

Pharmacy Informatics Specialty Residency/Fellowship Programs

Residency Information	 University of Michigan	 OREGON HEALTH & SCIENCE UNIVERSITY	 UNIVERSITY OF UTAH HEALTH CARE	 Vanderbilt Medical Center	 VA SAN DIEGO HEALTHCARE SYSTEM <small>A Division of VA Desert Pacific Healthcare Network</small>	 UofL HealthCare University of Louisville HealthCare
Location	Ann Arbor, Michigan	Portland, Oregon	Salt Lake City, Utah	Nashville, Tennessee	San Diego, California	Louisville, Kentucky
Length of program	1 year (PGY2 only)	1 year (PGY2 only)	PGY2 only	1 year (PGY2 only)	1 year (PGY2 only)	1 year (PGY2 Only)
Informatics education	Prepare pharmacists to be leaders in informatics. Education will include technology concepts, project management, clinical informatics including exposure to CPOE and clinical decision support, budgeting, project management, vendor relations, integration of systems and innovation in technology. Research, writing and teaching experiences are additionally provided.	Information/project management, student/resident teaching, research, clinical decision support, data warehousing, internet-based applications, user training, drug information/drug policy, CPOE/EMR, evidence based medicine, vendor relations, pharmacy automation, health information technology	Healthcare informatics with an emphasis on clinical applications, CPOE/EMAR implementation, pharmacy automation, bar code technology, smart pumps, vendor relations and private industry (TheraDoc).	Information/Project Management, project lifecycle, technology infrastructure, integration/interface, clinical information systems, clinical decision support, implementation, CPOE, EMR, BCMA, pharmacy automation, vendor relations	Information/project management, data warehousing, internet-based applications, CPOE/Electronic Medical Record/BCMA maintenance, pharmacy automation	Project Management, Database, CPOE, Bedside Bar-coding, Smart Pump Technology, Clinical Decision Support, EMAR, EHR, Wireless/Paperless Initiatives, Hardware/Software Systems Support, Teaching Opportunities, Leadership
Degree/certification opportunity	None	None	Masters of Science in Medical Informatics or Masters in Public Health (Must apply for acceptance into graduate programs)	None	None	Certified Professional in Healthcare Information and Management Systems
Accreditation	ASHP accredited	ASHP accredited	ASHP accredited	ASHP accredited	ASHP accredited	Candidate
Clinical responsibilities	One weekend kinetic coverage monthly and one major plus one minor holiday	Varies depending on clinical site, but similar to practice residents	Varies depending on clinical site, but similar to practice residents	Mixed clinical and technical rotations at the discretion of the resident and preceptors	At the discretion of resident and clinical preceptors	At the discretion of the resident, informatics coordinator and clinical preceptors
Required clinics	None	None	None	Tailored to the resident	Tailored to the resident	None
Informatics projects	Projects vary depending on availability: two publishable papers	One 1-year long project and multiple smaller projects. Initiatives involving bar-code medication administration, pharmacy automation and roles in the new OHSU health information technology/system initiatives depending on availability.	Varies based on availability. One major residency project required; presented at the Western States Residency Conference.	Multiple projects with at least one primary/longitudinal	Projects vary depending on availability	One primary longitudinal plus multiple projects based on facility priorities and resident interests.
