Title: Revising residency application scoring criteria to reflect department core values at a community hospital

Category: ADMIN

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Purpose: The purpose of this project was to develop scoring criteria that would measure desired characteristics (core values) based on residency application materials. The criteria would also attempt to limit scoring variation between applicant reviewers.

Methods: The Residency Advisory Committee identified characteristics (core values) they wished to see in residents selected for the PGY1 residency. The committee then identified components of the application paperwork that provided evidence of these core values. Components of the application packet were then weighted based on the frequency that they provided evidence for the core values and how highly the Residency Advisory Committee regarded the core value. To be as specific as possible, duplicate points were not given for related activities. The new scoring criteria were then utilized to evaluate applications for the 2014-2015 Residency class. Applications received prior to the match were reviewed by 2 preceptors and 1 resident. Applications received during the scramble were reviewed by either 1 preceptor or 1 resident. Variability in evaluation scores for the same applicant was measured for the pre-match applications. Preceptors were also surveyed regarding their satisfaction with the scoring criteria.

Results: A total of 17 applicants were reviewed for the pre-match evaluation and 120 applicants were reviewed for the Scramble evaluation. For the pre-match candidates, total pre-interview scores ranged from 37 to 83 out of 105 points. Scores between reviewers varied based on position, with residents scoring the candidate much high or lower compared to the preceptors. For the post-match candidates, the total pre-interview scores ranged from 10 to 102 out of 105 points. Eighty percent of preceptors agreed (60% strongly agreed) that the scoring criteria did a better job of identifying candidates that matched our core values compared to the previous criteria. Eighty percent of preceptors agreed (0% strongly agreed) that the scoring criteria was easier to understand how to apply points compared to the previous criteria. However, only 40% of preceptors agreed (0% strongly agreed) that the scoring criteria resulted in more consistent scoring between evaluators.

Conclusion: The revised scoring criteria developed by the Residency Advisory Committee did improve identifying candidates that matched our core values. However, opportunities to

further improve the scoring criteria were identified which included providing more detailed instructions on how to apply points and thus reduce inter-evaluator variation.

Title: Using longitudinal transitional care advanced pharmacy practice experiences (APPE) to expand student participation in interprofessional patient care at the University of New Mexico Hospital (UNMH).

Category: PRECEPTING

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Purpose: Purpose: To implement a transitional care APPE at an academic institution to teach the importance of continuity of medication management through all phases of patient care. It was also intended to emphasize interprofessional education (IPE) experiences with medical students and residents. Improvements in quality of patient care have been displayed in the literature via effective medication reconciliation when collaborative efforts focus on adverse event reduction, minimization of medication related error rates and improvement of patient understanding of medication regimens early in the admission.

Methods: Methods: The UNMH pharmacy department's lead internal medicine clinician identified important gaps in transitional care where APPE students might help to improve outcomes while obtaining unique educational experiences. Medication histories were often incomplete or inaccurate and led to frustration of medical teams. Volunteers were recruited from existing clinical APPEs to pilot a Care Transition Service (CTS). This pilot was subsequently proposed as a longitudinal rotation for students with the affiliated college of pharmacy. Course materials, including a syllabus, rotation calendar, assignment formats, medication history templates, CTS scripts and other documents were designed to create the rotation framework. The college assigned four students the first year the rotation was offered, thirteen students the following year, and nine students are beginning the current APPE cycle. CTS students interview patients to obtain complete allergy and medication histories, write concise notes in the electronic health record(EHR) which are cosigned by pharmacy residents, and then follow up on their patients with post-discharge phone calls to reinforce medication education.

Results: Results: APPE students complete the CTS rotation with experience in conducting medication interviews, research and review of medication histories including pharmacy records,

payer histories, the EHR, and prescription monitoring program data, and can accurately document clinical notes. They also learn to communicate discrepancies to physicians and conduct post-discharge education with confidence. This pilot has yielded a platform presentation at the 2012 ASHP Midyear Meeting, followed by a 2014 AJHP publication. Other results include the justification of a pharmacist position dedicated to expand the pilot into all areas of UNMH with additional student resources. Block APPEs are being planned in collaboration with the college of pharmacy. This would allow the student multiple experiential encounters within one system, and would afford them the opportunity to conduct admission history interviews and post-discharge interviews on most patients. These blocks will also meet the demand of medicine teams at UNMH to have pharmacy resources available on a consistent basis for patient medication education, response to drug information queries and to accompany medicine students on patient home visits.

Conclusion: Conclusions: Safely transitioning patients between care sites is critical to ensuring positive outcomes, reducing readmissions, and encouraging patient ownership of their medical information. Utilizing APPE students in these innovative roles has helped UNMH provide improvements in identification of medication-related problems while facilitating IPE opportunities throughout the continuum of patient care. By engaging students in CTS, UNMH has been able to educate more patients on safe medication practices, and plan for the expansion of additional pharmacy student practice experiences.

Title: Implementation of an International Pharmacy Residency Program Accredited by the American Society of Health-System Pharmacists in the Western Region of Saudi Arabia

Category: PROFESSIONALISM

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Purpose: King Abdulaziz Medical City-WR is a 556-bed tertiary care facility located in Jeddah, Saudi Arabia. The pharmacy residency program at KAMC-WR started in 2008 and received full accreditation by the official local accreditation body for health training. In 2011, ASHP established international accreditation standards for postgraduate year-one (PGY1) pharmacy residency training program. Achieving ASHP accreditation by the pharmacy residency program was a strategic goal at KAMC-WR as a way to ensure higher standards of training. These higher standards would reflect positively on the residency training outcomes.

Methods: In 2011, KAMC-WR's director of pharmacy and former residency program director wrote a thorough proposal to KAMC's higher administration explaining the process, requirements, and benefits of seeking the ASHP accreditation for the pharmacy residency program. In late 2012, the residency program was granted an approval by KAMC higher administration to seek ASHP accreditation. The current residency program director attended an RLS (Residency Learning System) workshop for new programs during the ASHP National Pharmacy Preceptor Conference in August 2013. Following this conference, a task force was formulated within the pharmacy residency program to look into ASHP's documents and international standards for accreditation. The task force met on a weekly basis to address these requirements by creating action plans and assigning responsible personnel to execute them. In late January 2014, an onsite consultative visit was conducted at KAMC-WR by an expert with extensive experience in the ASHP accreditation standards to assess the site's readiness for the ASHP accreditation.

Results: On May 7th, 2014, four surveyors on behalf of the ASHP conducted an official 2 days survey visit at KAMC-WR to evaluate the PGY1 pharmacy residency program in terms of its conformance to the intent of the ASHP international accreditation standard. The surveyors attempted to evaluate the extent to which the residency program fulfills each of the

requirements for postgraduate training specified in the Accreditation Standard. The surveyors were led on four separate tours to visit pharmacy practice sites and patient care units throughout the institution. The surveyors also had several meetings with KAMC- WR's higher administration, pharmacy management, health care providers, residency program director, preceptors and residents. Shortly after the survey visit, a report summarizing the findings of the site survey was sent to the site by ASHP. Among 151 required elements for ASHP accreditation, the site had 121 elements marked as full compliance, 10 elements as partial compliance and 13 elements as not applicable. The site had no elements marked as noncompliance. At the time this abstract was written, the site was in the process of responding in writing to all statements of partial compliance noted in the report

Conclusion: The pharmacy residency program at KAMC-WR has succeeded in incorporating the ASHP's accreditation standards. The process of going through the ASHP accreditation and adapting higher international standards has led to significant improvements in the program.

Title: Pharmacy Operations Learning Experience Preceptors: Meeting the Elusive 4 of 7!

Category: PRECEPTING

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Purpose: Residency programs are challenged with providing a quality operational learning experience (OLE) for PGY1 residents due to the difficulty in identifying preceptors that can provide effective feedback and meet the accreditation standard related to preceptor qualifications. Programs either use preceptors with no operational responsibilities, but meet the standard, or staff who don't meet the standard, but work with the resident in the pharmacy. Our redesigned OLE added new OLE preceptors, increased the number of preceptors meeting the standard, and improved the quality of preceptor feedback.

Methods: OLE Preceptors were chosen based on having a practice that included operational responsibilities, a desire to teach, and a commitment to meet ASHP preceptor requirements. Departmental opportunities were expanded to assure success in meeting ASHP preceptor requirements. The OLE preceptor group revised the goals assigned to the OLE and a required process improvement project was added. The ResiTrak evaluation was customized to quarter-specific goals and project completion. Preceptor development tools were created to include operational examples tied to specific OLE goals, ResiTrak instructions, and instruction on the delivery of criteria-based feedback. Each resident was assigned one primary OLE preceptor to provide individual feedback and serve as the operations mentor. A departmental sub-committee, consisting of OLE preceptors was charged with coordination of the OLE and tracking of resident progress. The preceptors met at least quarterly, before completing longitudinal evaluations. OLE preceptors also participated in the Residency Advisory Committee (RAC). Meeting the preceptor requirement standard was incorporated into the OLE preceptors' annual performance review.

Results: This redesign of the OLE has allowed staff with minimal precepting experience to take an active role in our residency program and better meet the accreditation standard related to preceptor qualifications. The number of OLE preceptors has increased from one pharmacy

manager to eight front-line staff with operational responsibilities. Our systematic approach to developing preceptors of the OLE has resulted in more preceptors who make contributions to their area of practice, serve on departmental committees, and provide effective teaching. Some OLE preceptors have sought out opportunities to peer-review journal articles, increase involvement in pharmacy organizations, and obtain Board Certification. Group discussion of resident progress in the OLE has resulted in higher quality criteria-based feedback relevant to the OLE. Year-end performance reviews indicate that 50% of OLE preceptors have achieved at least 4 of 7 preceptor criteria and 25% of OLE preceptors met 3 of 7 criteria last year and are on track to achieve 4 of 7 with their next evaluation. The remaining 25% of preceptors have been a preceptor for less than a year and are in the process of achieving the required qualifications.

Conclusion: Development of a qualified OLE preceptor group can be accomplished by implementing a systematic plan for identifying, training, and developing front-line staff into competent preceptors. Achievement of preceptor qualifications by most front-line staff preceptors was possible with a proactive departmental plan. Ultimately, the implementation of this approach has resulted in higher quality feedback for residents in the area of pharmacy operations and drug distribution.

Title: Finding fit from Phorcas: developing and implementing a systematic residency selection process.

Category: ADMIN

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Purpose: The PGY1 residency program at Mercy and Unity hospitals received approximately 10% more applications after the implementation of Phorcas. This increase highlighted the need for a systematic process to select resident candidates to interview and to determine the final ranking list. Increased preceptor involvement in the process was a top priority and an objective way of measuring the varying opinions was needed. It was also important to find not necessarily the best candidates on paper, but those who would fit best with our program.

Methods: A scoring rubric that was specific to our program was developed to achieve a systematic selection process. Preceptors and program leaders selected seven main components to look for in applicants: pharmacy degree GPA; previous work experience; demonstration of writing skills based on letter of intent and CV; effectiveness/credibility of the letter of intent and CV; extracurricular activities; quality of the letters of recommendation; and presentations, publications, and significant research. Component scores were weighted by level of importance for fit in our program. Reviewers independently scored each applicant. All scores were then tallied and the top scoring applicants were invited to interview. A separate rubric was used post interview with the following components: interview skills, motivation, clinical pearl presentation, fit with our program, potential of residency success, and completion of a clinical case. The final rank list was submitted based on the totaled pre and post interview scores. Candidates who scored within 2 points of each other were further discussed and ranked by a smaller group of preceptor reviewers. This process was evaluated after implementation.

Results: This process was implemented with the 2014-2015 resident class. A total of 28 applicants applied for 4 positions. Sixteen preceptors each reviewed and scored between 2-9 applicants depending on availability and interest. The residency program director and site coordinators reviewed all applicants. Thirty-one points were possible from each rubric. The top 24 scoring applicants, with scores ranging from 17 to 26.88 (mean 21.26), were invited to interview. Post interview scores ranged from 10.6 to 24 (mean 19.1). Total scores ranged from 31.64 to 50.88 (mean 41.44). Most pre and post interview score rankings were similar, especially among top scoring candidates. Four candidates did not fit our program and were not ranked regardless of their scores. There was little difference in the various reviewers' scores, further validating our scoring system. Preceptors felt the rubric was easy to use and stated they

felt our rank list was based on objective data rather than opinions. Discussions about scoring discrepancies were infrequent and better rationalized using the rubric as a guide. Overall the scoring system was well received by our preceptors and they felt it should be utilized for future residency candidates.

Conclusion: Applying a scoring rubric to application materials and interview components provided a systematic way to increase the number of reviewers involved in the resident selection process while maintaining an objective way to rank our candidates. Minor changes to the rubrics, including an additional breakdown of scores, should reduce the number of candidates with very similar scores and allow us to continue successfully utilizing this selection process for future residency candidates.

Title: Novel uses of Resitrak provide the pharmacy resident with the opportunity to self-assess and receive formative feedback

Category: PROFESSIONALISM

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Purpose: PURPOSE: Formative feedback is an essential element of the learning process. It helps the learner to identify areas of strength and weakness. The American Society of Health-System Pharmacists (ASHP) requires that preceptors provide pharmacy residents with the opportunity to practice and document formative self-assessments of their performance. We sought a way to utilize Resitrak to permanently document formative feedback and assessments throughout the year.

Methods: METHODS: Resitrak is the pharmacy resident online evaluation system utilized at Kosair Children's Hospital. We initially developed a midpoint assessment, which was built into Resitrak utilizing the Custom Evaluation function. This assessment was added to each fourweek learning experience, to occur two-weeks through the learning experience, and to completed by the both the preceptor and resident. With the success of this step, the process continued with the development of paper assessment forms directed at the resident's formal presentation and journal club performances. These hard forms were then also built into Resitrak using the same function as previously utilized.

Results: RESULTS: Residents and preceptors at our facility now have the following evaluations available to permanently document formative feedback and assessments: midpoint, formal presentation, and journal club. Midpoint evaluations are automatically scheduled as part of any four-week learning experience. Formal presentation and journal club presentations are added by the preceptor and completed by the preceptor and/or resident when indicated. Formative feedback is provided to the resident on a scheduled basis and is documented in Resitrak, to be reviewed when needed. Residents perform formative self-assessments regularly. We find this process has improved the timeliness of feedback.

Conclusion: CONCLUSION: The Custom Evaluation function of Resitrak provides pharmacy residents with frequent, scheduled, and timely formative feedback that is documented per ASHP standards. This approach allows for feedback to be reviewed when needed.

Title: Preceptor Development: Perpetual Programming for All Pharmacists

Category: PRECEPTING

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Purpose: A process for development of preceptors is a requirement of ASHP accredited residencies, and essential to the success of any training program. Traditional methods for achieving this include external webinars and attendance at meetings or conferences, but these are not accessible to all preceptors on a continual basis. Northwestern Memorial Hospital (NMH) has over 40 preceptors, ten PGY1 residents, four PGY2 residents, and more than 350 APPE students annually. In order to address the needs of the preceptors at NMH, a Preceptor Committee was formed in March 2013. One task of the committee is to establish perpetual preceptor development programming.

