



Department of Pharmacy

# Infectious Diseases Residency Manual



Memorial Sloan Kettering  
Cancer Center

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# **Memorial Sloan Kettering Cancer Center Pharmacy Department of Pharmacy Infectious Diseases Pharmacy Residency Program**

## **OVERVIEW**

The Pharmacy Department at Memorial Sloan Kettering recognizes the value and need for an infectious diseases specialty residency for pharmacists seeking a career in infectious diseases.

## **PURPOSE**

PGY2 pharmacy residency program builds 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 residency provides the resident with opportunities to function independently as a practitioner 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.

## **Description**

The infectious diseases (ID) pharmacy residency program at Memorial Sloan Kettering Cancer Center (MSKCC) provides an additional focus on infectious diseases pharmacotherapy in immunocompromised host. The resident will manage ID pharmacotherapy for a variety of medical and surgical patients, both adult and pediatric, in mostly the inpatient setting with some outpatient experiences. Antimicrobial stewardship training allows an opportunity to develop leadership skills and collaborate with multiple disciplines on quality improvement projects, guideline development and education. MSKCC has received an Antimicrobial Stewardship Center of Excellence (CoE) designation from the Infectious Diseases Society of America and is committed to conduct of cutting-edge research.

## **GOALS OF THE PGY2 INFECTIOUS DISEASES PHARMACY RESIDENCY PROGRAM AT MSK**

1. Develop the residents' fundamental knowledge of infectious diseases pharmacotherapy and antibiotic stewardship and build the clinical skills required to practice as independent infectious diseases clinical pharmacists.
2. Emphasize the role of continuous professional development through literature evaluation, didactic lectures, roundtable discussions, and constant self-improvement.
3. Apply evidence-based guidelines and standards in tailoring treatment plans to optimize patient care and outcomes.

## **PGY-2 INFECTIOUS DISEASES**

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### **PURPOSE**

PGY2 pharmacy residency program builds 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 residency provides the resident with opportunities to function independently as a practitioner 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.

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collaborate with multiple disciplines on quality improvement projects, guideline development and education. MSKCC has received an Antimicrobial Stewardship Center of Excellence (CoE) designation from the Infectious Diseases Society of America and is committed to conduct of cutting-edge research.

**Required:**

Orientation (4 weeks)

Infection Control (2 weeks)

Microbiology Laboratory (2 weeks)

Data Collection Research (4 weeks)

Adult ID Consult (Solid Tumor) (4 weeks)

Adult and Pediatric ID Consult (Lymphoma and Leukemia) (4 weeks)

Adult and Pediatric ID Consult (Leukemia and HSCT) (4 weeks)

Advanced ID consult (Two Rotations, 4 weeks)

Antimicrobial Stewardship Month (ASP) (4 weeks)

Brooklyn Hospital HIV Clinic, ID consult and ASP (4 weeks)

**Elective:** (Two Rotations 4 weeks)

Intensive Care Unit, Adult HSCT and Pediatric HSCT

**Longitudinal:**

Research

Antimicrobial Stewardship Weekend On Call

Infectious Diseases Clinic

Presentations and Topic Discussions

Preceptorship and Education of Pharmacy Students

Leadership and Administration (Antimicrobial Subcommittee and Guidelines)

Wellbeing and Resilience

Medication Policy, Safety and Quality (Pharmacy QA and QA Project and P&T)

The specific program varies based on each resident's goals, interests, and previous experiences. All residents are required to complete rotations in core subject areas considered to be essential to infectious diseases pharmacists. Elective rotations are available to permit the residents flexibility in pursuing their individual goals.

Additional learning experiences are aimed at producing well-rounded residents.

Residents are required to present at educational seminars, including:

- Pharmacy grand rounds (Accreditation Council for Pharmacy Education, or ACPE, continuing education)
- Case presentations at infectious diseases and pharmacy conferences
- Journal clubs (infectious diseases and pharmacy)

## WHO'S WHO?

A number of individuals play key roles in the administration of the Infectious Diseases Pharmacy Residency Program.

### **Pharmacy Director**

Scott Freeswick

The pharmacy director justifies the importance of the residency program and supports the program for budget approval.

### **Program Director**

Nina Orsini

The residency program director maintains responsibility for the residency program. This includes meeting the overall program and specific learning objectives, maintaining training schedules, ensuring appropriate preceptorship for each rotation or training period, and conducting resident evaluations routinely and based on established learning objectives.

### **Program Coordinator**

TBD

The residency program coordinator supports the residency program director.

Additionally, the residency program coordinator ensures that there is proper documentation of the residents' activities. All activities should be documented in the Pharm Academic system, a software system provided by the American Society of Health-System Pharmacists (ASHP). The coordinator also assumes a leadership role in program administration and program recruitment activities.

## **Preceptors**

Jungwook Kang, Krishna Shah

The pharmacist preceptors develop and guide the learning experiences to meet the residency program's goals and objectives, with consideration of the residents' goals, interests, and skills. Preceptors review residents performance and make suggestions on opportunities for improvement which are incorporated in the final written evaluation at the conclusion of each learning experience. Revisions to the residents individualized development plan are made based on selected areas of preceptors feedback on the residents performance.