Required rotations	Tailored to the resident's career goals	Medication safety, drug information/drug policy, health-system administration; experiences are longitudinal	Tailored to the resident	Tailored to the resident	No rotations, longitudinal residency	Tailored to the resident: Orientation, Project Management, End User Training and Support, Intelligent Clinical Decision Support Options, Database Design/Utilization/Mining, Infrastructure, Interfaces
Staffing	Clinical staffing on required weekends only	Four 8 hour shifts per month	Four 8-hour shifts per month	Direct staffing or clinical call every 4 th weekend	Based upon prior VA staffing experience	None
On-call pager responsibility	None	Schedule varies	None	Schedule varies	None	Required-Schedule varies
Residency directors and contact information	Chris Zimmerman, PharmD, BCPS Clinical Pharmacist - Clinical Decision Support University of Michigan Hospitals and Health Centers Medical Center Information Technology 4251 Plymouth Rd., Suite 2301 Ann Arbor, MI 48105 Phone: 734-763-7496 Email: chriszim@med.umich.edu http://www.pharm.med.umich.edu/public/residencies/informatics/	Mike Brownlee, MS, PharmD Informatics Program Director Director, Pharmacy Services Email: brownlem@ohsu.edu OR Neil Edillo, PharmD, BCPS, CPHIMS Informatics Program Coordinator Pharmacy Informatics Manager Email: edillon@ohsu.edu Oregon Health & Science University Hospitals and Clinics Department of Pharmacy Services, Mail code CR 9-4 3181 SW Sam Jackson Park Road Portland, OR 97239 Phone: 503-494-8007 http://www.ohsu.edu/xd/health/services/pharmacy/training/informatics-specialty/index.cfm	Craig Herzog, RPh, MBA Director, Pharmacy Informatics & Technology University of Utah Hospitals and Clinics Department of Pharmacy Services 50 North Medical Drive Salt Lake City, UT 84132 Phone: 801-585-2188 Email: craig.herzog@hsc.utah.edu http://uuhsc.utah.edu/pharmacy/resident/clinical_informatics.html	Phillip W. Stewart, DPH, Informatics Pharmacist, Program Director 3401 West End Avenue, Suite 630 Nashville, TN 37203 Phone: 615.936.2930 Email: Phillip.Stewart@vanderbilt.edu http://www.mc.vanderbilt.edu/root/vumc.php?site=pharmacy&doc=6045	Daniel Boggie, PharmD Director, Pharmacy Data Applications Email: Daniel.Boggie@va.gov OR Jennifer Howard, PharmD Director, Pharmaceutical Integrated Technologies Email: Jennifer.Howard2@va.gov VA San Diego Healthcare System Pharmacy Service (119) 3350 La Jolla Village Dr. San Diego, CA 92161 Phone: 858-552-8585 x 3026 Fax: 858-552-7582	Amey C. Hugg, R.Ph., CPHIMS Manager, Pharmacy Informatics 535 South Hancock Street Louisville, KY 40202 Phone: 502-562-3409 Email: ameyhu@uhl.org http://www.uoflhealthcare.org/NursesPharmacistsandHealthProfessionals/PharmacyDepartment/PGY2InformaticsSpecialtyResidency/tabid/534/Default.aspx

Pharmacy Informatics Specialty Residency & Fellowship Programs

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<http://www.ashp.org/informatics>



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Residency Information	 Indiana University Health								 University of California San Francisco <i>advancing health worldwide™</i>
Location	Indianapolis, Indiana	Kansas City, MO	Baltimore, Maryland	Boston, Massachusetts	Fort Lauderdale, Florida	Los Angeles, California	Tampa, Florida	Norfolk, Virginia	San Francisco, California
Length of program	1 year	1 year (PGY2 only)	2 year (PGY1/PGY2)	2 year fellowship	2 year fellowship	2 year (PGY1)	1 year	1 year	1 year (PGY2 preferred)
Informatics education	Healthcare informatics with an emphasis on clinical applications, implementations, pharmacy automation, project management and project lifecycle. CPOE, eMAR, barcode medication administration, clinical decision support and vendor relations will all be emphasized.	Informatics Principles and Theory, Medication Safety, Pharmacy Data Warehousing and Data Management (SQL/Fileman/MUMPS), Professional Development and Leadership, Automation and Technology, EMR Order Set and Reminder Development, Formulary Management and Inventory Management.	