



Collaborative Drug Therapy Management

By Cherry Jackson, PharmD, BCPP, FASHP, Current ALSHP President

You may be very familiar with the term Collaborative Drug Therapy Management (CDTM). Some have heard the term and have a basic understanding, but others are not familiar with CDTM and are not sure what it involves. In addition, there are many other new acronyms involving pharmacists such as Medication Therapy Management (MTM), Drug Therapy Management (DTM), and Comprehensive Medication Management (CMM) that may cause confusion. CDTM may look very different depending on where pharmacists practice, and it is important to recognize those differences. Table 1 gives a list of definitions for each of these terms.



Table 1:

Collaborative Drug Therapy Management (CDTM) is defined as an agreement between one or more physicians and pharmacists where pharmacists are permitted to assume responsibility for performing patient assessments, order laboratory tests, administer, select, initiate, monitor, adjust, and continue drug regimens.¹

Drug Therapy Management (DTM) is defined as a mutually agreed upon plan that allows collaborating physicians to delegate legal prescriptive authority to the pharmacist(s) that they collaborate with.¹

Medication Therapy Management (MTM) is medical care provided by pharmacists aimed at optimizing drug therapy to improve outcomes for patients. MTM includes performing patient assessments, comprehensive medication review, formulating a medication treatment plan, monitoring safety and efficacy of medication, improving adherence and documenting services to providers.²

Comprehensive Medication Management (CMM) ensures that individual patients are assessed to determine whether their medications are appropriate, safe and effective. The patient actively participates with the pharmacist in the development of a plan that the patient understands, agrees with and participates in. The difference between CMM and MTM is that CMM includes an assessment of the patients' clinical status (e.g. evaluating blood pressure in patients on an antihypertensive) for each medication and health problem. CMM also incorporates a follow-up and evaluation to assess progress toward the treatment goal.²

IN THIS ISSUE:

PAGE 1
Collaborative Drug
Therapy Management

PAGE 4
Drug Information and
Clinical Updates:
Entresto in CHF

Page 6
FDA Issues Warning for
Ketoacidosis and Serious
Urinary Tract Infections
with SGLT-2 Inhibitors

PAGE 7
A Residency Interview
Itinerary: A Reflection of
My Experience

PAGE 9
ASHP Resident Matching
Program: Ranking, the
Match and the Post-
Match Process

Page 11
Editor's Corner

To understand Collaborative Drug Therapy Management (CDTM) it is important to understand the history leading up to this legislation. Prior to the passage of the Federal Food Drug and Cosmetic (FDC) Act of 1938 and the Durham Humphrey amendment of 1951 pharmacists could legally prescribe medications. The Durham Humphrey amendment led to the legal prescribing by physicians and dispensing of drugs by pharmacists, which was considered to be in the best interest of the patient and the healthcare system. Within a decade pharmacists in the Indian Health System (IHS) began having an active role in drug therapy management. In 1973 the National Center for Health Services Research gave the IHS a grant to develop a pharmacy practitioner program in which pharmacists provided drug therapy in collaboration with physicians. A study based on this grant demonstrated that pharmacists were able to provide patient monitoring extending intervals between physician visits. In 1974 the Department of Health Education and Welfare enacted a drug regimen review for nursing homes in order to improve drug prescribing in that healthcare setting. A study showed that the group managed by pharmacists had fewer deaths and were often discharged to lower levels of care, and were prescribed fewer drugs than those in traditional care. Pharmacists also saved an average of \$70,000/year per 100 beds (in 1984 dollars). In 1977 California Assembly Bill 717 authorized a small group of pharmacists to provide drug therapy management. The project was so successful in saving health care dollars that legislation passed in 1981 allowing all pharmacists to provide drug therapy management. Other states followed California's lead. Washington State authorized pharmacist participation in drug therapy management, Florida and Oregon followed suit. In 1995 the Veterans Administration began allowing pharmacists to participate in CDTM. By 2002, 38 states allowed CDTM. In 2003 the Medicare Prescription Drug Improvement and Modernization Act was introduced, requiring Medicare Part D prescription drug plans to include MTM services. In 2010 the Patient Protection and Affordable Care Act was signed into law with the primary focus of expanding health care coverage, improving delivery and controlling costs. In 2011 the Medication Therapy Management Empowerment Act passed, further expanding MTM coverage under Medicare Part D prescription drug plans. In 2015, 48 states allowed CDTM, with Alabama

being one of two states in the United States without this provision.

