

PHARMACY PRACTICE NEWS

IN BRIEF

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Teamwork Defines ASHP Literature Award Winners

Dan Hurley

Teamwork, including the marital kind, has been a striking hallmark of this year's winners of the ASHP Research and Education Foundation's Literature Awards.

One paper was coauthored by a pair of pharmacists who have conducted dozens of studies together since 2002. Another was written by a team of seven—including two pharmacists, two nurses, a physician, a PhD and an MBA. And two of the awards went to researchers who have devoted much of their careers to collaborating with their spouses.

The fact that they all have worked so closely with others is hardly accidental to their success. Partnership allows collaborators with distinct talents and training to increase their chances for funding, for publication and for being able to break down complex research questions into their component parts, said Craig I. Coleman, PharmD, who has worked closely for years with his colleague at the University of Connecticut School of Pharmacy, C. Michael White, PharmD, FCCP, FCP.

"Together, we've been able to achieve a lot more than we ever would have by ourselves," Dr. Coleman said. "You have to give up a little bit of the ego boost for it, but we honestly want to make a difference. The only way to do that is to put the most complete, convincing amount of evidence out there. And that takes different talents and expertise."

The winners, who will be formally recognized during ASHP's Midyear Clinical Meeting in Anaheim, Calif., on Dec. 4, include names that have become familiar to pharmacists, as well as some up-and-coming new faces.

Award for Sustained Contributions

Perhaps the most prestigious of ASHP's annual honors, the Award for Sustained Contributions to the Literature of Pharmacy Practice, this year goes to John D. Grabenstein, PhD, EdM, MSP^{Pharm}, RPh, FASHP. While Dr. Grabenstein has long been associated with vaccine studies, having published more than 200 articles on the subject, his closest association has been with his wife, Laurie A. Grabenstein, BSN, who has collaborated on many of his projects. Even their four children, their dog (a Sheltie) and their tabby cat are evidence of Dr. Grabenstein's passion: all of them, he is quick to point out, are fully vaccinated.

In June, after 27 years in the military, Dr. Grabenstein retired as Director of the Military Vaccine Agency in the Office of the Army Surgeon General and was named Director of Scientific Affairs at Merck's vaccine division. But to hear him tell it, he owes his career's obsession to a refrigerator.

"My first assignment as a young pharmacist at the Army was at Walter Reed Army Medical Center," he said. "In the allergy and immunization clinic, I noticed this refrigerator full of medicines. It was the vaccine and antibody refrigerator. Nobody there seemed to know much about them, and it wasn't easy to find published information. I just started collecting information, sharing it and writing articles. It all started off with one three-ring binder and grew from there."

One of his first major articles, published in 1986, showed that when patients seek flu shots, a

review of their medical history revealed that 72% needed other vaccines or tests (*Arch Intern Med* 1986;146: 1189-1192). He has since written five books (some of them coauthored with his wife), nine book chapters, and columns for both *Hospital Pharmacy* and the *Journal of the American Pharmacists Association*. He directed the APhA's program to train pharmacists to immunize, has served on the Influenza and Pneumonia Expert Advisory Group of the American Lung Association, moderated Web discussion groups and remains the youngest pharmacist ever selected to be a Fellow of ASHP.

A study Dr. Grabenstein is particularly proud of showed that in Washington state, where community pharmacists were permitted to vaccinate people, a significantly higher proportion of state residents with medical indications for flu vaccine received one than did those in Oregon, where pharmacists did not vaccinate at the time (*Med Care* 2001;39: 340-348).

"One of my roles has been as an advocate for pharmacists to reach out, to learn how to vaccinate," he said. "Studies have shown that a large proportion of people who die of influenza or pneumococcal disease were in a hospital in the year prior to their death, but nobody vaccinated them. It's the pharmacists who can say, in just a few seconds, 'This is a heart disease patient, he needs the pneumococcal vaccine.' You take care of the acute problem that got them into the hospital, but you also stop and think about the public health measures that need to be addressed."

Dr. Grabenstein has not been disheartened by the minority of parents who are refusing to vaccinate their children due to concerns, unsupported by scientific evidence, that they may increase the risk of autism. "Vaccines are a victim of their own success," he said. "People don't see polio anymore, they don't see smallpox, they hardly see measles. Even rubella is very, very rare." To counteract the unsubstantiated fear of vaccines' side effects, he likes to have people check out the sobering videos of young children with pertussis, at www.vaccineinformation.org/videos.

