



Moving Pharmacy *FORWARD*



ASHP RESEARCH AND EDUCATION FOUNDATION
Annual Report 2016

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WHO WE ARE

The ASHP Foundation's mission is to improve the health and well-being of patients through appropriate, safe, and effective medication use. We believe that patient outcomes improve because of the leadership and clinical skills of pharmacists, who are vital members of the health-care team and accountable for safe and effective medication use.



LETTER FROM THE CEO



Dear Friends,

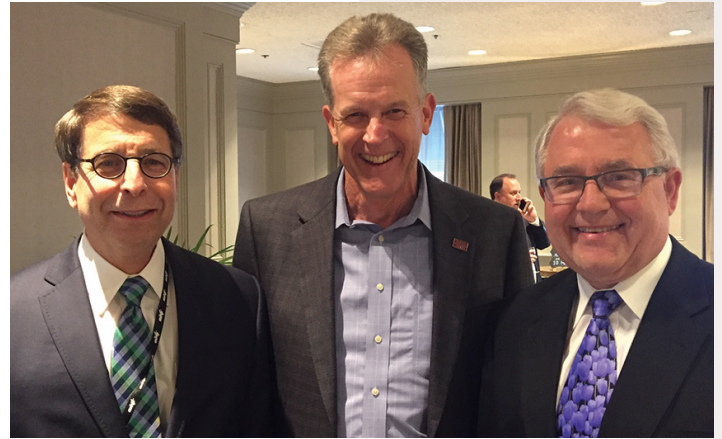
Welcome to the ASHP Foundation 2016 Annual Report. The stories you'll find inside are ones that I believe will resonate with you, our generous donors. These stories demonstrate exactly how you, by supporting the ASHP Foundation's programs, have a direct, significant, and positive impact on patient care and pharmacy practice.

The ASHP Foundation's programs bolster pharmacists' ability to lead in acute care and ambulatory settings. Our research programs fund studies that lead to significant improvements in how care is delivered to patients. Our clinical traineeships offer pharmacists the opportunity to learn how to optimize care for patients with complex medical conditions. Our leadership programs position pharmacists to step into roles that give them greater responsibility over decisions that impact patients and patient care. Our awards programs highlight impactful initiatives and advancements in medication safety, residency training, and pharmacists' contributions to the biomedical literature, and allow us to disseminate best practices to benefit all pharmacy professionals.

Simply stated, our commitment is to help pharmacists care for patients and be effective healthcare leaders no matter what stage of their career. We have programs geared to students, residents, new practitioners, and experienced pharmacists that spur practice excellence.

I have been privileged to serve as the Foundation CEO since 2000, and as I prepare to transition leadership of the organization to a new leader in 2018, I am amazed by how much we have grown and evolved over these past two decades, thanks to the continuous generosity of our practice leaders and the healthcare corporate community.

The Foundation has been a vital partner to ASHP in leading the consensus-building process and developing practitioner tools as part of the Practice Advancement Initiative (PAI). Our research efforts are a key part of the PAI as we focus on the essential patient care role of the pharmacist as evidenced by the publishing of the landmark study, *Demonstrating Pharmacists' Impact on Therapeutic, Safety, Humanistic and Economic Health Outcomes: A Systematic Review and Meta-analysis*¹. The Foundation's Center for Health-System Pharmacy Leadership has supported pharmacist leadership development for more than a decade, and the Pharmacy Leadership Academy is a renowned program that has prepared more than 600 pharmacists to strategically lead the pharmacy enterprise. The *Pharmacy Forecast* series is now an essential resource to assist pharmacy leaders in anticipating and planning for trends that impact the way pharmacists work and deliver care. We will soon debut the Drug Therapy Complexity Score



Above: ASHP CEO Paul Abramowitz, Foundation CEO Steve Allen, and former ASHP CEO Dr. Henri J. Manasse Jr., celebrated the Foundation's achievements at a recent donor appreciation event. Right: Allen with Daniel Degnan, a long-time contributor, has also served on the Award for Excellence in Medication Safety Selection Panel.



Index, a highly anticipated research study that identifies patients who need pharmacist care to avoid adverse drug events.

And who is behind all of these great accomplishments? You, our donors. I'm humbled by and grateful for your support over the years. In both reflecting back and looking forward, I would say that the key to success for the ASHP Foundation is collaboration with and securing the support of our practice and corporate community leaders.

As you consider each Foundation program or resource, you see the best and the brightest in our profession giving back to help pave the way for others to advance the role of the pharmacist as a direct patient care provider and healthcare leader.

I am grateful for the opportunity to serve this profession through the work of the ASHP Research and Education Foundation.

Sincerely,

Stephen J. Allen, M.S., FASHP
CEO

¹ Med Care. 2010 Oct; 48(10):923-33. doi: 10.1097/MLR.0b013e3181e57962; Am J Health Syst Pharm. 2010 Oct 1; 67(19):1624-34. doi: 10.2146/ajhp100077.

Moving Pharmacy *FORWARD*

The ASHP Foundation provides pharmacists with the resources, training, and networking opportunities they need to improve patient outcomes and keep pharmacy moving forward.

WE MOVE PHARMACY FORWARD BY SUPPORTING:

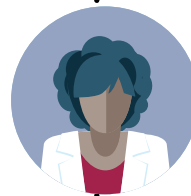


RESEARCHERS

The Foundation supported new investigators, pharmacy and master's residents, and practice advancement demonstration research projects through **four research grants totaling \$293,800.**



In 2016, the Foundation introduced a new research resource, "Essentials of Practice-Based Research for Pharmacists," a set of web-based activities which provide foundational knowledge to design, complete and share the results of a research project.



LEADERS

The 2016 Pharmacy Leadership Academy class brought the program's alumni total to 663, **80 of whom obtained master's degrees** from the five institutions that allow participants to earn graduate-level credits.

The Academy class of 2016 was the largest in the program's history, with almost 100 participants, many of whom were international.



RESIDENTS

In 2016, the Foundation awarded **\$250,000 in grants** to establish additional pharmacy residency positions at 10 institutions.

The Foundation has awarded a total of \$2.75 million in funding through the Pharmacy Residency Expansion Grant Program.