Methods: The Preceptor Committee instituted quarterly preceptor programming in August 2013. Based on feedback from the preceptors on the committee, it was decided to implement a round table format with introductory remarks by a facilitator, then a case or problem for small groups to work through and to conclude with discussion between the groups. The sessions were scheduled at 1pm and 4pm alternately to enable the majority of preceptors to attend at least two sessions annually. All pharmacists and residents were invited to attend. Topics covered included Professionalism, Feedback and Evaluations, and two guest facilitators from neighboring pharmacy schools who discussed managing difficult multidisciplinary team members, and the medical model.

Results: The sessions were well attended with 18, 31, 34, and 14 attendees respectively. An end of the year Preceptor Survey was conducted anonymously in May 2014. Overall, 74% (20/28) of respondents found the preceptor development sessions useful and engaging. Being unable to get away from clinical duties (74%) was the most common reason for not attending a session. The preferred time slots for programming were 1-3pm due to conflict with other noon conferences and to accommodate evening shifts. The preferred format for preceptor development programming is guest speakers followed by round tables. The least preferred format is workshops or demonstrations and lectures. Topics of interest for future sessions include (in rank order): Creating an improvement plan for struggling trainees, differences in

precepting students vs. residents, writing letters of reference and Phorcas training, update on preceptor development topics from national conferences, behavioral interviewing, students as preceptors, and motivating and inspiring leaders. Suggested changes include providing more than one session for each topic to enable better attendance and distributing a book or article to read prior to the program for self learning.

Title: Corralling the Herd: Working Together to Organize and Manage Pharmacy Student Rotations at a Large Academic Medical Center

Category: PRECEPTING

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Purpose: Given the rapid expansion of School of Pharmacy programs, Northwestern Memorial Hospital (NMH) has seen an increase in the number of student rotations. For the 2014-2015, NMH is hosting 30-40 students per rotation block. To manage the large number of students, a Preceptor Committee was formed in March 2013. The purpose of the committee is to establish an organizational system for student education that maintains a high quality educational experience and minimizes burden to preceptors. The committee is tasked with, education structure, best practices, and preceptor development.

Methods: The committee is comprised of a committee chair, the Clinical Manager, and Preceptors. The committee has implemented a department-wide student orientation program and "Cluster" educational format described here. All Student Orientation and On-boarding: Prior to student arrival on site, preceptors send a standard email with instructions and a Human Resources (HR) form. On Day 1, a large group orientation is held, topics covered include: NMH expectations, computer training, drug information, and medication history training, and are provided a computer log on. Preceptors take turns serving as facilitators for orientation sessions and topics. Cluster Educational Format: Each Cluster is a grouping of similar rotations types. These small groups hold conferences three times per week. All Cluster students attend each session and take turns presenting. At least one preceptor attends as a facilitator. This grouping of students accomplishes several goals: 1.To create a framework for presentations and robust discussion 2.To allow an opportunity for students to teach each other, and 3.To streamline the presentation schedule and create a model for sharing of responsibilities among preceptors.

Results: Anonymous student surveys were administered in November 2013, January and March 2014. Sixty students responded in total. On average, 88.6% agree that sufficient time was spent in orientation and 94.7% felt that preceptor spent enough time with students. The majority (88.6%) agree that student-led topic discussions and case presentations were an important

component of the learning experience. Most agree (78.6%) that small group journal club helped enhance student learning. Overall, 88.6% feel that the experience will help students be better pharmacists. Preceptors were sent an anonymous survey in May 2014, 28 of 41 (68%) responded. On average, 74% agree that the Cluster format works well for student presentation and discussions. Most (65%) agree that it is useful to the students to have noon conferences and be required to present 3 times (topic/ evidence based journal/ case). The majority (74%) agree that the new student format with small group noon conferences helps to streamline the preceptor workload and 55% of respondents agree or strongly agree that they are able to achieve better patient care on their clinical service by having students as extenders.

Conclusion: A structured approach to student education maintains a high quality experience and minimizes burden to preceptors at NMH. Students and preceptors report positively about student programming. Overall, students value the Cluster format and presentations. Most preceptors agree that the format streamlines workload, a primary objective of the program. As a result of the success of this approach, NMH plans to continue this model. Future plans include, addition of longitudinal student rotations, revamping of the journal club, and expanded preceptor development programming.

Title: Development of a patient-centered learning experience within a managed care residency program at a health plan.

Category: PRECEPTING

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Purpose: The Medication Management learning experience is longitudinal and designed to help the resident build patient care skills in the managed care setting. The resident incorporates evidence based medicine principles, patient specific data, ethical issues and quality of life considerations. An in depth review of patient cases are conducted to develop clinical skills necessary to deliver patient care. The resident works with a team of clinical pharmacists and medical director to devise, prioritize, implement and monitor interventions to gain experience in patient centered medication management.

Methods: Accredited managed care pharmacy residency programs must meet the following educational goals set forth by the American Society of Health-System Pharmacists and Academy of Managed Care Pharmacy: collaborate with other healthcare professionals to resolve medication-related problems for individual patients (Goal R2.4) and provide patients with medication-related information and education (Goal R4.2). Goals R2.4 and R4.2 were assigned to the Medication Management learning experience. As part of this learning experience, the resident conducts comprehensive patient case presentations from a selection of the prior authorization (PA) reviews he/she completes throughout the year for the staffing component of the residency program. Patient cases are assigned from the PA and Fraud, Waste, and Abuse teams, and include both non-specialty and specialty patient cases to provide a breadth of clinical exposure. The resident contacts physician offices via phone or fax, creates or modifies new drug policies for the health plan, and practices patient counseling. Patient case presentations are presented to a multidisciplinary healthcare team composed of clinical pharmacists and the medical director.

Results: Overall, 17 cases were completed within the Medication Management learning experience during the first year of the residency program. A total of twelve (70.6%) cases were presented to a team of clinical pharmacists and pharmacy medical director. The case types were specialty (52.9%) and non-specialty (47.1%), with 37.5% of non-specialty cases focusing on controlled substance use. Prescribers' offices were contacted for 29.4% of cases and creation/modification of PA criteria occurred twice during the year due to these case reviews. Among the 17 cases, a total of 58 pharmaceutical care problems were identified and 82 pharmaceutical interventions recommended. The resident referenced medical literature and disease state guidelines when making those recommendations, with a total of 31 occurrences. Multiple facets of patient care were presented to the resident, including three mock patient counseling sessions and a variety of cases including one compounded medication case that resulted in new criteria for a specialty drug.

Conclusion: The first year of the Medication Management learning experience was successful in completing all 17 cases assigned to the resident. Improvements planned for the second year include increased patient monitoring and formalized establishment of the medical director's role in the case presentations. Increased monitoring was added based on feedback from the accreditation team to incorporate monitoring of patients longitudinally to enhance the learning experience. A health plan can successfully provide a patient-centered aspect to a managed care learning experience within a provider organization.

Title: Evaluation of the Transition Process from Resident to Preceptor at a Large Academic Medical Center

Category: PRECEPTING

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Purpose: To outline the current training process for new clinical specialists at Loma Linda University Medical Center. In addition, describe challenges faced by new clinical specialists when transitioning from a resident to primary preceptor role at a large academic medical center and identify opportunities for improvement in order to better facilitate the transition for future staff.

Methods: Four Loma Linda University Medical Center (LLUMC) pharmacy practice residents (two PGY-1 residents and two PGY-2 residents) who completed their residencies in July 2013 underwent the transition from resident to preceptor within 6 months of residency completion, and are now employed as full time Clinical Pharmacy Specialists at LLUMC. Information was gathered through informal discussion. The transition process of was evaluated in terms of clinical job training and preceptor skills training. In addition, challenges encountered as new preceptors were identified, as well as potential resources or opportunities that would have been helpful to improve the transition from resident to preceptor.

Results: Each Clinical Pharmacy Specialist and new preceptor received training in their prospective practice areas by other Clinical Pharmacy Specialists in similar practice settings. Duration of training and orientation varied for each and guidance was provided by the Director of Clinical Pharmacy Services. All four new preceptors had completed a teaching certificate program either as a PGY1 or PGY2. Although this was considered useful for gaining experience in a didactic teaching setting, overall, this was not as helpful for establishing precepting skills. Precepting styles and expectations differed greatly between each preceptor, with each new preceptor drawing on their own previous residency and experiential experiences. Challenges identified included having to adapt to clinical position quickly as a new practitioner, lack of training on how to be an effective preceptor and available opportunities for preceptor development. Resources identified as absent but desirable include more uniformity in preceptor responsibilities and activities, and mentorship from seasoned preceptors.

Conclusion: Although previous precepting experience as a resident and completion of a teaching certificate program were helpful for new preceptors undergoing the transition from

resident to preceptor, more resources and opportunities are needed at LLUMC to increase uniformity in new preceptor training and foster continuous preceptor development.

Title: Authorship during postgraduate pharmacy residency training: a snapshot of four pharmacy journals across a 10 year period (2000, 2005, 2010)

Category: PROFESSIONALISM

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Purpose: During residency year(s), pharmacists are provided with multiple opportunities to publish including but not limited to their participation with research and administrative projects, case reports and answering drug information questions. Publication rates and trends for pharmacy residents are not well reported in the existing literature. The purpose of this study is to determine the number and rate of pharmacy resident publications in select pharmacy journals during postgraduate training for the years 2000, 2005, and 2010.

Methods: A MEDLINE database search was conducted to identify pharmacy journals published in the English language. Exclusion criteria included subject specific or international journals and those journals that do not report author title (i.e, clinical assistant professor, PGY1 resident, etc.). Four pharmacy journals (Annals of Pharmacotherapy, The American Journal of Health-System Pharmacy, Hospital Pharmacy, and the Journal of the American Pharmacists Association) were reviewed issue-by-issue for the years 2000, 2005, and 2010 to identify PGY1 and PGY2 resident authors. The residency publication rate was defined as number of residents publishing per total number of residency graduates from ASHP-accredited programs per year. Differences in proportions of articles published each year were compared with a Chi-square test with a p-value of ≤ 0.05 considered statistically significant.

Results: There has been an increase in the number of articles published by pharmacy residents during their postgraduate training year for the four pharmacy journals reviewed (42 in 2000, 84 in 2005, and 113 in 2010; p<0.0001). The overall pharmacy resident publication rate (defined as number of resident authors/total residency graduates from ASHP-accredited programs) increased from 2000 to 2005 but decreased from 2005 to 2010 (5.2% in 2000, 7.4% in 2005, and 6.1% in 2010; p=0.1). However, this difference was not statistically significant. The PGY2 publication rate increased significantly from the baseline in 2000 (6.6% in 2000, 13.4% in 2005, and 11.8% in 2010; p=0.03). Primary authorship was able to be attained by the majority of

trainees for each of the three years assessed (71% in 2000, 74% in 2005, 73% in 2010). The two most frequent types of publications for each year reviewed were original research articles and review articles. Other publication types included case reports, clinical service reports, and letters to the editor.

Conclusion: Publication by pharmacy residents during their training year(s) increased across a ten-year period. Primary authorship of a variety of different article types is able to be attained by the majority of residents seeking publication in the 3 years assessed. Publication of research reports and other manuscript types should be encouraged during residency training.

Title: Utilization of pharmacy residents in the implementation of pharmacist competencies

Category: LEADERSHIP

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Purpose: Traditionally, pharmacists at New Hanover Regional Medical Center (NHRMC) provided patient education using a standard patient interaction format which included providing information and asking the patient if they had any questions. However, this format does not allow for assessment of patient understanding of pharmacist provided education. It was determined that the teach back method would be implemented in order to provide patient education and have the ability assess patient comprehension. In order to implement this method, pharmacists completed a competency that included a mock patient scenario. The purpose of this project was to integrate residents into this competency process.

Methods: One resident was assigned the task of coordinating and scheduling 1 hour, small group didactic sessions and mock patient scenario appointments. The resident was responsible for sending pharmacists the pre-assigned course work and reviewing the work schedule to assign each pharmacist a time and date to complete the class. This resident also worked with the operations manager to assure that all patient care areas were covered during the class. The class included a scripted pharmacist-patient interaction, therefore a second resident was utilized to portray the patient. The coordinating resident then scheduled each pharmacist a 30 minute time block to complete the mock patient scenario. In addition to scheduling the pharmacists, the resident had to ensure there was an evaluator (1 of the 3 RPDs or Clinical Coordinator) and another pharmacist (mainly residents) scheduled to play the role of the patient for each mock scenario. The scenario occurred in a patient room and predetermined criteria had to be met in order to be deemed competent. If a remedial session was necessary the coordinating resident scheduled that as well. The resident and evaluator discussed each pharmacist's mock patient interaction and then provided feedback to each pharmacist.

Results: Seven residents were used to assist with the implementation of the teach back method to 56 pharmacists. The competency included a total of 9 hours for class as well as 54 total hours of mock patient scenarios. There were 104 appointments over a six week time period available for completion of the mock patient scenario that included all shifts at two hospital

campuses. It was estimated that the coordinating resident spent 12 hours scheduling and communicating issues regarding the competency. Residents participated in 33% of teach back classes and 77% of the mock patient scenarios. Fifteen percent of pharmacists were required to repeat the mock scenario. The coordinating resident felt much more comfortable managing schedules and coordinating a large project after participating. Residents who served as mock patients reported they were better able to provide constructive feedback to other pharmacists after participating. NHRMC'S Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) scores related to communication about medications have increased by about 7% after implementation of the teach back competency. Questions related to the purpose of the medications, as well as the side effects associated with the prescribed medication, increased approximately 9% total.

Conclusion: Utilizing pharmacy residents to help organize educational endeavors allows them the opportunity to show ownership and gain a better understanding of the requirements needed to implement a department-wide initiative. They also become comfortable with providing constructive feedback to peers which is often a challenge for residents. Incorporating residents in the development and implementation of competencies within a hospital is imperative, especially when resources regarding time and extra personal are limited. This has lead to the PGY1 community resident leading a monthly small group teach back discussion with pharmacy and medical students.

Title: Experiential education initiation, development, and refinement: utilization of open source preceptor, precepting, and student rotation resources to maximize the effectiveness of precepting.

Category: PRECEPTING

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Purpose: Obtaining the skills necessary to be an effective preceptor is essential to the development of the profession. At times, it is difficult for practitioners to obtain the skills, expertise, and general know-how of precepting to complement the knowledge, skills, and abilities obtained in their professional programs. Many of these essential skills go untaught in professional programs, yet are expected of practitioners. The purpose of this piece is to identify, highlight, and disseminate a variety of preceptor development resources that can be utilized to hone one's or other colleague's preceptor skills.

Methods: Established in 2006, the American Society of Health-System Pharmacists Section of Inpatient Care Practitioners Section Advisory Group on Pharmacy Practice Experiences has dedicated themselves to the conceptualization, development, and dissemination of a variety of assets that complement other preceptor resources to guide inpatient care practitioners that are involved with introductory pharmacy practice experiences, advanced pharmacy practice experiences, and a variety of residency rotation experiences. The work of this group has identified, categorized, and developed resources that are valuable to new and seasoned practitioners involved in student rotations on a variety of different learning levels and practice settings. A variety of mediums have been utilized to gather information on resource development such as member surveys, live networking sessions, engaging online communities, and a variety of organizational collaborations to drive the work of this group.