Pharmacy information governance, health system administration, leadership, issue and change management, pharmacy information systems, distribution technology, CPOE, Clinical Decision Support, clinical documentation, process/workflow re-design, information security, project management, system testing, user training, ongoing maintenance, and support.	Healthcare informatics, research techniques. Design, develop, test, implement, and interventions that affect medication use. Measuring change related to an intervention will give the fellow the ability to conduct independent research.	Prepare pharmacists to be independent researchers in consumer health informatics (CHI). CHI research will involve health information technologies (e.g., mHealth) used by patients to inform and assist with shared-decision making, manage health, and integrate in the healthcare system. Fellow's specific research interests will be used to tailor the program.	Advanced training in emerging technologies and health information systems with an emphasis on clinical applications and impact on patient care. Education will include automation technology, informatics research, project management, teaching and didactic training.	Informatics program is based on core educational material from the American Medical Informatics Association and includes training in the VA's Hospital Information Systems. The program partners with industrial engineering departments of two universities to expose the resident to the more technical aspects of Informatics. Contact Program for more information.	Database design, maintenance, and reporting, CPOE/EMAR implementation, LAN/WAN technology, clinical decision support, interfaces, applications development, vendor relations, smart pump project, wireless technology initiative	Prepare pharmacists to identify where technology and automation systems can work to improve the medication-use system. Includes the use of pharmacy automation, computerized provider order entry (CPOE), electronic medication administration records (EMAR), bar code technology at the point of care (BCPOC), clinical decision support (CDS) technologies, pharmacy information systems, and clinical documentation.
Degree/certification Opportunity	None	None	Certificate Optional (Certificate in Clinical Informatics)	Master of Science or Master of Public Health from Harvard School of Public Health	Master of Science in Biomedical Informatics Certificate in Public Health Informatics	None	None	None	Certified Professional in Electronic Health Records (CPEHR), Certified Professional in Health Information Technology (CPHIT)
Accreditation	Candidate	Candidate	Pre-Candidate	ACCP Accredited	ACCP Accreditation Targeted	None	None	None	None
Clinical responsibilities	Elective clinical rotations at the discretion of the resident and preceptors.	At the discretion of resident and clinical preceptors	Mixed administrative, technical, and clinical rotations at the discretion of the resident and preceptors	Occasional teaching responsibilities at Massachusetts College of Pharmacy & Health Sciences-Boston	Teaching opportunities exist in consumer health informatics courses	At the discretion of the resident and preceptors	At the discretion of the resident and preceptor	At the discretion of resident and clinical preceptors	At the discretion of the resident and preceptor.
Required clinics	None	Tailored to the resident	Yes, tailored to the resident	None	None	Tailored to the resident	None	General pharmacy practice residency or equivalent practical experience	None
Informatics projects	One major longitudinal project with project management methodology and presentation at Great Lakes Residency Conference required. Multiple smaller projects as available at the discretion of the resident and preceptor.	Projects vary depending on availability	One major project and active project lead on multiple smaller projects	Minimum one, flexibility based on fellow's skills and interest	Conception to implementation of one project; additional projects available	One major project, and multiple small projects throughout the residency	One major project and various smaller projects involving automation and project management.	One major longitudinal project of publishable quality and multiple small projects throughout the year	One primary/longitudinal project and active roles in many other projects.