WE MOVE PHARMACY FORWARD THROUGH:



AWARDS THAT INSPIRE

Our four awards programs highlight the important role pharmacists play in healthcare and **inspire innovation at other institutions.**



TRAINEESHIPS THAT OPTIMIZE CARE

The Foundation's five clinical traineeships encourage specialized training and prepare pharmacists to **improve outcomes for patients with complex medical conditions.**



EDUCATING CONSUMERS

A recent radio media tour featured BreAnn Taylor, Pharm.D., BCPS, a clinical pharmacy specialist for the recipient of the 2016 Award for Excellence in Medication Safety, Cincinnati Children's Medical Center in Ohio. Dr. Taylor gave listeners tips on how to safely give their children medications.

- 21 interviews and a public service announcement were broadcast over 529 stations.
- Reached 24.1 million listeners.
- Drove 141,125 visits to safemedication.com where listeners downloaded safemedication.com resources 31,670 times.

OUR MOST POPULAR TOOLS

- My Medicine List: **61,051 downloads**
- Whitney Award Lecture Series: **8,681 sessions**
- 2016 Pharmacy Forecast: **7,248 downloads**
- leadersEDGE Webinar Series: **2,491 site visits**
- Pharmacy Residency Excellence Awards Webinar Series: **1,958 site visits**
- Insourcing Sterile Products Assessment Tool and Resources: **1,689 users**
- Outsourcing Sterile Products Assessment Tool and Resources: **1,182 users**
- Antithrombotic-Use Assessment Tool: **871 sessions**
- Insulin-Use Safety Recommendations: **519 site visits**

ASHP FOUNDATION BOARD OF DIRECTORS 2016-2017



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Administration/M.S. Residency Program

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RESEARCH

“Clinical research is about working with teams that dream the same dreams you do and really care about patient care.”

For pharmacist and researcher Jeannie Lee, Pharm.D., BCPS, BCGP, FASHP, the journey to a career in geriatric care and research all began with her grandparents, to whom she was very close. Her grandmother struggled with multiple chronic conditions, and both grandparents suffered from dementia towards the end of their lives.

After graduating from the University of Georgia, College of Pharmacy, Dr. Lee completed residency training at the VA Medical Center in Washington, DC, which highlighted geriatric care. She then worked at the Walter Reed Army Medical Center, where she conducted the ASHP Foundation-funded “Federal Study of Adherence to Medications in the Elderly (FAME) Study” and published the findings in *JAMA*.

She is now an associate professor at the University of Arizona Colleges of Pharmacy and Medicine and assistant head in the Department of Pharmacy Practice & Science, where she has served as clinical investigator on diverse research studies. Dr. Lee is currently working on the NIH-funded “Chronic Disease Health Beliefs, Medication Adherence, and Health Literacy (RxHL)” with UA Anthropology, and HRSA-funded “National Center for Integrative Primary Healthcare (NCIPH)” with Arizona Center of Integrative Medicine and UA Colleges of Medicine, Nursing, and Public Health. Most recently, her collaboration with UA College of Nursing, “Medication Education, Decision Support, Reminding and Monitoring (MEDSReM),” received funding from NIH.

Given all of this, it might be surprising to learn that, when she was just starting out, Dr. Lee was not dreaming about major research studies and funding from well-recognized sources such as the National Institutes of Health. Initially, she was working at Walter Reed, assisting cardiologist Dr. Allen Taylor on his clinical trial, and enjoying the interprofessional team work and caring for geriatric patients. But when reviewing her clinical notes, one thing kept grabbing her attention: medication nonadherence.

Then she read about the ASHP Foundation Federal Services Junior Investigator Research Grant. “For the first time I thought, ‘This could be my research,’” she recalls. “Dr. Taylor, who cared about patient care as much as I do, agreed to serve as my research mentor, and he was interested in going along with my idea of a medication adherence research study in older adult populations. So the Foundation grant was the first spark to my research flame, which is going strong!”

But in a country where 10,000 people a day turn 65, research is just one way in which Dr. Lee is having a tremendous positive impact on geriatric care. She is also extremely committed to training and mentoring pharmacists, pharmacy students, and other healthcare professionals about geriatric healthcare issues. “We live in the age of aging,”



Dr. Lee leads a monthly interprofessional student clinic at St. Luke’s Home, an assisted living home for low-income older adults in Tucson. The students do geriatric screenings and learn how to provide team-based care.

she says. “We know that older adults have more chronic conditions and use more medications than any other age group, but we currently don’t have enough healthcare professionals trained in geriatric care. The Institute of Medicine published a report in 2008 that revealed less than 1 percent of healthcare professionals, including physicians, nurses, and pharmacists, were trained to care for the aging population.”

Collaboration is crucial to providing the best healthcare for older patients, and pharmacists should push to be included on interprofessional teams caring for older adults. “Be involved and be present at the table when decisions are being made about the patient care process,” she says. “We need to bring our medication expert point of view to the team.”

“Sometimes we’re invited a little bit late or too late, so we really need to advocate for our profession. We are the medication experts, and anything to do with medication use and patient care should involve a pharmacist’s perspective.”

And don’t be afraid to speak up, says Dr. Lee: “Many times, I’ve been involved with a team where I am the only pharmacist, and people are really surprised to find out what I know, the different ways to ask questions, and the innovative ways to solve a problem from a pharmacist’s perspective.”

In particular, says Dr. Lee, pharmacists can improve healthcare for older adults in several critical areas: Polypharmacy management, chronic disease management, and care transitions. “As medication experts, no other professionals are better trained than pharmacists to deal with polypharmacy, and to be able to detect, solve, and prevent medication-related problems,” she states.

“Most chronic diseases are managed predominantly with medications, and with the knowledge about the



Dr. Lee speaks with a patient at a free health fair while a student stands by, waiting to provide an asthma screening.

pharmacology of aging, along with pharmacotherapeutics and pharmacokinetics, and medicinal chemistry and pharmacology, we can really impact optimal drug selection and monitoring.