Results: Based on the work of the American Society of Health-System Pharmacists Section of Inpatient Care Practitioners Section Advisory Group on Pharmacy Practice Experiences, a variety of resources have been developed including The Preceptor Toolkit and a variety rotation-specific syllabi tools that will all be highlighted within this work along with providing QR codes within the poster to allow the resources listed previously to be discussed at the point of presentation with potential users and key stakeholders. The Preceptor Toolkit is an open

source, internet based warehouse of exercises, teaching strategies, and guidelines all to support the health-system pharmacy preceptor. Also, rotation-specific syllabi tools have been developed for immediate utilization in a variety of practice settings including emergency department, surgery, investigational drug service, medication safety, and several other niche rotations. These resources as well as other open source preceptor resources will be presented to clearly reveal how this information complements each other, thus assisting individuals in becoming effective preceptors.

Conclusion: While many hope to become effective preceptors, the infrastructure, mentorship, or development opportunities may not be readily available at all individual hospital or health-systems to assist practitioners in doing so. The continued identification, development, and essential communication of these and other resources to both current and future preceptors can assist in the continual development of effective pharmacy practice experiences.

Title: Fostering role modeling in PGY2 residents

Category: PRECEPTING

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Purpose: Challenging a PGY2 resident can be difficult. At the implementation of VA Black Hills Healthcare System Ambulatory Care PGY2 Residency, it was determined that putting the PGY2 resident in a position to be a role model for our four PGY1 residents would not only challenge the PGY2 resident, but assist the PGY1 residents in a way the residency program director struggle to do in the midst of many other tasks. This concept was intended to be a win-win situation as it would assist the PGY2 resident in being challenged, assist the PGY1 residents in being able to openly ask questions and get answers in a timely manner and saved time for the residency program director.

Methods: In the PGY2 Ambulatory Care Residency Manual, the following guidance was provided: "The PGY2 ambulatory care resident is expected to act as a practice role model for PGY1 residents, pharmacy students, pharmacy staff and other professionals they come into contact with." Upon discussion with the PGY2 resident they were specifically asked to provide guidance to the PGY1 residents regarding the quarterly pharmacy newsletter, review and provide feedback on monthly drug information responses, communicate with preceptors and RPD as appropriate and to be available as questions/issues arise for the PGY1 residents.

Results: The PGY2 resident provided adequate guidance to PGY1 residents on the quarterly pharmacy newsletter and monthly drug information responses. The PGY2 resident met with the residency program director directly when needed to obtain guidance for the PGY1 residents. They also effectively communicated the status of the quarterly pharmacy newsletter and monthly drug information responses throughout the residency year. Additionally, they set up a monthly "residents meeting" so all residents could come together and discuss any questions they had for the PGY2 resident. The residents also met monthly to discuss performance on the drug information responses as a group.

Conclusion: Integrating the PGY2 resident as a role model for the PGY1 residents was a win-win situation for each individual involved. It has assisted the PGY1 residents in being prepared for many projects/deadlines assigned and provided a method to remain timely in the completion of the newsletter and monthly drug information responses. Additionally, it has assisted the PGY2 resident in leading others and being challenged beyond their experiences in PGY1 residency. It

hsa afforded the RPD more time and availability to complete the many tasks assigned them, while growing the program and the residents within.

Title: Piloting P-ROC: Purpose, Process, Performance

Category: PROFESSIONALISM

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Purpose: A pharmacy research oversight committee (P-ROC) was created to coordinate the resident research project. The initial role of P-ROC was peer review of project status updates and practice presentations. The committee leadership recognized that a systematic, proactive process was necessary to improve research quality and promote professional development. The purpose of this pilot initiative was to develop and evaluate a process of research training and execution that provided education, mentorship, and accountability for preceptors and residents.

Methods: P-ROC first divided the overwhelming task of conducting a residency research project into discrete skills, deliverables, and milestones. Residents and preceptors were then assigned project checklists and corresponding timelines—via a cloud-based calendar—to generate intrinsic momentum. Deadlines were based on milestones (e.g. IRB submission, regional presentation) and internal deliverables (e.g. project purpose, study protocol). Experienced faculty delivered instruction for research skills (e.g. study design, statistical analysis). Additional resources included training and support by a research librarian, statistician, and IRB liaison. The chief resident disseminated meeting reminders, agendas and recorded meeting minutes. The monthly P-ROC meetings were structured to review the current deliverables and coach residents through the next steps in a workshop format. An emphasis was placed on constructive feedback and active problem solving. Small groups were deliberately formed to incorporate a diverse range of content experts and experience levels. An anonymous, 10-question survey was administered to the residents after regional project presentations to facilitate assessment and quality improvement of the P-ROC process and resources. Descriptive statistics were used to analyze the results.

Results: Examples and assessment of the skills training, workshops, and checklist/calendar will be reported in the poster.

Conclusion: ASHP accredited residency programs and research endeavors continue to expand. The methods and strategies piloted through this initiative may provide an effective approach to research training and execution.

Title: Incorporation of teaching opportunities into pharmacy residency programs offered through the VA North Texas Healthcare System (VANTHCS) and Texas Tech University School of Pharmacy (TTUSOP)

Category: PRECEPTING

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Purpose: Developing pharmacists as educators during postgraduate residency training meets several objectives including overall improvement in pharmacy education and enrichment of the residency experience. Pharmacy residency training programs at the VANTHCS and TTUSOP prioritized teaching as a fundamental learning experience and incorporated opportunities to develop skills in this area through a variety of activities.

Methods: In 1998, VANTHCS and TTUSOP partnered to develop clinical practice and rotation sites for faculty members and clinical pharmacy preceptors at both facilities. This provided numerous opportunities for student rotations and the development of postgraduate residency training programs, which have grown from 1 resident and program initially to 12 residents across 6 programs in 2014. Each program strives to develop resident skills in three major areas: clinical practice, teaching, and professionalism. Because teaching was identified as a priority, all Clinical Pharmacy Specialists associated with the PGY1 and PGY2 programs are appointed as Assistant Clinical Instructors at the TTUSOP and precept up to 4 students annually. In addition, all incoming residents are appointed as Assistant Clinical Instructors and are required to precept a minimum of 2 students during their training year. While teaching activities may vary slightly across programs, they are designed to complement practice activities while allowing the resident to experience a variety of teaching methods.

Results: Educational opportunities typically include the following: formal didactic course instruction, informal small group teaching and topic discussions, primary precepting of students on IPPE or APPE rotations, and student mentoring opportunities. PGY2 programs also incorporate formal problem based learning small group facilitation courses. Residents receive preceptor development training using the four preceptor roles (direct instruction, modeling, coaching, and facilitation) as defined by the American Society of Health Systems Pharmacists

(ASHP). In addition they have the option to earn a teaching certificate through the TTUSOP Clinical-Educator Training program. Of the 95 residency graduates from 1996 through 2013, over half (56%; n=53) are known to be teaching and precepting pharmacy students and/or residents. Approximately 17% (n=16) entered careers in academia and 9% (n=9) are residency program directors or coordinators.

Conclusion: Teaching activities may take away from other experiences and must be planned into a residency curriculum to ensure success. In addition, encouragement of clinical pharmacy staff to become affiliated with a school of pharmacy for student precepting creates an environment conducive to teaching and offers residents an opportunity to see different instruction styles and approaches. Development of a residency program philosophy that encompasses teaching as a goal helps to focus and prioritize the many learning experiences and opportunities offered.

Title: Writing a manuscript during residency: maximizing the learning experience through aggressive timelines

Category: PRECEPTING

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Purpose: Writing a manuscript can be a daunting task to residents who have had little experience. As a requirement of the New Hanover Regional Medical Center residency program, residents must submit a manuscript to a peer-reviewed journal. Typically, residents would wait until the third or fourth quarter to begin this requirement, leaving both preceptors and residents feeling rushed and end products being submitted without adequate time for edits. We felt it was important for the resident to submit the manuscript earlier in order to participate in the editing process. An earlier deadline was set to ensure residents could participate in the full writing and editing experience.

Methods: Starting with the 2012-2013 residency class, a deadline was created that required an edited draft of the manuscript due to the Residency Program Director (RPD) by February 1st. It is expected that the first round of edits from the manuscript preceptor will be incorporated before the February 1st deadline. This means that the resident and manuscript preceptor will meet by the second quarter, at the latest, to develop a timeline to meet the early third quarter deadline. The resident and co-authors had the option to utilize the RPD as in internal reviewer before final journal submission. This then gives the resident three months to work on subsequent edits with the preceptor to prepare for final submission by the end of June. Residents and preceptors who are unable to meet the February 1st deadline must meet with the RPD to determine cause in delay and develop an updated timeline. Residents were encouraged to submit as early as possible to gain experience in the both the internal and external editing process, if manuscript accepted for publication.

Results: Over the last two years, only 20% (2/10) of residents were unable to meet the February 1st deadline however, with adjusted timelines, all residents submitted a manuscript prior to completion of the residency. Surveys of residents and preceptors find that both

strongly agree that this process allows more time to develop a quality product, and decreases stress toward the end of the residency year. Feedback regarding the internal RPD process has also been appreciated and has provided authors of the manuscript a different perspective.

Conclusion: Developing a standardized process with early deadlines for manuscript drafts has resulted in a more comprehensive, less rushed manuscript process. Preceptors, residents, and residency program directors feel strongly that this process has improved the manuscript requirement.

Title: Evolution of longitudinal learning experiences in a newly developed PGY1 pharmacy residency program

Category: PRECEPTING

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Purpose: Purpose: PGY1 pharmacy residents at OSF Saint Francis Medical Center are required to complete nine 4-week focused learning experiences and three 4-week focused electives. Additionally, longitudinal learning experiences are concomitantly assigned. Coordination of longitudinal and focused learning experiences creates scheduling and communication challenges for both preceptors and residents. The purpose of this poster is to describe the development of a four-part practice improvement longitudinal learning experience that addresses these challenges.

Methods: Methods: During our first residency year, three longitudinal learning experiences were required: medication safety, drug information, and administration. Each experience had a focused month but all were ongoing over the year-long period. During our first ASHP Accreditation Site Survey, consultative recommendations included suggestions to restructure longitudinal learning experiences in the following ways: 1) combine practice improvement longitudinal learning experiences to better coordinate schedules and decrease evaluations 2) develop a better method of communication between longitudinal and focused preceptors 3) incorporate anticoagulation into practice improvement longitudinal learning experiences. As a response, drug information, anticoagulation, and medication safety were incorporated into one longitudinal learning experience. Pharmacy informatics was added as a fourth segment after a clinical informatics pharmacist joined our staff. All longitudinal meetings are on the residents' email calendars, which are shared with all preceptors. In addition, activity tracking logs were developed for each part of the longitudinal learning experience and shared with focused preceptors and residents.

Results: Results: After combining our practice improvement longitudinal learning experiences, the number of summative evaluations for these learning experiences dropped from thirteen to five. With this decrease, we noticed an increase in qualitative comments on several required RLS goals. For example, RLS Goal R5.1 was previously taught and evaluated within multiple learning experiences. Due to lack of resident learning opportunities for this goal, very few qualitative comments were included on summative evaluations. After switching to a combined practice improvement longitudinal learning experience, it was determined that the anticoagulation segment provided the best fit for this goal. Currently, residents receive multiple learning opportunities focusing on this goal and more qualitative feedback is provided. With the addition of pharmacy informatics, we have also been able to provide more practice opportunities and improved feedback for RLS Goal R6.1. Within our current longitudinal practice improvement model, all of the preceptors schedule regular meetings with the residents. Meetings are easier to coordinate, as there is only one resident scheduled per segment at one time.

Conclusion: Conclusions: Restructuring our longitudinal experiences has improved communication between all preceptors and residents. Summative evaluations have become more streamlined and constructive. In addition, our longitudinal preceptors feel that focusing on one segment for three months at a time has allowed for residents to become more engaged in each area. Lastly, this transformation has helped our longitudinal preceptors adopt a team approach to this learning experience. Feedback to and from residents is shared and incorporated back into the longitudinal practice improvement learning experience.

Title: Establishment of an Elective Transitions of Care Rotation within a Community Pharmacy Residency Program

Category: GEN CLINICAL

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Purpose: The purpose of this poster is to describe how a new transitions of care elective was incorporated into a community pharmacy residency program.

Methods: A transitions of care service was established at a faith-based, community, level III trauma center. The service identifies patients who are admitted to the hospital for community acquired pneumonia, chronic obstructive pulmonary disease, heart failure, and myocardial infarction and who are insured by Medicare. The service includes pharmacy, nursing, dietary, and pastoral care. The objective of the service is to reduce 30-day readmission rates. A community pharmacy resident approached the transitions of care pharmacist and a new rotation was established. First, daily tasks were determined, and these mimicked daily tasks of the pharmacist. These tasks include review of patients potentially eligible for enrollment, review of home and inpatient medications, identification and resolution of drug related problems, adherence to clinical protocols (IV to PO conversions, etc.), direct patient education, and supervision of pharmacy technicians. Projects were identified and include creation of an educational competency and creation of a pharmacist handover communication tool. Finally a site description that links goals and objectives of the residency program to daily tasks of the transitions of care service will be created and used to build the rotation into ResiTrak.

Results: The residency rotation is scheduled for the month of June 2014, and the preceptor has started the process to obtain computer access for the resident. Results including documents created, goals and objectives assessed, summary of resident activities will be presented. Challenges faced by the resident and strategies to overcome challenges will also be presented. The benefit of a community-focused pharmacist on the inpatient team will be described.

Conclusion: A transitions of care elective was created and will be included in a community pharmacy residency program.

Title: Development, Implementation, and Success of an Academic IPPE Rotation with Third Professional Year Pharmacy Students.

Category: PRECEPTING

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Purpose: Northeast Ohio Medical University's college of pharmacy has developed a robust experiential education program. Specifically, pharmacy students spend over 400 hours in introductory pharmacy practice experiences (IPPEs) that are integrated directly into the curriculum. By providing an elective IPPE rotation in academia, third professional year pharmacy students are provided an opportunity to explore academia as a future career option.

Methods: Selection of an academic IPPE rotation is a fairly new formulated option available for third professional year pharmacy students. Interested students may choose an academic IPPE rotation that allows them the opportunity to work with a pharmacy practice faculty member in a first professional year pharmacy course titled "Parenteral Products with Lab". IPPE students spend eight hours a week for eight weeks actively engaged in all aspects of the course.

Results: This fairly new initiated IPPE rotation provides students with valuable insight to the possibility of future academic pharmacy career opportunities prior to their advanced pharmacy practice experiences (APPEs). This initiative assists by providing IPPE students with insight to the curricular guidelines, course preparation, budget, and approval processes necessary for pharmacy education development. This IPPE rotation allows third year pharmacy students to assist in the active instruction of first year pharmacy students creating opportunities for mentoring and multi-class relationships encouragingly providing exceptional academic and experiential experiences. Qualitative results of this rotation to be shared include IPPE student evaluations of this rotation.

