HELMS AWARD LECTURE

A Glimpse in the Rearview Mirror

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Words cannot begin to describe how honored I am to receive this award. Not only is it being presented by the organization I consider my primary professional home, but it is named for my mentor, colleague, and good friend, Dr. Rich Helms. Like many of you, I learned as a child that when you see a turtle atop a fencepost, you know that it didn't get there by itself. That is certainly true today, as this recognition is one that I share with many. Over the years, I have been fortunate to work with over 60 residents and 5 fellows. Many days I was not sure who was in training, the resident, the fellow, or I. I will be forever grateful for the lessons I learned from these individuals.

Early in my career, I was also blessed to have been influenced by George Saunders, PharmD; Bill Evans, PharmD; Rich Helms, PharmD; and Barbara Wells, PharmD. Likewise, I had the privilege of working with many outstanding individuals, like Bert Price, BSPHarm; Emily Hak, PharmD; Cathy Crill, PharmD; Mike Christensen, PharmD; Kelley Lee, PharmD; Debra Chyka, DNP, MSN; Stephanie Storgion, MD; and Bill May, MD. Finally my parents, Plenn and Norma Phelps, who taught me from a very early age the value of hard work, integrity, and the need to give back to your community. There is little doubt in my mind that my life would be the less had these individuals not been part of my personal and professional development.

In preparing for this lecture, I found myself frequently reflecting on my 25 years in practice. In lieu of a therapeutics presentation this morning, I have been encouraged to share some of the lessons I learned along the way; hence, the title of my presentation today: A Glimpse in the Rearview Mirror.

LESSON 1—TO THINE OWN SELF BE TRUE

Neither of my parents was in healthcare. In fact, my father was the first in his family to graduate from college. Within a year of their marriage I was born, a 2-kg premature infant by 1955 standards. I was raised in the panhandle of Florida in a small town, Niceville (also known as Boggy Bayou, Home to the Mullet Festival). My mother had a dress shop next to Childs' Drug Store, the local pharmacy. It was there I learned about pharmacy, spending most of my formative years turning cartwheels in front of the store and asking A.L. Johnson, the pharmacist, so many questions that he nicknamed me Worrywart.

As I grew up, my curiosity about the sciences only increased. A.L. was there to help me make a plaster of paris volcano actually erupt. As a junior in high school, he helped me with my science fair project "Should a Gentleman Offer a Lady a Joint." My senior year, the project's name was changed to "A Longitudinal Study of Drug Abuse in a Northwest Florida High School," a project that garnered me a 2-year college scholarship. It was clear very early that I would pursue a career in pharmacy, but as the application deadline arrived, I encountered my first real conflict in life. For a variety of reasons, my parents wanted me to attend the University of Florida, but I wanted to attend Samford University. Since they were paying for my education, I dutifully applied to the program of their choice. I can honestly say that no one was happier than I when the letter arrived that denied my admission to the College of Pharmacy at University of Florida. I was placed on the alternate list and encouraged to apply the following year once I had completed physics. Not being a Florida Gator was an answer to prayer

for this Alabama fan!

My parents acquiesced, and I spent the next year at the University of South Alabama turning what should have been three semesters of physics into five.

Finally, in 1976, I was admitted to pharmacy school at Samford University in Birmingham, Alabama. Like many students, I began school absolutely certain of my career path. Others also expected that I would return to Niceville, work at Childs' Drug Store, and eventually buy the pharmacy. But as education and life experiences tend to do, I began to develop another vision for my future. After several rotations in a hospital setting, I could not have been more confused about career opportunities. Call it what you will, but fortunately for me, the residency position at the Children's Hospital in Birmingham, Alabama, did not fill, and my faculty advisor, George Saunders, PharmD, asked if I wanted the position. It was an easy decision; after all, it was only 1 year.

