The term “paradigm shift” refers to a change in basic assumptions within the ruling theory of science. It connotes a revolution, a transformation, a metamorphosis that is driven by change agents. And in 2003, a radical paradigm shift was looming for house staff and the medical school departments responsible for training them! A curriculum built on numbers of patients, lectures, and rotations wasn’t necessarily producing competent physicians. Residents were acquiring core knowledge and basic skills, but their clinical reasoning, professionalism, interpersonal skills, and teamwork were lacking. As calls for increased institutional accountability were driving a major overhaul of graduate medical education, governance was shifting away from departments, and the Accreditation Council for Graduate Medical Education (ACGME) – the agency responsible for accreditation of all postgraduate training programs within the United States – was mandating that all disciplines teach and assess six areas of general competence and shift to outcomes-based program assessment.

These were bewildering times for faculty for whom the apprenticeship always had been the accepted training method. Furthermore, although academic radiologists are the major radiology educators, they are paid and promoted by clinical and research productivity. A confluence of workforce shortages, rapid advances in technology, increasing reliance on diagnostic services, more complex studies and interventional procedure, and demands for faster, continuous imaging services, was making teaching time harder to come by.

As a department, we successfully shifted to the new paradigm, and even excelled at meeting the new requirements as evidenced by our most recent accreditation visits. Now we face a new paradigm shift. Changes to the ABR certification process are imminent. Residents who began radiology training July 2010 and beyond will take a core exam after 36 months and a certifying exam 15 months after they finish the residency program. The core exam replaces the current written diagnostic and physics exams. It will be a single computer-based and “image-rich” comprehensive assessment of diagnostic radiology and radiologic physics, including organ systems, imaging methods, and fundamental radiologic concepts. The new certification exam will replace the current oral boards, but it will be tailored to the candidate’s training, experience, and planned practice emphasis. It will be computer-based and consist of 5 modules: non-interpretive skills, essentials of radiology, and three additional modules based on content areas selected by candidates.
LINDA DELONEY, EdD

Linda Deloney, EdD, joined the department of radiology in 2003 as the first and, as far as we know, still the only non-physician medical educator with a faculty appointment in a radiology department. As assistant professor of radiology, she advises faculty on curriculum development, program evaluation, compliance, and educational research so they can focus on delivering clinical services and teaching residents and fellows. Dr. Deloney earned the doctor of education in addition to her masters degree in technical writing and bachelors degree in business administration.

Dr. Deloney serves on many UAMS committees, including the Graduate Medical Education Committee. She has been instrumental in developing an alumni survey for the College of Medicine that helps programs identify strengths and areas for improvement, as perceived by recent graduates. Her work is of immense help, especially to program directors who have limited time and resources to develop new assessment tools.

Nationally, she has been elected by her peers to the Steering Committees for the Generalists in Medical Education and the American Association of Medical Colleges’ Southern Group on Educational Affairs. For the Association of Program Directors in Radiology, she serves on the Education and Annual Survey committees.

From 1997-2003, she was a member of the team that designed and implemented the 2-year Introduction to Clinical Medicine course for the College of Medicine. During that time, she received the Educational Research Award given for significant educational research, and the Jay Randall Award from the UAMS Standardized Patient Program. From 1993-97, she staffed outreach programs in the Office of Cancer Education at the Arkansas Cancer Research Center (now Rockefeller Cancer Institute), including an Earthwatch-sponsored study of health education in the Caribbean.

MAX BAKER, PhD

With all the changes that are taking place with the new ACGME requirements, there have been changes in the teaching faculty as well.

Since 1970, Dr. Max Baker has taught Radiobiology to several hundreds of residents and fellows. This last summer Max retired from his 40 year career with the Radiology Department.

A native Arkansan, Max came to UAMS in 1965 as a graduate student. After a postdoctoral year at M.D. Anderson Hospital and Tumor Institute in Houston, he returned to UAMS to join Jim Vandergrift, MS, who had been teaching physics to the radiology residents for about a year. Most everyone that came through radiology remembers the two as a team. The two had known each before ever coming to Department; they had been classmates in graduate school.

Jim and Max taught together until Jim’s retirement in 2004. At that time, Max was joined by Michael Hall, a medical physicist and 1st year UAMS medical student at the time. Michael and Max taught together until this past summer when Max retired and Michael started his second year as a Radiology Resident.

Although Max still calls Maumelle, Arkansas home, he and his wife, Ann, now spend a part of their time traveling between Kansas City and Oklahoma City where they do a lot of visiting with their children and grandchildren. Their new travel trailer facilitates this and their other travels. Max says that he feels busier in retirement than he ever did while he was working fulltime.

Max was many things to many people. He served as an outstanding educator and tenured Professor of Radiology and Physiology-Biophysics for the Radiology Department. He taught for the College of Health Related Professions and the College of Pharmacy to undergraduate, graduate, and post graduate levels. Max also chaired the UAMS Radiation Safety Committee and the Institutional Animal Care and Use Committee. If all this wasn’t enough he still had time to contribute to the community through the River City Medical Clinic in North Little Rock and his church’s medical missions.