Conclusion: Student evaluations reflect overwhelming student satisfaction and desire to staunchly consider academic pharmacy as a viable and rewarding future career opportunity.

Title: Interactive pre-interview screening to broaden residency candidate evaluations for onsite interviews

Category: ADMIN

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Purpose: Applications for the PGY-1 Residency Program at Northwestern Memorial Hospital (NMH) have increased every year. With 174 applicants and 10 available positions, the applicant to position ratio was approximately 17:1 this past year. Limitation of time and resources only allow for approximately 40 on-site interviews at NMH. Historically, paper/PhORCAS electronic applications have been evaluated using a scoring rubric to select interviewees. With >75% of applicants slated to be left out of the interview process, concern for missing optimal fit candidates was raised by the PGY-1 Residency Advisory Committee (RAC).

Methods: A 7-question screening tool was designed to provide direct interaction with applicants prior to on-site interviewing in order to further expand candidate evaluations for potential program fit and subsequent selection for on-site interviews. Question content consisted of: candidates' reasons for pursuing residency training, long-term career goals, preparation for post-graduate training, specific interest in training at NMH, perception of NMH program expectations, candidate's most impactful clinical interaction while an APPE, and personal characteristics making the candidate desirable. After initial application scores were calculated using the historical scoring rubric, select applicants were designated for on-site interviews based on exemplary scoring and/or prior knowledge of candidates. Remaining applicants were eligible for screening and selected at a 2:1 ratio for remaining interview slots based on overall scoring and references. Interactive screening was completed via telephone or in person if candidates were already onsite for student rotation.

Results: Twenty-four applicants received invitations for on-site interviews based on initial PhORCAS application scoring and/or prior knowledge of candidates. An additional 32 candidates were selected for further evaluation via interactive screening by 5 trained interviewers to optimize objectivity. A total of 42 applicants were ultimately invited for on-site interviews including 18 of 32 screened candidates. Of the top 20 candidates ranked, 11

participated in the interactive screening process. Of the top 10 candidates ranked, 5 were participants in the interactive screening process. It should be acknowledged that 16 of 32 applicants interactively screened would have received on-site interviews under the historical application evaluation system, however interactive screening identified 3 candidates whom were felt to be optimal fit and eventually matched to the program that would not have otherwise been offered interviews based on paper/electronic scoring alone. Additional candidates identified for program fit via interactive screening represent 30% of the incoming PGY-1 resident class.

Conclusion: Interactive pre-interview screening helped extend in-depth evaluation from 40 (23%) to 56 (32%) of 174 total applications. This helped further identify and rule-out candidates for fit with the NMH PGY-1 Residency Program beyond traditional scoring. Based on matching results, the NMH PGY-1 RAC intends to expand the interactive pre-interview screening process of applications even further in upcoming years.

Title: City-based Scavenger Hunt for Resident Orientation and Teambuilding

Category: PRECEPTING

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Purpose: Resident orientation is hectic, busy and often very intense for new residents. Residents are often not familiar with the place they just moved to are meeting new coresidents for the first time. Many programs utilize orientation time for teambuilding activities, such as rope-courses. A well developed scavenger hunt activity is a low cost alternative that would allow residents to familiarize themselves with new surroundings, foster team-building with the option of healthy competition.

Methods: Carilion Clinic is located in Roanoke, Virginia with a metro population of 97,000. In 2013-2014, the residency class numbered at 5, with 4 PGY-1 and 1 PGY-2 residents. Planning of the scavenger hunt began the month before the class started. Surveys were passed out in the pharmacy department asking for suggestions of locations in town that residents could benefit from during their year. These surveys were compiled and several categories were made. Locations included: coffee shops, dog parks, gyms, restaurants, tourist sites, cinemas, recreation and concert venues. Each category had 7-9 unique places to visit. Clues were created to provide the location once solved. Residents received points for each location by either taking photos of the location or by following special instructions. Instructions required the residents to take photos together, with certain objects or other people. Pictures were taken via smartphones and texted to the supervising preceptors who kept track of points. At a specified time in the afternoon, residents opened a sealed case-based clue that led them to the final destination where preceptors waited for a meet and greet with the new residents.

Results: Residents reported the scavenger hunt as a great experience. Residents familiar with Roanoke learned more about the city than expected and served as resources for their coresidents. Clue finding was optimized through smartphone use, dividing the work load and planning routes and strategy. As some clues required all the residents to be in the picture, it was not possible for the group to completely split up. Since the residency class was only 5 residents, a point/time system was used as opposed to a team-based activity. As the 2014-2015 class is 8 residents, the current plan is to add an element of competition using the 2 PGY-2

residents as team captains. Pharmacy preceptors and pharmacy staff not directly involved in residency training also reported the exercise as a success. The activity allowed the department to get a better sense of the incoming residents' personalities and to become invested in their time at Carilion Clinic. Additionally, allowing the department as a whole to come up with clues allowed for participation from all staff. The pictures from the scavenger hunt have been used in residency presentations and activities throughout the year.

Conclusion: The 2013-2014 scavenger hunt was a success for Carilion Clinic's pharmacy residency class from both the residents' and preceptors' perspective. A scavenger hunt orientation activity is replicable in any residency program and customizable for all class sizes. Additionally, the use of smartphones could be further optimized with apps and hashtags to increase visibility and interactivity for the whole department. The scavenger hunt allowed for early team-building, helped invest the department in the residents, and allowed residents to start acclimating and enjoying their new home.

Title: Streamlining the onsite interview process to increase efficiency in recruiting for a PGY-1 residency program at the VA North Texas Healthcare System (VANTHCS)

Category: ADMIN

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Purpose: The recruitment process for five PGY-1 pharmacy residents at the VA North Texas Healthcare System (VANTHCS) typically involves 28 - 32 onsite interviews conducted over a period of 7 - 8 weeks with four interviews scheduled weekly on Thursdays. For the 2014 residency year, the VANTHCS pharmacy found itself with a shorter timeframe to recruit for the residency positions. This necessitated a change in the interview process with the goals of maintaining the ability to recruit high quality candidates while maximizing capacity and minimizing disruption to clinical staff.

Methods: The interview schedule was revised to accommodate six onsite interviews weekly, on same day per week, over a period of five weeks. Interview groups with three candidates in each group were created and assigned to either a morning or afternoon four hour time slot. The interview schedule allowed for a meeting to discuss program details with the Residency Program Director and Coordinator. It incorporated time for a meeting with members of the pharmacy Residency Advisory Council, a formal presentation and a group interview with clincal staff. In addition, candidates completed a patient case review for recomendations, were given a tour of the facilities, and spent time with a currrent PGY-1 resident to discuss program specifics.

Results: The VANTHCS pharmacy was able to reduce the typical PGY-1 residency interview cycle by two weeks. Twenty-nine interviews were conducted over a five week period and resulted in successful matching of all five PGY-1 residency positions through the National Matching System.

Conclusion: With careful planning and combining elements of the assessment process, it is possible to effectively interview six candidates each day during residency recruiting season.

Title: Utilization of a novel, multifaceted approach to preceptor development

Category: PRECEPTING

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Purpose: To foster a culture of continuous improvement at a medium-sized community hospital by providing preceptor development tailored for multiple learning styles.

Methods: A 10-question survey was conducted using Survey MonkeyTM to assess the preceptor development needs and learning styles of all pharmacists. Each primary preceptor completed a self-assessment in addition to the survey. Based on the results of the survey and self-assessments, a multifaceted preceptor development plan was utilized to address the findings and to increase the number and variety of opportunities for preceptor development. The preceptor development plan was designed to have an individualized and a program focus to align with the ASHP Standards.

Results: Two required, formal educational presentations focused on providing feedback and precepting basics were provided as the initial means of preceptor development. Next a round table discussion of topics related to teaching, providing feedback, professionalism, and leadership was organized. A Preceptor Tool Kit was created based on the feedback from the two formal presentations and the round table discussion. Daily department huddles incorporated a "Preceptor Tip of the Day" where preceptors were asked to share precepting pearls. A leadership focused 10-month book club was trialed by assigning a different pharmacist or resident to lead each chapter. Mandatory online education using three ASHP accreditation-related modules was utilized to reach visual learners. The last part of the preceptor development plan was to assign a preceptor or leadership-focused article to each primary preceptor with the expectation that he or she would present a synopsis during a RAC meeting. This idea was intended to get every primary preceptor actively involved by formally presenting, dividing the responsibility of preceptor development among the group, and bringing numerous topics to the committee's attention.

Conclusion: Implementing interventions based on preceptor feedback fostered a culture of continuous improvement where preceptors developed their skills to meet the Accreditation Standards established by ASHP.

Title: Utilizing fourth year pharmacy students completing advanced pharmacy practice experiences to fulfill established roles of primary care clinical pharmacy services at kaiser permanente colorado

Category: PRECEPTING

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Purpose: An increased need for primary care services coupled with the national shortage of primary care physicians has created additional demand for Primary Care Clinical Pharmacy Services (PCCPS) at Kaiser Permanente Colorado (KPCO). PCCPS at KPCO match approximately 40 fourth year pharmacy students completing Advanced Pharmacy Practice Experiences (APPEs) annually. Historically there has not been a formal orientation process or common activities for APPEs. The purpose of this project is to incorporate APPE students into established PCCPS roles to improve efficiencies within PCCPS.

Methods: Kaiser Permanente Colorado provides PCCPS services in each of its 25 primary care medical offices. One clinical role of PCCPS is to review patients scheduled for upcoming blood pressure (BP) checks with a registered nurse (RN) and document a plan in the electronic medical record (EMR) prior to the appointment. Progress notes are sent to physicians for review and an RN implements the PCCPS plan at the time of appointment. Group orientation was provided to 10 APPE students completing a primary care rotation beginning 3/31/14 to 5/9/14. During group orientation students were trained to identify patients scheduled for an RN BP check and to complete pre-review notes. Students maintained this work for the entire PCCPS team for the totality of the rotation. They were advised to work with their primary preceptor for complicated cases and to send straight forward reviews to a pooled in-basket monitored by all PCCPS prior to sending the note for physician review. All PCCPS was surveyed before and after project implementation to assess time savings, team satisfaction, and areas for process improvement. Primary preceptors and APPEs were surveyed during the final week of rotation.

Results: Twenty-five clinical pharmacy specialists (CPS) completed the pre-pilot survey. Results showed an average of 67.5 minutes/week/CPS were spent completing BP check pre-review notes. The survey also asked each respondent to rank how helpful they felt APPE students were at extending PCCPS practice on a 4-point Likert scale (1 – not helpful, 4 – very helpful) and resulted an average of 2.4. During the pilot, APPE students completed 631 BP check pre-review notes amongst other clinical responsibilities. Post-pilot survey responses completed by 21 CPS reported an average of 45 minutes/week/CPS were spent reviewing students' BP check pre-review notes which represents a 33% reduction in time spent. Students were also perceived to be more helpful at extending PCCPS practice as reflected by an increase from 2.4 to 3.3. Post-pilot surveys completed by 9 of 10 APPE students showed they felt prepared to complete BP check pre-review notes following orientation (average of 7.11; 1 - Not prepared, 10 - completely prepared). Comments included "felt the pharmacists who checked the pool were very helpful and always provided timely feedback and suggestions" and "felt like I really helped."

Conclusion: Utilizing APPE students to complete BP check pre-review notes was found to improve efficiencies within PCCPS. The pilot program was well received by APPE students and also improved CPS perception of extending PCCPS practice. As a result, PCCPS will be assessing how to ensure this work is sustainable and if other PCCPS clinical activities could be assumed by APPE students. Future APPE student projects under consideration include recommending follow-up care for women 65 and older following a fracture and addressing diabetic patients non-adherent or naive to ACE inhibitor and/or statin therapy.

Title: Using the 4SRx© Tool to Provide Effective Feedback: A Pilot Study

Category: PRECEPTING

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Purpose: Pharmacy residents and students participate in a variety of learning experiences and regular feedback is required to meet accreditation standards. Limited time and lack of a structured, easy-to-use, readily accessible tool hinders the amount and quality of feedback provided to learners. Most researchers agree that feedback needs to be clear, specific, and timely to be effective. The purpose of this pilot study is to determine if a feedback pneumonic (4SRx©), delivered in the form of a prescription, is a useful tool to provide effective feedback to learners.

Methods: Preceptors at three participating residency programs implemented the 4SRx© feedback tool from September 2013 – April 2014. Preceptors used the tool to provide feedback to each resident as often as they felt necessary during the intervention period. The tool is a prescription sized note pad with three carbonless copies. When the preceptor determines an observation/situation warrants feedback, they were instructed to fill out the 4SRx© tooland provide one copy to the learner, retain one copy for the preceptor, and return one copy to the investigators for analysis. A survey of residents (learners) and preceptors was deployed before and after the intervention period to gather information about the importance of feedback and the usefulness of the 4SRx© tool.

Results: There were differences in the resident's and preceptor's perception on whether use of the tool resulted in more timely feedback or more detailed end-of-rotation feedback as documented in Resitrak™, with residents generally disagreeing and preceptors agreeing with these statements. Conversely, 75% of residents and 72% of preceptors strongly agreed/agreed that use of the tool resulted in more specific feedback during their rotation; and 62.5% of residents and 72% of preceptors strongly agreed/agreed that use of the tool resulted in more constructive feedback. Use of the 4SRx© tool was less frequent than originally anticipated. Challenges that led to a diminished use of the tool include weight of the pads as they could not

be easily carried in the preceptor's lab coat pockets and confusion regarding the intended use of each carbon copy.

Conclusion: Limited time and lack of a structured, easy-to-use tool often hinders the amount, quality and timeliness of feedback provided to learners. The 4SRx© tool can facilitate documentation and delivery of written formative feedback to residents and other learners that is clear, specific, and constructive in the experiential education setting. Addressing identified challenges and use by a larger preceptor cohort is needed to fully evaluate its utility.

Title: Residency Application Screening Tools: A Survey of the Academic Medical Center

Category: PRECEPTING

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Purpose: With the recent extreme scenarios of competition for pharmacy residency positions despite slow growth of available residency positions for applicants, this survey aimed to determine the use of residency application screening tools as a means to identify qualified applicants to invite for onsite residency interviews across a sampling of the American Society of Health-System Pharmacists (ASHP) accredited pharmacy residency programs.

Methods: In a one-phase, 19 question survey utilizing an electronic questionnaire, residency directors from 362 pharmacy residency programs at 105 University HealthSystem Consortium (UHC) institutions were surveyed about their screening processes of pharmacy residency program applicants in January 2012.

Results: Seventy-three pharmacy residency programs from 105 UHC institutions participated in the survey, including 54 total programs that offer various post graduate year 2 (PGY2) residency programs. Survey response rate of UHC institutions was 69.5%, and average patient capacity of responding institutions was 673 (S.D. \pm 262). Seventy-eight percent of responding institutions have some sort of screening rubric for pharmacy residency applications in place to determine invitations for an on-site residency interview, and 87% of these programs utilize more than one person to evaluate application packets. Programs that use application screening tools rely on weighing resume materials and letters of recommendation as most important in deciding the overall fit of a residency candidate to a program.