After years of advocacy, he's excited to finally be in a position where he can participate in the development of vaccines. "Merck has had four new vaccine product licenses in 10 months, which is unprecedented," he said. But vaccines only work when patients get them, and Dr. Grabenstein plans to keep reminding pharmacists and neighbors of that for years to come.

Pharmacy Practice Research Award

You can't tell by looking at their names, but C.A. "Cab" Bond and Cynthia L. Raehi share more than this year's Pharmacy Practice Research Award. They also have identical degrees—PharmD, FASHP, FCCP—and are both Professors of Pharmacy Practice at Texas Tech University Health Sciences Center in Amarillo. And, oh yes, they're married.

"One of the nice things about working together on the same projects and getting the awards together is that there isn't much jealousy," said Dr. Bond.

Their prize-winning paper, "Clinical and Economic Outcomes of Pharmacist-Managed Aminoglycoside or Vancomycin Therapy," (*Am J Health Syst Pharm* 2005; 62:1596-1605) found that hospitals where pharmacists manage patients' use of these two antibiotics have, by comparison, lower death rates (6.71% less), lengths of stay (12.28%), Medicare charges (6.3%), drug charges (8.15%), hearing loss (46.42%) and renal impairment (33.95%).

This is actually the sixth ASHP literature award for Dr. Bond and Dr. Raehl, an achievement they attribute to their work with the National Clinical Pharmacy Services Survey, an ongoing survey of over 1,000 hospitals. By merging their data with information obtained from the Medicare database, they have been able to pose research questions that simply could not be answered any other way.

"It's not necessarily rocket science research," said Dr. Bond, "but nobody else has access to this kind of data. We were the first ones to put it together in an aggregate manner with a large number of hospitals."

Although she served as principal investigator of the survey for years, he has recently taken over

that position. But they share the satisfaction of contributing to the growing body of knowledge demonstrating that clinical pharmacy pays off both in lives and dollars saved. "It's not a question of 'if' anymore," he said. "Now it's only a question of the optimal implementation and delivery model."

After 18 years of living and working together, Dr. Bond claims no particular secrets to their success. "We've just been very compatible," he said.

But perhaps it hasn't hurt that they have, rather than children, a Shih Tzu— much more obedient.

Drug Therapy Research Award

Another enduring partnership, but not of the marital variety, has resulted in dozens of publications over a five-year span for two of the authors of the study that won ASHP's Drug Therapy Research Award. Almost as soon as Dr. Coleman took a faculty position at the University of Connecticut School of Pharmacy, Storrs, he began collaborating with Dr. White.

"My expertise is in pharmacoeconomics and outcomes research," said Dr. Coleman, Assistant Professor of Pharmacy Practice and Director of the university's Pharmacoeconomics and Outcomes Studies Group. "Dr. White is more of a cardiovascular pharmacology expert." Together, they have been able to analyze not only medical outcomes associated with drugs, but their economic consequences as well.

Although their award-winning article did not look at economic outcomes, Dr. Coleman pointed out that the potential economic impact of their findings was implicit in the findings. The study, "The Impact of ACE Inhibitors or Angiotensin II Type 1 Receptor Blockers [ARBs] on the Development of New-Onset Type 2 Diabetes" (*Diabetes Care* 2005;28:2261-2266) was a meta-analysis of 11 previously published trials. Along with their colleagues Effie L. Kuti, PharmD, Michael J. Kardas, PharmD, and Michael Lindberg, MD, they found that the drugs consistently decreased the risk of developing type 2 diabetes by as much as 30%.

They undertook the trial because the current recommendations from the National Heart, Lung and Blood Institute (NHLBI) for treating uncomplicated hypertension state that any antihypertensive agent is fine, and suggest that the low cost of thiazide diuretics make them a logical choice. "We started thinking that if in fact ACE [angiotensin-converting enzyme] inhibitors and ARBs prevent diabetes, that would be a great reason to use them over other agents," Dr. Coleman said. Based on their findings, "why not give hypertensives an ACE inhibitor or an ARB? We know it's going to prevent high blood pressure, plus you'll get the added benefit of preventing diabetes."

But as a pharmacoeconomist, Dr. Coleman said that the most cost-effective option would be the generic ACE inhibitor lisinopril, the cost of which compares favorably with that of a thiazide diuretic, whereas ARBs remain far pricier.

