2005.

Drug Information/Pharmacoeconomics

Noelle Hasson, Pharm.D. Dr. Hasson received her Pharmacy degree from UC San Francisco in 1994 and completed the VA Palo Alto Residency in 1995. She has worked as a Clinical Pharmacy Specialist at VA Palo Alto in various positions (Inpatient Medicine, Drug Information, Clinical Coordinator and Pharmacy Benefits Manager) since 1995.

Managing Pharmaceutical Care:

Randell K. Miyahara, Pharm.D. Dr. Miyahara received his Pharmacy degree from UC San Francisco in 1985 and completed a Clinical Pharmacy Residency at the University of Southern California in 1986. He has worked as a Clinical Pharmacy specialist at VA Palo Alto in various positions (Ambulatory Care, and Clinical Coordinator) since 2005.

Nancy Nguyen, Pharm.D. Dr. Nguyen received her Pharmacy degree from Western University in 2002 and completed the UCSF Pharmacy Practice Residency Program in 2003 and the UCSF HIV/AIDS Pharmacy Specialty Residency in 2004. She has been a HIV & Ambulatory Care Clinical Pharmacy Specialist since 2004 and serves as the Pharmacist member of the Infectious Disease Consult Team since 2005. She is an Assistant Professor of Pharmacy Practice for the University of the Pacific School of Pharmacy and coordinates the pharmacy student clerkship program at VAPAHCS.

Hematology/Oncology:

Raj Joshi, Pharm.D. Dr. Joshi received his Pharmacy degrees, B.S and Pharm.D., from Creighton University in 1984 and 1997, respectively. He has worked as a Hematology/Oncology Program Manager since October 2006.