Appendix J Pharmacy Informatics

PGY2 Pharmacy Informatics Residency Program Overview

National Match Service: 632774
https://health.ucsd.edu/specialties/pharmacy/residency/Pages/pharmacy-informatics.aspx

The UC San Diego Health Department of Pharmacy offers a one-year specialty residency in pharmacy informatics beginning approximately August 1st of each year (see “Requirements” below).

Scope:
The UC San Diego Health (UCSDH) Information Services department serves all UCSDH hospitals and clinics, plus multiple independent clinics throughout the San Diego area. UCSDH collaborates with UC Irvine Health to co-manage the shared electronic health record system. The Medication Processes team, part of UCSD Information Services, partners closely with the UCSD Pharmacy department, nursing, physicians, and others, to continually maintain and optimize the electronic health record software, to promote safe and efficient ordering, dispensing, and administration of medications. This includes inpatient and outpatient operations, perioperative workflows, pharmacy automation, revenue cycle, and more.

Purpose:
PGY2 pharmacy residency programs build on Doctor of Pharmacy (Pharm.D.) education and PGY1 pharmacy residency programs to contribute to the development of clinical pharmacists in specialized areas of practice. PGY2 residencies provide residents with opportunities to function independently as practitioners by conceptualizing and integrating accumulated experience and knowledge and incorporating both into the provision of patient care or other advanced practice settings. Residents who successfully complete an accredited PGY2 pharmacy residency are prepared for advanced patient care, academic, or other specialized positions, along with board certification, if available.

Program Description:
The UC San Diego Health PGY2 Pharmacy Informatics Residency program equips its graduates with the skills and experience to fulfill the role of a specialist in pharmacy informatics, or to function as a general source of informatics knowledge, skills, and abilities needed for pharmacy information technology, automation, and data management. Combined with clinical and operational experience, graduates will be prepared to understand and analyze operational and clinical needs, propose and implement solutions that improve patient care, and monitor and report outcomes related to those solutions.

PGY2 residents will function as members of the Medication Processes team within the Information Services department. As a member of this team, residents are responsible for successfully completing Epic training. The resident will resolve requests and incidents related to the EHR, complete optimization projects, perform system updates, participate in committees such as Clinical Decision Support and Medication Alerts, perform user training and education as needed, help precept students and residents, participate in the on-call rotation, complete at least one major project suitable for presentation at an Epic conference, fulfill staffing responsibilities in order to further develop clinical and operational experience, and to serve as a front-line liaison to pharmacy users. Non-EHR informatics experience gained may include helping manage infusion pumps, automatic dispensing stations, and retail pharmacy systems. Residents will learn to manage multiple simultaneous work efforts, all with competing priorities and different stakeholders.

Number of residency positions available: One new resident is accepted each year.

Resident Pay and Benefits: Refer to UC San Diego Health Pharmacy Residency website (https://health.ucsd.edu/specialties/pharmacy/residency/Pages/Salary-and-Benefits.aspx) for details on salary and benefits

Requirements of Residents Prior to Starting the Program:
If matched with the UC San Diego Residency Program, matched candidates must have all of the following:
1. Graduated from an ACPE-accredited school of pharmacy with a Doctor of Pharmacy degree
2. Successfully completed an ASHP-accredited PGY1 pharmacy residency.
   a. Upon receipt of application to the program, the RPD will reach out to the PGY1 program director to assess good standing in the program
   b. A signed residency certificate will be required prior to beginning residency.
3. Obtained California pharmacy licensure prior to beginning residency.
a. The residency is expected to begin on the last Monday of July, or first Monday of August, depending on the Human Resources orientation schedule. However, the resident must have obtained their California pharmacist license prior to beginning residency (absolute deadline to start is November 1st).

b. If the resident is not licensed by November 1st, they will be dismissed from the residency. The residency offer may be rescinded if the resident does not take the California Board of Pharmacy law exam prior to August 1st or does not pass the California Board of Pharmacy law exam on the first attempt.

Application:
All applicants must be enrolled in the Resident Matching Program. To facilitate this enrollment process and for further information, please visit the following website: www.natmatch.com/ashprmp. Applications will be accepted when PhORCAS opens and due by December 31st. Applications should be submitted through PhORCAS and include the following:
1. Letter of intent:
2. Current Curriculum Vitae with all experiential completed and anticipated learning experiences as well as pharmacy and non-pharmacy work experience.
3. Three electronic references are required. At least two of the references should be from preceptors or supervisors who can directly comment on your clinical practice skills.
   **Note:** Please have recommendation writers complete the electronic reference form within PhORCAS with detailed characteristic and narrative comments. One to two areas of improvement or constructive feedback that the recommender feels the candidate should continue to work on as a PGY2 resident should be identified. No separate letter of recommendation is required.

Interviews will be held late January through early March of the year for which candidates are applying.