“Finally, transition points are where older patients become most vulnerable to medication misadventures, so medication reconciliation and comprehensive review, and — most importantly — education, are key differences pharmacists can make. Research still shows that pharmacists are not talking to and educating patients often enough. But the studies also show that when pharmacists do educate older patients, their knowledge and outcomes improve. Such evidence should propel us to make every effort to educate our patients all the time.”

More than anything else, Dr. Lee’s dedication to collaboration and sharing her pharmacy knowledge has led to her involvement on major research projects such as “Geriatric Patient Care by U.S. Pharmacists in Healthcare Teams” and “Demonstrating Pharmacists’ Impact as Team Members on Therapeutic, Safety, Humanistic, and Economic Health Outcomes.” “It’s really about working within teams that dream the same dreams you do and really care about patient care,” she says.

It’s easy to see why she was named 2015 Geriatrician of the Year by the Arizona Geriatrics Society. “I hope that people and patients are better listened to, cared for, and valued because of my teaching, research, and service,” she says.

For any pharmacist thinking about embarking on a research study, Dr. Lee offers this advice: “Find a great mentor who can guide you, a collaborative research team to have fun with, and never give up finding creative solutions to problems, new and old.”

And, she urges, apply for an ASHP Foundation research grant: “It is an opportunity for health-system pharmacists to explore innovative approaches to answering practice-based and patient care-related questions. I’d like to encourage practicing pharmacists in all healthcare settings: Just think about a patient care question that always comes up and see if you can formulate an innovative solution to that question, then go for that research grant!”



The Top Three Improvements Needed in Geriatric Healthcare

Dr. Lee believes there are three improvements that are most necessary in healthcare for older adults, and pharmacists can play a vital role in all three of these areas:

1. Safe medication prescribing and use

“Though I am absolutely passionate about medication adherence, we need to ensure that patients are adhering to the most optimal regimen for their conditions. The record number of medications one of my patients had in their possession is 52, and I was thankful that she was not adhering to all of those medications! Outside of prescription medications, older people use a lot of over-the-counter products or supplements, so simplifying complex regimens and eliminating high-risk medications when appropriate is one of my priorities.”

2. Person-centered care

“I believe for older patients, establishing their goals of care and focusing their preferences for treatment is more important than treating every ailment and overprescribing medications to save every organ. Older people see a lot of specialists, so overprescribing can easily occur. Cardiologists want to save the heart; nephrologists want to save the kidneys. But I think a patient’s values and wishes should be explored to support a meaningful life and end, and the focus should not be just on their organs.”

3. Interprofessional and integrative healthcare

“Interprofessional collaboration is important in all healthcare practices, but especially when caring for older adults with multiple conditions. Because elders are more susceptible to adverse medication effects, drug interactions, and nonadherence, integrative approaches for non-pharmacological solutions to physical and mental health issues is wise. For example, a sleeping medication may increase a patient’s total sleep by about 15 minutes but also places them at increased risk for confusion, cognitive impairment, falls, and accidents. It would be much safer for those patients to engage in relaxation therapy, sleep hygiene, tai chi, and acupuncture — which all have supporting evidence — than going for a sleeping pill.”

For more information about the ASHP Foundation’s research grant programs and the 2016 research grantees, visit www.ashpfoundation.org/research.

LEADERSHIP

“Leaders need to continue to study, especially if they’re looking to grow. You need to invest time in that calling.”

As part of such a dynamic profession, pharmacists have

to develop a variety of skills to ensure safe and effective medication use, and one skill set that stands out is leadership. True pharmacy leaders inspire, improve patient outcomes, and advance the profession of pharmacy to meet the ever-changing needs of healthcare. And Dr. Cedric Terrell, Pharm.D., M.H.A., has done just that.

In 2011, Dr. Cedric Terrell, while serving as director of pharmacy services at Norton Brownsboro Hospital in Louisville, Kentucky, joined the 663 pharmacists who have completed the ASHP Foundation’s Pharmacy Leadership Academy®.

Since completing the Academy, things have continued to progress for Dr. Terrell. In 2014, he was promoted to assistant vice president for clinical and diagnostic services at Palomar Health, in San Diego, California, the largest public hospital district in the state. There he provided executive oversight and support for Diagnostic Cardiology, Diagnostic Imaging Services, Laboratory Medicine, Pharmacy Practice, Respiratory Services and Sleep/EEG Services. This position allowed Dr. Terrell to broaden his scope of responsibility. “It also gave me a different viewpoint in regards to healthcare delivery and the value that we as pharmacy leaders bring to the table,” says Dr. Terrell. “So I thought it was a great opportunity for me. It also helped me hone in on my passion.”

Two years after being promoted at Palomar Health, Dr. Terrell was granted the opportunity to join Novant Health, a multi-state, regional health system comprised of 15 hospitals with 430 physician practice locations. At Novant Health, Dr. Terrell continues in his leadership role as senior vice president of pharmacy services. “My previous role gave me an opportunity to really help some other service lines rethink the way they view their delivery care model, and I grew some great partnerships along the way,” says Dr. Terrell.

One of the most valuable things Dr. Terrell learned at the Academy was the importance of partnerships. “As you grow as a leader, what really needs to expand is your circle of influence so you can have a broader impact,” Dr. Terrell explains. “You can’t go it alone.”

As a senior leader at a healthcare system comprised of almost 30,000 team members, Dr. Terrell continues to utilize that important principle. “I think the Academy helps you identify how to effectively work with other leaders,” says Dr. Terrell. “Sometimes people wait to build relationships until they need something from another person, and I don’t think that’s the most effective way to go about things; ultimately, I think it could sabotage your career. You can easily become perceived as someone who uses others to get



Dr. Terrell (standing on right) discusses organizational initiatives and goals with Novant Health Pharmacy Services leaders during a strategic planning session.

what they want instead of someone who knows how to effectively get things done, and there is a big difference between those two.”

Dr. Terrell consistently sees each individual on his team as unique and valuable. “In my role, I provide partnership and senior leadership for well over 500 team members throughout the system. I’m always seeking someone new to have lunch or a one-on-one conversation with to get to know them.”

While Dr. Terrell enjoys seeing classmates from the Academy at conferences and conventions, he is particularly grateful for the relationship he developed with Academy faculty member James A. Jorgenson, M.S., R.Ph., FASHP.