## **RESIDENCY PLAN FOR THE YEAR**

The program is designed to allow the residents to experience various aspects of infectious diseases practice, including inpatient, outpatient, and research. In order to meet the ASHP's PGY2 standards, the program is divided into three key areas:

1. Orientation
2. Clinical Inpatient Experiences
3. Ambulatory Care Clinic Experiences
4. Antimicrobial Stewardship and ASP Policy
5. Presentations and Teaching

### **1. Clinical Rotations**

Organized rotations provide the structure of the residents' training in various settings. The residents are expected to consider the goals and objectives for each rotation as a foundation for their experience.

Residents are expected to perform independently and demonstrate proficiency in their rotations. The residency preceptors provide guidance and assistance to the residents and ensure that the goals set forth by the residents and the program are met. The preceptors also provide the residents with frequent evaluation of their progress, including a written evaluation at the conclusion of the rotation.

Frequent, clear communication is the key to a successful resident-preceptor relationship. To facilitate the learning experience, the residents are expected to inform the preceptors of all absences, schedule conflicts, or concerns that might arise during the month. Residents also prepare for topic discussions, read materials in a timely manner, and perform other tasks assigned by the preceptors.



The first rotation for pharmacy residents is pharmacy orientation. This rotation is completed during the month of July.

## Rotation Schedule

The 52 weeks resident rotation schedule provides a framework for structured learning activities. The residents meet with the program director at the beginning of the year to form a plan of development. This plan is presented to the Residency Preceptor Committee for evaluation.

Adjustments and changes to the residents' schedules are discussed at each quarterly development plan meeting; as the residents acquire additional knowledge, learning experiences and goals are intermittently reassessed. Residents may request changing or trading scheduled rotations. With the approval of the preceptors for each rotation involved, changes may be referred to the Residency Preceptor Committee for evaluation and the program director for approval.

## 2. Projects

Residents are required to complete one major research project and one medication use evaluation or quality improvement project.

- **Research project:** Each resident selects a project based on their interest and preference. Data collection can begin only after a waiver is obtained from the Institutional Review Board. The tentative research timeline is established at the beginning of the year to ensure that residents remain on track for successful project completion. The residency program director and a research mentor assist each resident with planning, implementing, analyzing, and preparing a presentation and manuscript for publication.
- **Medication use evaluation or quality improvement project:** These projects are designed to give the residents experience in working to evaluate and improve the management of patients with specified conditions or who are receiving specific therapies. The residency program director and a research mentor assist each resident with planning, implementing, analyzing, and preparing a presentation for the MSK Pharmacy Quality and Safety Committee Meeting .

### 3. Weekend Antimicrobial Stewardship and Pharmacy Operations

The residents cover the antimicrobial stewardship service one weekend (both Saturday and Sunday) a month beginning in August. This experience is designed to increase their independence and build proficiency in antimicrobial stewardship. The weekend shift is variable but is no more than eight hours, generally from 9:00 a.m. to 5:00 p.m.

#### General Requirements

1. Residents must be licensed with New York State by October 1 of the residency year.
2. Residents should immediately report to the program director if there is a possible delay in licensure beyond the October 1 deadline.
3. If a resident remains unlicensed by October 1, that resident's overall performance to date will be reviewed and a decision will be made by the Residency Preceptor Committee as to if termination is warranted. Alternatively, a compensatory weekend coverage plan will be approved.
4. Residents are expected to practice as antibiotic stewardship pharmacists throughout the residency year.

#### Duty Hours

The PGY2 Infectious Diseases Pharmacy Residency Program adheres to the [ASHP's duty hour policy](#). Duty hours are defined as all scheduled clinical and academic activities related to the pharmacy residency program . This includes inpatient and outpatient care, weekend staffing, and administrative responsibilities (e .g ., meetings) . Duty hours do not include reading, studying, and academic preparation time for presentations and journal clubs or hours that are not scheduled by the residency program director or a preceptor .

Duty hours are limited to no more than 80 hours per week, averaged over a four-week period, inclusive of weekend antimicrobial stewardship responsibilities.

If the resident anticipates exceeding the duty hour requirements (> 80 hours per week), the resident should contact their RPD to discuss a prevention plan. In addition, the RPD will routinely review the resident's duty hour attestation log and assess instances of noncompliance. The RPD and the resident will work together to identify residency-related responsibilities and

deadlines that could be modified to prevent exceeding duty hour requirements in the future.

Moonlighting (internal or external) is not permitted during the residency program.

## **RESIDENCY-RELATED COMMITTEES**

### **1. Residency Preceptor Committee**

The Residency Advisory Committee is a standing committee of the Pharmacy Department. It is composed of residency preceptors, residency program directors, residency coordinators, and the director of pharmacy.

The committee serves to advise and maintain the quality and consistency of the residency programs.

The committee provides a forum for preceptors to discuss common concerns, to develop additional learning experiences, and to promote new and innovative areas of practice. The committee meets monthly.

The specific functions of the committee include:

- The continuous evaluation of the program's curriculum, goals, and objectives
- Monthly evaluation of the residents' progress
- Evaluation and support of the residents' projects
- Resident recruitment and selection
- Providing the program's preceptors with preceptor development vignettes to highlight specific areas of improvement and enhance the preceptors' skills

Meeting minutes are distributed for approval prior to each meeting.

