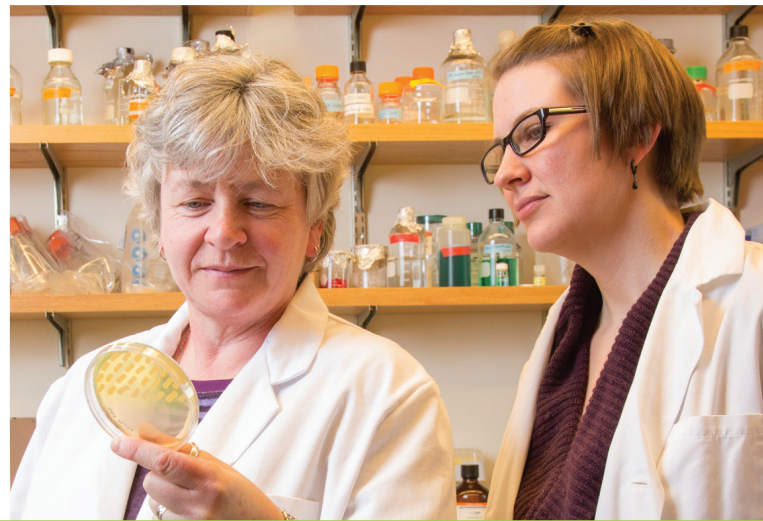
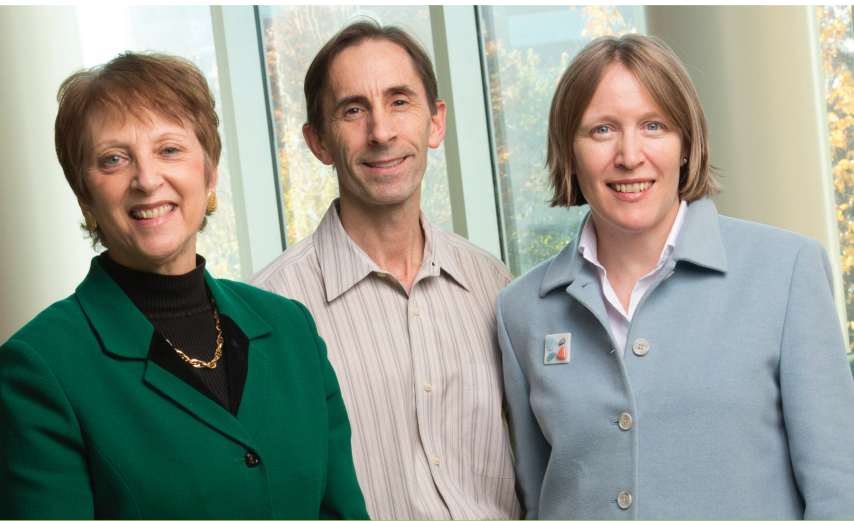


# THE VALUE OF COLLABORATION

Sharing approach pays dividends  
in PATIENTS project and in the lab



BY RANDOLPH FILLMORE

“ ... advancing scientific knowledge across the spectrum of drug discovery, health services, and practice-based and translational research with significant focus on collaborative partnerships. ”

— from the School of Pharmacy’s vision statement

Collaborative partnerships in medical and health care research are not new, especially at the University of Maryland, Baltimore (UMB), where researchers from the University’s seven schools have a very long history of successful collaboration with each other as well as colleagues around the nation and the world.

For one collaborative research project at UMB, there is now a new partner — the patient.

C. Daniel Mullins, PhD, professor and interim chair of the School of Pharmacy’s Department of Pharmaceutical Health Services Research (PHSR), recently received a five-year, \$5 million grant from the Agency for Healthcare Research and Quality to develop a program that engages patients and other stakeholders to help design research on health issues important to them.

“Including patient perspectives in research can improve health care research and health care delivery,” says Mullins. “We want to know from patients which research questions and what outcomes are important to them.”

The program Mullins and colleagues are developing is called PATIENTS — an acronym for Patient-Centered Involvement in Evaluating the Effectiveness of Treatments. It involves close collaboration among researchers from the schools of pharmacy, medicine, nursing, social work, dentistry, and law, the

University of Maryland, College Park, and collaborative partnerships with community associations, churches, advocacy groups, hospitals, health care systems, and, of course, patients. The focus of the program is

to bring the patient into the health research equation by using patient-centered outcomes research (PCOR), an innovative perspective that promises outcomes that will include patient health priorities and interests.

“PCOR is designed to provide meaningful evidence that enables informed health care decision-making by patients and other stakeholders,” explains Mullins. “PCOR means that when we are designing research protocols we are listening to the patient and including what is important to them.”