Mr. Jorgenson and Dr. Terrell had met previously, but the relationship began to blossom at the Academy. “We just began to build a relationship so much so that I really consider him to be a sponsor for my career path,” Dr. Terrell explains. “We talk about the career path he took and some of the challenges he faced. We talk about where I am in a reflective way, never solving problems for me, but allowing space for us to explore what I’m considering, where I’m going and reflecting in a more profound way. I would never have developed that relationship with Jim had it not been for the Academy.”

As his responsibility for more and more pharmacists has grown, and he has settled into overseeing large pharmacy enterprises, Dr. Terrell has become a firm believer that moving pharmacy forward isn’t just about one person’s personal growth, but the growth of those around them. He also believes that a true leader isn’t just concerned

with doing their best, they also invest time inspiring and motivating others to do their best.

Dr. Terrell exemplifies this behavior by consistently recommending the Academy to his team members. "I started meeting with the administrative residents, and this year I plan to be more engulfed into that program as we remodel and grow it," Dr. Terrell says. "Whenever I get a chance, I sponsor or send people to the Academy. It's a great way to grow our future leaders and give them insight into different career paths, but ultimately it helps them be the best practitioner they can be."

Dr. Terrell also suggests the Academy to seasoned leaders and sees it as a refreshing opportunity to revisit important principles in a different mindset. "As a pharmacy leader, I think programs like the Academy advance our profession by inspiring leaders to cultivate their innate skills. I personally experienced that."

After team members return from the Academy, Dr. Terrell notices one thing in particular about them. "If I had to sum it up, I'd say confidence. People realize the overall impact they can have on how we deliver healthcare." Confidence is an important trait for a pharmacy leader to have as the industry is providing an increasing number of opportunities for pharmacists to assume greater roles to improve patient outcomes. As such, pharmacy leaders are involved in many different aspects of the healthcare industry. The Academy doesn't just teach leadership through the lens of pharmacy, it also gives participants a unique perspective on the variety of challenges they may face in various roles.

"We range from HR aspects like compensation, recruitment and retention, finance, operations, patient safety, clinical care, even ethics," explains Dr. Terrell. "I believe we bring a unique value to the equations. We are ultimately responsible for the selection, procurement, preparation, administration, and monitoring of the number one modality of treatment in healthcare — medicine."

With such a wide range of responsibilities and opportunities, pharmacy leaders have to continue to identify unique ways of looking at leadership, something Dr. Terrell says was consistently emphasized at the Academy. "We learned how to correlate providing healthcare within the business of healthcare," explains Dr. Terrell. "Sometimes we can lose sight of that. We look at the services we provide and forget about the business aspects. I think we need a hefty balance of both. The Academy helped me look outside of my scientific journals and broadened my horizons to other aspects of leadership."

And whether it's on a monthly or weekly basis, Dr. Terrell always takes time for self-reflection. "I'm always reflecting and asking how am I demonstrating these particular qualities or aspects that are defined as true leadership."

"I think leaders need to continue to study especially if they're looking to grow. You need to invest time in that calling just like you devote time and energy as a specialist or a clinician in a particular area. You have to get outside your box. If you look at things through a different lens, you'll be surprised what you uncover. As leaders we need to continuously expand our horizons, and the Academy taught me that."



Pharmacy Forecast Releases Fifth Issue, Publishes in AJHP

Pharmacy Forecast 2017, the fifth and most downloaded report in the series, was released at the end of 2016. For the first time, the report was published in *AJHP* to make it more readily accessible to all ASHP members. It is available for free at www.ashpfoundation.org/pharmacyforecast

2013
8,191 visitors

2014
5,107 visitors

2015
11,025 downloads

2016
7,248 downloads

2017
17,105 downloads as of April 30, 2017

For more information about the ASHP Foundation's leadership programs and 2016 leadership program participants, visit www.ashpfoundation.org/leadership.

CLINICAL TRAINEESHIPS



As pharmacists continue to become more directly involved in patient care, health systems are on the lookout for pharmacists with the knowledge and skills to work in various pharmacy specialties. The ASHP Foundation's traineeship programs give pharmacists the opportunity to find their passion, advance their careers and pharmacy practice, and

Care Traineeship. The online modules were awesome, they were really helpful."

After completing the online component, Ms. House and her team felt more confident doing opioid conversions and symptom management. Although she learned a great deal during the online portion of the traineeship, it made her eager and curious about what else the program had to offer. "I was really intrigued by the onsite training. I thought, 'this seems like a good opportunity to see how this works in practice,'" she explains.

She entered the program hoping it would help her become the resident expert on palliative care at Northside Pharmacy to help other pharmacists on her team feel more comfortable in this particular area. "I felt if I went to the onsite training that I would be able to make a significant contribution to our staff education and preparedness. That was my goal going in."

Ms. House began her one-week onsite experiential training in Baltimore, Maryland, with Dr. Lynn McPherson at the University of Maryland. Although she didn't know what to expect from the traineeship, there was one thing that surprised Ms. House from the very beginning. "I had no idea how much time we would spend seeing actual patients. The very first day, we jumped in her car, and she took us straight to a clinic where we immediately saw patients."

This was a powerful experience for her. "It was actually in one of those patient rooms where I realized that this is what I want to do," she recalls. "It gave me a defined focus, a clear path and a renewed passion for my profession. Dr. McPherson truly opened my eyes to the remarkable collaboration between hospice nurse, physician, chaplain, social worker, and pharmacist — and what great patient care looks like in the hands of that team. I was able to see that palliative care pharmacy is really my calling and what I should have pursued from the get-go. It took that whole experience through the traineeship to get there."

The strategies Ms. House learned during the traineeship did more than reveal her calling; they've also had a direct impact on how she cares for her patients. In one particular case, Ms. House recalls using something specific she learned in the traineeship that helped improve a patient's quality of life. "I had one patient that had terrible stomatitis and he was not responding to any treatment that the hospice tried. This gentleman's goal was to be able to eat, and he couldn't eat because of his sore mouth. Then I remembered reading something during the training, a little blurb about using ketamine mouth rinse."

Since the team had tried everything else, Ms. House shared the product formula and ordered it for the patient.