Despite my respect for A.L. and for community pharmacy practice, by October I knew I was not going to return to my hometown and work at Childs' Drug Store. It was evident that I needed to pursue a Doctor of Pharmacy degree in order to enter pediatric pharmacy practice. As I explained my professional vision to A.L. and my family, they were absolutely certain I had been given bad advice. After all, I was already a pharmacist, and they didn't understand why I needed additional training to practice. In 1980, no one in Niceville had ever heard of a PharmD; I know this because my parents asked everyone. There was no pharmacy or pharmacist at the local hospital, and the physicians in town validated that pharmacists would never round with doctors or tell physicians what medications to prescribe. To this day, one of the most difficult things I have had to do was tell everyone who expected me to return to Niceville that I was headed north to Tennessee for graduate education. This was when I learned my first lesson: "to thine own self be true."

**LESSON 2—YOU DON'T ALWAYS GET
WHAT YOU WANT, BUT IF YOU TRY REAL
HARD SOMETIMES YOU GET WHAT YOU
NEED**

—Rolling Stones

During my time at the Children's Hospital in Birmingham, I met Bill Evans, a young clinical

pharmacist performing pharmacokinetics at St. Jude Children's Research Hospital in Memphis, Tennessee. Arriving in Memphis, I planned to follow a PharmD degree with a fellowship in pediatric oncology. During the PharmD program, I completed a required research project with Bill but changed directions to pursue a postdoctoral residency in pediatrics under the mentorship of Rich Helms. A career in academia had never crossed my mind, but a combination of education, research, and practice experiences confirmed that a faculty position was indeed a perfect fit.

Interviewing for my first job was more stressful than expected. Crisscrossing the county I "competed" with Donna Kraus for a faculty position. Following her seminar at Tennessee, I recall thinking, "I would hire her—she's awesome." When I was finally offered an assistant professor position at the University of Tennessee, I cried. I didn't cry because the stress of the experience was over, I cried because I had misunderstood the job. For some reason, I thought the practice component of the position was pediatric critical care, but it was what I call "wind blowing": whichever way the wind blew on a given day, that would be my job.

For most of my career I served as director of the pharmacokinetics service at LeBonheur Children's Hospital in Memphis, Tennessee. The service began around 1976. After reading about lawsuits against institutions that were attributed to physicians' incorrect interpretation of serum drug concentrations, the hospital president asked Gil Burchart, PharmD, to start the program. In the early years, pharmacists on this service ran an HPLC (high-performance liquid chromatography) assay to determine serum concentrations of salicylates, acetaminophen, chloramphenicol, and cyclosporine. For most of a decade, we interpreted every serum concentration drawn on outpatient and hospitalized patients; the 1-day record was 74 serum theophylline concentrations. Over time, the focus of the service shifted to involve hospitalized patients only, and we began to charge for our cognitive activities. The highlight of my time as director of the service came when the medical staff requested that the service become prospective in nature and that ordering of serum concentrations be restricted to pharmacists. Finally, we had meaningful oversight for the entire process: we could ensure that patients

who needed to be monitored were, that the time of dosing and sample collection was correct, that unnecessary concentrations were not obtained, that the concentration was correctly interpreted, and that any necessary follow-up occurred.

A few years after entering practice, I did begin to focus on pharmacy services in the intensive care unit (ICU). Most of you know Bert Price, who was director of pharmacy at LeBohneur for over 40 years. I asked Bert if he thought central administration would support a satellite pharmacy in the ICU. He shared with me the budgeting history of projects aligned with pharmacy and suggested it was unlikely at this time. Bert tolerated my enthusiasm for the project and agreed to let me give it a try. For a month, I tracked charges in the ICU and discovered that the hospital was losing significant money due to a failure to charge for floor stock medications that were used. Unknown to Bert, I developed a report, a business plan, and an accompanying budget and delivered them into the hands of the chief financial officer of the hospital. About a week later he called to say he found the report interesting but wanted to better understand projected revenue associated with the business plan.

At this time I approached Rich Helms for help, went back to the drawing board, and resubmitted the proposal to the chief financial officer. A week later he approved the plan and called to ask "Where do you plan to put the satellite pharmacy?" In retrospect, I was incredibly naive about all of this. I cannot imagine today creating a business plan and accompanying budget without significant input from the director of pharmacy. I vividly recall walking into Bert's office and saying, "I think I have good news." Only Bert was more surprised than me that we were about to build an ICU satellite pharmacy.

