

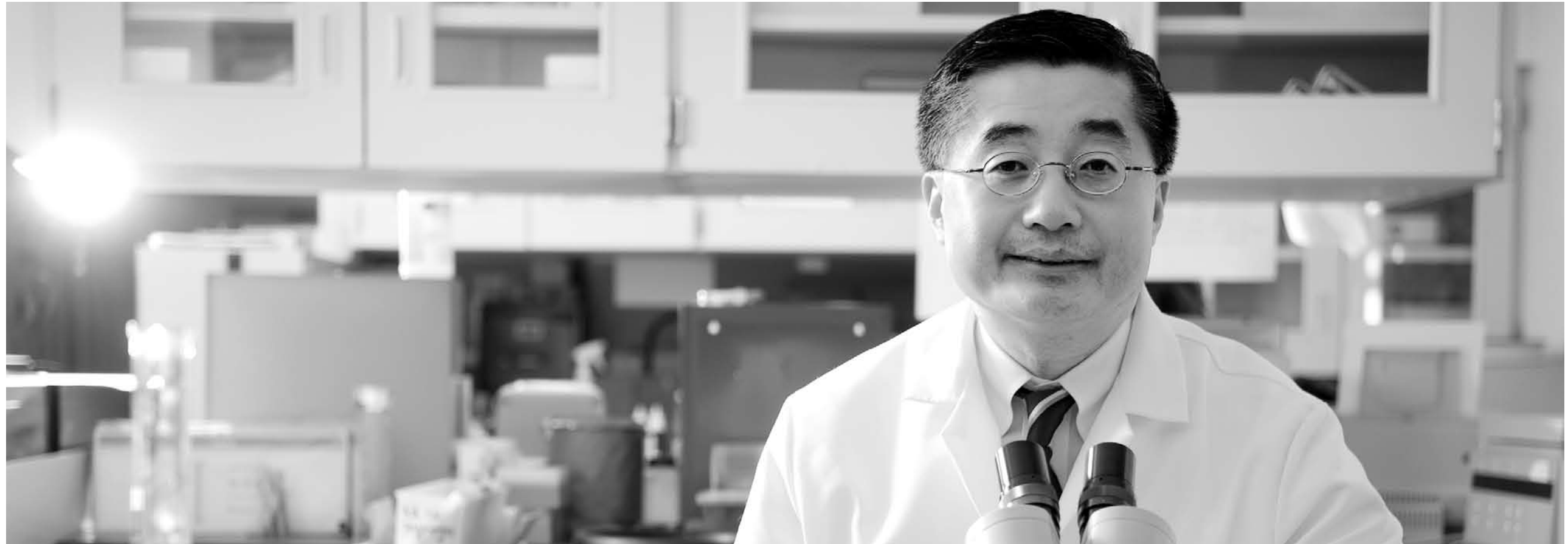
Editor's Note

Given that many graduates of the School of Medicine and Biomedical Sciences may not be familiar with the careers and accomplishments of department chairs who have joined the school in recent years, Buffalo Physician is beginning a series of articles that will profile these chairs, as well as highlight goals they have set and notable achievements they have attained in collaboration with faculty and staff.

We felt this was a propitious time to begin such a series since the school is embarking on a new era under the leadership of Dean Michael E. Cain, whose role includes the fostering of multidisciplinary collaborations among departments in an effort to support the long-term objectives of the university as outlined in its strategic plan, UB 2020.

Should you wish to contact chairs profiled in this series, or faculty whose work is described, we invite you to do so by e-mailing them at the address provided at the end of each article.

—S. A. Unger



PHOTOS BY DOUGLAS LEVERE

In 2000, nationally recognized reproductive endocrinologist John Yeh, MD, was recruited to UB to chair the Department of Gynecology and Obstetrics

Delivery of Care

BY S. A. UNGER

John Yeh, MD, leads the Department of Gynecology and Obstetrics

THROUGHOUT THE 160-YEAR HISTORY of the UB School of Medicine and Biomedical Sciences, the Department of Gynecology-Obstetrics has been led by physician-scientists who have been among the finest in their field, including the legendary James Platt White, MD, who served as the department's first chair. In addition to being a founder of the UB Medical School, White is credited with introducing the clinical teaching of obstetrics in the United States, being the first to advocate for the use of anesthesia in childbirth and developing many surgical techniques and instruments, including the use of obstetrical forceps.