Conclusion: Survey respondents identified resume materials and letters of recommendation as the most differentiating characteristics amongst applicants. These survey results provide new insights into the characteristics and application components that are valued most by residency programs in terms of use of application screening tools for identifying qualified candidates to invite for onsite interviews.

Title: Implementation of a successful postgraduate year one pharmacy practice residency project

Category: PRECEPTING

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Purpose: The purpose of this poster is to describe the steps utilized by VA Black Hills Health Care System (VA BHHCS) to implement a successful PGY1 pharmacy resident project. The project should provide the resident with the skills necessary to choose, operate and organize a major project over the course of one year. The focus of the project is quality improvement and an attempt for best practice at that institution. VA BHHCS has defined a successful implementation of a resident project as one that improves patient care and is viable after the residency has completed.

Methods: Review syllabus with the resident focusing on accountability and planning with a timeline provided. July, solicit ideas for the project from all stake holders. August, select idea and discuss with preceptor and select project advisor. Present project to residency advisory board (RAB). September, write proposal, present to preceptors and project advisor and first draft of proposal due. October, ASHP Mid-Year poster submission due and submit project to VA BHHCS Pharmacy and Therapeutics Committee. November, begin implementation of project, perform research and collect data. December, Mid-Year Poster Presentation. February, data analysis and conclusions. March-April, prepare slides for Midwest Pharmacy Residency Conference (MPRC). Present to RAB and preceptors. First week of May, present at MPRC. May-June, complete any necessary transition for project. Early June, first draft of manuscript due. Late June, submit for publication if appropriate. In addition to timeline, residents are presented with materials introducing them to project management. Topics are presented in a journal club like fashion and include: overview of research design, bias and biostatistics.

Results:

Conclusion: VA BHHCS Fort Meade site has implemented 8 PGY1 projects since 2008. Topics utilized have addressed epoetin alpha adjustment in anemia, continuous insulin infusion in the intensive care unit (ICU), prevention of falls with vitamin D supplementation, hydrocodone/apap use in chronic pain, hypertension treatment in diabetic patients,

antimicrobial stewardship, osteoporosis risk and treatment in male patients, and inappropriate proton pump inhibitor use. Of these topics, 7/8 (87.5%) are still currently used; the continuous insulin infusion protocol was replaced by a diabetic ketoacidosis protocol. A total 712 patients received some type of medication or chart review. These actions involved dosage adjustment, lab monitoring, protocol implementation, adding or discontinuing a medication and patient education. Resident led education of providers, pharmacists and patients was an element of every project. None of the PGY1 residency project manuscripts have been accepted for publication.

Title: Clinical pharmacist steered journal club: "from learning to decision making", cross sectional survey

Category: PRECEPTING

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Purpose: Journal clubs have been traditionally incorporated into academic training programs to enhance competency in interpretation of literature. We designed a structured journal club in our setting, however we were unaware of the perception of learners regarding this program. Therefore, the primary objective is to assess the perception of learners at different levels of pharmacy training regarding the structure of the journal club steered by a clinical pharmacist. The secondary objective is to assess the perception of practicing pharmacists to guide formulary decisions and inform clinical practice.

Methods: An online survey designed by the clinical pharmacist and validated for language, wording and content through a pilot study on 4 volunteering health care professionals. Inclusion criteria: all participants who attended the monthly Journal club (pharmacy residents, interns, clinical pharmacists, pharmacists, administrators) over the last 4 years in King Abdulaziz Medical City, Jeddah, Saudi Arabia. Participants were e-mailed explaining the objectives and were invited to respond to the survey. Daily e-mail reminders were sent for non-responders. The survey is composed of several quantitative domains to assess the perception of learners / pharmacists towards the structured journal club including the introduction sessions presented at the beginning of each academic year, the selection of topics, the clinical pharmacist as a moderator, the layout of the journal club, the presenter's interaction with the moderator and the perception of the practicing pharmacists towards the journal club. Each domain consisted of several questions. A Sample of 86 participants was required to provide a confidence of 90% with an alpha of 5% and 50% response distribution from a total cohort of 125 pharmacists.

Results: The response rate was 58/89 (65%) of the invited participants, only 3/57 (5%) refused to participate. Females represent 29/53 (54%) of the responders, 18/36 (50%), were interns and residents, 27/54 (50%) attend the journal club on monthly basis while 19/54 (35%) attend every 2-3 months. Most of the responders 52/54(96%) believe that the journal club adds to their knowledge and basic concepts during interpretation of literature, 53/54 (98%) recommended the journal club activities for other colleagues to attend, 29/31 (94%) of attendees described the introduction sessions as good to excellent, 25/31 (81%) believe these sessions helped them to understand basic concepts in critical appraisal of literature. The selection of the topics meets the core curriculum requirements for internship, residency and board exams for 17/36 (47%), while 16/22 (73%) presenters described their 1:1 interaction with the moderator during the preparation for the journal club as good to excellent. Most of the clinical pharmacists [10/12 (83%)] think that the journal club facilitates formulary decisions.

Conclusion: Our results suggest that the clinical pharmacist steered journal club is an academically valued activity for learners at different levels of pharmacy practice. Moreover, most of the clinical pharmacists believe that our structured journal club translates into an effective tool towards informed formulary decision-making.

Title: Success of a formal written education longitudinal rotation for residents

Category: LEADERSHIP

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Purpose: Development of professional writing skills is an important learning experience for PGY-1 and PGY-2 residents. The primary purpose of a formal written education longitudinal rotation is to provide residents with an opportunity to develop effective medication education techniques and leadership practice management skills. The rotation was primarily developed for residents but pharmacy students are also incorporated into the learning experience. The learning experience evaluates several objectives including 4.1.5 project management, 7.2.1 and 7.2.4 effective communication, and 7.4.1 managing time effectively.

Methods: The Clinical Pharmacy Spotlight (CPS) is a newsletter published every other month. Topics include clinical pearls, challenging patient cases, new practice guidelines, formulary additions, system performance improvement initiatives, medication use evaluations and resident research projects. Articles written by students are also included in the newsletter. The newsletter is provided to the health system's pharmacists, medical and ancillary staff. For each edition, residents are assigned to be either the "Chief Resident Editor" or to write an article. Responsibilities of the Chief Resident Editor include coordinating article submissions, editing articles written, formatting content into the Microsoft Publisher template, and distribution to staff. Residents are assigned to write articles based on their current rotation. Articles are brief, usually 300-500 words, and must be referenced AJHP style. Resident assignments are rotated throughout the year so that every resident has the opportunity to write a full article, a clinical pearl and a summary of their MUE project. At the end of the year, summaries of the completed resident research projects are also published.

Results: The CPS newsletter is a work in progress and like other learning experiences within the residency program is evolving year to year. When initially developed there were only 2 residents in the program, thus the newsletter was published quarterly so as to allow opportunities for development, but not overwhelm the residents. When the residency program increased to 6 residents, the move to every other month publishing was made. The learning

experience is evaluated in ResiTrak using custom evaluations developed for each of the three potential roles that residents may having during a publication cycle. The Chief Resident Editor is evaluated on areas such as following the timeline, formatting, organization, and communication. The PGY-1 and PGY-2 written assignments are evaluated on article topics, references, receiving constructive feedback, and writing at a professional level.Based on feedback received from past residents, continuing education (CE) credits are provided to pharmacists every 6 months. Every edition of the newsletter includes 5 CE questions. Once 3 editions have been published a link to an electronic survey is included to allow the pharmacists to answer the 15 questions to obtain 1.5 hours of CE.

Conclusion: Developing the formal written education skills of residents can be challenging. A longitudinal rotation provides repeated opportunities for residents to develop these skills. Incorporating practice leadership through the CRE position allows opportunity to assess resident's developing leadership skills. Providing CE hours to pharmacists facilitates enhanced readership and supports the dissemination of important clinical information. This learning experience is a great way to incorporate new preceptors into a residency program while providing a valuable learning experience for residents.

Title: Designing and implementing a postgraduate year one (PGY1) pharmacy residency program within a specialty pharmacy – a focus on learning experience creation

Category: PRECEPTING

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Purpose: To design and implement learning experiences within a postgraduate year one (PGY1) pharmacy residency program to develop independent clinical practitioners with the ability to successfully practice within specialty pharmacy and precept the profession's future leaders.

Methods: Both the community and pharmacy standards were reviewed in their entirety to determine which goals and objectives best aligned with the unique practice setting of a specialty pharmacy. After deciding to pursue pharmacy accreditation, a program structure document was created to ensure appropriate delineation of ASHP's goals and objectives into each projected learning experience. Potential preceptors were identified based on their concentrated area of practice and later qualified using ASHP's Preceptor Academic and Professional Records. To ensure consistency amongst the learning experiences, a standard template was developed denoting the following sections: primary preceptor and alternative contact information, site description, summary of the preceptor's and resident's responsibilities, associated goals, objectives, and activities, required readings, preceptor interaction, and evaluation strategy. Learning experience preceptors were vital in the identification of associated activities and projects within their learning experience. To ensure appropriate and timely feedback for each learning experience, a program evaluation and monitoring structure process was implemented.

Results: At the August 2013 ASHP Commission on Credentialing meeting, it was voted to approve this specialty pharmacy practice setting with six years of accreditation under the PGY1 pharmacy residency standards. This program allows residents to provide innovative patient care services in specialty pharmacy, implement and evaluate medication management models, develop leadership and practice management skills, and strengthen their communication skills. Currently, 11 qualified preceptors oversee resident development in over a dozen different learning experiences. Mandatory (core) learning experiences include academia and research, ambulatory care, clinical education, clinical services, managed care, patient care, practice

management and professional development, and staffing. Residents are also required to complete three electives in their desired interest areas; options currently available include ambulatory care II, business development, clinical informatics, community practice, compounding, quality assurance, and specialty infusion. Customization within ResiTrak™ has occurred to ensure adherence to the program evaluation and monitoring structure process.

Conclusion:

Title: How to select a research project and set guidelines for completion within 11 months

Category: RESEARCH DRUG USE

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Purpose: PGY-1 residents at Lucile Packard Children's Hospital Stanford (LPCH) are required to present a research project at the Western States Residency Conference each year. The goal of the project is to develop the resident's time management, research, written and verbal communication skills and must be suitable for publication. All research projects must be submitted to LPCH's institutional review board (IRB) and beneficial to the pharmacy department. Each resident is required to establish a timeline for project completion.

Methods: At the start of the residency, the program coordinator elicits project ideas from the residency preceptors and pharmacy department administrators. Factors considered in the selection of a research project include: resident interest (topic, ability to publish, opportunity to work with multidisciplinary team), relevance to the pharmacy department, institution and pharmacy practice, and preceptor qualifications. The residents are given a template of a timeline that includes dates with research project milestones (IRB approval, abstract deadline). All projects must be approved by the director of pharmacy and residency program director. Residents are required to submit either electronically or on paper biweekly updates to the project timeline to the residency program coordinator. Residents also provide monthly project updates to the Director of Pharmacy and Residency Program Director. ASHP's Resitrak program is utilized to document resident progress on the project.

Results: In 2014, LPCH's four residents completed four research projects that will be presented at the Western States Conference in May.Research updates to project preceptors and the residency program coordinator facilitated resident progress on the projects. Residents were required to submit an update and steps to be completed if the project timeline was delayed. The modification of one timeline was necessary for a project in which the initial data collected was inadequately defined and the resident was required to re-evaluate part of the data. The resident was able to re-evaluate the data with minimal delays in the project timeline. A retrospective review to identify the potential benefit of an intravenous to oral therapy conversion program led to the approval of a pharmacist position for our antimicrobial stewardship program. Three of the projects contributed to the department's quality improvement initiatives. One project validated a pharmacist run high dose methotrexate monitoring program. One project evaluated the impact of a multiple pharmacy cart exchange

process. An analysis of medication errors following the implementation of "smart" syringe pumps provided valuable information.

Conclusion: LPCH's four residency projects were selected based on the resident's individual interests and provided valuable contributions to the pharmacy department. The selection and execution of a successful research project requires careful consideration of the project design and feasibility, strong time management skills, with resident and preceptor commitment to the project and timeline.

Title: Matching PGY1 residents with clinical mentors via Hermann Brain Dominance Instrument (HBDI)

Category: PRECEPTING

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Purpose: Previous PGY1 residents at the VANTHCS (VA North Texas Health Care System) were able to choose their own clinical mentor, usually either a clinical pharmacist in their area of interest, or their first rotation preceptor; then they were subjectively matched with a mentor from the RAC (Residency Advisory Council), based on perceived personality alignment as determined by RPD and RPC. A better way was needed of matching up PGY1 residents with mentors, for mutual benefit, where mentor and mentee were 'speaking the same language'

Methods: Each incoming PGY1 and PGY2 resident, along with each RPD and RAC member completed the HBDI. PGY2 residents and RPDs scores were not used for any further purpose. PGY1 residents were matched with a mentor with either one similar mode (n=3), two similar modes (n=1) or two opposite modes (n=1). All PGY1 mentors and mentees were asked to log with bullet points the date of Mentor Meeting, how the meeting took place (face to face, over the phone, etc.), how long the meeting lasted, what items were discussed and their interpretation of how well the pair communicated over the year (especially at months 6, 9 and 12). Our hypothesis was that mentors who 'reside' in the bottom right grid would be more flexible and more accommodating to 'learning language' than other modes.

Results: Data to be collected in June.

Conclusion: To be drawn after results interpreted

Title: Implementation of a writing project to a residency training program

Category: PROFESSIONALISM

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Purpose: The residency program at Georgia Regents Health System/University of Georgia College of Pharmacy sought to implement a mechanism for increased residency publications consistent with the 2010 strategic plan of the University of Georgia College of Pharmacy. Writing project ideas are solicited from preceptors by the residency research committee and residents are also encouraged to develop ideas throughout the year. The purpose of this study is to quantify the number and types of writing projects for all the graduates since implementation of the project with the residency class of 2010-2011.

Methods: A MEDLINE search for author name of each residency graduate of the program from 2010-2013 was conducted to determine the number of publications. In addition, residents from 2010 to present were contacted to ask about the status of their writing and research project publications. The publication rate was calculated as the number of residents with one or more publication divided by the total number of residents. Publications were included if they were published, accepted for publication, or "in press."

Results: From 2010-2014, 25 residents participated in the postgraduate training program (16 PGY1s and 9 PGY2s). The writing project publication rate was 68%. The publication rate increased each year from 20% in 2010-2011, 83% in 2011-2012, 100% in 2012-2013, and 57% thus far in 2013-2014. Eighty-nine percent of PGY2 residents and 56% of PGY1 residents published their writing project. There were a total of 18 publications and 3 residents were able to participate in more than 1 writing project during their residency year. Ten residents served as primary author of a publication and 9 residents served as a second author. Ten review articles, 2 book chapters, 4 research-related projects, 1 letter, and one preceptor development article were published by residents. From 2010-2013, the research project publication rate was 11%. Fifty percent (n=9) of past graduates indicated they are still in the submission phase of their research project manuscripts.

Conclusion: Multiple opportunities exist during the residency training year for pharmacists to be involved in writing a publication. While a project-related manuscript is a requirement for

residents to graduate, writing projects can also be encouraged and result in successful publication based on our small sample size.