I honestly thought everyone would embrace having an ICU satellite pharmacy, but that was far from reality. The medical residents were upset that their on-call room had become the designated area for the satellite pharmacy, and the nurses thought pharmacy was impinging on their role. Once the satellite opened, resistance decreased, and within a short window of time, there would have been a revolt had the ICU pharmacy satellite been closed.

For over 25 years, I did interface with patients in the intensive care unit, but I was never a "real" pediatric critical care pharmacist. You must be

wondering, why didn't you leave and move to another institution? When I considered what really mattered, what core elements were important to me in a position, I never doubted I was in the right place and correct position. The bottom line was that I got to use what I was good at almost every day to improve the health of children, I had autonomy and was allowed to be innovative and creative, and I worked with wonderfully talented colleagues. Although I never got to be a pediatric critical care pharmacist, I believe that the variety of practice, research, and scholarship contributions that I made continues to impact critically ill children today.

The second time I learned this lesson was in the early 1990s, when I applied for promotion from assistant professor to associate professor of clinical pharmacy. The departmental rules were fairly clear: 20 peer-reviewed manuscripts, 10 for which you were primary author. No one was more surprised than I when Rich told me the department committee recommended that my promotion be delayed. The beer he bought me did not deaden the hurt, and I took a week's vacation to clear my head and allow my emotions to subside. The experience validated for me that I wouldn't leave a position due to temporary circumstances but would only leave for a better opportunity. Several years later, my office was moved to another building on campus. In preparation for the move, I found the letter Bill Evans wrote explaining why, as departmental chair, he could not support my promotion. Over a decade had passed since I had initially read the letter. I kicked back, put my feet on my desk, and thought, "this is going to be good." But as I finished reading the letter, I laughed out loud. Bill was 100% right in the decision he made to not recommend my promotion. Unfortunately, I was too personally and professionally immature at the time to understand his advice and guidance. In reflecting on my practice and academic careers, I definitely did not get what I wanted, but without question I did get what I needed.

LESSON 3—IGNORANCE IS NOT BLISS AND DRUGS ARE NOT BENIGN

I vividly remember the first time I learned this lesson. A 19-year-old patient with significant renal failure has been started on normal adult doses of intravenous chloramphenicol. After all, that

is what the books told us to do: “no adjustment necessary in those with renal failure, even when creatinine clearance is <10 mL/min.”¹ Given that, what caused a patient with a normal heart to suddenly have an ejection fraction $<5\%$ and a serum chloramphenicol concentration above 150 mg/L? If someone had not made a medication error, how did this patient have such a supratherapeutic concentration? I contacted my now long-time friend, Milap Nahata, PharmD, to discuss what had gone wrong. He reminded me that 30% of chloramphenicol sodium succinate and 10% of chloramphenicol are eliminated renally; hence, the patient’s renal failure resulted in a significant increase in the dosage of active drug. We published our experience as a case report in hopes of preventing this from happening to another patient; however, the books continue to contain incorrect recommendation about clearance of this medication. Unfortunately, this case would not be the last time I would learn that ignorance is *not* bliss and drugs are *not* benign.

As part of this award, I am to receive a \$2,000 prize award, which I would like to defer back to PPAG to support its research endeavors. As the national professional organization dedicated to the safe and effective use of medications in neonates, infants, and children, we must be responsible and accountable for the creation of new knowledge about pharmacotherapy in pediatric patients. PPAG is positioned to develop a practice-based research network, and I would challenge this organization’s board of directors to prioritize this as an essential strategic initiative.