John Yeh, MD, who was appointed chair of the UB Department of GYN-OB in 2000, has a firsthand appreciation for the history of medicine not only because of the internationally renowned mentors who have strongly influenced his career, but also because of a family history that includes a long line of accomplished physician-scientists.

Yeh's maternal grandfather was a surgeon, and several of his uncles were physicians. In addition, all three of his siblings are physicians, and both of his parents are biochemists who have taught in academia.

Was there any doubt that Yeh would become a physician?

Well, actually, yes there was, as is evidenced by his circumspect answer to this question.

"While I was in college, I really didn't know what I was going to pursue, but starting with my junior year, I thought maybe medicine potentially could be a

career for me," says the 50-year-old Yeh, who earned an undergraduate degree, cum laude, in biochemistry from Harvard University in 1979.

Although Yeh has a strong tradition of medicine in his family, his path to Harvard, and later to medical school, involved his family leaving behind many other familiar traditions to experience a new way of life in a new country.

Yeh was born in Taiwan, and in 1964, when he was seven, his family moved to the United States.

Earlier, when Yeh was three years old, his father, a graduate of National Taiwan University, had come to the United States to earn his PhD at the University of California at San Francisco (UCSF). His mother, who remained behind with the children, was also a graduate of National Taiwan University, where she served as the first female faculty member at its medical school.

When the family moved to the United States in 1964, it was in order for Yeh's father to complete a postdoctoral fellowship at the University of Michigan in Ann Arbor, where the family stayed for three years, until Yeh was 10.

They then moved to Little Rock, Arkansas, where Yeh's father joined the faculty in the Department of Biochemistry at the University of Arkansas Medical School.

"I grew up in Little Rock, and I graduated from high school there," says Yeh. "I still go down there regularly."

Growing up, Yeh developed a fondness for fishing and an affinity for classical music. A gifted musician, he was invited to play string bass with the Arkansas Symphony Orchestra as a regular member while still in high school. In college, he played with the Harvard-Radcliffe and Bach Society Orchestras.

Model Mentors

WHEN YEH WAS AT HARVARD, his father spent a year at the Salk Institute in San Diego, and Yeh visited him during the summer between his freshman and sophomore years. Yeh was so impressed with San Diego that when it came time to plan for medical school, he applied to the UC San Diego and was accepted.

At UCSD, Yeh was mentored by an extraordinary group of OB-GYN faculty members who influenced his decision to go into the specialty.

“When I was in medical school in San Diego,” he recalls, “there was a very strong, active group of reproductive endocrinologists there—men who were giants in the field at that time, includ-

ing Samuel Yen and Robert Rebar.”

Rebar is currently the executive director of the American Society for Reproductive Medicine.

Samuel Yen, who died last December at age 79, is a particularly legendary figure in modern OB-GYN. He is credited with pioneering work that elucidated how chemicals in the brain regulate the menstrual cycle, research which, in turn, provided a foundation for successful infertility treatments.

In talking about his experience as a medical student at UCSD, Yeh explains that many of his classmates also were influenced by this group of faculty.

“When I was a student, there were at least a dozen of my classmates who also went into OB-GYN and, of those, a good number went into reproductive endocrinology.”

A Subspecialty Calling

Following graduation from medical school in 1982, Yeh returned to the East Coast to complete his residency training at Harvard Medical School’s Beth Israel Hospital.

During residency training, Yeh’s interest in the field of reproductive endocrinology was further stimulated by events taking place all around him—events that, in hindsight, amounted to medical-history in the making.

“When I was a junior resident, some of the first IVF [in vitro fertilization] babies in New England were being born,” he recalls. “The combination of my mentors in medical school and the fact that television crews were

coming to film at the hospital all the time when these babies were born contributed to my interest in reproductive endocrinology.”

Upon completion of his residency training, Yeh served a fellowship in fertility and reproductive endocrinology at Brigham and Women’s Hospital in Boston.