**Program Structure Academic Year:**
Descriptions of each learning experience can be found in PharmAcademic

- Orientation and staffing training – 2-4 weeks.
- Epic proficiency training – 6-9 weeks, concurrent with staffing training
- Scheduled (block) learning experiences
  - EHR Core I – 8-10 weeks
  - EHR Core II – 8-10 weeks
  - EHR with CDS Focus – 8 weeks
  - EHR with Amb Care Focus – 10 weeks
- Longitudinal learning experiences
  - Staffing, On-Call, and Duty Hours (12 months)
  - Research and Analytics (12 months)
  - Leadership (10 months)
  - Pharmacy Automation (10 months)
  - Medication Safety (10 months)
- Elective learning experiences
  - Oncology (Beacon) – longitudinal (6 months)

**Major Project:**
As part of the longitudinal learning experience, the resident will have project weeks protected up to 50% from other work. This is to facilitate completion of major milestones. The resident must complete a research project to be presented at the UC Collaborative Annual Pharmacy Leadership Conference. A Resident Research Primer Course has been developed by the UC San Diego Health Research Council to coach residents through the various aspects of the research process. PGY2 critical care residents who have not previously completed the Research Primer Course are required to attend.

**Committees and Meetings:**
As required by various learning experiences, the resident may participate in several committees throughout the year including Medication Alerts, Safe Medication Practices, Transitions of Care, Pain Management, Order Sets, and Clinical Decision Support.

**Staffing:**
The PGY2 resident will be required to work 16 weekends per year, a combination of pharmacy staffing (10 weekends) and call for the Medication Processes team (6 weeks) This will include 1 minor holiday AND 1 major holiday (Thanksgiving, Christmas, or New Year’s). To help provide more formative feedback, residents are expected to seek feedback from at least one staff member each weekend they staff. Feedback will be solicited via an online survey:

The PGY2 resident will be required to cover call for the Medication Process team for six one-week periods during the academic year. This involves triaging and responding to incidents assigned to the Medication Processes team during that week.

**Vacation:**
All vacation requests should be documented with a leave adjustment form, emailed to the RPD or coordinator (https://ishare.ucsd.edu/sites/RX/HR%20documents/Leave_Adjustment_Form.pdf) before the time is taken.

**Teaching:**
Effective education opportunities which will be evaluated and will include grand rounds, journal clubs (1 required during residency), in-services (as possible or as designated in the learning experience description), and teaching opportunities

- **Grand Rounds:** The resident will deliver a 1-hour CE lecture to the pharmacy staff regarding a topic in informatics. Grand Rounds presentations need to be presented to the project preceptor at least two weeks in advance for feedback and comments. Failure to do so will result in delay of the presentation. A full ‘run-through’ presentation must be schedule at least one week in advance of the planned presentation in order to provide a seamless educational lecture. Please refer to Appendix J in the Residency Manual for more information and evaluation strategies. An on-demand PharmAcademic evaluation will be used to track Grand Rounds completion.

- **Informatics Journal Clubs:** Residents are required to present one journal club presentation during the year at our monthly Informatics journal club. Journal Club presentations need to be presented to the project preceptor at least one week in advance for feedback and comments. An on-demand PharmAcademic evaluation will be used to track journal clubs.

- **In-services:** When needed, residents will provide in-services to pharmacy and other staff, related to new system functionality. More information can be found in learning experience descriptions (see PharmAcademic).

- **School of Pharmacy course lectures:** Residents will prepare and give a lecture to, or provide other instruction for, students in Therapeutics, Informatics, or other courses.

**Local/Regional/National Meetings:**
The residents will have the opportunity to professional meetings. The annual travel stipend is variable, based on funding. In the past, residents have received a set stipend for the year which they can use at their discretion for registration, travel, accommodations, etc. The cost of attending UC Collaborative Annual Pharmacy Leadership Conference (or an equivalent conference) will be deducted from the travel stipend, along with any other conferences the resident chooses to attend. Residents are encouraged to attend a specialty meeting (e.g. Epic XGM). Attendance at UC Collaborative Annual Pharmacy Leadership Conference (or an equivalent conference) to present their resident project is mandatory.

**Assessment Strategy – PharmAcademic:**
The PGY2 Pharmacy Informatics Residency Program uses the ASHP on-line evaluation tool PharmAcademic, which is available for all ASHP-accredited pharmacy residency programs. This system, which is technologically supported by the McCreadie Group, supports the ASHP Residency Learning System (RLS).