"Specialized training gave me a defined focus, a clear path, and a renewed passion for my profession."

most importantly make a difference in patient outcomes.

That's exactly what it did for Ms. Angela House, R.Ph., BCPS. While working at Northside Pharmacy in Zanesville, Ohio, Ms. House realized she needed more training to move forward and expand the type of services she was able to provide. In 2014, Ms. House completed the ASHP Foundation's Advanced Pain Management and Palliative Care Traineeship. "When I was at Northside, we were going to start providing consulting and pharmacy benefit management services for a hospice group, and I felt sort of lost when it came to the subject of hospice pain management and palliative care," says Ms. House. This wasn't the kind of training she had received in pharmacy school. "The management knew the team was concerned that we didn't really have direction as far as what this was going to look like, so they encouraged us to complete the online component of the Advanced Pain Management and Palliative

She was anxious to see if there had been any improvement, and one week later at the interdisciplinary group meeting, she got her answer.

"When I asked how his mouth was doing, the nurse's eyes just lit up. She said he was finally able to chew and swallow food without pain. He was super glad to be able to eat again. It was a great learning experience for all of us, and it's something I learned at the traineeship."

The program also gave Ms. House the confidence to continue her education and evolve. "I definitely feel like a more complete clinician, a more complete pharmacist," she says. "I returned from the traineeship not only with valuable information but also with a desire to change my career path. I began to research ways to add to the basic education I was so eager to rush through to completion all those years ago. Now I'm getting a master's degree in palliative care at the University of Maryland."

After the traineeship, Ms. House also felt confident enough to advocate for ideas she felt would benefit her entire team at Northside Pharmacy. "I helped advocate for our pharmacy team to have access to electronic records for hospice patients. We were typing out and faxing our consults to the hospice and sometimes the nurse wasn't in the office. She may be in the field seeing patients and may not be able to see that consult for a few days. I advocated for us to be able to document right in the electronic patient chart. It took a couple of months to implement, but it was really amazing the difference that was made and the time savings that came from it."

Additionally, the traineeship gave her an opportunity to stand apart from the crowd. "This traineeship is the thing to do if you want to make yourself stand out."

Ms. House began to pursue pharmacy positions that were strictly hospice focused. She also earned her board certification in pharmacotherapy and accepted a clinical position with a division of United Health, Optum Hospice Pharmacy Services, an organization with a long history of providing clinical consulting services for hospice clients all over the country. "As a part of that team, I am consulting on pain and symptom management issues and conducting drug regimen reviews. I sometimes tell people that I really don't think Optum would have looked at me if I hadn't had that additional training."

She consistently recommends the traineeship to her colleagues. "This kind of training helps advance pharmacy practice. The traineeship is honestly the best thing to show that you're serious about pain management and palliative care. It is so interesting and valuable, and if you are planning to advance palliative care services, how are you going to provide good service to your patients? The traineeship really adds value to the experience you already have."

For more information about the ASHP Foundation's clinical traineeships and the 2016 traineeship participants, visit www.ashpfoundation.org/traineeships. We also recommend that you explore our free tools and resources for pharmacists, residents, and students at www.ashpfoundation.org/advancingpractice.



The 2016 Zellmer Lecture was delivered by Rear Admiral Pamela Schweitzer; joined here by ASHP CEO Paul Abramowitz (far left), William Zellmer (center), ASHP President Lisa Gersema, and Foundation CEO Steve Allen.



Dr. Lorraine Lee of Yale-New Haven Health, one of the keynote speakers at the ASHP Foundation's 2016 Donor Breakfast, and Foundation Board member Scott Samson.



ASHP rotation students (from left to right) Lindsay Case, Kelsey Stephens, Karly Low, and Emily Belarski showed their Foundation spirit and proved they #MatchforMedSafety by giving during the 2016 Donor Match Campaign. All of these students graduated in 2017!

AWARDS

“You don’t always know that what you’re doing is ground-breaking...”

“I’ve been at BJC Healthcare my whole career,” states

BJC medication safety pharmacist Paul Milligan, Pharm.D. “My hope was that I would be able to improve the health of BJC patients.”

But Dr. Milligan’s reach has far surpassed BJC Healthcare: Today, the work he and his team have done to reduce hypoglycemia events is being duplicated in health systems across the country.

In 2008, the BJC board issued a challenge: Reduce preventable harm by 75 percent. After determining that 20 percent of the system’s preventable harm was caused by adverse drug events (ADEs), Dr. Milligan worked with informaticists to design an automated surveillance system to track ADE data. Analysis of that data revealed that 77 percent of these ADEs were caused by severe hypoglycemia.

A team of pharmacists, endocrinologists, nurses, and diabetes educators was assembled. They began to collect data on factors contributing to hypoglycemia events at each of the system’s 11 hospitals and sharing this data on the systemwide Best in Care (BIC) Scorecard. At first, staff at the hospitals that were not performing as well felt threatened, but the team worked hard to move toward an open dialogue that was focused on problem solving.

“Each one of the hospitals had different challenges, and they weren’t all best-practice sites,” explains Dr. Milligan. “They didn’t all do the same things in the same ways. One hospital had a problem with insulin timing and meal times; another had a problem with giving too many oral drugs when patients were admitted. I gave a presentation to the chief medical officers that showed all of the hospitals side by side. My message was not punitive; instead, I explained that we wanted to find out which hospital in our system was the best practice in the area of hypoglycemia and then do internal sharing and learning.”

Dr. Milligan and the team developed a customized improvement plan for each hospital in the system, spending most of their time implementing plans with the hospitals that had the lowest scores.

Initially, they were able to decrease ADEs by 25 percent, and many health-system leaders thought that result might be the best they could do. But the team continued to identify more causative factors, to learn how the best-practice hospital was preventing those factors, and then to implement those strategies at the other hospitals. Their improvement accelerated.

The BIC Scorecard showed consistent decreases, and as ADE rates dropped, BJC HealthCare staff grew more excited and enthusiastic about the project. “Everyone knew about the initiative and had bought into it because we were evidence



Severe hypoglycemia was a major concern to all of BJCHealth’s medical staff.

based,” explains Dr. Milligan. “We weren’t doing something that we had read about in a journal that had been done in another country. We were asking them to do something that had been done down the street in one of our other hospitals that had worked.”