According to Eleanor Perfetto, PhD, MS, a professor in PHSR who has expertise in PCOR, when past research has engaged patients, that engagement was usually after the research was finished and largely meant simply communicating to the patient the results of research, such as clinical trials, in which they participated but had no voice.

“No one was asking the patient what they thought was best for them, which outcomes were important to them, or what quality of life they were hoping to achieve,” says Perfetto, who trains UMB researchers from a variety of disciplines in the core areas of PCOR. Her emphasis is on how practitioners can best engage patients.

With some recent help from the federal government, researchers will be eliciting important answers from patients and designing appropriate research questions. The Patient

Protection and Affordable Care Act of 2010 authorized patient-centered outcomes research and established the nonprofit Patient-Centered Outcomes Research Institute (PCORI) to assist in carrying out research projects that include patient-centered outcomes.

Robin Newhouse, PhD, RN, chair of the Department of Organizational Systems and Adult Health at the

School of Nursing, serves as chair of the PCORI methodology committee. She is also playing a major collaborative role in the PATIENTS program by guiding its activities related to program translation, dissemination, and implementation.

How she and Mullins became collaborators in PATIENTS is not so different from how so many fruitful collaborations get started — through networking. But there was a twist.

“I Googled him,” she says with a laugh. “I knew people at the School of Pharmacy, and after I heard about some of the things Dr. Mullins has been involved in, I wanted to know more. I found out that we are like bookends. We have been on parallel tracks. He has always had a passion for forming community collaborations, and I have had a passion for engaging systems of care, usually hospitals, to improve processes and outcomes for the patients they serve.”



C. Daniel Mullins with Mary-Claire Roghmann (left) and Robin Newhouse.

For Newhouse, the value of interprofessional collaborations such as the PATIENTS program can be found in having researchers from diverse disciplines thinking about what is best for the patient. “There is no room for silos in today’s world,” she suggests.

Those researchers engaged in the PATIENTS project can speak to the great value of such collaboration. For Mary-Claire Roghmann, MD, MS, a professor in the Department of Epidemiology and Public Health in the School of Medicine, an interdisciplinary approach to PCOR is necessary because of the complexity demanded by patient-centered outcomes research.

“Collaboration is the crux of patient-centered outcomes research,” she says. “Patients and other stakeholders have long been missing from biomedical research, and their absence has reduced effectiveness when it comes to improving public health. PCOR will change this by adding the patient to the research team.”

According to Mullins, one of the unique aspects offered by the PCOR perspective in PATIENTS is “continuous engagement” with the patient. That engagement includes framing research questions to include what patients want to see in their outcomes, reducing the jargon researchers might use when engaging patients, and taking into account that patients might not be interested in involving themselves in clinical trials in order to have outcomes where numbers suggest that they should feel better.

“We know that patients have outcomes interests,” concludes Mullins. “They are interested in regaining mobility, or better daily functioning, or perhaps being able to lead a more fulfilling social life. Our focus will be to select outcomes and interventions that matter to diverse patients.”

## CONTINUITY OF CARE

An important aspect of PATIENTS is addressing health disparities in under-represented populations and “enhancing” the innovative health care delivery models that will help to reduce the disparities. To accomplish this, several projects with PCOR at their core will be conducted under the PATIENTS umbrella. One such project is being conducted by Eberechukwu Onukwugha, PhD, MS, an assistant professor in PHSR and director of PHSR’s graduate program. She has carried out extensive research examining the effects of



Eleanor Perfetto



Eberechukwu Onukwugha

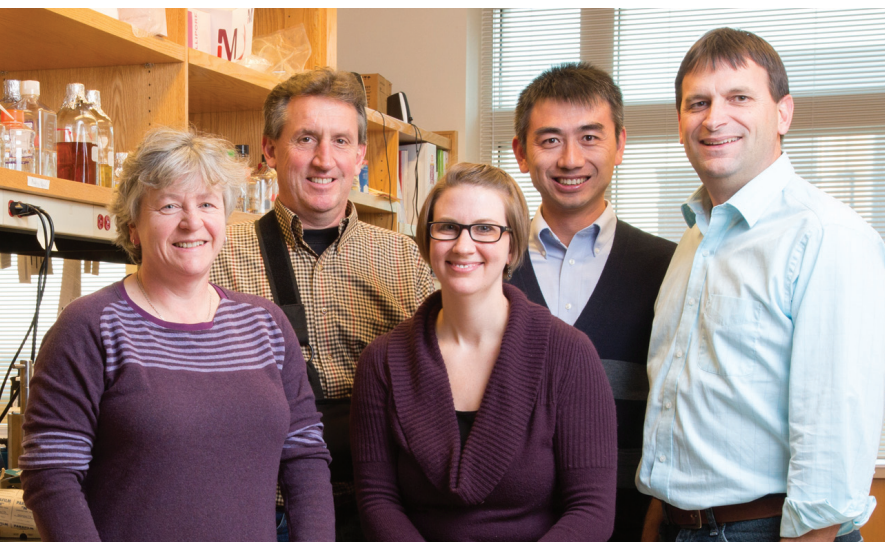
“discharge against medical advice” (DAMA), discharge planning, transitional care, and barriers and challenges to patient needs after discharge.