Title: Involving pharmacy residents in the residency accreditation process: a unique approach to survey preparation

Category: PROFESSIONALISM

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Purpose: Holy Cross Hospital, a 443-bed community teaching hospital, is home to a growing population of seniors and underinsured patients in Montgomery County. In response to this, the pharmacy department has begun expanding services to meet these needs. Pharmacy standards and expectations have been revised to ensure that all pharmacists are practicing at the top of their license, and clinical services have expanded. The development of a pharmacy residency program was identified as a pathway to create a site of excellence for developing clinical pharmacy services and a career pathway for pharmacy graduates.

Methods: Residency planning and preparation began approximately 2 years prior to implementation. The pharmacy department gained the support of senior leadership, nursing, physicians, and human resources. Pre-residency planning included the completion of the "RU Ready Assessment Tool", attendance at ASHP meetings, and preceptor development activities. Once the residency program officially started, residents were involved in the organization and planning for the program structure and upcoming site visit. Two groups of residents were involved in the accreditation process. Collaborative meetings were held every three months (at a minimum) for residency accreditation preparation. ASHP accreditation standards were reviewed, and preceptors and residents developed a binder to organize supporting documents. A tracer was developed by the residents for clinical staff prior to the site visit. Residents were also responsible for presentations regarding residency accreditation updates throughout the year at pharmacy and therapeutics committee meetings. All residents since the beginning of the program (5 total) were present for the ASHP accreditation site visit and actively participated in the interview sessions.

Results: A site visit was held in November 2013. The surveyors conducted interviews with leadership and residents. The residency accreditation binder, organized by ASHP principles and requirements, provided support of the requirements. No areas of non-compliance were identified. Areas of partial compliance and consultations introduced additional areas for

pharmacy service development, including pharmacist code response, emergency department pharmacists, and pharmacists in health centers. Residents were an integral part of the development of programs to support growth in the areas of improvement. Residents constructed a document detailing the pharmacist's role in code blue response, and all pharmacists have been encouraged to complete BLS/ACLS training to prepare for code response. Pharmacists attended the code blue responder course in early June, and code blue documentation sheets were revised to streamline the documentation process. Health center support has increased through the involvement of a resident providing MTM and other clinical services once weekly. An emergency department pharmacist position has also been created, following a needs assessment and scope of practice developed by residents.

Conclusion: Holy Cross Hospital received full accreditation in April 2014. Resident involvement in the planning process has allowed the department to expand its clinical services and encourage staff to practice at the top of their license. Collaboration between the vice president of pharmacy and therapeutics, residency program director, clinical specialist preceptors, residents, staff, and support from nursing, physicians, and senior leadership allowed for a successful site survey and continued success of the residency program. Future residents will continue to expand the role of clinical pharmacy services.

Title: Evaluating compliance with principle 5: achieving 4 of 7 requirements stipulated by ASHP accreditation standards for preceptors

Category: PROFESSIONALISM

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Purpose: Our community hospital is a 400 bed, level two trauma center with an affiliated college of nursing and medical residency program. It supports 2 pharmacy residents annually. According to ASHP residency standards, preceptors must meet 4 of 7 requirements in principle 5. The recent edition of the Communique identified one of the top areas of partial compliance with PGY1 pharmacy residencies to be inadequate contributions to the total body of pharmacy knowledge and meeting 4 of 7 preceptor criteria. The aim of this study was to evaluate preceptor compliance with principle 5 of ASHP accreditation standards.

Methods: Elements of principle 5 include: documentation of academic, post graduate training and work experience for all 1st time applicants; board certification or peer recognition; preceptor training or continuous education; professional organizations, membership, and positions held; publications, presentations, productions and papers reviewed; improvements in and contribution to pharmacy practice; appointments to drug policy and other committees of the organization. To increase compliance with principle 5 several steps were taken. Potential preceptors applied annually, indicating 3 goals and providing evidence of compliance with 4 of 7 ASHP preceptor standards. To encourage the possibility of publication, preceptors were encouraged to become involved with resident research projects. Peer recognition or board certification was used to determine annual pay increases. Preceptor education became a component of monthly residency advisory committee meetings. Yearly preceptor applications were completed for 2012-2013, 2013-2014, and 2014-2015. Data collected includes: the 7 requirements in principle 5 listed above. Excel 2010 was used to compile data and calculate percent.

Results: 20 preceptors completed applications for 2013-2014 and 2014-2015. Only 16 preceptors completed applications for 2012-2013. Applications from 2012-2013 identified compliance with postgraduate training was 56.3%, teaching 100%, peer recognition 31.3%, associations 81.3%, publications, presentations, productions, and papers reviewed 56.3%, contributions to pharmacy practice 93.8%, and appointments to drug policy 81.3%. Applications from 2014-2015 and 2013-2014 were identical in teaching 100%, associations 85%, and contributions to pharmacy practice 85%. Differences between applications from 2014-2015 and 2013-2014 were found among post graduate training 75% and 70%, peer recognition 40% and 30%, publications, presentations, productions, and papers reviewed 80% and 65%, and appointments to drug policy 75% and 70% respectively. 25% (n=4) of preceptors were not compliant from 2012-2013, while 15% (n=3) were not compliant from 2013-2014. 5% (n=1) of preceptors were not compliant in 2014-2015.

Conclusion: Preceptor compliance with appointments to drug policy; publications, presentations, productions, and papers reviewed; post graduate training and peer recognition improved from 2013-2014 to 2014-2015. No differences were found in teaching, associations, or contributions to pharmacy practice. Peer recognition remains the requirement with the most improvement to be made. Teaching is the only requirement with 100% compliance. The overall number of preceptors compliant has improved.

Title: Pharmacist demand in 2020: a literature review and analysis from 2000 to 2014

Category: ADMIN

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Purpose: To review the literature on pharmacist supply and demand over the past 14 years and make projection for the year 2020.

Methods: Literature review.

Results: The number of new pharmacy schools opening has increased at an alarming rate of 60% since 2000 causing the number of graduates annually to almost double since 2001. Additionally, the return on one's pharmacy school investment has shown to be potentially decreased since 2011 as the starting salary for new graduates was less than the debt owed. This continues to decline as the average pharmacy school student debt has grown at a rate greater than 50% over the last eight years, far surpassing the rates of medical and dental schools.

Conclusion: Recent projections show that the number of new schools, expansion of current schools, and total number of graduates will all continue to increase. The aggregate demand index continues in a downward trend since the mid-2000s and CAPSLEAD data from 2012 show a decline in the number of graduates who obtained jobs immediately post-graduation. Pharmacy profession will experience a significant surplus of pharmacists by 2020. This could potentially result in reduced student enrollment in pharmacy schools, and lower pharmacist salaries.

Title: Residency application scoring tool to predict positive onsite interviews

Category: GEN CLINICAL

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Purpose: To assess the relationship between residency application components and positive onsite interview scores in a large, multi-site residency program.

Methods: Candidate applications for the traditional post-graduate year 1 (PGY1) pharmacy practice residency program at Indiana University Health include a curriculum vitae, letter of intent, three letters of recommendation, and a candidate survey. The candidate survey included specific questions about desired rotations, past experiences, why an interest in the program, and career goals. Each application packet was reviewed and scored by three independent reviewers. Once reviewed and scored, utilizing a program specific scoring tool, candidates were offered an onsite interview. Participation in the onsite interview included individual interviews with six to nine preceptors, each preceptor providing an interview score. Average scores for each application component were compared to average interview scores. Each component was assessed for a positive or negative relationship to the average interview score. Analysis was done using Spearman's correlation coefficients in SPSS version 21.

Results: A total of 213 candidates were eligible for inclusion during the study period, from 2009-2013. Complete information was located and included on 200 applicants (94%). Survey questions demonstrating a positive correlation included essays about best and worst job and why they have in interest in our program (p<0.05). A positive interview score was associated with positive letters of recommendation and prior publications (p<0.05). Finally, each packet is reviewed for candidate "fit" within our program and a discretionary point is available for reviewers to award. Candidates awarded this discretionary point also correlated with positive onsite interviews (p<0.05).

Conclusion: Components of the residency application may be used to predict positive onsite interviews at our institution. This type of analysis may be done to help streamline the

application review process and potential narrow the application requirements to items predicting a good fit for any program.

Title: Analyzing recommendation letters for pharmacy residency applications

Category: PROFESSIONALISM

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Purpose: Recommendation letters for residency applications are often overwhelmingly positive. Use of the categories "Highly recommend," "Recommend," and "Recommend with reservation" may be inadequate to differentiate good from great applicants. The standardized reference form utilized in PHORCAS provides further evaluation of several characteristics desired in residents, however an analysis of these characteristics has not been performed. The purpose of this study is to analyze the standard form to identify the characteristics most likely to lead to an offer for a residency interview.

Methods: All letters of recommendation submitted to a PGY1 pharmacy practice residency program in a single year were retrospectively evaluated. Ratings of each characteristic as "Exceeds," "Appropriate," "Fails to Meet," or "Not Applicable" in the standardized reference form were compared between those who were offered an interview to the ratings of those who were not offered an interview. Additionally, the frequency of a ranking of "Highly recommend," "Recommend," and "Recommend with reservation" were compared between the two groups. The Fisher's exact test was used to analyze the difference between the two groups.

Results: For the 2014 residency application cycle, 134 applicants submitted complete applications, resulting in 418 letters of recommendation that were received and analyzed. Of the 134 complete applications, 40 (29.85%) were offered an on-site interview for further evaluation. Ratings of "Exceeds" for 11 of the 13 categories were significantly different among those who were offered an interview and those who were not. The categories of "Writing skills," "Clinical problem solving skills" and "Leadership/mentoring skills" had the largest difference in the proportion that were rated as "Exceeds" between those who were offered an interview and those that were not. The categories of "Assertiveness" and "Work with peers and communicate effectively" were not rated significantly different between the groups. Overall, 89% of recommendation letters were ranked as "Highly recommend," 10.53% as "Recommend," and 0.47% as "Recommend with reservation."

Conclusion: A large proportion of recommendation letters are ranked as "Highly recommend," thus limiting the usefulness of this ranking as a factor in discriminating among residency applicants. Most, but not all, of the categories ranked in the standardized reference form provide additional information about desired characteristics in a resident that should be utilized in determining whether a candidate should be offered an interview.

Title: Systematic Quality Improvement Process for Residency Learning Experience Descriptions

Category: PRECEPTING

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Purpose: Learning experience (LE) descriptions provide an essential framework related to outcomes goals and objectives for the resident and preceptor during rotations. Our institution developed a systematic process to revise all LE descriptions for PGY1 and PGY2 residency training programs. The goal was to improve the quality of LE descriptions and emulate best practice examples provided by ASHP accreditation services.

Methods: A master database was created with the required ASHP objectives for all four residency programs in our institution: PGY1 Pharmacy Practice, PGY1/PGY2 Pharmacotherapy, PGY2 Critical Care, and PGY2 Infectious Diseases. Next, resident activities specific to each program's learning objectives were added to the database. A template for LE descriptions, an example LE description, the master activity database, and the assigned objectives for each rotation were distributed to all preceptors. Each preceptor was asked to design a new LE description for their rotation specific to each residency program. Older versions of LE descriptions were available for reference. All preceptors attended an interactive preceptor development workshop where they received education from the RPDs on the importance of high quality LE descriptions and received feedback on their draft descriptions. Program directors edited and finalized the submitted descriptions.

Results: The systematic process took approximately 4 months to complete. The final LE descriptions improved consistency across the four residency programs and ensured that appropriate resident activities were selected to develop skills related to the required ASHP objectives. Activities were individualized to each program and differentiated the PGY1 and PGY2 learner where possible. In addition, the new LE descriptions improved the clarity of the preceptor role in resident training.

Conclusion: : We report a systematic process resulting in improved quality of residency LE descriptions.

Title: Using an administration, management, and leadership checklist to maintain continuity in a PGY-1/PGY-2 health-system pharmacy administration residency program

Category: LEADERSHIP

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Purpose: The PGY-1/PGY-2 Administration, Management, and Leadership Checklist for residency completion is a tool provided to health system administration residents during the 2nd year of residency. The document contains a list of experiences and tasks that are developed and updated by administration residents prior to completion of the residency program. The purpose of this tool is to maintain continuity of longitudinal experiences for residents during their PGY-2 year.

Methods: The administration, management, and leadership checklist for residency completion tool is given to residents prior to the start of the 2nd residency year. The checklist of experiences and tasks are comprised of the following headings: philosophy and values of the pharmacy department, items requiring knowledge of skills, administration residency items requiring participation, personal/professional attributes and career goal, customized plan adjustments. As residents achieve or meet requirements on each item, it is marked complete by either the resident or pharmacy manager. Residents and the residency program director review the list quarterly and use ASHP goals and objectives to identify rotation opportunities for the next quarter. This process ensures continuity of experience for each resident.

Results: The administration, management, and leadership checklist was implemented in 2010. Since implementation, 4 health-system administration residents have used the checklist to ensure continuity of the residency program experience.

Conclusion: Through the use of the administration, management, and leadership checklist, PGY-1/PGY-2 health-system administration residents have gained continuity of residency experiences and ensured thorough and complete training.

Title: Tools for increasing consistency and efficiency of PGY1 residency candidate evaluations in PHORCAS with multiple evaluators

Category: LEADERSHIP

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Purpose: The purpose of this procedure was to standardize the process for reviewing PHORCAS applications to be scored by multiple evaluators. Some level of subjectivity and variance would be unavoidable, but a scoring tool could be used for further guidance to direct evaluators to assign appropriate point ranges consistent with the program's priorities. The development of a rubric allowed for breaking down each component of the required application and further delineating key words or qualifications that separate high scores from lower scores. The systematic use of tags in the PHORCAS system was also explored to highlight the highest scores for final evaluation or invitation to interview.

Methods: A residency candidate scoring tool evaluated the following components of the application for a total of 100 points: curriculum vitae (10 points), letter of intent (15 points), GPA (5 points), difficulty/relevance of rotations (10 points), difficulty/relevance of projects/presentations (10 points), leadership activities (15 points), 3 letters of recommendation (10 points each), and work experience (5 points). A rubric summarizing scoring guidelines was created to guide evaluators on appropriate content for low, medium and high point scores within each component. For example, key words and concepts for an outstanding letter of intent could earn 13-15 points, good letter of intent could earn 8-12 points and a less impressive letter could earn < 8 points. All PGY1 residency applications in PHORCAS were assigned to and tagged with a current PGY1 pharmacy resident and a current PGY2 pediatric pharmacy resident at Children's National. The average of these two scores was then grouped by PHORCAS tags in the corresponding ranges: 90-100, 85-89, 80-84, 70-79, <70. All applications tagged 90-100 may have been offered early invitation to interview or reevaluated by the RPD for strong consideration of remaining interview opportunities. If there was remaining interview availability, the RPD evaluated the next score range (85-89) for best candidates to fill the remaining interview slots. Additional tags were also created for accomplishments considered to be key qualities in a candidate to further prioritize their evaluation to be invited for onsite interview (e.g. strong leadership activities).