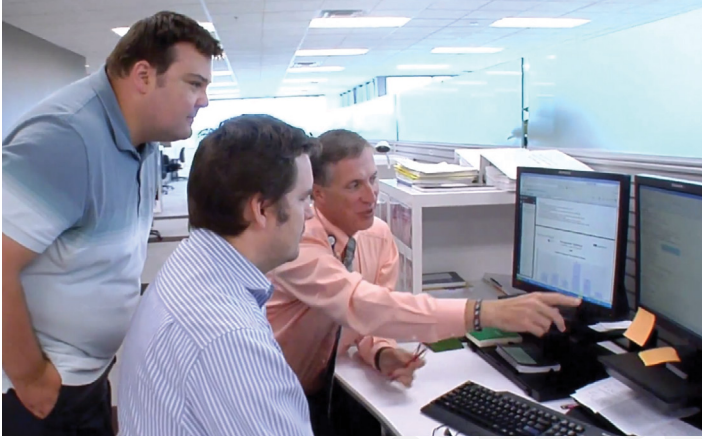
By 2013, they had achieved a 40-percent reduction rate, as well as the prevention of 2,111 hypoglycemia events, 8,127 avoided inpatient days, and a savings of \$7 million in hospital costs.

These results earned BJC HealthCare the 2013 ASHP Foundation/Cardinal Health Foundation Award for Excellence in Medication Safety, and also prompted the team to write an article describing the hypoglycemia reduction project and the tools used. The article, “Multifaceted Approach to Reducing Occurrence of Severe Hypoglycemia in a Large Healthcare System,” was published in *AJHP* in 2015 and later received the 2016 ASHP Foundation Literature Award for Innovation in Pharmacy Practice.

“If the ASHP Foundation felt it was important enough to recognize us with a medication safety award, then I felt a professional obligation to share information about it because I believed it is very adaptable and generalizable,” says Dr. Milligan. “I knew that any hospital could use these tools.”

Today, BJC HealthCare enjoys an 85-percent reduction in severe hypoglycemia ADEs systemwide. “The goal is safe management of patients with diabetes in the hospital,” says Dr. Milligan. “The acute effect of diabetes treatment is severe hypoglycemia, which can be fatal. There are four fewer patients a day having a severe hypoglycemia event in our hospitals. They are not suffering from falls, brain damage, or mental deficiency, or experiencing fear. That’s also four fewer nurses a day who aren’t spending hours with a hypoglycemic patient and can take care of other patients’ needs.”

Dr. Milligan and his team have also addressed over-sedation by using the same process, and are a year or so into tackling their current number-one diabetes-related problem, severe hyperglycemia.



Dr. Milligan worked with informaticists to design a system to track ADE data in the health system.

An unexpected and exciting result of the project's recognition has been the number of pharmacists at other health systems around the country who have contacted Dr. Milligan about the hypoglycemia reduction project and the tools used. He receives one to two emails per month with questions about his project, and he gladly sends them his entire plan and toolkit. This saves countless hours for pharmacists looking for information and in the early stages of planning an ADE reduction initiative. Within days (sometimes just hours) of contacting Dr. Milligan, they have a proven plan and process in their hands, ready to execute.

Information about the project is now on the Healthcare Information and Management Systems Society (HIMSS) website, which reaches 40 percent of all U.S. hospitals. He also recently presented at Ascension in St. Louis, which has 140 hospitals across the country.

"This many people would not have heard about the project had it not been for the Award for Excellence in Medication Safety or the Literature Award," he states. "Without the ASHP Foundation, I wouldn't have known that what we were doing was ground breaking. The awards gave us an outside view to validate the significance of the work we were doing. The work could have started and ended at BJC, and no one else would ever have known about it."

Dr. Milligan fears this is often the case at many hospitals. "People are just working hard, doing their everyday work, and they may not be aware that they are doing something innovative. The awards programs, for us, elevated the importance of what we had done, and increased our drive to share it.

"Most people would do this kind of work without the promise of an award, but the bigger advantage of an award is the motivation it can inspire in others. Sometimes you're so busy doing your normal work, and you might even find that you're successful at solving a problem, but taking that extra step of writing about it is hard. That extra effort is tough, but seeing others do that and win that award can be inspirational."

Most importantly, Dr. Milligan values the dissemination of information about the project through the awards programs. "The response is still amazing to me. People google and somehow find me in *AJHP*, on the ASHP Foundation website, and elsewhere on the Internet. People know more about this project than I ever thought possible because of the awards. Because pharmacists are finding this information and deciding to use it, our project has added to the cumulative knowledge and safety of hospitals across the country."



Dr. Milligan's Five Tips for Undertaking an ADE Reduction Project

- 1. "First, get the support of your system leadership,"** Dr. Milligan recommends. "You are going to have to get the resources needed to be successful."
- 2. Involve the professionals who are close to the patients you are attempting to help.** For the hypoglycemia project, this meant engaging endocrinologists, diabetes educators, dieticians, and clinical nurse specialists. "Our diabetes educators' daily life is making sure that people are safe when taking insulin," he says, "so they were very committed and involved, which greatly contributed to our success."
- 3. Make your numbers public and track them.** "What gets measured gets managed," Dr. Milligan states.
- 4. Divide and conquer.** "Part of the reason why there has not been a huge drop in ADEs nationally, even though we've been talking about this issue for a very long time, is because a lot of hospitals try to do everything at once," he warns. "You can't effectively develop mitigation strategies for 15 different ADEs at one time. Figure out which is your most common ADE and start there. Work on that until it is no longer your number-one ADE, and then tackle the next one."
- 5. Then divide and conquer again.** "Do you work in a hospital rather than a large health system? The same idea can be applied to your hospital," Dr. Milligan promises. "Which nursing division or floor shows the highest percentage of hypoglycemia events? Start on those floors with your mitigation strategy before taking it hospitalwide."

For more information about the ASHP Foundation's awards programs and the 2016 awardees, visit www.ashpfoundation.org/awards.