The preceptors periodically discuss the preparation plan for the ASHP accreditation survey.

### **2. Pharmacy QA Committee**

This committee is responsible for reviewing medication error events and making recommendations for and implementing improvements. The resident is responsible for reviewing, making recommendations for prevention and presenting at least one medication error event.

## EVALUATION METHODS

An infectious diseases pharmacy residency at Memorial Sloan Kettering offers residents opportunities to obtain the knowledge, skills, and abilities required to become competent infectious diseases practitioners. The specific program varies based on each resident's interests and goals. During the year, the residents' performance is evaluated by rotation preceptors, the program director, and the residents themselves. The residents are required to meet with the rotation preceptors prior to the start of each new rotation, primarily to discuss and customize the rotation's goals and objectives to meet the specific needs of the resident.

### Rotation Sign-Out Meetings

The resident, previous preceptor, upcoming preceptor, and resident's mentor (optional) should have a common meeting to review the goals that need to be achieved in the next rotation and to identify the areas for development.

### Methods for Rotation Evaluation

A review of the rotation specific objectives and resident objectives should be completed on the first day of each rotation. During the rotation, the residents meet with the preceptors on a regularly scheduled basis, as determined by the preceptors and residents. Any additional modifications to the rotation or its goals and objectives are also discussed.

During the rotation there are midpoint and final evaluations. The midpoint evaluation is a verbal evaluation to communicate any areas for improvement and the final evaluation is completed in PharmAcademic® and discussed verbally. The final evaluation includes the resident's self-assessment, preceptor assessment, learning experience assessment, and the preceptor's evaluation of the resident's progress during the learning experience. All evaluations will be based on learning objectives. All resident and rotation evaluations must be submitted through the PharmAcademic system within 5 business days from the last day of the learning experience. Below are the approved definitions/criteria to be used for the evaluation of a resident's progress for each residency programs goals and objectives:

**Needs Improvement (NI)** Resident displays one or more of the following characteristics as it relates to goal/objective:

- Requires direct and repeated supervision, guidance, intervention, and/or prompting

- Makes questionable or unsafe clinical decisions
- Fails to seek out feedback, incorporate feedback, or is unable to create a sound plan for improvement
- Fails to complete tasks in a time appropriate manner
- Acts unprofessionally

**Satisfactory Progress (SP)** Resident performs at the level expected for their training.

The resident responds to feedback and requires limited prompting and guidance to complete tasks appropriately

Resident can accurately reflect on performance and create a sound plan for improvement

**Achieved (ACH)** Resident displays ALL the following characteristics for the assigned goal/objective:

- Independently and proficiently completes assigned tasks required to meet objective
- Displays responsibility to follow-up as needed on all assigned tasks
- Accurately reflects on performance and can create a sound plan for improvement
- Seeks guidance when needed

**Achieved for Residency (ACHR)** For an objective to meet criteria for achieved for residency (ACHR), it must have been achieved (ACH) **twice** from a preceptor (at any time point) on a required or elective rotation OR **once** from a preceptor on a longitudinal learning experience.

Eighty percent (80%) of objectives (32 or more out of 40) must be ACHR by the end of the residency program

## HOLIDAYS, SICK LEAVE, AND ABSENCES

The residents, as part of the professional staff of the department, are expected to assist with holiday coverage if needed.

- The following table highlights legal and floating holidays recognized by the hospital.
- The residents may be required to staff one holiday during the residency year at the discretion of the program director.
- Floating holidays are days when residents are expected to help the Pharmacy Department if needed.

Legal Holidays	Floating Holidays
Independence Day	Columbus Day
Labor Day	Martin Luther King, Jr., Day
Thanksgiving	President's Day
Christmas Day	
New Year's Day	
Memorial Day	

### Paid Time Off

The residents will accrue approximately five hours of paid time off per pay period (a total of 15 vacation days annually). These hours may be used for the time when the residents are absent from work for illness, to interview for a future position, or for personal leave or vacation.

Residents are entitled to take five consecutive days off during the holiday season. If these five days are not taken during December, they can be taken at any other time upon request. Because the primary purpose of the residency is educational, it is not expected that the residents use all of the time accrued during the residency year. Residents are limited to two days off during any one rotation. Additional time off during a rotation requires special review by the program director with a plan for how the days will be compensated.

All requests for time off must be approved by the residency program director. Requests should be submitted in writing.

The residents are responsible for arranging switches for all other vacation and time off during their regular scheduled weekend. Unlicensed residents are not eligible for schedule switches.

## Sick Days

In the event a resident requires a leave of absence, Memorial Sloan Kettering Cancer Center policies will govern the granting of such an absence, in accordance with applicable laws. The family or sick leave of absence is subject to approval, by the residency program director (RPD) who will determine if the request can be granted within the context of the program's educational requirements. The RPD should be notified as soon as possible in the event of foreseeable leave and no later than at the start of the unplanned leave.