At the Brigham he was again fortunate to be mentored by faculty who were luminaries in the field, including Kenneth Ryan, MD, then chief of OB-GYN at the hospital; Robert Barbieri, MD, Ryan’s successor; and Isaac Schiff, MD, currently chief of OB-GYN at Massachusetts General Hospital.

The Leadership Track

After completing his clinical fellowship and then a postdoctoral fellowship, Yeh joined the faculty at Harvard University as a full-time assistant professor of OB-GYN and director of research for the Division of Fertility and Reproductive Endocrinology.

By 1995, he had been promoted to associate professor and was responsible for teaching OB residents, lecturing and overseeing fellows in clinics and the laboratory.

At Harvard, Yeh also pursued research into growth factors.

“I was interested in how a certain class of hormones (peptide hormones) regulate ovarian function,” he explains.

“About that time, in the early 1990s, there were important breakthroughs in the understanding of cellular function. Until that point, it was well understood that some cells maintain their undifferentiated state—they stayed stem cells—while other cells differentiated.

“The new understanding pertained to apoptosis—that cell death is a normal physiological process of cellular development.

“My laboratory became interested in how that might apply to ovarian

function,” he continues, “and we conducted some early studies that looked at which of the apoptosis genes are expressed in the ovarian cells, the granulosa cells. We studied several disease states, including polycystic ovary disease, and looked at how programmed-cell death potentially caused this to form. We were able to show at the cellular level that, as part of the cyst formation, there is an increase in cell death.”

In 1997, Yeh was recruited to serve as professor and vice chair of OB-GYN at the University of Minnesota and head of OB-GYN at Regions Hospital in Minneapolis. In this dual role, he was responsible for research and strategic planning for the university’s OB-GYN department, and for overseeing the administration of all OB-GYN services at the 450-bed Regions Hospital, which at the time performed 1,800 deliveries a year.

While in Minneapolis, he also served as executive director of the Women’s Health Program at Regions Hospital and cochaired a committee that was responsible for planning for the comprehensive development of women’s health services at the hospital. In addition, he maintained an active clinical practice in reproductive endocrinology and conducted further research on the mechanisms of apoptosis in relation to endocrine disorders affecting the ovary.

While his administrative tasks in Minnesota were demanding and competed with time he could devote to his clinical and research interests, Yeh says he enjoyed his larger programmatic responsibilities.

“By being responsible for a larger unit, I felt that one could make more of a positive impact on the care of women,” he says. “This has been a primary driving point for what I’ve always tried to accomplish as an administrator.”

New Momentum

In 2000, following a national search, Yeh was named chair of the UB Department of GYN-OB, and he and his family—wife Barbara Watson, who is an attorney, and their two children, Mary, now 9, and Charlie, 8—relocated to Buffalo.

Among other things, Yeh says he was attracted to the position at UB because it was a new challenge.

“Also, when I came here to interview,” he adds, “I saw how committed the faculty were to the central missions of the department, and I thought that I might be able to provide some of the things that they needed to continue to move forward.”

Building on the strength of faculty has been a primary area of focus for Yeh during his six and a half years at UB. When he first arrived, the department had 12 members; today there are 20 members, including three at Roswell Park Cancer Institute (RPCI).

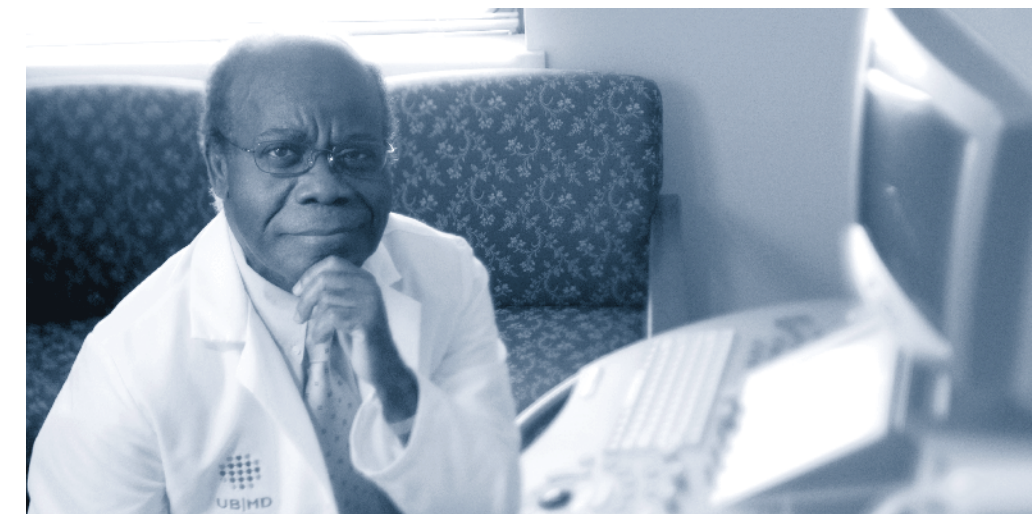
“When I came to UB, the Department of Gynecology-Obstetrics was nationally known for its clinical excellence and high-quality teaching;