You can read more about the hypoglycemia reduction project at www.researchgate.net/publication/295694691_Multifaceted_Editorial_Multifaceted_Hypo_2015. If you would like Dr. Milligan's hypoglycemia toolkit, you may request it by emailing him at paul.milligan@bjc.org.

The Award for Excellence in Medication Safety was established in 2004 in a partnership with the Cardinal Health Foundation.

THANK YOU, DONORS!

The ASHP Foundation thanks the individuals and corporations who have made it possible for us to fulfill our mission in 2016.

In 2016, individual giving increased by more than 33 percent, and corporate giving grew by more than 45 percent. The number of donors increased by 77.1 percent, and individuals gave significantly more to the annual Donor Match Campaign (visit www.ashpfoundation.org/2016Donors to see a complete contributors listing).

Our Corporate Membership Program added eight new members to its roster, while 11 existing members renewed (see the list at www.ashpfoundation.org/CMP). Your generosity and belief in our mission means more than we can express!

To see a complete listing of all of our 2016 donors, please visit www.ashpfoundation.org/2016Donors.



Pharmacists and Friends: Linda Radke, Amber Lucas, and Suzie Schrater showed their support at the ASHP Foundation's 2016 Donor Match Reception in Las Vegas.



Student Forum chair Jenna Fancher, Foundation Board member Gerry Meyer, and ASHP Board member Lea Eiland attended the annual donor breakfast.



ASHP Director of Industry Relations David Gershman, Kristie Raker of Novo Nordisk (a donor match campaign sponsor), and Daniel Machermer of Genentech (a corporate membership sponsor) celebrated Foundation successes at the Donor Match Reception.



David Zilz (center) inspired and encouraged residents and preceptors alike during his Visiting Leaders Program visit to Olathe Medical Center in Kansas.



Residents from Johns Hopkins Hospital attended the Donor Match Reception to present the Foundation with a group gift, an annual ritual inspired by their residency program director and chief pharmacy officer, Daniel Ashby (back row, far left).

THANK YOU, CORPORATE SPONSORS!

Special thanks to our generous corporate partners who supported our mission, programs, and annual donor match campaign in 2016.

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CORPORATE MEMBERSHIP PROGRAM



A HEARTFELT THANKS TO OUR VOLUNTEERS

The ASHP Foundation could not administer its programs without the commitment of time and talent given by our many volunteers. With a staff of 10, it would be nearly impossible for us to offer the amount of programming that we do without these individuals. Our volunteers lend their expertise by sitting on grant and award selection panels, advisory committees that guide the development of resource tools, and fundraising committees.

We invite you to look at the complete listing of volunteers at www.ashpfoundation.org/2016Volunteers — and if you see any volunteer opportunities that interest you, we would love to hear from you!



The Foundation's Research Advisory Panel guides our research grant development and advises our research priorities. Pictured (left to right) are panel members Foundation Vice President Barbara Nussbaum, Panel Chair Michael Miller, Almut Winterstein, Foundation CEO Steve Allen, and Emily (Beth) Devine.



This team of volunteers, including new editor Lee Vermeulen (far right) congregated at the ASHP/ASHP Foundation headquarters to plan the next issue of the Pharmacy Forecast Report.

LEAVING A LEGACY

As a pharmacist, medication safety is probably one of the most important issues you deal with in your daily practice. It is the ASHP Foundation's primary mission and probably one of the reasons that you support us. Would you like to have a long-lasting, significant impact on medication and patient safety, beyond your career and even lifetime?

Making a planned gift to the ASHP Foundation could make this vision a reality. For more information, visit <http://ashpfoundation.planmygift.org/>.

For a list of Legacy Donors, visit www.ashpfoundation.org/legacy. We would be happy to connect you with any of our Legacy Donors to learn more about options for making a gift in this way.

FOUNDATION AWARDEES AND VOLUNTEERS



ASHP Foundation Vice Chair Janet Mighty (center) presented the 2016 Literature Awardees at an awards breakfast (left to right): C. Michael White, Zachariah Thomas, Paul Milligan, and Nicholas Britt.



Team members from Cincinnati Children's Medical Center who proudly accepted the 2016 Award for Excellence in Medication Safety included (clockwise from top left): Anne Lesko, Mark Thomas, David Haslam, Dawn Butler, Josh Courter, and Jennifer Young.



Residency Program Director Patrick Fuller (center, holding plaque) was surrounded by proud colleagues and residents of Nebraska Medicine's PGY1 Pharmacy Residency Program as they celebrated earning the 2016 Pharmacy Residency Excellence Program Award.



2017 Pharmacy Forecast authors Kevin Marvin, Linda Tyler, Doug Scheckelhoff, and editor William Zellmer were on hand at the 2016 Midyear to answer questions about the newly released report.



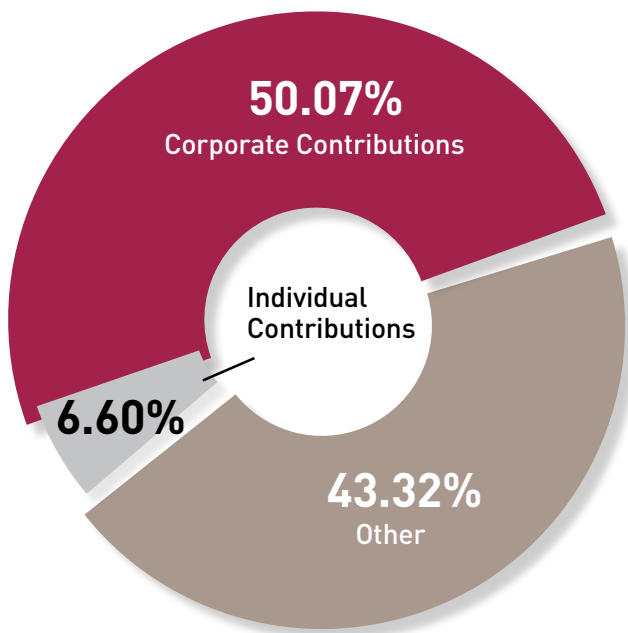
Clinical Pharmacy Specialist BreAnn Taylor of Cincinnati Children's Medical Center served as the Foundation's pharmacist spokesperson during the 2017 Patient Safety Awareness Week, educating more than 24.1 million radio listeners on how to safely give children medicines.