LESSON 4—PATIENT CARE IS NOT SYNONYMOUS WITH CARING FOR PEOPLE

Over my tenure in practice, the profession of pharmacy has created and abandoned many terms (e.g., clinical pharmacy, pharmaceutical care, patient-centered care, and medication therapy management) to describe itself in hopes of clarifying for the public, other professionals, and perhaps even ourselves the vision we have for pharmacy practice. In 1979, I met a 12-year-old patient with acute myelogenous leukemia. Fred forever changed my approach to the way I would provide care to children and their families. I had gotten to know this young man while preparing chemotherapy in an oncology clinic. Over the year, we spent countless hours talking when

he came to clinic and/or during his frequent hospitalizations. One evening, during a game of checkers, he became serious and said, “Do you know what your problem is?” I recall chuckling to myself as I thought about this “child” and the possible enlightenment he was about to offer. His words were so wise that I vividly recall them 30 years later and will never forget the conversation. “Your problem is that you are treating me like I am dying with cancer, when I am doing the best I can to live with it.” The individuals we serve are not patients in a hospital room or in a clinic, they are not a medical record number, they should never be reduced to the diseases they have, and they are not simply consumers of medication. They are individuals that need us to care for them and for their families—it is really that simple. I would ask you to reflect this morning on your current philosophy and approach to practice. Are you providing patient care or are you caring for people?

LESSON 5—IF YOU PUT A SMALL VALUE UPON YOURSELF, REST ASSURED THAT THE WORLD WILL NOT RAISE YOUR PRICE

I was educated and received postdoctoral training at the place of my first employment, the University of Tennessee College of Pharmacy. It was certainly challenging, if only in my own mind, to transition from trainee to colleague and attending. It was years before I was able to call some of my professors by their first names. It took even longer for me to align my practice activities with my attending physician colleagues instead of the medical residents.

During the time that theophylline was king in the management of acute asthma, I wrote a note in the medical record of a child, recommending that theophylline be discontinued as the child was clearly not receiving benefit from the medication. Within an hour, a young medical resident called and proceeded to chastise me for making this suggestion on “his” patient. Despite my efforts to explain the newly published research supporting this recommendation, he continued using an unprofessional tone. Without thinking I said, “It’s not your patient, it’s our patient. I don’t know who you think you are talking to, but I have an appointment in the department of pediatrics, and am credentialed as a member of the medical staff of this hospital. My question for

you is ‘Whose office do you want to meet in, the chair of pediatrics or the medical director?’” To this he replied “OK, well don’t do it again” and hung up. I immediately left my office, found the medical resident, and asked that we start over. Regardless of differing opinions, the truth was that we both wanted what was best for the child.

It was that day that I realized I had transitioned from a resident mentality to one of attending medical staff. I see many young pharmacy clinicians fighting battles that were won years ago. In order to fit into a team, they assume roles that are inappropriate for their training and inconsistent with role delineation. I would challenge each of you to consider how you view yourself as a member of the health care team and to reflect on the way you are viewed by other members of the team. If either view is anything less than equal colleagues who have joint responsibility and accountability for the care of patients and their families, you need to reassess the value you place on yourself. Your value must begin with you—the world will not raise your price.

Over the years, my alignment with attending physician colleagues has been critical to my professional development. Those relationships were never more important than when I found myself in the middle of an academic misconduct investigation. I refer to that time as “Will the real investigator please stand up?” Dr. Emily Hak and I had been conducting research on the role of digoxin-like immunoreactive substances in preeclampsia and had been collaborating with faculty in the department of fetal and maternal medicine. Without our knowledge, the work was presented at a national conference with authors listed in an order inconsistent with effort. We would have never known about this submission had the work not received the best research presentation at the meeting. This recognition and cash award required that a manuscript be submitted to the organization’s journal. This posed a problem since the manuscript of this work had already been submitted to that same journal. As a team, we navigated through this with the promise that this would not recur. Within months, I received a call one evening at home from a pediatric physician colleague. He began, “I have a significant problem that I need you to help me understand. I am looking at two grant proposals to investigate the same things. In fact, they are identical with the exception of investi-

gators. You are the principal investigator on one and are not listed on the other. Can you explain how this proposal was developed and why the investigators are not identical?” The next morning, the vice-chancellor for research appointed a committee to investigate academic misconduct. I assure you, as an assistant professor I was ready to pack my bags, as I was certain I would be fired. Suffice it to say the committee rendered their decision, and I am a professor of clinical pharmacy and pediatrics at the University of Tennessee today. The unfortunate consequence of this was that important research came to an abrupt end. As difficult as this experience was, both Emily and I learned a lot about professional value and interprofessional respect.