however, research was not a priority,” Yeh explains from his office at Women and Children’s Hospital of Buffalo. “This is something I’ve worked to change by strengthening laboratory research in the department, tightening affiliations with UB’s basic-science and clinical departments and by recruiting academic physician-scientists.”

Yeh points to three of his most recent recruitments to the department: Kofi Amankwah, MD, Glenna Bett, PhD, and Armando Arroyo, MD.

Amankwah is a subspecialist in maternal-fetal medicine who was formerly professor and chair of OB-GYN at Southern Illinois University. Prior to that, he served as a professor of OB-GYN at the University of Toronto, where he directed the maternal-fetal medicine program.

“We recruited Dr. Amankwah to the department to help us reestablish our maternal-fetal medicine fellowship, and he joined our faculty in June 2006,” explains Yeh. “Having a fellowship in the subspecialty here at UB will not only strengthen the teaching for the medical students and residents, but will also improve the care of pregnant women with medical and surgical problems during their pregnancy.”



Kofi Amankwah, MD, former chair of OB-GYN at Southern Illinois University and former professor of OB-GYN at the University of Toronto, was recently recruited to the UB Department of GYN-OB to help reestablish its Maternal-Fetal Medicine Program.

Growing up, Yeh developed a fondness for fishing and an affinity for classical music. A gifted musician, he was invited to play string bass with the Arkansas Symphony Orchestra as a regular member while still in high school. In college, he played with the Harvard-Radcliffe and Bach Society Orchestras.

Bett was completing her postdoctoral work in physiology at UB when Yeh recruited her into the department.

"We asked Dr. Bett to join our department because we are interested in having someone who can help us address basic-science questions in maternal-fetal medicine and other areas of OB-GYN," explains Yeh. "Her area of expertise is in ion channels—how cell signaling occurs—as it pertains to both normal and premature labor."

Arroyo is a reproductive endocrinologist who completed his subspecialty training at UCSD prior to coming to UB. Like Yeh, he also was mentored at UCSD by Samuel Yen, MD.

"Dr. Arroyo's interest is in a hormone called GnRH and how abnormalities in it can result in precocious puberty or delayed puberty," explains Yeh. "Some analogs of GnRH are used to induce a medical-menopause state in women. The drugs—called GnRH agonists—are approved by the FDA for the treatment of endometriosis for women with pain associated with this condition."

One measure of the momentum gained by the combined GYN-OB faculty at UB and RPCI is the fact that last year they published 25 research papers. Furthermore, for 2007, faculty have applied for \$2 million in funding from the National Institutes of Health.

Strong Residency Training

Another area of focus for Yeh has been the strengthening of the GYN-OB residency program. When he came to UB,

Another challenge for obstetrics, locally and nationally, is the cost associated with malpractice insurance, says Yeh. "This is quite problematic in many parts of the country, and it has resulted in there being areas where people are not practicing obstetrics. It also has resulted in more obstetricians giving up obstetrics at an earlier age, only to concentrate on gynecology."

the program was training six residents a year; today, nine are being trained each year, for a total of 36 residents in the program. This makes UB's program one of the largest in New York State and in the United States.

"Our residents train at Women and Children's Hospital, Buffalo General Hospital, Erie County Medical Center, Roswell Park Cancer Institute and Millard Fillmore Suburban," Yeh explains. "And the advantage of residents going to these many sites is that it allows them an opportunity to take care of the whole spectrum of patients, including those who are indigent.