In 2014 all pharmacy organizations joined together to form the Patient Access to Pharmacists Care Coalition (PAPCC). The goal of this coalition was to pursue provider status for pharmacists through recognition of pharmacists' services in federal legislation (H.R. 592/S.314) called the Pharmacy and Medically Underserved Area Enhancement Act. This bill currently has 257 co-sponsors in the House and 39 in the Senate; well over the 230 house members needed to go to the next step of the legislative process. This bipartisan legislation will amend Section 1861(s) (2) of the Social Security Act to include pharmacists in the list of recognized healthcare providers that can participate in part B of the Medicare program which will allow pharmacists to bill Medicare for services that are within the pharmacists' scope of practice to perform. The purpose of this legislation is to enact a federal policy that would enable patient access to pharmacists care in medically-underserved communities consistent with the states' scope of practice law. States that have not changed their Pharmacy Practice Act to include an ability to act as providers will not be able to participate in the Pharmacy and Medically Underserved Area Enhancement Act. Since Alabama has not yet changed their scope of practice, they will not be able to participate in this new federal law.

In CDTM pharmacists augment physicians, applying their drug therapy knowledge to complement care by other physicians and other health-care collaborators. Because CDTM allows pharmacists to engage in activities that fall outside of traditional pharmacy practice laws, each state has to establish authority for CDTM in their state pharmacy practice act or through regulations promulgated by State Boards of Pharmacy. Collaborative practice has occurred in hospitals or institutional setting for many years. In institutions, collaborative practice is typically approved by the institutions Pharmacy and Therapeutics, or analogous committee. CDTM in institutions allows pharmacists to help physicians in several ways, some examples include: changing intravenous to less expensive oral formulations once patients start oral nutrition; discontinuing antibiotics after 7 to 14 days; and initiating or discontinuing medications as agreed upon

by the medical team. In community pharmacies, collaborative practice may involve evaluating patients to determine what immunizations are needed and administering those immunizations; other community pharmacists may monitor cholesterol, blood pressure, blood glucose levels and/or anticoagulant therapy and communicate with the patients' physician to improve health outcomes. Other community and specialty pharmacists may collaborate with physicians and other health care professionals to provide bio-identical hormones or smoking cessation therapy.

Ambulatory care pharmacists may provide many of the same activities as community pharmacists. In the ambulatory care setting pharmacists may augment physicians care by assessing and monitoring each disease state and medication that the patient is prescribed. They may also initiate, discontinue, or adjust doses of patient medication, provide patient education, and improve adherence to improve patient outcomes.

These are just a few examples of ways that a pharmacist can collaborate with other health care providers to improve patient care, and pharmacists in any of the settings may be able to provide any or all of these examples of care. Pharmacists in the State of Alabama have made multiple attempts to pass CDTM over the past 15 years. Earlier attempts were preempted by groups in the state that opposed the legislation. For the past six years, a CDTM task force comprised of pharmacists with various expertise and areas of practice has worked on a CDTM law and rules.

Following the steps of other successful states in the passage of CDTM and changes in the scope of pharmacy practice, Alabama formed a Tripartite group in winter of 2015. The goal of the group working with on issues of interest to pharmacist in the state. The group included the Deans and Department Chairs of both Auburn and Samford University, the Secretary and President of the Alabama Board of Pharmacy, and the executive officers of both the Alabama Pharmacy Association and the Alabama Society of Health System Pharmacists.

In the spring of 2015, Governor Robert Bentley announced a task force to determine the best mechanism for providing medical care to rural areas in

the state of Alabama. The Tripartite group put together materials describing why pharmacists would be a good fit for providing care to rural and underserved areas of Alabama. Over the summer of 2015, a subgroup of the Tripartite, made up of one person from each member group visited with members of the Governor's task force to explain how pharmacists could help to provide care to rural communities in the state. The Governor and other members of the Governor's task force were impressed with what pharmacists could do and requested a revision of the CDTM law written by the CDTM task force by November 2, 2015. In the meantime, Representative Elaine Beech took the CDTM law and rules and said that she would help work on it. Representative Beech hopes to take the current draft of the CDTM legislation and put it into the appropriate format for the 2016 Alabama Legislative Session. The addition of CDTM and the inclusion of a scope statement in the practice act in the State of Alabama are imperative in order to appreciate the passage of pharmacist provider status at a federal level.