MetLife coordinates disability benefit exceeding 7 days and must be notified no later than 7 days following the leave start. You can file an initial claim or check on your claim's status by calling MetLife at (833) 622-0138 or by visiting the MetLife MyBenefits portal via single sign-on through HYPERLINK <http://workday.mskcc.org/> Workday > Benefits > External Links > MetLife Leave/Disability. You can also log onto the HYPERLINK <https://metlife.com/mybenefits> MetLife MyBenefits portal directly (registration required). For information about navigating the portal, view the HYPERLINK <https://mskcc.sharepoint.com/sites/pub-hr/HR%20Policies/Forms/AllItems.aspx?id=%2Fsites%2Fpub%2Dhr%2FHr%20MyBenefits%20Portal%20User%20Guide> MyBenefits Portal User Guide.

Residents who require an extended leave, defined as consecutive time off for 10 or more business days or a combined total of 37 days per 52-week training year, will be required to obtain the necessary approvals from the RPD prior to or at the start of the leave. The resident will need to compensate for the time missed at the end of the year through an extension. If a resident is away from the program due to an approved absence for 10 to 56 days (8 weeks), half of the time away must be made up at the end of year through an extension of the program (e.g., if 56 days are missed, 28 days are required to be made up). If an extension is approved, it cannot exceed the last day of July 31 of the graduation year. Any extension of training time due to leave time is not guaranteed and must be approved by the RPD. If a program extension is granted, salary continuance and benefit coverage continuation will be subject to the short term disability policy terms and conditions. For additional information on MSK leave policies, please refer to the HYPERLINK <https://mskbenefits.mskcc.org/leave-of-absence-page/> MSK Human Resource webpage and contact your RPD.

Leave of absence impacts the ability to satisfy all MSK and ASHP training requirements within the academic year. The maximum time to complete the program will not exceed 13 months. If the leave exceeds 56 calendar days the residency certificate will not be granted.

Please note that trainees residing in MSK housing will be expected to vacate their unit as originally scheduled.

## **Absences**

Residents who do not show up to a scheduled activity and do not notify their preceptor and the residency program director of the absence are subject to counseling.

## **REMIEDIATION**

If a resident receives "Needs Improvement" score for 20% or more of learning objectives, or one major learning objective on a rotation, they may be required to extend or repeat the rotation/experience. Maximum of two learning experiences may be repeated during the residency program.

If a resident is failing to make satisfactory progress in any aspect of the residency program, the following steps, at minimum, shall be taken:

Residents shall be given verbal counseling by their preceptor or Residency Program Director during the first 2 weeks of the rotation or immediately upon failure to meet competency. Counseling shall entail suggestions for improvement in meeting requirement or deadlines. This counseling shall be documented in the Resident Development Plan.

If the resident continues to fail in their efforts to meet deadlines or objectives, they shall be given a warning in writing and Remediation Plan put forth on the actions necessary to rectify the situation. Progress will be assessed weekly for up to 7 weeks.

Inability to satisfactorily meet the goals of the Remediation Plan or identification of the new areas of failed performance by week 7 are subject to program dismissal, withholding the certificate of completion or extension and will be discussed at RAC. The RPD will make the final decision in conjunction with the RAC recommendation. The decision will be documented in the Resident Development Plan and formally discussed with the resident. If an extension is approved, it cannot exceed the last day of July of the graduation year. Compensation and benefits during the extension are not guaranteed will subject to HR policies and procedures.



## TERMINATION

### Resident Disciplinary Action and Termination

Residents are expected to conduct themselves in a professional manner and to follow all pertinent Pharmacy Department and Residency Program policies.

Appropriate disciplinary action will be taken if a resident fails to:

Act in a professional manner.

Follow policies and procedures of the Department of Pharmacy Services.

Make satisfactory progress on any of the residency Competency Areas (not to be determined by one rotation evaluation, but rather in a global sense as determined by the Residency Program Director or residency requirement).

Make satisfactory progress towards the completion of a residency requirement (project, manuscript, etc.).

In addition, the Residents may be terminated or not granted a Residency Certificate for any of the following reasons:

- Pilferage (Theft)
- Breach of patient confidentiality
- Falsification of records
- Performance (see Evaluations)
- Poor attendance
- Insubordination
- Any other terminable offense as defined in the MSK Human Resources Policies

Residents can be terminated from the program at any time during the year, after two documented counseling's with no improvement. The Residency Advisory Committee conducts a formal evaluation of residents in November to address any possible case of termination early in the year. However, this does not remove the committee's authority to terminate a resident at any point after documented counseling.

## **PGY1 CERTIFICATE OF COMPLETION**

The resident must provide documentation to the Residency Program Director (RPD) of successful completion of an ASHP-accredited or candidate-status PGY1 residency program within 7 days after the PGY2 residency program start date. Graduate tracking in PharmAcademic®, email communication with the PGY1 RPD, or an email attachment of the PGY1 certificate of completion may be used for verification. The certificate of completion must be retrievable by the resident upon request.

## **TRAVEL AND PROFESSIONAL SOCIETY INVOLVEMENT**

Residents are expected to develop and maintain an involvement in professional society activities on a local, state, and national level. Such involvement is critical to the development of the infectious diseases pharmacy residents and the achievement of their professional and personal goals.