Residents who are matched with this PGY2 specialty program are entered into PharmAcademic prior to starting the residency. The incoming resident completes two pre-residency questionnaires that help the Residency Program Director (RPD) design a residency year that is tailored to the specific needs and interests of the resident:
- ASHP Entering Interests Form
- Entering Objective-Based Self-Evaluation

The RPD uses the ASHP Entering Interest Form and Entering Objective-Based Self-Evaluation form to create residents customized training plan. The Residency Requirement Checklist and Customized Training Plan will be discussed and modified (as necessary) through a collaborative effort between the RPD and resident. In addition, the resident may request schedule modifications throughout the residency year and the RPD will make all efforts to accommodate these
requests. Assessment tools will be adjusted as changes are made. The RPD will share changes to the Residency Requirement Checklist and Customized Training Plan via PharmAcademic automatic emails to scheduled preceptors. Residents’ schedules are entered into PharmAcademic. For each learning experience, the following assessments are completed:

- Preceptor Assessment of Resident: Summative (for each learning experience)
- Resident Self-Assessment: Summative-self (for each scheduled block learning experience)
- Resident Assessment of the Learning Experience
  - Resident assessment of Preceptor(s)
  - Resident assessment of learning experience

Preceptors and residents are encouraged to exchange on-going, daily verbal feedback throughout each learning experience. Residents are expected to provide constructive feedback to the preceptor in their PharmAcademic evaluation at the end of the learning experience. This feedback, along with Preceptor self-evaluation is helpful in developing worthwhile and relevant preceptor development programming. The Resident and Preceptors are trained and reminded throughout the year to complete evaluations in a thorough (quantitatively and qualitatively) and timely manner (within 7 days of learning experience end). To this end, evaluations may be used, not only as assessment tools, but as tools that preceptors may turn to for help in guiding residents to improve, grow and achieve the residency programs and the residents’ goals and objectives for the residency year. The RPD reviews all evaluations and solicits verbal feedback from preceptors and residents to provide guidance to help the resident maximize the residency experience.

Residents will be asked to complete a program evaluation during the 3rd quarter. Feedback will be discussed at the PGY2 Pharmacy Informatics RAC meeting and agreed upon changes will be incorporated into the next academic year structure. Additionally residents will be required to complete an exit Objective-Based Residency Self-Evaluation.

**PGY2 Competency Areas, Goals and Objectives (2017 Standard):**

- **Competency Areas:** broad categories of the residency graduates’ capabilities.
  - R1: Informatics Fundamentals: Standards and Best Practices
  - R2: Information Technology and Automation
  - R3: Clinical Decision Support
  - R4: Data Analytics
  - R5: Project Management
  - R6: Teaching, Education, Dissemination of Knowledge, and Evaluation of Learning Activities
  - R7: Leadership and Management
- **Educational Goals:** Goals listed under each outcome are broad sweeping statements of abilities.
- **Educational Objectives:** Resident achievement of educational goals is determined by assessment of the resident’s ability to perform the associated educational objective below each educational goal.
- The resident is encouraged to read detailed information about each goal at the ASHP website (click on Informatics – Effective 2017)
  - https://www.ashp.org/Professional-Development/Residency-Information/Residency-Program-Directors/Residency-Accreditation/PGY2-Competency-Areas
- For information about Goals and Objectives Taught/Taught and Evaluated in Learning Experiences, please visiting PharmAcademic, go the ‘Reports’ tab, and click on ‘Goals and Objectives Taught/Taught and Evaluated in Learning Experiences’.

**PGY2 Pharmacy Informatics Residency Requirements for Completion/Graduation:**

- **Must be licensed as a Pharmacist in the State of California prior to the before the start date of the PGY2 Residency**
  - Appointment offer will be rescinded if the resident:
    - is not licensed by November 1st
    - does not take the California Board of Pharmacy law exam prior to August 1st
    - fails on the first attempt
- Complete all evaluations in PharmAcademic*
- Complete Residency Project
  - Abstract
  - Platform Presentation
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- Manuscript suitable for publication - does not have to be submitted or accepted.
  - Staff 10 weekends
  - Research Primer course
  - Journal Club presentation
  - Teaching opportunity
  - Cover on-call for 6 weekends
  - Obtain Epic Willow Inpatient Proficiency within 2 weeks after Epic courses end.
  - Successful completion of all learning experiences **
  - Minimum of 90% of residency required objectives marked ‘Achieved for residency (“ACHR”)’ with 100% of Competency Area R1: Patient Care "ACHR"

*Successful completion requires co-signature of RPD in PharmAcademic
**Successful completion: all learning experience objectives marked satisfactory progress (SP), ACH or achieved for residency (ACHR) by the final evaluation, of all learning experiences. Any expectations of the residents that are not met or learning objectives with needs improvement (N/I) from an on-demand or scheduled evaluation will result in a meeting between the learning experience preceptor, RPD, and resident and a plan of correction will be formulated. Failure to complete the plan of correction, may result in disciplinary action, up to and including dismissal.

Note: All Program requirements of the Trainee must be completed within three months post-residency to have the Certificate of Completion conferred.