What can you do to help with passage of CDTM at the state level and provider status at the federal level?

ALSHP is committed to providing CDTM and provider status for all pharmacists in the State of Alabama. Provider status will recognize pharmacists as valuable members of the health care team and will allow us to work at the top of our license to provide improved outcomes for our patients. ALSHP and the Tripartite are looking for supporters to communicate with legislators, other supporters, and pharmacy colleagues. Members of the state and federal legislature need to hear from you about the importance of CDTM and provider status legislation. It is important for legislators to understand why recognizing pharmacists as healthcare providers are important to improving health outcomes for patients in the state of Alabama. At this time all Alabama legislators in the United States House of Representatives have signed on to support pharmacist provider status at the federal level. Neither of Alabama's senators, Richard Shelby or Jeff Sessions, has signed on to support the legislation. Writing a letter to your Alabama State legislators and asking them to support CDTM legislation and to our Senators Sessions and Shelby asking them to support S.314, the Pharmacists and Medically Underserved Area

Enhancement Act could lead to passage of this bill. Lastly, tell your friends, family and colleagues to get involved and to help finalize the campaign for CDTM and for provider status in the state of Alabama. In the meantime, stay tuned to the ALSHP's electronic communications and plan on attending the Summer and Annual Clinical Meeting to hear more about what is going on with passage of CDTM and provider status in Alabama.

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Drug Information and Clinical Updates

Entresto® in Chronic Heart Failure:

By Marcus E. Posey, Pharm.D./MBA Candidate 2016 Samford University, McWhorter School of Pharmacy and Charles E. Durant, Pharm.D., Clinical Team Leader, Department of Pharmacy, Thomas Hospital.

Question:

What is the potential role for Novartis' new drug Entresto® in the management of chronic heart failure (CHF)?

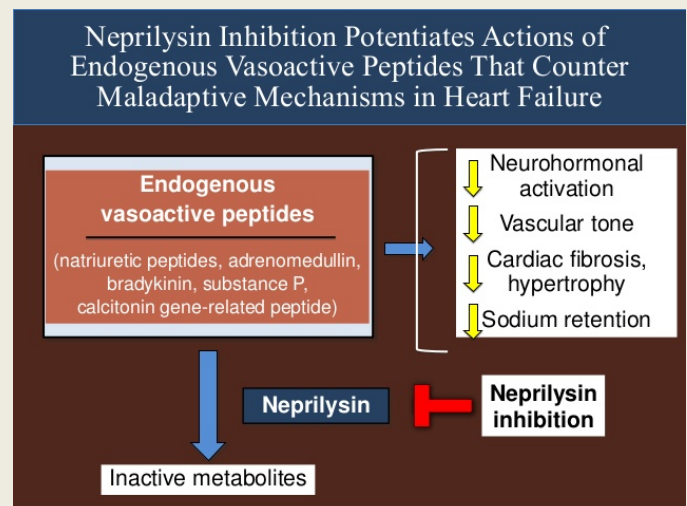
Background:

Entresto® (sacubitril and valsartan), previously referred to as LCZ696, was approved by the FDA on July 7, 2015 for the labeled use of reducing the risk of cardiovascular death and hospitalization for heart failure in patients with chronic heart failure and a reduced ejection fraction.¹ This new drug will be administered in combination with other heart failure therapies (i.e. beta-blockers, diuretics, and/or mineralocorticoid-receptor antagonists) yet in place of an angiotensin-converting enzyme (ACE) inhibitor or another angiotensin II receptor blocker (ARB).