Required Rotations	Tailored to resident's career goals, but program is primarily longitudinal.	No rotations, longitudinal residency	Tailored to the resident: rotations include Internal medicine, Drug Information, Pharmaceutical Care, Practice Management, Critical Care, Longitudinal Ambulatory Care Clinic, Clinical Informatics, Project Management, Information Systems and Technology, Leadership and Strategic Planning, Operations Management, Medication Safety, Pharmaceutical Outcomes, and Pharmacoeconomics	None	None	Tailored to the resident	No elective rotations are required but will be allowed with mutual consent of the resident and program director.	Project management, infrastructure, clinical documentation, clinical decision support, databases and applications, interfaces	No rotations, longitudinal residency
Staffing	Kinetics coverage on weekend once every other month, two staffing shifts per month.	1 evening per week and 1 weekend per month	Required – Every other weekend for first 12 months then every 3 rd weekend for last 12 months	None, focus is on education, informatics and outcomes research	No traditional staffing requirements	At the discretion of fellow and director	Optional with dual appointment	At the discretion of the director	None
On-call pager responsibility	Schedule varies	None	Required- 1 st year code coverage, drug information, and handling admin issues. 2 nd year PharmIS on-call	None	None	Schedule varies	None	None	Required-Schedule varies
Residency directors and contact information	Mark Baumgart, R.Ph., PharmD Manager, Pharmacy Information Services Residency Program Director, Pharmacy Informatics Indiana University Health South Campus 296 1701 N Senate Blvd Indianapolis, IN 46202 Phone: 317-962-9180 Email: mbaumgar@iuhealth.org	R. Spencer Schaefer, PharmD Associate Chief, Pharmacy Email: richard.schaefer@va.gov OR Lauri Witt, PharmD Director, Pharmacy Residency Email: lauri.witt@va.gov Kansas City VA Medical Center Pharmacy Service (119) 4801 Linwood Drive Kansas City, MO 64128 Phone: 858-552-8585 x 3026 Fax: 858-552-7582	Brendan Reichert, M.S., RPh. Assistant Director- Med Use Informatics Cathy Walker Assistant Director- Pharm Education/Training and Residency Coordinator The Johns Hopkins Hospital 600 North Wolfe St / Carnegie 180 Baltimore, MD 21287-6180 Phone: 410-955-7028 Email: breiche2@jhmi.edu http://www.hopkinsmedicine.org/pharmacy/	Andrew C Seger, PharmD Senior Research Pharmacist Division of General Internal Medicine & Primary Care Brigham & Women's Hospital 1620 Tremont street, 3 rd Floor One Brigham Circle Boston, MA 02120-1613 Phone: 617-582-4883 Email: aseger@partners.org http://www.brighamandwomens.org/Departments_and_Services/medicine/services/primarycare/PDF/Pharm%20Fellowship%2010.14.05.pdf	Kevin A. Clauson, PharmD Director, Consumer Health Informatics Center Associate Professor, Pharmacy Practice Adjunct Associate Professor, Biomedical Informatics Program 3200 S. University Dr. Fort Lauderdale, FL 33328 E-mail: caluson@nova.edu Phone: (805) 262-2241	Vipul Patel, PharmD Manager - Pharmacy Informatics and Specialty Pharmacy areas Cedars-Sinai Medical Center 8700 Beverly Blvd Room A-903 Los Angeles, CA 90048 Phone: 310-423-5611 Fax: 310-423-0412 Email: Vipul.patel@cshs.org http://www.cedars-sinai.edu/Patients/Programs-and-Services/Pharmacy-Services/Documents/Rx-Residency-Informatics-Technology-2011-2013.pdf	Nicholas A Coblio, BSPHarm, MSEM, Doctoral Candidate in Engineering Science, RPh James A. Haley Veterans Hospital Department of Pharmacy (119) 13000 Bruce B Downs Blvd Tampa, FL 33610 Phone: 813-978-5804 Email: nicholas.coblio@va.gov	Raymond C. Chan, PharmD Pharmacy Informatics Specialty Residency Coordinator eCare Pharmacy IS Specialist Sentara HealthCare 120 Corporate Boulevard Bldg 400 Norfolk, VA 23502 Phone: (757) 747-4676 Email: rcchan@sentara.com http://www.sentara.com/Employment/Pharmacy/Pages/pharmacy_informatics.aspx	Bret Brodowy, PharmD Department of Pharmacy Phone: (415) 476-8162 Email: bret.brodowy@ucsfmedctr.org OR Tanisha Bailey Department of Clinical Pharmacy Phone: (415) 476-2353 Email: bailey@pharmacy.ucsf.edu University of California, San Francisco C-152, Box 0622 521 Parnassus Avenue San Francisco, CA 94143-0622 http://clinicalpharmacy.ucsf.edu/residencies/