Results: After a January 8 application deadline, all 66 residency applications for the PGY1 program at Children's National Medical Center were evaluated and by January 15, all candidates were informed of their application status. The earliest invitation to interview sent to a PGY1 residency candidate on January 2 and all invitations to interview had been sent by January 14. Due to this early evaluation of and communication to the pool of PGY1 residency candidates, all 15 invited PGY1 candidates were able to schedule the onsite interview at Children's National without conflict.

Conclusion: The use of PHORCAS tags, scoring guidelines for multiple evaluators and assignment of 2 evaluators per PGY1 residency application allowed for a consistent and efficient evaluation of PGY1 residency applications in the PHORCAS system and may be considered for programs processing a large number of residency applications with multiple evaluators.

Title: Electronic on-line pharmacy residency application review

Category: PRECEPTING

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Purpose: Purpose: To implement a standardized paperless system or tool to facilitate the review and adjudication of pharmacy residency applications submitted through PhORCAS. This tool ideally would provide a higher degree of objectivity to an otherwise subjective process to stimulate discussion of candidates when being considered for an on-site interview.

Methods: Methods:An online SharePoint website was created to systematically evaluate PhORCAS applications. After application reviewers were teamed up based on level of clinical experience and seniority, each member of the team reviewed applications using this SharePoint website. The system was built to provide a standardized and weighted approach to adjudicate applicants based on the following parameters: reference letters (including the formatted reference template provided in the PhORCAS system and any supplemental letters provided), candidate letter of intent, work experience, distinctions (honors and awards), education (including other non-pharmacy degrees), grade point average (containing assessment of trend), relationship (if any) to the program (i.e. former student or employee), and school rank as reported by an independent online research company. The SharePoint site was built to display the calculated individual parameter scores and final score in a tabular view that allowed for sorting to facilitate better score reconciliation within evaluation teams and for comparison of candidates in the final stages of determining if an interview would be offered.

Results: Results: Utilizing an online system allowed for better access for evaluators to complete their review at their leisure, allowed for multiple evaluators to review the same application concurrently, and decreased use of paper. Having a team of people review applications in a more systematic and objective way provided a higher level of quality and validity to evaluation of candidates. The SharePoint site allowed for easier comparison of candidates and proved to be a useful tool in candidate discussion.

Conclusion: Conclusions: The use of an electronic on-line pharmacy residency application review tool facilitated more objective, efficient and robust discussion of pharmacy residency candidates.

Title: Pre- and post- rotation checklists to optimize resident efficiency and learning

Category: PRECEPTING

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Purpose: Purpose: To implement a standardized communication tool to facilitate the completion of tasks associated with the beginning or ending of a resident rotation. Historically some of these tasks were overlooked and may have compromised opportunities for learning or assessment of the resident. Commonly overlooked or delayed tasks included (but were not limited to) assessments in ResiTrak, practice based education pertaining to time management, clarification of expectations, and uploading of residency documents to ResiTrak.

Methods: Methods:Two documents were developed that must be completed before the resident is able to continue their next rotation. These documents serve as a physical reminder of what information, deemed essential to maximize resident learning and understanding, needs to be completed or discussed with a resident at the beginning or end of a rotation. Examples of items on the pre-rotation checklist include (but not limited to) clarification of rotation responsibilities and expectations to ensure the resident is clear on how each task is associated to assigned goals/objectives, expectations of time commitments pertaining to rotation start / end times and longitudinal responsibilities as they impact the rotation, discussion of time management skills specific to the rotation, and rotation calendar development. Items on the post-rotation checklist include (but are limited to) verification that all evaluations are completed in and pertinent documents are uploaded to ResiTrak, CPOE maintenance and documentation is completed, patient care issues signed-out, and directed feedback for the resident on three things the resident did well and three things identified for continued growth for next rotation.

Results: Results:Implementation of the standardized documents has been well accepted by the residents and preceptors. The RPD reports good adherence to the guidelines associated with the documents and more efficient rotation transition times for the residents. Given the success of the initial documents, additional items have been added since the inception of the process to further streamline rotation transitions.

Conclusion: Conclusions: The use of a standardized pre- and post- rotation checklist serves as a visual reminder of pertinent tasks necessary to maximize the learning experiences of the residents, the transition of residents between rotations and the communication amongst those involved in the program.

Title: Integration of Pharmacy Practice Residents into a Pharmacy Staffing Model

Category: PROFESSIONALISM

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Purpose: Purpose: The staffing component of pharmacy residency programs is integral to resident development and a significant part of many program requirements. There is variation between pharmacy residency programs in terms of the amount and types of staffing that is required by residents. The staffing component of the residency program at our institution is intended to be meaningful and beneficial to the residents' learning experience and development. The purpose of this project is to describe the integration of pharmacy practice residents into the pharmacy staffing model at Children's Hospital Colorado.

Methods: Methods: Children's Hospital Colorado has five pharmacy residency positions divided between first-year and second-year residents based on the residency class for the year. The Resident Service Guidelines were developed for our residency program to define the types of staffing that are required by the residents throughout the year. The amount of staffing required differs based on the residents' rotation schedule and whether the resident is a first-year or second-year resident, which is outlined in the guideline. The types of staffing days that are integrated into the pharmacy staffing model that are fulfilled by the residents include but are not limited to, weekend staffing days, clinical staffing days, and double shifts. The shifts that residents are required to staff are both distributional and clinical, which exposes the residents to a variety of shift designations contained in the pharmacy staffing model. The residents are evaluated on the staffing component of the residency year by the residency program director based on specific goals and objectives through ResiTrakTM evaluations.

Results: Results: The residents at Children's Hospital Colorado are able to adequately staff multiple distributional and clinical shifts within the pharmacy staffing model. A distinctive component of the residency staffing requirements at our institution is clinical staffing days and the residents' capacity to sufficiently staff the clinical shift designations for the areas in which the resident has rotated. The staffing requirements are a large part of the residency year and justification of the residency positions for both the first-year and second-year residents. Additionally, the staffing component of our residency program is factored into the return on

investment demonstrated by each of the five pharmacy residency positions. The residents who have graduated from our residency program now work in a variety of areas throughout our own institution, as well as other institutions and practice different types of pediatric pharmacy.

Conclusion: Conclusions: In conclusion, the residents at Children's Hospital Colorado have been integrated into the pharmacy staffing model for many years. The integration of pharmacy practice residents into a pharmacy staffing model is advantageous to the learning experience and development of the resident but also, justifies the residency positions and demonstrates return on investment. The future directions of this project are to review the Resident Service Guidelines prior to every residency year and incorporate feedback from current residents regarding their integration into the pharmacy staffing model.

Title: Resident and student perceptions of a dual preceptor learning experience

Category: PRECEPTING

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Purpose: As sites expand clinical services, rotations utilizing multiple preceptors are becoming more common. The Mercy Hospital and Medical Center Emergency Medicine (EM) rotation has been training students and residents using a dual preceptor approach for the past three years. The purpose of this study is to obtain and describe learner opinions specifically relating to the dual preceptor aspect of the learning experience.

Methods: Mercy's Emergency Department is a Level II trauma center with 25 treatment rooms and a fast track area. Clinical pharmacy services were implemented in October 2010. Two specialists provide coverage 10 hours per day, 7 days per week. The EM rotation was first offered to PGY-1 residents starting in the spring of the 2010-11 residency year, and has been available as an APPE to five local pharmacy schools since Spring 2013. Each learner is assigned a primary preceptor who provides most of the clinical teaching and all formal evaluation for the rotation. The other pharmacist acts as a secondary preceptor and is responsible for teaching the operational aspects of the service. Rotation activities have been streamlined over the years but the basic configuration has remained the same. In May 2014, a SurveyMonkey™ survey was created with the intent to specifically assess resident and student opinions of the rotation's structure, content, and approach to assessment. The survey consisted of 23 Likert items with four possible responses ranging from Strongly Disagree to Strongly Agree. It was e-mailed to the 6 residents and 4 students who had completed the rotation at the time of the survey.

Results: Five of 6 (83%) residents and 100% of students completed the survey for a total response rate of 90%. Every item was rated Agree or Strongly Agree at least 78% of the time. The frequency of selection of Agree or Strongly Agree was 93% for both content and structure scales, and 98% for the assessment scale. The most frequently high ranked statements related to the learner's experience of the role of an ED pharmacist, the preceptors' commitment to the learning experience, the ability of the learner to provide feedback to each preceptor, and the degree to which the student or resident's evaluation reflected activities completed with both preceptors (all 100%). The items with the lowest frequency of Agree/Strongly Agree were time

spent with primary preceptor (83%) and feeling competent with performing the clinical aspects of the ED pharmacy service (78%). When student and resident scores were compared, students gave high scores more frequently to assessment measures, amount learned in a two-preceptor setting, and exposure to multiple practice styles. Resident scores were higher for the approach to topic discussions and confidence with clinical duties.

Conclusion: Overall, this survey showed favorable perceptions from both students and residents to this dual preceptor rotation. The results generally support our current approach to structure, content and assessment but identify areas for improvement. Both student and resident rotations may benefit from arranging for more time to be spent with the primary preceptor, and working with learners to define and meet goals for clinical competency. Additional plans include streamlining topic discussions for students and making the experience of different preceptor styles a measurable benefit for residents.

Title: Integrating community pharmacy residents into a community-based research program

Category: ADMIN

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Purpose: The University of Mississippi School of Pharmacy implemented a Community-Based Research Program (CBRP) in 2008 to increase access to healthcare in the underserved Mississippi Delta region. One goal of this program was to increase the learning opportunities and residency-trained providers in this area. In 2009, through support from a federally funded CBRP research project and partner community pharmacy, a PGY-1 Community Pharmacy Residency Program (CPRP) was implemented. This presentation describes this integration of pharmacy residents into the research program.

Methods:

Results: Institutional Review Board (IRB) approval was obtained from the University of Mississippi. The first CBRP project, the Delta Pharmacy Patient Care Management Project, implemented Medication Therapy Management (MTM) services in community pharmacies, Federal and private provider clinics, and an employer-based setting. This CBRP project was structured to implement a pharmacy residency model in which residents would provide MTM services for the underserved population in this region. CPRP infrastructure was established, community partners and preceptors were identified, and specific learning experiences focused on rural community health were developed. All residents received training to provide and document MTM services consistent with the CBRP MTM model. Residents had specific roles in certain CBRP projects, informal roles in other projects, and all resident primary research projects were aligned to contribute to the overarching goals of the CBRP.

Title: Adding a resident-run transitional care service- what's the value?

Category: CLINICAL

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Purpose: A recent practice model change at Vidant Medical Center (VMC) unveiled an unmet need for pharmacy services with Hospitalist providers. In an effort to establish pharmacy services with this group, we developed and implemented a resident-run transitional care service focused on the discharge process. The purpose was to develop a residency experience in the emerging field of transitional care and to demonstrate an impact on readmission rates and avoidable adverse drug events. Through this experience the residents developed the skills necessary to justify and implement a new pharmacy service.

Methods: Beginning with the 2013 residency class, the residency program structure was modified to include this innovative experience. Emphasis was placed on strategically scheduling these rotations so each resident was assigned one month in the Fall and a subsequent month in the Spring. Each of the PGY1 residents was required to complete two, one-month rotations as the transitional care pharmacist. This service was staffed solely by the resident, Monday – Friday, 10am-6pm, and required close collaboration with an interdisciplinary team including Case Management, nurses and Hospitalist providers. There were weekly meetings with the assigned preceptor to review interventions and discuss opportunities to enhance the rotation. This service included assessment of medications at discharge, identification of medication discrepancies, patient counseling, provider support, and documentation. Data gathered on this new service included medication interventions (i.e. unintended omissions, drug interactions, adverse events prevented), % of patients counseled, causes for readmission, discharge disposition, payor source, and patient demographics. Data was entered into an Access database and the impact was assessed on a monthly basis.

Results: As a result of this new service, pharmacy residents gained experience in transitional care and the role it plays in patient-centered care. This change to our inpatient focused curriculum emphasized the growing need for pharmacist involvement in medication

management that occurs during transitions of care. While this service did not demonstrate a statistically significant reduction in readmission rates during the first year, a number of quality indicators were positively impacted. These included but were not limited to nursing/provider satisfaction, identification of problematic prescribing patterns, improved patient care through documented pharmacist interventions and patient counseling. An added benefit has been the increased visibility of the residency program for its efforts to improve patient-centered care and reduce preventable readmissions through pharmacist participation in the discharge process. As a result of this work, VMC pharmacy partnered with University of North Carolina Eshelman School of Pharmacy for the development of a new APPE site and Transitional Care faculty member. This allowed for expansion of decentralized pharmacy services and will serve as a model in transitional care.

Conclusion: In conclusion, we have successfully implemented a resident-run transitional care service. Benefits to the residents extended beyond patient care to include administrative experience in the development and justification of a new pharmacy service. Based on feedback from providers, nursing and pharmacy residents, tangible and intangible benefits were realized throughout this implementation. This rotation will serve as a model for the growth of pharmacist involvement in transitional care and provide a framework on which to continue our readmission reduction efforts.

Title: Implementation of a residency preceptor development program and evaluation tool at geisinger medical center

Category: PRECEPTING

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Purpose: Resident professional education is an integral component of Geisinger Medical Center's mission and vision to enhance quality of life and patient care. The American Society of Health-System Pharmacists Accreditation Standard for Pharmacy Residency Programs provides criteria for qualified residency preceptors and calls Residency Program Directors to provide opportunities for preceptor development and education. A residency preceptor development program and evaluation tool were designed and implemented to facilitate optimization of preceptor skills and professional education.

Methods: A preceptor development program was created by the Residency Program Director and the Director of Clinical Pharmacy Programs. This program offered monthly educational opportunities for preceptors to enhance their skills. Educational materials were garnered from ASHP meeting programming and publications, Pharmacist's Letter, Geisinger's Faculty Development for Clinical Educators course and other sources as appropriate. All preceptors were required to complete a Preceptor Self-Assessment Tool from which topics for enrichment were derived. The RPD met with each preceptor to customize their development plan. An evaluation rubric was created and adopted for integration into the annual pharmacist performance appraisal. To meet expectations for the position of residency preceptor, preceptors were required to update their academic and professional record form, submit a Preceptor Self-Assessment Tool, meet with the RPD to develop their individualized plan, attend 50% of preceptor development sessions, resident presentations and residency advisory council meetings, and meet 4/7 of ASHP's preceptor criteria. A separate evaluation rubric was utilized for residency preceptors in training.

Results: The Post Graduate Year 1 Pharmacy Residency Program was surveyed for residency reaccreditation in the fall of 2013 after implementation of the preceptor development program and adoption of the evaluation tool. All preceptors were deemed fully compliant with respect

to preceptor qualifications during the survey. Pharmacist performance appraisals were completed in the spring of 2014 by executive leadership. All preceptors met or exceeded the expectations of a pharmacy preceptor as defined by the evaluation tool. All preceptors in training also met or exceeded expectations.

Conclusion: The preceptor development program and evaluation tool will continue to be part of the enrichment and achievement of the pharmacist preceptors at Geisinger Medical Center.

Title: Prevalence of pharmacy residency attrition since 2005- a survey of Residency Program Directors.