Response:

The search strategy consisted of a tertiary search using standard online drug databases (Lexicomp, Clinical Pharmacology, Facts & Comparisons). In addition, the primary literature was searched using PubMed and the search terms LCZ696, sacubitril and valsartan, neprilysin inhibition, heart failure, and mechanism of action. No limitations were applied to the primary literature search. This search returned only articles discussing the landmark trial Prospective comparison of ARNI with ACEI to Determine Impact on Global Mortality and morbidity in Heart Failure (PARADIGM-HF).

ACE inhibitors, or sometimes ARBs, have been a key component of pharmacologic heart failure treatment for nearly a quarter of a century.² Enalapril was the first of these drugs studied in reduced ejection fraction heart failure and was shown to reduce the risk of death by approximately 16% in these patients in two



independent trials. Further studies indicated that ACE inhibitors combined with beta-blockers decreased the relative risk of death by 30 to 35% while ACE inhibitors combined with mineralocorticoid-receptor antagonists (spironolactone or eplerenone) decreased the relative risk of death by 22 to 30%.³ Based upon these findings the standard of care for patients with chronic systolic heart failure has been an ACE inhibitor plus a beta-blocker (plus a mineralocorticoid-receptor antagonist or a diuretic if still symptomatic) for quite some time.²

Entresto® is considered a novel drug because it contains sacubitril, a neprilysin inhibitor that is a new class of medication. Entresto® also contains the ARB, valsartan.⁴ Neprilysin inhibition potentiates the effects of endogenous vasoactive peptides (i.e. natriuretic peptides, adrenomedullin, bradykinin, substance P, calcitonin gene-related peptide) by preventing them from being broken down into inactive metabolites.⁵ These effects include increased vasodilation, increased sodium excretion, and decreased cardiac fibrosis and hypertrophy, all of which counter the maladaptive mechanisms found in heart failure. By combining this new mechanism of action (MOA) with the MOA of an ARB synergistic effects on blood-pressure lowering and a subsequent reduction of target organ damage occur.⁶

Since ACE inhibitors are preferred over ARBs in the current guidelines for the management of heart failure a combination of an ACE inhibitor and sacubitril was attempted in clinical trials; however, the occurrence of serious angioedema was too high to consider acceptable. There is a risk of angioedema in patients receiving Entresto® but just not as high of a risk as was seen in an ACE inhibitor/sacubitril combination.³ Entresto® is contraindicated in patients with a history of angioedema related to previous ACE inhibitor or ARB use. To reduce the risk of angioedema ACE inhibitors should not be administered concurrently with Entresto®. Further, when switching from an ACE inhibitor to Entresto®, or vice versa, the two medications should not be administered within 36 hours of each other. Finally, Entresto® should not be used at the same time as aliskiren (a renin inhibitor) in patients with diabetes.⁴

PARADIGM-HF was the landmark trial comparing the efficacy and safety of Entresto® to that of enalapril in the treatment of chronic systolic heart failure.⁷ It was conducted from 2009 to 2012 and was published in 2014. It was a superiority trial and had a population of 10,521 patients. The primary endpoint was death from cardiovascular causes or hospitalization for heart failure. Approximately 22% of patients in the Entresto® 200 mg twice daily group and 26.5% of patients in the enalapril 10 mg twice daily group experienced the primary endpoint (P<0.001). In addition to being both statistically and clinically significant with regards to the primary endpoint Entresto® also proved to reduce the

symptoms and physical limitations of heart failure compared to enalapril. The advantages of Entresto® over enalapril were seen clearly and early in the trial.³

Reviewing the safety profiles of the two agents in the PARADIGM-HF trial, Entresto® did have a higher rate of symptomatic hypotension compared to enalapril, although this rarely required a discontinuation of treatment. Conversely, Entresto® patients had lower rate of cough (11.3% vs. 14.3%, p<0.001), serum creatinine levels ≥ 2.5 mg/dL (3.3% vs. 4.5%, p=0.007), and serum potassium levels >6mEq/L (4.3% vs. 5.6%, p=0.007). Fewer Entresto® patients stopped taking their study medication due to an adverse event (10.7% vs. 12.3%, p=0.03) or because of renal impairment (0.7% vs. 1.4%, p=0.002).^{3,7}

In summary, Novartis' new drug Entresto® (sacubitril and valsartan) is likely to become a staple in the management of chronic systolic heart failure and reduced ejection fraction. The inhibition of both the renin-angiotensin system and neprilysin produces a synergistic effect that provides greater efficacy than either mechanism does alone. Switching a patient from an ACE inhibitor to Entresto® will not eliminate the need for a beta-blocker and/or a mineralocorticoid-receptor antagonist or a diuretic in the treatment of symptomatic heart failure. Going forward it will be interesting to discover the long-term efficacy and side effects, Entresto®'s potential role in the management of hypertension and related disease states, and the cost limitations presented upon Entresto®'s initial release.