"The diseases they see and the experiences that they get are different in these settings," he adds. "For example, at Suburban, they get a lot of gynecologic-surgery training, whereas at ECMC, they get a lot of important

training in ambulatory care."

One measure of how solid the GYN-OB residency program is at UB is the fact that applications for the program are on the rise at a time when there is a declining interest in the specialty among medical school graduates nationally.

"We have over 350 applicants this year, and that's up from about 175 when I first came here," says Yeh, who adds that the candidates applying are strong, which in turn allows the program to be more selective.

"The most important thing about our training program—the thing that draws applicants to it—is they know that they will get strong clinical training in the four years they are here, and they absolutely do," Yeh emphasizes.

"We have excellent faculty, and in terms of the number of gynecologic cases we offer residents, we rank in about the 75th to 80th percentile nationally, so they get a very rich experience here."

A second measure of how strong the GYN-OB residency program at UB has become in recent years is the fact that so many residents have gone on to highly competitive fellowship training programs.

"Currently, we have a person at Harvard in gynecology-oncology and one person at Yale in maternal-fetal medicine, another at UC San Francisco in reproductive endocrinology and another at Wayne State University in reproductive endocrinology," notes Yeh. "And the individual at Wayne State was promoted to assistant professor the first year of his fellowship based on research he conducted while a resident here."

Trends and Challenges

IN DESCRIBING THE OPPORTUNITIES and challenges he and his faculty encounter in their clinical and research endeavors, Yeh touches upon some of the larger, specialty-wide trends in GYN-OB today, as well as issues related to area demographics.

He explains that faculty in the department's Division of Maternal-Fetal Medicine are responsible for high-risk obstetrical patients at the Regional Perinatal Center for Western New York.

Based in Women and Children's Hospital of Buffalo, the center has affiliation and transfer agreements with 17 obstetrical hospitals in the region and also accepts maternal and newborn transfers from Pennsylvania and Ontario, Canada.

"One of the challenges associated with maternal-fetal medicine and high-risk obstetrics in Western New York," says Yeh, "is the decrease in population that, over an extended period of time, results in a decrease in patients.

"The flip side of this trend," he continues, "is that, over the last few years, volume at Women and Children's Hospital—our main training site for obstetrics—has increased, and this is because some of the outlying hospitals have done fewer cases."

Too, despite a declining birth rate in the area, the proportion of high-risk obstetrics cases are on the rise due to more pregnancies in older women and more complications from pre-existing medical complications, such as diabetes and cardiovascular disease.

Another challenge for obstetrics, locally and nationally, is the cost associated with malpractice insurance, says Yeh.

"This is quite problematic in many parts of the country, and it has resulted in there being areas where people are not practicing obstetrics. It also has resulted in more obstetricians giving up obstetrics at an earlier age, only to concentrate on gynecology."

The problem is not as acute in Western New York as it is in downstate, he reports, due in large part to a group insurance program established by a faculty member in the UB Department of GYN-OB, William Dillon, MD.

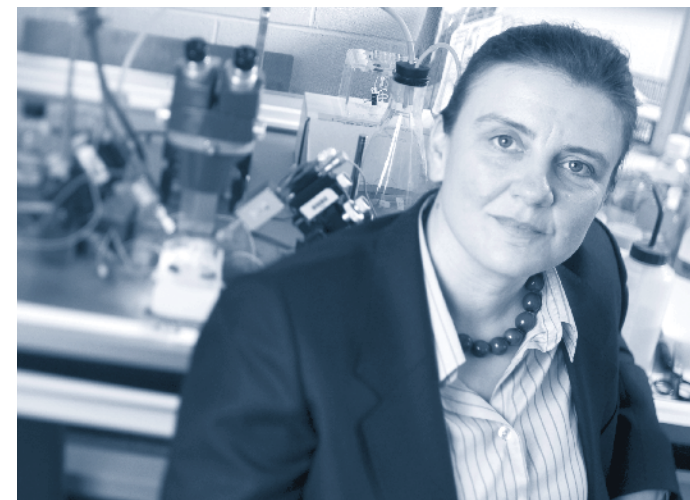
The malpractice program, called Academic, has lower malpractice rates because it restricts the group to clinicians who are active teachers in the medical schools in the State University of New York system, as well as in several other medical schools around the country.