LESSON 6—SOMETIME YOU HAVE TO SAY NO TO GOOD THINGS IN ORDER TO HAVE TIME FOR GREAT THINGS

One of the most critical times in a person’s development occurs when they come out of training and begin to launch their professional career. Not only does every opportunity appear good but most of us lack the wisdom to discriminate good from great. It is so easy to quickly develop a full plate that consists of good things, which may ultimately prove to simply be a distraction. As you begin a new position, you may also find yourself inheriting “stuff” that people have been waiting to “roll down the hill” onto the new kid. Obviously, we all have things we would prefer to delegate to someone else, but it is imperative that you learn to discriminate between types of opportunities. Regardless of your position or stage in life, you must protect your time so that you have an opportunity to reflect, to be creative and innovative, and to simply think about your current situation in the context of your future aspirations.

Many confuse a role model with a mentor. It is essential that you identify a mentor or a team of individuals to guide you across your career, to assist you in analyzing and deliberately thinking about choices, and to help you navigate to your goals. I had been in practice for almost 2 decades when I began to understand the role of a mentor from that side of a relationship and began to mentor an individual. Unfortunately, around that same time, I forgot that I was still a mentee who needed a mentor. Without even knowing it, I had gone into autopilot for almost a decade.

I had achieved many of the career goals I had established and I was satisfied with the mix of my professional activities, but I had forgotten about my own growth and neglected to pause and reflect on my future goals. I had neglected to discuss my career with my mentors and I had failed to take responsibility for my own development. I must admit that when one of my mentors challenged me about this, I quickly realized I had wasted significant time doing things that really did not enable me to grow nor did they prepare me to move to the next level in my career.

You may find you have outgrown your mentor or that you need a small team of individuals to address different areas of your growth. Your mentor may change over time, but you should always have at least one person that assists you in striving to put things into perspective, encourages you to have goals that cause you to stretch beyond what you think you can accomplish, is a tireless cheerleader, and is a person that helps you to define great at the expense of good.

LESSON 7—IS THERE LIFE AFTER HALF-LIFE?

Occasionally one of my students asks me about regrets. If you had a do-over what would it be? Oddly enough I have few regrets and none that really matter. The bruises and scrapes from “bad” choices were important in my development. One of our former residents, Kay Kyllonen, PharmD, who has a special passion for pharmacokinetics, use to jokingly say “is there life after half-life?” I was director of the pharmacokinetics service at LeBonheur Hospital when I made the decision to leave practice after 25 years for a full-time position in college leadership. It was a difficult decision that had been years in the making, but I knew it was time. Although I left practice, I continue to be engaged with pediatric residents and pharmacists, am editor of the “Teddy Bear” book and serve as editor of the *Journal of Pediatric Pharmacology and Therapeutics*. Regardless of professional geography, my heart will always reside in pediatric pharmacotherapy.

Someone recently asked me “What keeps you going and what gives you energy at this point in

your career?” My answer is simple: it’s all about passion. You must identify those things that energize you that drive you to give more than you thought you every could and that cause you to lose track of time. These are the things that you would do even if no one ever acknowledged you did them and that you would do even without pay. Gallop has surveyed more than 1.7 million people in 101 companies from 63 countries and has asked a very simple question: how often do you have an opportunity to do what you do best every day?² Globally, only 20% of people note that they get to do what they feel they do best at least once a day.² I am one of the fortunate ones. Across almost 30 years in pharmacy, my passions and my talents have aligned. As I look in the rearview mirror, I can say without any hesitation that the vast majority of my time in pediatric practice I got to use my strengths/talents almost every day in an area of passion. My hope for those of you who are just beginning your careers is that at the end of your professional journey, you will have few regrets. I cannot tell you how much this accolade means to me, and I humbly thank you for this recognition.

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