Entresto® is not yet available through any wholesaler or direct from the manufacturer (Novartis). Release date of the medication to market is yet to be announced/confirmed by Novartis.¹

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FDA Issues Warning for Ketoacidosis and Serious Urinary Tract Infections with SGLT-2 Inhibitors

By Jennifer Cotton and Elizabeth Steadman, PharmD Candidates 2016, Auburn University Harrison School of Pharmacy

The FDA recently released a safety warning on May 15, 2015 announcing that the sodium-glucose cotransporter-2 (SGLT-2) inhibitors (canagliflozin, dapagliflozin, and empagliflozin) used in the treatment of type 2 diabetes mellitus may lead to ketoacidosis.^{1,2} The safety communication was updated on December 4, 2015 to include a warning for serious urinary tract infections (UTIs).² These warnings include the individual SGLT-2 inhibitors as well as the following combination products: canagliflozin plus metformin (Invokamet), dapagliflozin plus metformin extended release (Xigduo XR), and empagliflozin plus linagliptin (Glyxambi).¹

The SGLT-2 inhibitors are among the newest medications on the market of anti-hyperglycemic agents. Their unique mechanism of action aids in lowering blood glucose levels by increasing the amount of glucose excreted at the renal nephron through inhibition of SGLT-2, which is responsible for the reabsorption of ~90% of filtered glucose. With this mechanism, these medications can lower hemoglobin A1c by just under 1% and can result in some mechanism-of-action-related side effects including increased urination and increased risk for urinary tract infections (UTIs).³

Diabetic ketoacidosis (DKA), which can result from inadequate insulin production or response to insulin, is a condition in which the body breaks down fats for energy leading to a build-up of keto-acids in the bloodstream. DKA is more commonly seen in type 1 diabetic patients with blood glucose levels greater than 250 mg/dL. It is atypical to see ketoacidosis in patients with type 2 diabetes, and the FDA noted that the DKA cases seen with SGLT-2 inhibitors presented in an

unusual manner with blood glucose being only mildly elevated, typically less than 200 mg/dL.^{1,2}

Between March 2013 and May 2015, 73 cases of diabetic ketoacidosis (DKA) associated with SGLT-2 inhibitors were reported in the FDA Adverse Event Reporting System (FAERS) in patients with either type 1 (15 cases) or type 2 diabetes mellitus (44 cases).^{1,2} Of note, SGLT-2 inhibitors are not FDA-approved for type 1 diabetes. All of the reported cases required a visit to the emergency department or hospitalization. Ketoacidosis occurred within a year of SGLT-2 initiation or dose adjustment. Most patients had a high anion gap metabolic acidosis, elevated blood or urine ketones, or reduced serum bicarbonate. Potential DKA-triggering factors that were identified in these patients included acute illness such as infection or trauma, reduced caloric or fluid intake, reduced insulin dose, discontinuation of an oral insulin secretagogue, and alcohol use. Potential factors contributing to metabolic acidosis included hypovolemia, acute renal impairment, hypoxemia, reduced oral intake and alcohol use. A recent article published in *Diabetes Care* highlights the proposed mechanism of this effect.³

Between May 2013 and October 2014, the FDA also identified 19 cases of life-threatening urosepsis and pyelonephritis that started as UTIs in patients taking SGLT-2 inhibitors.² All cases resulted in hospitalization, with 4 patients requiring treatment in the intensive care unit or 2 requiring hemodialysis. Almost half of the reports identified *E. coli* as the causative organism. The safety communication did not mention if any of these patients had type 1 diabetes.²