Category: PROFESSIONALISM

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Purpose: A survey of residency program directors (RPDs) was conducted to determine the prevalence of pharmacy resident attrition across residency programs since 2005. In 2005, the American Society of Health- System Pharmacists (ASHP) implemented new residency accreditation standards which resulted in the replacement of pharmacy practice pharmacy residencies and specialized residencies with post graduate year one (PGY1) pharmacy residencies and postgraduate year two (PGY2) specialty residencies. The survey was designed to assess the most common reasons for resident attrition since 2005.

Methods: A contact list of residency program directors was developed from the ASHP online residency directory and the American College of Clinical Pharmacy (ACCP) online residency directory. A web survey development company was utilized to create a 19 question survey and was distributed via email to recipients initially identified as both PGY1 and PGy2 pharmacy residency program directors (RPD). RPDs were queried about residents who failed to start a program, as well as residents who did not successfully complete their respective residency programs. RPDs were asked to describe reasons residents did not start or complete programs and any changes in recruitment that resulted from this attrition.

Results: Surveys were sent to 1632 recipients. The survey had a 32% response rate with 87.6 % of respondents identifying themselves as an RPD since 2005. The majority of respondents (38.6%) had served as an RPD for greater than 5 years. Over 6% of programs had residents who did not start the program, primarily due to personal reasons. The majority of respondents reported no experience with resident attrition however, 27.2% of RPDs (n=126) did report attrition (n=160). The majority of residents lost to attrition were PGY1 residents and most programs were less than five residents in size. Of the reported resident attrition 60.8 % were terminated or resigned to prevent termination, 18.5% left due to personal of family health

issues, and 15% left due to a career change. The most common reasons RPDs cited for resident termination or resignation to prevent termination included: inability to fulfill patient care requirements, unprofessional behavior, and inability to meet deadlines. Most (66%) residents were put on performance plans before termination/resignation. Almost 14% of RPDs felt they should've terminated a resident who successfully completed their program. As a result of resident attrition 43.8% of RPDs reported changing recruitment practices.

Conclusion: A majority of pharmacy residency program directors surveyed have not experienced resident attrition. Residency program directors who reported attrition were most likely to cite professional verses personal causes.

Title: iTunes who? No iTunesU. Finding new and innovative ways to engage the millennial generation.

Category: PRECEPTING

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Purpose: The orientation process for Advanced Pharmacy Practice Experience (APPE) students at The Ohio State University Wexner Medical Center has historically been inefficient. During transition to sequential block scheduling, the need to standardize APPE student orientation became evident. A didactic orientation lecture series was created and used in conjunction with an iTunesU course. Students of the millennial generation enjoy the flexibility of interacting with technology; the goal of this initiative was to streamline the orientation process while delivering content that is important and engaging.

Methods: Through a partnership with The Ohio State University Office of eLearning and Apple,® the Residency Program Manager applied and was selected to participate in an immersive institutional iTunesU Faculty Bootcamp to construct the Pharmacy iTunesU course. The experience required the collection and organization of digital course materials along with familiarization of the iTunesU course manager software. Within the iTunesU framework, many different types of educational media can be used including, but not limited to videos, audio, books, applications, documents, and links. The current iTunesU course houses lecture slides, helpful websites, videos, podcasts from AJHP, CITI Research Training, and research presentations for the APPE students. Examples of videos included the process for completing medication reconciliation and links to continuing education videos such as Code Blue, etc. In total, 29 items have been included in the iTunesU course. Of the available materials, seven were deemed mandatory with required deliverables prior to the completion of the initial block rotation. The other 22 entries encompass multiple resources that can be accessed throughout their Medical Center block rotation experience.

Results: The iTunesU course and orientation schedule was vetted through a Student Taskforce comprised of preceptor stakeholders, residents, and team leads. Over the year, this group recommended the increased capture and posting of monthly repeated orientation lectures and pertinent information to the iTunesU course. This initiative has led to decreased preceptor

burden and provided increased efficiency for the Department. With the iTunesU course, the resources are available to the students 24/7 and the program can distribute a large variety of resources through one portal. Media content, which includes audio and video, provides educational reinforcement for the students to complement their hands on rotational learning experiences. The orientation time period at the start of the block rotations was reduced from 24 contact hours over 8 days to 14 contact hours over 5 days. We are currently working with Apple® to allow for iTunesU instructors of private courses to track site hits in the different educational areas. Once this access is granted, we will be able to determine the frequency and duration that the resources are being utilized to ensure a dynamic and tailored experience for our students.

Conclusion: Using the iTunesU course to deliver orientation materials to APPE students was a success in the Department of Pharmacy. Preceptors were able to dedicate less monthly time to the orientation process which ultimately contributed to increased time in patient care. The students were exposed to more information and used the course as a refresher when needed throughout their rotation. Moving forward, the Department of Pharmacy will continue to monitor and improve the APPE orientation process and encourage the recording of additional materials to be made available to the students on the iTunesU course.

Title: Defining the residency program director and coordinator roles

Category: LEADERSHIP

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Purpose: The ASHP Accreditation Standard for Postgraduate Year One (PGY1) Pharmacy Residency Programs define the residency program director (RPD) as "the pharmacist responsible for direction, conduct, and oversight of the residency program." Currently, the residency program coordinator (RPC) role is not required for a pharmacy residency program thus not defined in the Standard. At Blue Cross Blue Shield of Michigan (BCBSM), the RPD created the RPC role to assist with the planning and documentation involved in developing and maintaining the residency program.

Methods: During the initial planning stages of the residency program, the RPD determined that a RPC was needed to provide support in the following areas: residency program development, documentation, scheduling and liaison to preceptors. Favorable traits of RPC include organizational skills, attention to detail and good oral and written communication skills. Throughout the program development phase, the RPD was responsible for the program's vision, attaining support from leadership, preceptor recruitment and working with BCBSM's procurement department in creating the statement of work. The RPC assigned learning objectives to the different learning experiences with feedback from the RPD and Residency Advisory Committee (RAC), worked with preceptors in developing learning experience descriptions and evaluation forms, consulted other managed care residency programs and served as liaison to preceptors for residency program related issues. The RPD and RPC were involved in recruiting the resident via a career fair and residency program showcases (local and national). During the program accreditation phase, the RPD and RPC worked together off-site to prepare the application and materials.

Results: The RPD and RPC provided strong leadership in successfully attaining ASHP/AMCP (Academy of Managed Care Pharmacy) accreditation for BCBSM's managed care pharmacy residency program. To ensure development of a high-quality program, the RPD and RPC attended residency preceptor workshops at national meetings. Challenges in launching a

residency program include the following: attaining support from leadership and human resources, developing initial program design, identifying preceptors and document preparation. As an established program, the RPD is primarily responsible for program oversight, resident quarterly customized plan, execution of the preceptor development program and administrative duties. The RPC ensures coordination of learning experiences, recruitment and interviews, resident on-boarding, scheduling and proper documentation. RPD and RPC are members of RAC, alongside three other preceptors.

Conclusion: Developing a residency program coordinator role assists in achieving a manageable workload for the residency program director and enhances workflow efficiency. The RPC role engages an enthusiastic preceptor and provides leadership growth opportunities.

Title: Development of longitudinal 360 degree evaluations for pgy-2 ambulatory care pharmacy residents.

Category: PRECEPTING

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Purpose: The objective of this project is to develop and pilot a 360 degree evaluation tool for the Boise VA Medical Center (BVAMC) PGY-2 Ambulatory Care Pharmacy Residency. The 360 degree assessment will parallel the 360 degree evaluation used by the BVAMC Medical Residency program, and serve to provide a more complete evaluation of the resident's development as an overall pharmacy clinician, as well as further align the evaluation of the pharmacy residents with the evaluation of the medical residents within the VA Centers of Excellence in Primary Care Education (CoE) program at the BVAMC.

Methods: Following the format of the BVAMC Medical Residency 360 degree assessment tool, three principal competencies were selected for the pharmacy residency to closely align with the three medical competencies used, and which match primary Outcome requirements of the PGY-2 Ambulatory Care Pharmacy Residency as defined ASHP. Upon completion of each rotation, using a four point Likert scale and comments, the competencies will be assessed by the preceptor for the rotation and other healthcare team members who have interacted with the resident during the rotation. Feedback from the 360 evaluation will be provided to the resident during quarterly evaluations, or when deficiencies are noted, and an overall summary of the evaluations will be compiled for the resident at the end of the residency year. Feedback from each reviewer regarding the 360 evaluation tool will also be gathered upon completion of each evaluation, and a summary of the 360 evaluation tool will be compiled at the end of the residency year. Use of the Resitrak system will continue to address specific rotation Outcomes, Goals, and Objectives as required by ASHP.

Results: The pharmacy preceptor for each rotation completed the 360 degree longitudinal evaluation form and provided positive written and verbal feedback regarding the evaluation tool. The pharmacy preceptors viewed the tool as a useful method for assessing the resident's progress over the course of the residency, across all rotations. Interdisciplinary evaluations

however, have been limited in number, with three completed evaluations from non-pharmacy healthcare team members. Written and verbal feedback from non-pharmacy team members regarding the evaluation tool are limited, but comments revealed a general reluctance to evaluate a team member who was not within their discipline as they felt they did not have requisite background, and/or were not in a position to evaluate the pharmacy resident on the listed competencies. Additionally, response rate from non-pharmacy team members may have been low as interprofessional evaluation of the pharmacy residents is a new concept and was an unexpected activity by the other members of the healthcare team. Full summaries of the evaluations will be compiled and reviewed with the pharmacy residents at the end of the residency year.

Conclusion: While 360 degree evaluation of PGY-2 Ambulatory Care Pharmacy Residents was deemed valuable by pharmacy preceptors, interdisciplinary feedback was limited as other members of the healthcare team did not feel it was in their capacity to evaluate the pharmacy residents on the specified skills. As a result of this pilot project, and the evaluation currently used by the BVAMC Medical Residency, the Boise VA CoE will now develop and validate a dedicated Interprofessional 360 degree Assessment Tool to be used by all disciplines practicing within the CoE, utilizing the same assessment tool for all learners.

Title: Impact of a decentralized pharmacy practice rotation on PGY1 resident staffing proficiency.

Category: GEN CLINICAL

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Purpose: New Hanover Regional Medical Center (NHRMC) is a community, teaching hospital with six PGY1 residents. Traditionally residents have completed their residency service by alternating central pharmacy order verification and a direct patient care consult position. Residents also had the opportunity to staff a decentralized pharmacy area. A decentralized pharmacy practice elective was completed by 60% of alumni and is now a required rotation. Residents who did not to take this elective often did not staff in a decentralized area. The purpose of this survey was to evaluate the impact of this rotation on resident's comfort and confidence in a decentralized pharmacy position.

Methods: A survey was sent electronically to previous and current residents to assess the impact of a decentralized practice rotation on their comfort level in staffing a decentralized area during their weekend service. Questions were tailored based on the recipient being an alumni or current resident. For alumni, the survey asked if the resident had the opportunity to practice in a decentralized satellite, if they completed a decentralized satellite elective, when they felt comfortable staffing independently, and if they felt a required decentralized rotation during the first half of the year would have improved their staffing abilities during the remainder of the year. For current residents, the survey asked if the decentralized rotation prepared the resident to independently staff in a decentralized pharmacy satellite beyond what was learned during orientation and other rotations, if it prepared the resident for a wider variety of staffing areas and environments, and if the rotation should be continued as a core rotation during the first half of the residency year.

Results: The survey received a 72% response rate (N=21/29). In the alumni group, 75% of previous residents practiced in a decentralized satellite during their residency. The majority of residents who completed the elective did so in the fourth quarter and 83% of them agreed or strongly agreed that taking the elective enabled them to competently staff independently in a

decentralized area. In the group who completed the elective, 58% (N=7/12) of respondents felt taking it in the first two quarters would have better prepared them to staff in a decentralized satellite during the last two quarters of the residency. Of the current resident class, all respondents agreed or strongly agreed that the decentralized rotation better prepared them to independently staff in a decentralized pharmacy area than what was learned in orientation and other rotations. Additionally, 75% of respondents agreed or strongly agreed that the rotation prepared them for a wide variety of work environments and all agreed that the rotation should be continued as a core rotation during the first half of the residency.

Conclusion: A required, decentralized rotation was found to be beneficial for current residents with regards to staffing independently, preparing them for a wide variety of work environments, and preparing them beyond what is learned during orientation and other rotations. Of the alumni who took the decentralized pharmacy elective, most agreed that it enabled them to staff independently as a result of it. This rotation will remain a core rotation during the first half of the residency year. Benefits include earlier decentralized staffing independence, wider range of practice and real-life skills, as well as increased communication and interaction with other health care professionals.

Title: Development of a five step PGY1 managed care residency applicant review process: experiences of a new program

Category: ADMIN

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Purpose: Due to the large number of resident applicants and the competitiveness of the application process, a process to effectively and efficiently review and select residents was desired for a new residency program. The purpose of this project is to describe the process of developing and utilizing a five step PGY1 Managed Care Residency applicant review process for this new program.

Methods: Five components of the applicant review process were created: application review, phone and on-site interviews, ranking meeting, and quality improvement. During application review, the Residency Program Director (RPD) and a preceptor independently reviewed each application using a candidate application review tool to assign a score to each. The pharmacists determined who to invite for a phone interview based on applications and scores. The RPD and at least 2 preceptors participated in phone interviews using 11 standard questions. Each preceptor independently completed a candidate phone interview tool to score answers and give a global impression rating. Interviewers determined who to invite for an on-site interview based on their scores. The on-site interview consisted of 3 small panel interviews, lunch, a presentation by the applicant, and a tour. The interviewers independently scored each applicant using an on-site interview tool, ranked the applicants, and provided the rank to the RPD. The RPD compiled and presented the ranks at a ranking meeting. The applicants were discussed, and final rank was decided. The RPD and preceptors meet annually to evaluate all tools and procedures.

Results: Used twice now for two separate residency application years, the five component process has worked well and has undergone only minor changes. In both 2013 and 2014, 2 reviewers completed the application review tool, 4 reviewers completed the phone interview tool, and 4 reviewers (all Residency Advisory Committee (RAC) members) completed the on-site interview tool. Three resident applicants were interviewed on-site each day. All members of

RAC attended the ranking meeting. Input from other interviewers who were unable to attend all of the interviews was collected and considered. Navitus Health Solutions matched in both 2013 and 2014 and hired our first resident as a full time employee with the company post-residency. Through our quality improvement process, a few minor changes occurred in the second year. A 15 minute presentation and a writing sample were required in 2014 during the on-site interview. The presentation was rated and a question about their submitted writing sample was asked. Also in 2014 our current resident was involved in the interview process to provide the candidates exposure to his experiences throughout the residency thus far.

Conclusion: Consistency, timeliness, and thoughtful questions are factors on which residency programs should focus. To be fair, the rankers need to be consistent. Interviews that occur within a few days of each other and a prompt ranking meeting afterward provide for well-informed discussions. Insightful questions gathered from many employees and departments provide a rotating bank of valuable questions. Our applicant review process has been well received by the staff involved. Applicants have expressed appreciation for the exposure to various staff members and for receiving a good picture of our culture.