1. Residents should plan to join and assume an active role in the ASHP. Activities could include attending the ASHP's midyear clinical meeting, volunteering their services to the society, or attending an orientation session for residents.
2. Residents should plan to join and attend an annual meeting of the Infectious Disease Society of America or the Society of Infectious Diseases Pharmacists (SIDP).

As part of the residents' professional and personal development, travel and attendance at two meetings on a national level is expected.

Funding for attendance at the ASHP's midyear clinical meeting, SIDP, or Infectious Diseases Week is provided by the Pharmacy Department.

## **CERTIFICATES**

The following requirements must be met to ensure the successful completion of the PGY2 Infectious Diseases Pharmacy Residency Program. Residency certificates will be awarded only to residents who have completed all of the requirements as listed in the offer letter. Documentation of progress and completion of these requirements is assessed on a quarterly basis during the quarterly development plan meetings and at the end of the academic residency year.

**Residents must:**

1. Obtain NYS pharmacist license by October 1
2. For ASHP Required Competency Areas, Goals, and Objectives for Postgraduate Year Two (PGY2) ID Pharmacy Residency
3. Receive a score of achieved for residency (ACHR) on 80% or more and do not have goals scored as Needs Improvement
4. Completed Resident Evaluations and Closeout in PharmAcademic and Program Quality Assessment
5. The Residency Research Project and finalize the manuscript in a format suitable for publication submission
6. Submit and present Residency Research Project at a national or local meeting
7. Complete Performance Improvement project and present results and action plan at an interdisciplinary committee or working group meeting
8. Develop an ASP Guideline or update an existing guideline
9. Work all Weekend ASP calls (at least 20 calendar days)
10. Complete Presentations:
  - 1 ACPE accredited CE lecture
  - 4 Case or Didactic presentations
  - 2 journal clubs
  - 2 end of the year final research presentations (Pharmacy and ID Advanced Topics)
11. Complete Required Topics and Patient Management Requirements as in PGY-2 Standard for Infectious Diseases

## ACTIVITIES

### MEETINGS

Residents are required to attend a variety of meetings throughout the year. These may include for the Pharmacy or Infectious Diseases Departments, the antimicrobial subcommittee or infection control, the Pharmacy and Therapeutic Committee, the Clinical Council, the Hospital Pharmacy Quality Assurance Committee, the RISQ reading group, and so on. The preceptors assign meeting attendance at the beginning of the month. Meeting times and locations are announced at the beginning of each rotation. Antibiotic subcommittee meeting attendance is required.

### ADDITIONAL ACTIVITIES

#### 1. Residency Interviews

Residents participate in evaluating potential future residents. Their involvement may start as early as the ASHP midyear clinical meeting. Residents may also participate in scheduling the January and February on-site interviews.

#### 2. Mentoring Future Residents

In the spring of each residency year, following the results of the residency match, the current residents assist the incoming infectious diseases pharmacy residents. Activities include advice on relocation and housing, licensure, and orientation, as well as mentorship and fellowship.

#### 3. Volunteer Services in an Emergency

In the event of a serious storm or natural disaster, the residents can be called to assist in pharmacy operations. Residents should therefore respond to MSK's requests to provide service in case of an emergency.

#### 4. National Meetings

If residents are interested in attending any meeting other than the SIDP's, Infectious Diseases Week, or the ASHP midyear, a special request must be submitted to the program director to discuss the benefit of attending the meeting.

## **ENTERING RESIDENT ASSESSMENT**

### **PURPOSE**

The assessment of entering residents provides an evaluation of their baseline clinical skills and experience. It helps identify areas that need further development and provides focus. The assessment also serves as a reference point throughout the year for the preceptors and program director in their evaluations.

The overall goal is to achieve proficiency in the skills necessary to practice as a successful infectious diseases pharmacist as listed in the ASHP's guidance document for the infectious diseases PGY2 residency. Entering resident assessment is also used to build an individualized plan for each resident's development.

### **ASSESSMENT TOOL**

A goal-based development plan is provided to the residents during their orientation period to provide feedback on their current skill level and areas for development.

These specific objectives are included in the residency plan and should be emphasized early in the residency year.

### **CRASH COURSES**

A set of crash courses is given during the orientation period. Crash courses introduce or provide a quick review of core topics that will be further learned during the clinical rotations. Presentation slides, journal articles, or guidelines are distributed to the residents prior to the scheduled sessions.

### **FOLLOW-UP**

The information attained through the initial assessment is assessed throughout the residency year, and the progress of the residents is followed closely by the program director, who acts as an intermediary between the residents and preceptors. Residents should expect the areas identified as needing improvement to be reevaluated as they progress from one rotation to the next. By the end of the year, the residents should have the knowledge and experience required to achieve the goals of the residency.