Further investigation is being conducted to determine the impact of this evidence on the safety profile of the SGLT-2 inhibitors.² It is recommended that patients taking these medications should be educated on the signs and symptoms of ketoacidosis and UTIs and what to do in the event that they occur. Symptoms of DKA include tachypnea or hyperventilation, abdominal pain, vomiting, lethargy, and changes in mental status. If symptoms are confirmed to be ketoacidosis, discontinue SGLT-2 inhibitor therapy while acidosis is being corrected. Re-challenging patients with an SGLT-2 inhibitor after resolution of DKA was not addressed in the FDA communication. Symptoms of UTI include burning on urination and urinary urgency. Patients should contact a health care professional if any of these symptoms occur but should be advised not to change or stop their diabetes medications without first talking to their physician.^{1,2}

The FDA asks that healthcare professionals reports any adverse effects SGLT-2 inhibitors to MedWatch by telephone at 1-800-FDA-1088, by fax at 1-800-FDA-

0178, online, with postage-paid FDA form 3500, available at <http://www.fda.gov/MedWatch/getforms.htm>; or by mail to MedWatch, 5600 Fishers Lane, Rockville, Maryland 20852-9787.¹

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A Residency Interview Itinerary: A Reflection of My Experience

By Jordan L. Wulz, PharmD

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You have already taken care of all the pre-work of applying for a residency program (program research, midyear, PhORCAS, etc.), and onsite formal interviews are scheduled. Interview days can be exciting, nerve-racking, and exhausting. In addition, interview day itineraries often appear daunting lasting approximately eight hours. It is important to maintain perspective as you endure through approximately two months of residency interviews. The goal of this article is to give an example of a residency interview based on my experience based on six residency interviews.

Introductions

In a residency interview, you may be one of several applicants interviewing on the same day. In one of my interviews, introductions were actually conducted the night before the interview at a formal dinner party with all of the pharmacy staff. I am generally a quiet person in a big crowd, so I had to push myself to be social and

give a good first impression. There will be many times throughout your interview where you may have to push your own social boundaries to fully display your character, strengths, and value to the pharmacy team. You want to illustrate a good first impression with enthusiasm for pharmacy and for the residency program.

Individual and/or group interviews

This will constitute the bulk of the interview day, and preparation is key. For example, if you are interviewing for a program that focuses on ambulatory care, be sure to freshen up on pharmacotherapy related to ambulatory disease states such as hypertension, hyperlipidemia, anticoagulation and diabetes. In addition, it is important to designate enough time before each interview to prepare for potential interview questions. Researching programs in-depth will allow anticipation of questions. With that said, it is nearly

impossible to be prepared for every question. Invariably there will be questions that you are not able to prepare for in advance. These questions are very important to the overall strength of the interview. It is my advice to answer these questions honestly and not answer based on what you think interviewer wants to hear. This method will lead to a coherent and smooth response. Remember that the program invited you for an interview based on your application packet, so you need to illustrate and highlight your strengths related to the program.

Working Professional Lunch

Although, lunch is often looked at as a time to kick back and relax, remember that the residency interview does not stop. Many programs will use this as a time to get to know the physicians that work closely with the program or a causal conversation with the current residents about the program. As always stay professional and personable as every part of this day will reflect on your character, strengths, attitude, and value.

Clinical Patient Case or Formal Presentation

Some residency programs may require an on-site case presentation based on a case given during the interview, whereas others will require a formal presentation based on a specific topic given in advance. During one of my interview experiences, I was provided with a patient case and tasked with writing a clinical note (e.g. SOAP). For some sites this may be all they ask for, but others may be required to present your assessment and plan to the director with rationale and thought process. Typically, a time frame of 20-30 minutes is allotted to work-up the patient and 10 minutes for the assessment and plan presentation. On the other hand, a formal pre-prepared presentation may be requested by the residency program instead of a clinical case. At two of my interviews, I was asked to present on either a drug topic, article or patient case that I had encountered in the past year. This presentation was given in front of about ten pharmacy staff members and with a question and answer session following the presentation.

Facility Tours

Each program designates about an hour for facility tours. Generally, this is led by one of the current residents. This is another great opportunity to ask the questions about the program.

Follow-up Notes

At the end of the interview, some applicants prepare thank you notes or emails to send out to each person they interviewed thanking them for their time. Remember, if you select to write these notes, make sure you use professional, grammar correct language.