“For me, collaborations are critical,” explains Onukwugha. “By its nature, care delivery is multidisciplinary. The weeks following hospital discharge can be difficult for patients as they transition from an inpatient care setting. At times it may seem as if they have fallen off the face of the Earth for lack of continuity in care.” She has found that often patients do not get post-discharge care, or that they do not return for care.

For Onukwugha and her collaborators, keeping the patient’s perspective at the forefront is the way to enhance patient-centered care delivery and evaluate care delivery services. Her current project in a large hospital system in Northern Virginia examines unmet transitional care needs across Caucasian, African-American, Hispanic, and Southeast Asian adult patients to see if transitional care varies with either race or ethnicity. She and her collaborators will compare post-discharge outcomes for those who do or do not participate in transitional care management services and also will look at associated hospital readmission rates among them. They also will interview patients and caregivers to better understand their perspectives and needs regarding transitional care.

Besides working with colleagues in the School of Pharmacy, her collaborators include Niharika Khanna, MBBS, MD, DGO, associate professor of medicine at the School of Medicine; Ada Ibe Offurum, MD, assistant professor of medicine and director of the hospitalist service at the University of Maryland Medical Center; Linda Costa, PhD, RN, assistant professor, Department of Family and Community Health, School of Nursing; and Joshua Okundaye, PhD, MSW, MA, School of Social Work.





From left, Angela Wilks, Alexander MacKerell Jr., Amanda Oglesby-Sherrouse, Fengtian Xue, and Robert Ernst.

“Collaboration is the way forward in science.”

—ANGELA WILKS

## TEAMING UP AGAINST BACTERIA

Collaborative research often goes beyond being interdepartmental, across schools, across town, or across state lines. Such is the case with the collaborations being carried out by Angela Wilks, PhD, a professor in the Department of Pharmaceutical Sciences (PSC) and PSC's vice chair of research. Wilks' research team includes not only those in the School of Pharmacy and the School of Dentistry, but also biochemist Iain Lamont, PhD, a professor in the Department of Biochemistry at the University of Otago in Dunedin, New Zealand. Together, they are trying to stop a dangerous bacteria in its tracks by choking off its food supply.

“Biological pathogens have systems that utilize the host's heme — the iron component of hemoglobin — required for its growth and virulence,” explains Wilks. “We are looking for ways to inhibit the process of heme utilization for *Pseudomonas aeruginosa*, an opportunistic bacteria that can lead to hospital-acquired infections and the chronic, severe lung infections suffered by people with cystic fibrosis.”

The research team members come from multiple disciplines, which gives them an edge over the bacteria because they can better understand from a variety of perspectives how *P. aeruginosa* works and what may inhibit its heme-eating ways.

For example, Alexander MacKerell Jr., PhD, the School's Grollman/Glick Professor of Pharmaceutical Sciences and

director of its Computer-Aided Drug Design Center, and Fengtian Xue, PhD, an assistant professor in PSC, are optimizing the small molecules through computer-aided drug design and chemical synthesis to facilitate testing the inhibitors in animal models. Robert Ernst, PhD, associate professor in the Department of Microbial Pathogenesis at the School of Dentistry, is using genetic, molecular biology, and analytical approaches to define virulence mechanisms in *P. aeruginosa*.

“Dr. Ernst is a microbiologist with extensive expertise in infectious disease animal model systems,” explains Wilks.

Amanda Oglesby-Sherrouse, PhD, an assistant professor in PSC, is also a microbiologist and it is her expertise in *P. aeruginosa* iron and heme regulatory pathways and the collaboration with Lamont, says Wilks, that has helped better facilitate their heme/iron utilization/cystic fibrosis link by taking advantage of Lamont's extensive work examining *P. aeruginosa* iron uptake systems in patient samples.

“Collaborative research is the only way we can move what we do in academia toward a more therapeutic approach,” says Wilks. “We have to utilize a multidisciplinary team to be able to do everything from validating molecular targets to developing a pipeline for new therapies. Translational research requires multidisciplinary expertise and cross-fertilization of ideas to answer specific problems. Collaboration is the way forward in science.” ☼