## **ORIENTATION MONTH**

Orientation starts in July. During orientation, the residents receive:

- Hospital orientation (two days)
- Pharmacy computer base training (one to two weeks)
- Crash courses to ensure that the residents have the same baseline prior to the start of the clinical rotations (crash courses are given in the last two weeks of orientation)
- A plan of development prior to the first rotation

## **RESIDENT PLAN OF DEVELOPMENT**

### **Quarterly Evaluation: Customized Development Plan (CDP)**

Customized Development Plans will contain an initial and quarterly assessment of the resident's progress on previously identified areas for improvement related to the competency areas and to ensure the resident is on track for completing requirements for residency completion and graduation. It will also contain identification of new strengths and opportunities for improvement (related to the competency areas, goals, and objectives for the residency). The CDP will document changes in the residents practice interests, career goals immediately post residency and a current assessment of their well-being and resilience. The plans will be reviewed with the RPD, stored in PharmAcademic®, and emailed to all the resident's preceptors. All documents related to rotations, learning activities, staffing, and research will be stored electronically in the shared folder.

The resident's Customized Development Plan (including CDP, Requirements For Program Completion Tracking Tool, Well-being and Resilience Assessment, and Required Topics) will be completed by the following dates, as required by ASHP (initial and every 90 days):

Initial (within 30 days of the start of the program): By July 31

1st Quarter: By October 31

2nd Quarter: By January 31

3rd Quarter: By April 30

Residency Close-out: By end of program (last week of June)

# EDUCATION REQUIREMENT PROPOSAL

## INTRODUCTION

The establishment of a teaching requirement is consistent with the ASHP's goals, statement, and objectives for infectious diseases residency training. When the residency is completed, it is expected that the residents will have developed competency in teaching healthcare professionals and students.

Each resident is responsible for achieving a sufficient amount of educational experience throughout the year. The system is intended to ensure that each resident masters the minimum requirements for educational experience. Refer to the program's requirements to determine which educational activities are required for successful program completion.

During the residency program, the residents have the opportunity to complete the following educational activities:

1. On rounds teaching other trainees, including infectious diseases fellows, medical students, and NPs
2. A formal ACPE continuing education lecture during pharmacy grand rounds (one per year)
3. Journal club (at least two per year)
4. Case, didactic, and clinical debate presentations (up to nine per year)
6. Preceptorship of one pharmacy student for a one-month rotation (one to three per year as the opportunity arises)
7. Preparation of an article for the department newsletter, InPHARMation (one per year)

## EXPECTATIONS FOR EDUCATIONAL OPPORTUNITIES

### ACPE Continuing Education Presentation

The Pharmacy Department gives a monthly continuing education program to healthcare professionals. The residents are responsible for presenting one lecture per year. This allows the residents to practice their presentation skills in discussing a comprehensive and advanced topic. The residents are expected to prepare and master the area in which the presentation is given.

### Journal Clubs

Journal clubs are scheduled to be given once every two weeks. The journal clubs are designed to give the residents experience in critiquing a medical journal article. The residents will evaluate the article beforehand and lead the group in discussion of the article, soliciting opinions from all attendees. The residents have the opportunity to prepare three different journal clubs.

### Clinical Presentations

The clinical presentations are weekly presentations prepared and presented by the residents and fellows as assigned. There are four to six sessions per month, with each resident completing at least six presentations throughout the academic year.

The clinical presentation format is interactive and case based. It should facilitate active learning and encourage audience participation.

### In-Services

An in-service is defined as a presentation of at least 15 minutes in length, with at least three people in attendance.

The residents give in-services on various rotations. These in-services are scheduled by the preceptors and the rounding team members.

## DEPARTMENT NEWSLETTER

The peer-reviewed monthly e-newsletter InPharmation is posted on the Pharmacy Department's website and provides an opportunity for residents to practice their writing skills and effectively and concisely communicate clinical updates to a varied audience.

The residents are required to write for the newsletter at least once throughout the year, but additional articles are encouraged. The submissions are due the third week of every month.



## COMMUNICATION SKILLS

Communication skills are critical for pharmacists. While the residents will have numerous opportunities to refine their skills on rotation, the following experiences can build their skills:

1. Admission and discharge medication reconciliation and counseling during clinical inpatient rotations
2. Patient counseling in the longitudinal clinics, including discussing the patient's disease and drug therapy plan, how to monitor and adjust regimens, adverse effects, and ways to enhance adherence.

The following workflow can be followed when approaching patient care rotations:

- Establish a collaborative professional relationship with team members.
- Prioritize the delivery of care to individuals with an infectious disease.
- Establish a collaborative pharmacist-patient-caregiver relationship.
- Collect and analyze patient information.
- Design an evidence-based therapeutic regimen.
- Design an evidence-based monitoring plan.
- Recommend or communicate the regimen and monitoring plan.
- Implement the regimen and monitoring plan.
- Evaluate a patient's progress and redesign as necessary.
- Communicate any ongoing patient information.
- Document the direct patient care activity.

# RESEARCH PROJECTS

## BACKGROUND

Developing skills in conducting pharmacy clinical research in infectious diseases is required for a successful residency. The residents will formulate a hypothesis to test, develop a feasible design, and secure the necessary approvals, including that of the IRB, for the research project. The residents will also implement a pharmacy research project according to the design and conduct data collection and analysis. The residents will summarize the results and present the research project at the Eastern States Residency Conference. The residents will prepare and submit a manuscript for publication. During this experience, the residents will develop leadership and project management skills. The residents will utilize the month of December to focus on the data collection, however, the other important research activities will require a dedicated time commitment throughout the residency year.