All things considered, don't forget that there are two entities being interviewed: the applicant and the residency program. Choosing a residency program can have lasting implications for a pharmacy career, and the interview is the best time to truly understand the details of the residency program. Don't be without questions for the residency program. After every individual interview you will be asked if you have any questions. By doing your research prior to each interview about the institution and program, you should come prepared with questions for the preceptors, directors, and current residents. In addition, it is important to look for the relationship between director and resident. Is it strictly a working relationship? Are they friendly with one another? Is there a serious disconnect? Some applicants would rather have only a working relationship with their director, and so my advice is to know what you are expecting out of the program. This will help you decide which residency is the best fit.

Maintain perspective—these interviews are your chance to show who you are as a person and a clinician and to fully inspect if the program is aligned with your career goals. A residency is a great experience, and residency interviews can be as well. With the right preparation, these interviews will run smoothly, and you will be well on your way to securing a residency position.

ASHP Resident Matching Program: Ranking, the Match, and Post-Match Processes

By Katie Bowerman, Pharm.D., PGY1 Pharmacy Resident at DCH Regional Medical Center Tuscaloosa, AL and Natalie Tapley, Pharm.D., PGY 1 Pharmacy Resident at DCH Regional Medical Center Tuscaloosa, AL

Process of Ranking

Important considerations in ranking programs depends on varying factors that the applicant finds appealing for each program. Potential factors would include: the quality of the program, the applicant’s area(s) of interest, PGY2 positions, geographic location, quality of life, and the satisfaction of current residents within the program. Applicants should think about the type of program they are looking for. Are they comfortable being the only resident in the program or would they want a program that has at least two residency positions? If a PGY1 applicant is interested in a PGY2 residency, they might consider programs with existing PGY2 residencies or multiple rotation opportunities in the area they might wish to pursue.

Applicants should only rank programs they are willing to go to, and should not try to rank a program based on

how they think the program will rank them. Also applicants should not rank a program if they cannot see themselves as a part of that program and are not willing to go to that program/location. Participating in the Match is a contractual obligation to attend the residency program for the following term. It is important to keep in mind that the match process gives preference to the applicant’s choice versus the residency program’s choice. Applicants should make sure to have programs ranked and entered into the computer well in advance to avoid potential computer or website malfunctions.

Katie and Natalie took different routes in the match process, but both ended up matching with the same residency program. Below is some of their personal insight on their ranking process.

| Katie’s Experience | Natalie’s Experience |
|---|---|
| <p>I wanted to stay in the Southeast region of the country and decided to apply to programs within approximately a day’s drive of my home in Birmingham, AL. I applied to 14 programs, interviewed with 10 programs, and ultimately ranked 8 programs. Major factors that influenced my ranking decision included: programs with ambulatory care opportunities since I am interested in this area balanced with solid inpatient opportunities, opportunities to precept students, and cities I could see myself living in for a year. Interviews with programs help you to know whether or not you want to rank a program and may significantly help to reduce the number of programs ranked.</p> | <p>My experience was geographically limited. I decided to apply to programs within 1-hour distance of my husband’s employment in Birmingham, AL. I applied to 7 programs, attended 5 interviews, and ranked 4 programs. Ranking programs ultimately came down to where I felt the most comfortable. When selecting programs to interview, I had chosen programs that I felt matched my interests (a mix of ambulatory and inpatient with teaching opportunities). I used the interview day to ask specific questions about the program and determine whether I felt the residency program was a good “fit.” At the end of each interview day, I had a gut feeling whether I could see myself at a program or not.</p> |