The 2016 Pharmacy Residency Excellence Awardees, pictured with Foundation Board Chair Bill Owad (far right): Michael Powell and Patrick Fuller of Nebraska Medicine PGY1 Pharmacy Residency Program (program awardee), Joshua Raub (new preceptor awardee), and Sandra Kane-Gill (preceptor awardee).

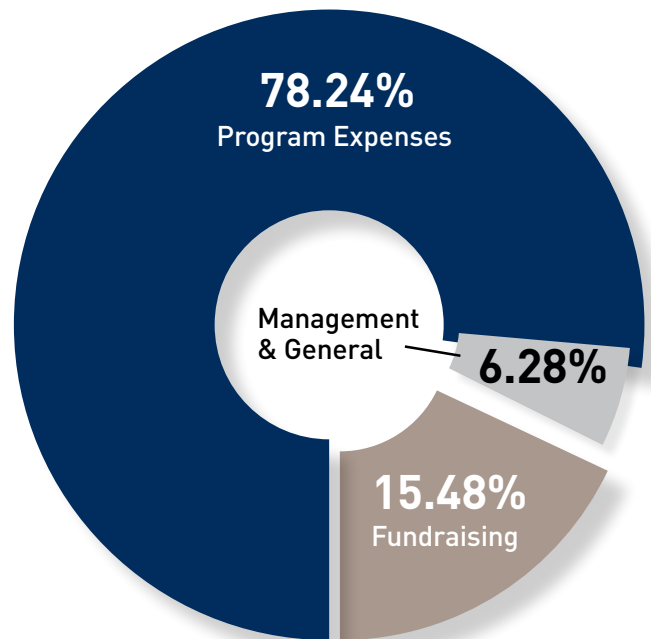
ASHP Research and Education Foundation

Analysis of Calendar Year (CY) 2016 Revenue and Expense



Where Our Dollars Came From

Corporate Contributions	\$1,453,362
Individual Contributions	\$191,646
Other (Registrations, investment income, and contributed services)	\$1,257,394
Total	\$2,902,402

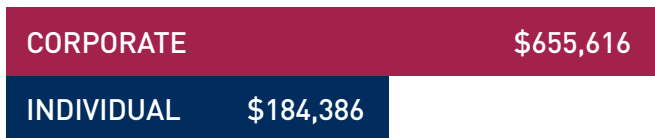


Where Our Dollars Went

Program Expenses	\$2,463,448
Fundraising	\$487,516
Management and General	\$197,669
Total	\$3,148,633

Annual Fund Corporate and Individual Giving Growth

CY2016



CY2016 Corporate +/- over 2015 45.88%

CY2016 Individual +/- over 2015 33.68%

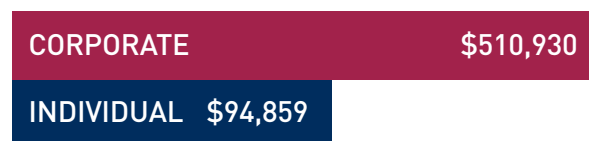
CY2015



CY2015 Corporate +/- over 2014 -12.04%

CY2015 Individual +/- over 2014 45.41%

CY2014



CY2014 Corporate +/- over 2013 28.32%

CY2014 Individual +/- over 2013 94.38%

Statement of Financial Position - May 31, 2016

Assets	
Cash & Cash Equivalents	\$312,315
Accounts Receivable	415,674
Prepaid Expenses	13,487
Fixed Assets @ Cost	17,865
Investments	9,173,251
Total Assets	\$9,932,592
<hr/>	
Liabilities	
Accounts Payable & Accrued Expenses	\$225,770
Deferred Revenue	313,900
Intercompany - ASHP	58,719
Total Liabilities	\$598,389
<hr/>	
Net Assets	
Unrestricted Net Assets	\$743,130
Temporarily Restricted Net Assets	3,798,204
Permanently Restricted Net Assets	4,792,869
Total Net Assets	\$9,334,203
<hr/>	
Total Liabilities & Net Assets	\$9,932,592

ASHP FOUNDATION FINANCIAL STATEMENTS



Statement of Activities - FY2016

	Unrestricted	Temporarily Restricted	Permanently Restricted	Total
SUPPORT AND REVENUE				
Contributions	\$699,605	\$1,437,623	\$1,700	\$2,138,928
Investment Income	[24,716]	[36,049]	-	[60,765]
Registration/Other Income	492,757	-	-	492,757
Assets released from restriction	1,509,671	(1,509,671)	-	-
Total Support and Revenue	\$2,677,317	\$(108,097)	\$1,700	\$2,570,920
<hr/>				
EXPENSES				
Program Office	\$999,481	\$-	\$-	\$999,481
Education Programs	552,942	-	-	552,942
Leadership Programs	502,020	-	-	502,020
Awards and Special Programs	298,017	-	-	298,017
Research Programs	139,728	-	-	139,728
Development/Communications Office	368,287	-	-	368,287
Administration	166,644	-	-	166,644
Contributed Services	85,378	-	-	85,378
Board of Directors	18,573	-	-	18,573
Audit Fees	11,555	-	-	11,555
Total Expenses	\$3,142,625	\$-	\$-	\$3,142,625
<hr/>				
Total Change in Net Assets	\$(465,308)	\$(108,097)	\$1,700	\$(571,705)
<hr/>				
Net Assets at Beginning of Year	\$1,259,260	\$3,855,479	\$4,791,169	\$9,905,908
<hr/>				
Add Total Change in Net Assets	(465,308)	(108,097)	1,700	(571,705)
Net Asset Transfer	(50,822)	50,822	-	-
<hr/>				
Net Assets at May 31, 2016	\$743,130	\$3,798,204	\$4,792,869	\$9,334,203

The Foundation's statement of financial position and statement of activities have been condensed from the year-end audit by Tate & Tryon. A copy of the audit is available from the office of the Executive Vice President, ASHP Foundation, 4500 East-West Highway, Suite 900, Bethesda, MD 20814.



ASHP RESEARCH AND EDUCATION FOUNDATION

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