The residency program provides an opportunity for doctors, preceptors, and residents to collaborate on ideas. A structure is in place to facilitate the interaction between the residents and preceptors for the yearlong research experience.

## RESEARCH PROCESS

The application of the knowledge gained in the educational sessions will occur through the completion of the research projects. The research projects will be completed within the residency year. Both the residents and their project advisers are responsible for completion of the projects. The residents will have the proper guidance from the program director throughout the year.

Application of the proper research methods requires knowledge of:

- **Research methods.** Residents need to understand the issues involved in choosing a research design. They will describe the relative advantages and disadvantages between having a pretest, having a control group, and randomization, along with the threats to internal and external validity for each research design.
- **Statistics.** Residents must demonstrate an understanding of the different levels of measurement. They must describe the different statistical techniques used based on the level of measure and the basic statistical tests (students t-test, ANOVA, chi-square).

## PROJECT IDEA GENERATION

Ideas for projects will be provided to the residents at the beginning of the residency year. In the event that a resident would like to develop their own idea, the following must be described in full:

1. Name of the project in one sentence
2. Background: Why is it important?
3. Is the project doable within the residency year?
4. Who will be the project adviser be?
5. Who else would be recommended for the committee?
6. What resources are needed to complete the project?
7. What are the primary outcomes, cost reductions, and patient safety or other issues?
8. What is the impact of the project for the department? For the organization?
9. How will the project help with daily patient care?
10. What will the resident do with the results? Publish? Present?
11. Are there any individuals or departments who need to approve the project?

## PROJECT IDEA APPROVAL

Ideas are reviewed and approved by the residency director. They are then included in the resident's goals and objectives.

## PROJECT IDEA SELECTION

The residents are given ideas to choose from. However, the residents can pick a topic of interest outside the list presented to them.

The residents should meet with the residency program director prior to project selection for review and approval, to ensure that the scope of the project is both challenging in the development of research skills and manageable to complete in the residency year. The IRB's approval should be sought early in the year so that projects are approved by September 14.

## RESEARCH PROPOSAL

The resident and program director are responsible for developing a formal research proposal. The research proposal should have the following sections:

1. **Research question.** A well-defined research question will allow the residents to focus on the correct research design and plan. What exactly are you trying to answer?
2. **Objectives.** Be as specific as possible. The objectives should be quantifiable. You can have a primary objective and multiple secondary objectives for each research question.
3. **Research hypotheses (if applicable).** What relationships do you expect to see?
4. **Background.** Perform a literature review of the research question. Summarize the literature. What has been done? What impact has been shown?
5. **Methods.** How are you going to answer your research question? What is your study design? What measures are you going to need?
6. **Data analysis.** How are you going to analyze the results?

## RESEARCH RESULTS PRESENTATION

The results of the research projects will be presented as poster presentations at the ID conference(s). The residents will also give platform presentations of their research projects to MSK staff. All members of the department will be invited.

The residents will submit written manuscripts suitable for publication to the program director and director of pharmacy.

The residents, in conjunction with the program director, may elect to submit the projects to a journal or for presentation at a different local, state, or national conference.

## RESPONSIBILITIES

While the projects may be the residents', it is important to be aware of intellectual capacity. Thus, the program director should be closely involved in the research. Others working on the research projects may be more or less involved, depending on the areas of expertise required. There are several individuals who will be responsible for successful completion of a research project.

The residents are responsible for investing their time and problem-solving skills into the research. The residents should keep the program director apprised of the progress. The residents are responsible for carrying on the research in a scholarly manner.

## RESIDENCY RESEARCH PROJECT CHECKLIST

### August

- Select project data.
- Select project committee members. In addition to the program director, the committee may consist of at least one additional preceptor.
- Present the project idea to the preceptor. A short written description should include background information, the objectives, the possible methodology, and potential obstacles.
- Submit an IRB waiver to the Pharmacy Research Council (PRC) for approval
- PRC chair submits the waiver to the IRB.

### September to October

- Obtain the IRB's approval.
- Develop the data collection sheet.

### December

- Obtain the data points

### January

- Submit an abstract to the SIDP or Infectious Diseases Society of New York meetings, depending on the published deadline.

## **March**

- Prepare a draft of a poster presentation of research and gather feedback from preceptors and co-investigators

## **May**

- Develop a platform presentation, highlighting the key components of the research project.
- Present the platform presentation to the clinical division and Pharmacy Department.
- Present a poster at the Infectious Diseases Society of America's New York City chapter meeting.
- Discuss publication or presentation opportunities with the residency program director.

## **June**

- Submit a written manuscript in a publishable format to the residency program director and project mentors for review; revise the manuscript to address suggestions and answer questions.