Match Process

In the 2015 Match, 5063 applicants competed for a total of 3690 PGY1 and 609 PGY2 positions, with 3308 applicants matching with a residency program. In order to match, an applicant must put the program on their rank order list and the program must put the applicant on their rank order list. Applicants will not match for one of two reasons: either the program did not rank the

applicant, or the program filled all its positions with more desirable applicants. For the 2016 Match, there will be two separate Phases of the matching process and Phase II of the Match will attempt to replace what was formally known as “the scramble”. Applicants who do not match in Phase I may participate in Phase II, as well as applicants who do not participate in Phase I, but who registered for Phase I of the Match. Details of the two phases are described below:

| Phase 1 | |
|-------------------|---|
| February 15, 2016 | Applicants and programs may submit rank order lists for Phase I. |
| March 3, 2016 | Final date applicants can register to participate in Phase I. |
| March 4, 2016 | Final date for submission of applicant and program rank order lists for Phase I. |
| March 18, 2016 | Results of Phase I are released to applicants and program directors. The list of programs with available positions for Phase II will be provided on the Match web site beginning at 12:00 p.m. Eastern Time. |
| Phase 2 | |
| March 23, 2016 | Applicants who do not match in Phase I or who do not participate in Phase I will be able to submit applications to programs participating in Phase II. |
| March 28, 2016 | Applicants and programs will be able to submit rank order lists for Phase II. |
| April 1, 2016 | Final date for submission of applicant and program rank order lists for Phase II. |
| April 8, 2016 | Results of Phase II are released to applicants and program directors. The list of programs with available positions after Phase II will be provided on the Match web site beginning at 12:00 p.m. Eastern Time. |
| April 15, 2016 | Recommended date for programs with available positions to begin making offers to applicants. |

Table adapted from: ASHP resident matching program. National Matching Services Inc. 2015

Post-Match Process

If an applicant matches, a thank you note or e-mail to the residency program director should be sent on the day of the Match. If the program that the applicant matched with will require the applicant to relocate, the process of finding housing should begin fairly soon. There are approximately three to four months between the match date and the time that most residency programs begin. Residency program directors or current residents are excellent contacts for advice on housing in the area. Make sure to provide ample time to move and get acquainted with the area before residency begins.

Applicants should make certain that they are aware of licensing requirements for the state in which they will be practicing. If they are uncertain on steps to obtain

licensure, they may contact their State Board of Pharmacy. The licensing process can be expensive and time consuming, so budgeting appropriately for licensing and examination fees is important. In Alabama, the State Board of Pharmacy fees and the NAPLEX and MPJE exam fees total approximately \$1200, but note that costs to become licensed vary by state. Applicants need to know when the deadline is for obtaining licensure for their residency program. Time should be allowed for adequate review or study for licensing examinations. Some applicants are able to obtain licensure before starting a residency and others obtain licensure in the early months of starting a residency. The employer should contact the applicant regarding required documentation, contract/acceptance letter, health screening, or other

items that need to be completed before beginning the residency. Keep in mind that waiting until residency to take licensing examinations may cause delays in training and/or require taking vacation time. Starting a residency program is an exciting time as you prepare to start the process of gaining clinical experience and refining your skills in becoming an independent practitioner.

References:

1. ASHP resident matching program. National Matching Services Inc. 2015. [updated 2015, cited 2015 Oct 30] [about 10 p.] Available from: <https://www.natmatch.com/ashprmp/index.html>.
2. Code of Alabama: Title 34 chapter 23 practice of pharmacy act 205 legislature 1966. Alabama State Board of Pharmacy. 2015 Apr. [2015, cited 2015 Dec 1] [about 74 p.] Available from: <http://albop.com>

2016 Summer Meeting

June 5-8, 2016
Marriott Grand
Point Clear, Alabama

Editor's Corner

Meet the Editorial Board

Allison Meyer
Nathan Pinner
Katelin Lisenby
Charles Durant
Angela (Dee) Thomason

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Want to submit to *InPharmative Quarterly*?

The InPharmative Quarterly is designed to share student and resident research as well as insights gained from their experiences. If you would like to share your research, or reflections (such as clinical pearls or updates) please submit your articles today. We are also accepting institutional information such as specific program or service descriptions, upgrades and software changes, administrative items, relevant drug information responses, and medication safety issues. To help promote practice development and progress, practice site descriptions and successful strategies implemented are very valuable as the role of pharmacy continues to grow in our state. Legislative updates are also welcomed to help keep members informed of changes affecting pharmacy practice.

To share an update with the ALSHP membership through this quarterly publication, please submit your article to Allison Meyer (amm0085@auburn.edu) or Nathan Pinner (nap0003@auburn.edu) by April 1, 2016. We look forward to reading about the innovative programs and research that is happening across the state!