As a result of their study and similar findings published in the *American Journal of Cardiology* (2005;46:821-826), Dr. Coleman said he hopes NHLBI will update its recommendations. "I'm sure they'll do it," he said, then added, "That's what we feel. Whether they will or not is a whole other thing."

Teamwork and realism—perfect together.

Award for Innovation in Pharmacy Practice in Health Systems

The teamwork that marks the research of Julie Sakowski, PhD, involves a large cast of colleagues at Sutter Health, the northern California-based not-for-profit network of more than two dozen hospitals, physician organizations, research facilities, hospices, nursing homes and other health services. On the 12 studies she has published in the past few years, she has never had fewer than three co-authors. For the article that won the 2006 Award for Innovation in Pharmacy Practice in Health Systems, she had six co-authors.

The award-winning article by Dr. Sakowski, who is Senior Health Services Researcher at Sutter Health's Institute for Research and Education, in San Francisco, analyzed the benefits (and challenges) of Sutter Health's decision—still rare for a community hospital system—to implement a bar-coded medication administration system (*Am J Health Syst Pharm* 2005; 62:2619-2625).

"We believed that implementing a bar-code medication administration system could make a difference in preventing medication errors," she said. "The evidence in the existing literature to support that belief tended to come from either single sites or very strictly controlled situations, such as at the Veterans Administration. We wanted to verify that those results would hold true in a set of diverse community hospitals."

Dr. Sakowski and her colleagues retrospectively analyzed the warning and error alerts generated during 17,025 attempted administrations that took place over four randomly selected Thursdays in early 2004 at six of Sutter Health's hospitals. Out of that sample, they identified 187 instances where the clinician's reaction to a warning generated by the bar-code system prevented an error, accounting for 1.1% of all attempted administrations.

"What we found was, yes, implementing a bar-code system prevents administration errors," she said. But those gains came with a good deal of effort, she said. "Considerable effort is involved in making sure that all the systems are interfaced correctly, making sure definitions and workflows are aligned, and making sure the warnings and alerts are as appropriate as possible."

"We wanted to write this paper," Dr. Sakowski added, "to share our lessons learned, recognizing that these systems do involve a dramatic change in how medications are delivered. Bar-code medication administration systems are a very productive tool, but to be able to get the most out of it, you need to keep refining the system. We are still working on optimization, even three years into it."

When the bar-code systems were first introduced, she said, "there was some resistance, as with any major change in a system. But, she said, "often the people who were most resistant at the onset have turned out to be the biggest believers in the new system. The consensus we're hearing is that while using a bar-code medication administration system may increase the time it takes to administer medications, there is an overwhelming perception that this is improving patient safety—and that's what it's all about."

Student Research Award

Not all collaborations, of course, need be among colleagues or spouses. Indeed, collaborators are where you find them—or, in the case of Patrick J. Kiel, where they find you. Months before obtaining his PharmD degree at Midwestern University Chicago College of Pharmacy this past March, he was invited to team up on a series of studies by a mentor, Amie D. McCord, PharmD, BCPS, Assistant Professor of Pharmacy Practice at Midwestern.

"We wanted to evaluate the impact that clinical pharmacists have on diabetics," Dr. Kiel said.

As they reported in their winning study, "Pharmacist Impact on Clinical Outcomes in a Diabetes Disease Management Program via Collaborative Practice" (*Ann Pharmacother* 2005;39:1828-1832), the proportion of the 157 patients enrolled in the program with a hemoglobin A_{1C} of 7% or less increased from 19% at baseline to 50% at one-year follow-up (*P*0.001), while the percentage of patients with low-density lipoprotein values \leq 100 mg/dL increased from 30% at baseline to 56% at follow-up (*P*0.001). Other clinical measures similarly improved.

Curious how the results would hold up with three years of follow-up, and wanting to see how they would compare to the results of patients under the standard care of physicians, they did a second study that Dr. Kiel presented last month at the annual meeting of the American College of Clinical Pharmacy. After three years, the average A_{1C} dropped by 1.02% in the standard-care group, and by 2.01% in the pharmacist-managed group (*P*0.001).

"The education and residency these pharmacists go through give them the advantage," Dr. Kiel said. "Medication management and patient care: This is their job, this is their life."

Alas, Dr. Kiel does not expect diabetes to be his life. "My plan is to go into hematology/oncology," he said.

Other changes have already occurred. Since publishing their award-winning study, Dr. Kiel has become a resident at Rush University Medical Center, in Chicago, and Dr. McCord has married, becoming Dr. Brooks.

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