Although he is retired, Max continues to stay involved... Along with his contribution as editor to this publication he also serves as a board member for the History of Medicine Associates, and, fueled by his love of photography... tireless promoter, exhibitor and committee chair for the Arts of UAMS Committee and a member of the Arts Advisory Council of the UAMS Foundation Board.

In July 2010, Lynn McGuire was hired as the new Physics Instructor for the Department of Radiology. Many may remember Lynn from his career at the VA for many years. Lynn, incidentally, received his initial radiobiology training from Max.
Creating BETTER HEALTH through Education

Did you know that UAMS has established a regional campus in Northwest Arkansas to expand the university’s capacity to train medical professionals? In July 2009, the first students to attend UAMS-Northwest began their final two years of medical school at the regional campus. These six volunteers, now seniors, were joined in July by a group of four new junior students.

Instruction is largely one-on-one with physician preceptors in clinics, hospitals, and other health care settings. All say they are getting the same clinical experiences as their peers on the main campus, just in more of a community setting, and they can take their senior electives on either the Little Rock or Fayetteville campus.

Traditionally, radiology electives were provided on the main campus or at Area Health Education Centers (AHECs). This year, however, a new radiology elective is available at Washington Regional Medical Center. Ozark Radiology Services was approached about sponsoring a medical student rotation in Radiology and the group enthusiastically agreed. Eric Sale, MD, (former UAMS radiology resident (2005) and UAMS Body MRI fellow) volunteered to serve as course director, and he modeled the elective based on his own training experiences at UAMS.

“We were totally fine with it—we all want to help” Eric says. The practice of radiology is different in a hospital like Washington Regional (with 6 radiologists, each of whom does everything) than a University Hospital (with some 40 radiologists, all specialists). “It is not just me” Eric says; all of the radiologists spend time with the students, depending on time of day and interest of the student. At first, Eric feared the students might slow down workflow, but that has not been a problem. In fact, “having the student to talk to makes the work more interesting.”

Eric’s group tailors the experience to the individual student’s interests, since there is only one at a time. A recent student was planning to match in urology, so would spend time with the radiologist doing a VCU, or a nephrostomy for example. The goals of the rotation are to give the students a general idea of what is done in radiology, how advanced equipment like CT and MRI actually work, but most importantly what to order in appropriate fashion for specific clinical problems when they are in practice. Thus if the student has a particular focus, that will be taken into account, as the group, being small, can be very flexible. In addition Eric says “We want the students to enjoy their time here as well as learn. We want to form a relationship—who knows, they may be practicing in this area!”

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Paradigm Shifts in Radiology Training

The faculty were initially surprised by speed of this newest paradigm shift, but are making changes that will provide core teaching and focused subspecialty experiences … within existing department resources … without compromising the learning experiences of residents or fellows … while maintaining the positive aspects of residency culture. It’s a tall order, but there is evidence to suggest they are up for the challenge.

Today we have 5 ACGME-accredited programs and almost 50 trainees from PGY1 (interns) to PGY6 (fellows) who are governed by department policies and College of Medicine policies along with ACGME institutional and common program requirements and last, but far from least, a unique set of ACGME requirements for their specialty. The American Board of Radiology, the Mammography Quality Standards Act, and the US Nuclear Regulatory Commission weigh in with their own training mandates. And all of these “rules” are in a constant cycle of updating and revision.
CHAIR COMMENTS

Medical Education is a bedrock mission of UAMS and therefore of the Radiology Department. It is a critical mission for the department. No one else in the state of Arkansas trains radiologists for the future. This issue highlights education, educators, testing and changes in all three. The key factors in education are the material being taught (constantly changing in radiology!), the teachers (and we profile several as well as some changes) and how learning is tested (the Boards! Also changing). Of course the learners cannot be forgotten.

My first experience with the ABR exam in Louisville was during my own exam, 1981, using films and view boxes and, as I recall, only 8 sections. I recall getting a job offer during one section—a practice at one point not uncommon, now banned. Having been an examiner more times than I would like to admit, I have personally seen the transition from film to digital technology, even cine clips (although the chimes seem never to change). Soon the oral exam will be history, some say not a moment too soon. Already the Executive East Hotel has been torn down and the Executive West remodeled as a Crown Plaza. How the new scheme will work and what impact it will have only time will tell. Perhaps it will change the final year of residency from a time of frenzied studying to more reasonable endeavors, mini fellowships or research—at least that is the hope.

Changes in teachers also are inevitable. Max Baker (and his long time colleague Jim Vandergrift) have educated decades worth of residents. While the principles of radiation biology and physics have hardly changed, the technology over his career has dramatically changed. Max now goes to deserved retirement and Lynn McGuire will begin anew with the new physics scheme. Linda Deloney and Eric Sale (a former UAMS resident) and his colleagues, we hope, will continue for many years before they also move on.

Change is inevitable in education as in all things, but one thing does not change—the need for education itself. Not only must we continue to train bright young people to be the radiologists of the future, we also need to imbue them with the passion for continuous learning, so they can stay on the forefront of their field whatever new developments arise.

Phil Kenney, M.D.