# RESIDENCY RESEARCH PROJECT IDEA SUBMISSION FORM

## IDEA SUBMISSION FORM

- Research project
- Performance improvement and safety
- Due

Resident: \_\_\_\_\_

## PROJECT NAME:

Background (why is this important?) \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Is reasonable to expect the project will be completed within the  
residency year? \_\_\_\_\_

Who will be the project adviser? \_\_\_\_\_

Who else would be recommended for the committee? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

What resources are needed to complete the project? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

What are the primary outcomes? Savings? Patient safety?  
Something else? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

What is the impact of the project for the department?  
\_\_\_\_\_  
\_\_\_\_\_

How will the project help with daily patient care? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

What will you do with the results? Publish? Present? \_\_\_\_\_  
\_\_\_\_\_

Are there any individuals or departments who need to approve  
the project? \_\_\_\_\_  
\_\_\_\_\_



# INFECTIOUS DISEASES PHARMACY RESIDENT MEDICATION SAFETY PROJECT

## Background

A highly visible 1999 report from the Institute of Medicine (IOM) reported that medication errors cause 42,000 to 98,000 deaths in the United States each year. Following this, some critics claimed that the estimate overstated the problem, while others claimed that the estimate was only the tip of the iceberg, citing the fact that errors in the outpatient sector were not considered in the calculation. Everyone, however, agreed that medication-use systems were in need of improvement.

The Pharmacy Department at MSK supports the therapeutic needs of an average of 470 inpatients per day. The pharmacy reviews 1.5 million orders per year and dispenses more than 3.5 million doses per year. Given the large number of medications used at MSK, even a small error rate (e.g., 1 percent) results in many mistakes each day.

The decentralized structure of Memorial Hospital, together with its high medication-use volume and critical patient population, provides an excellent environment for residents to contribute to the safety of our patients. Each resident works on a formal assessment of a medication error or RISQ event that is designed to improve the safety of the medication-use process and completes a presentation describing the project by the end of the year.

## Didactic Training

All of the didactic training provided during the medication safety longitudinal experience will have relevance for this safety project.

- **IOM report:** Read and discuss selected portions of IOM reports on medical errors.
- **Medication error reporting at Memorial Hospital:** Discuss the process used to identify, analyze, and respond to medication errors at MSK.

## Medication Safety Event Assessment

The associate director of patient safety and the residency program director routinely review the MSK RISQ system for medication errors that are appropriate for a formal review or assessment by a resident. Residents are expected to conduct a formal review of at least one medication event during the year,

and these assessments are assigned at the discretion of the program director.

### **Medication Event Assessment Committee**

The associate director for patient safety is the adviser to this project. However, a resident may choose a preceptor to be added to the committee. Additional members of the committee include pharmacy leadership and operations pharmacists, depending on the nature of the event. The residents act as the leaders of this committee with the goal of leading the formal event review, highlighting key areas of risk, and facilitating discussion around process and system enhancements to prevent future errors.

### **Medication Safety Event Assessment Presentation**

The results of the safety project will be placed into a PowerPoint format and presented to pharmacy staff and others who have an interest in this area.

### **Responsibilities**

It is the responsibility of the residents to serve as the primary investigators, to draft safety project documents, and to ensure that their projects are completed on time. It is the joint responsibility of the residents and the advisers to work closely together in all aspects of the projects.

## **RESPONSIBILITIES OF THE INFECTIOUS DISEASES PHARMACY RESIDENTS**

All MSK policies and procedures must be followed at all times. Failures may result in corrective actions up to the termination of employment. It is your professional responsibility to observe both moral and ethical codes.

It is forbidden to be under the influence of alcohol, narcotics, or other stimulants and depressants.

As a pharmacist, you are responsible for keeping current with trends in drug therapy, new drugs, drugs removed from the market, and shortages.

Earn respect through your daily interactions with people by the way you conduct yourself as a professional. You should be loyal to your colleagues. If a question is raised doubting the integrity of a fellow pharmacist, give them the benefit of the doubt. To openly criticize another pharmacist without their being able to defend themselves is unjust.

### **TO THE PRECEPTORS**

The preceptors should be treated with loyalty and respect. They are responsible for guiding you to reach your goals. They may do things that you may not completely understand at the time. Have faith in them.

Communicate clearly and in a timely manner with the preceptors. Private or semiprivate discussions must be held in confidence.

If you have a close rapport with your preceptor, you should be ready to accept any criticism, advice, or suggestion that they might offer. This works both ways. You have the responsibility to inform them of issues or suggestions. Through this close relationship, the preceptor and you can discuss issues that would otherwise serve as a barrier between the two of you.

Your preceptor is busy, and their time is valuable. If you feel you need additional time to fully grasp the material or accomplish the objectives for the activity, you have the responsibility of informing your preceptor.

## RESPONSIBILITIES OF THE RESIDENT AT MSK

### 1. **Attendance and Punctuality**

Regular on-time attendance should become a habit. All assignments and projects should be completed on time without additional reminders.

### 2. **Personal Appearance**

A business-casual dress code is required. The following should not be worn to work: open shoes, jeans, cut outs, an open shirt, and miniskirts.

### 3. **Integrity of Character**

Honesty and trustworthiness are required.

### 4. **Desire to Cooperate**

Teamwork is a key for success in a multidisciplinary patient care model, and especially antibiotic stewardship.

### 5. **Improvement and Initiative**

Ambition and seeking self-improvement are very important for learning and moving forward. If you aren't familiar with a topic, disease, or treatment, find out about it before you are asked a question.

### 6. **Enthusiasm**

Be enthusiastic in every step you take. A positive attitude is contagious, and it can open doors for you.

### 7. **Willingness to Work**

You must be ready to serve your patients whenever it is required, even if it means putting in additional time and effort.



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