"By having this program available to us, it allows our malpractice premiums to be less than the premiums of the private practitioner," explains Yeh.

The problem of malpractice insurance, however, has other insidious implications for the specialty; most notably, it is discouraging people from entering the field.

Because UB's Department of GYN-OB has been one of the few departments in the country to successfully counter this trend, it has gained national recognition for its efforts. For example, the January 2007 issue of the *ACOG Today*—the newsletter of the American College of Obstetricians and Gynecologists—published an article titled "Buffalo OB-GYN Department Successfully Recruits Medical Students."

The article outlines steps that have been taken by Yeh and his faculty to promote the specialty to medical students at UB. These include providing hands-on workshops for third- and fourth-year students and clerkship rotations that allow students to interact with patients, observe surgeries and attend conferences. The department also sponsors preceptorships and subinternships that provide students a more close-up look at subspecialty areas.



Glenna Bett, PhD, was recruited to the department for her expertise in ion channels as it pertains to normal and premature labor.

In addition, the article explains, “the department hosts society dinners, summer training workshops and symposiums and offers mentorships with faculty and students.”

It concludes that the number of the university’s students “who go into the specialty are higher than the national average of 5 percent of a medical school’s students who match into an ob-gyn residency.”

Two of the department’s other divisions—reproductive endocrinology and general gynecology-obstetrics—are experiencing steady growth and high volume, according to Yeh.

“We see reproductive endocrinology patients at our Summer Street office, and we’ve also started clinics here at Women and Children’s Hospital and at Buffalo General Hospital to take care of these patients.”

In general, patients in need of this subspecialty care are those who experience hormonal problems that result in such conditions as menstrual irregularities, precocious puberty, delayed puberty, hirsutism or polycystic ovary disease.

“We take care of patients with infertility, as well,” says Yeh, “so it encompasses a wide range in age of patients, with hormonal problems being the common entity.

“Services provided by the Division of Gynecology-Obstetrics represent “the bread-and-butter of our profession,” says Yeh, “and faculty in this division play a very important role in assuring that the general obstetrics-gynecology education of residents and medical students is accomplished.

“It is here that they gain exposure to such things as how to take care of patients in the office; for example, what to do with an abnormal PAP smear, or how to consult with women needing hysterectomies.”



Armando Arroyo, MD, a recent recruit to the department, is a reproductive endocrinologist whose research focuses on a hormone called GnRH and how abnormalities in it can result in precocious or delayed puberty.

The Division of Gynecology-Oncology at Roswell Park Cancer Institute “sees the whole spectrum of gyn-onc patients and also conducts cutting-edge research,” Yeh explains.

One of the primary focuses of this division is treatment and research of ovarian cancer, a disease that causes more deaths in women than any other cancer of the reproductive system.

Yeh notes that Shashikant Lele, MD, chair of the Department of Gynecologic Oncology at RPCI and a UB faculty member, was a major contributor to an ovarian cancer clinical trial that was reported on in the January 5, 2006 issue of the *New England Journal of Medicine*.

The study, which evaluated the effectiveness of administering large doses of chemotherapy directly into the abdomen during and after surgery, found that larger doses of chemotherapy could be given safely, target the cancer effectively and improve the overall survival for women with advanced cancer by

about 16 months, when compared with standard chemotherapy.

Faculty in the division led by Kunle Odunsi, MD, PhD, at RPCI have also recently provided compelling evidence that a simple blood test for early ovarian cancer screening might be developed in the near future.

In their research, they have used complex computer programs to interpret information from nuclear magnetic resonance (NMR) analyses of blood samples, which then yield profiles showing the structures of the disease.

The approach has identified biomarkers in blood samples that can distinguish women with early-stage ovarian cancer from healthy women. The scientists collaborating on this project believe that these biomarkers could be developed into a screening test for ovarian cancer.

They also predict that the NMR approach will not only benefit thousands of women each year, but also will have practical implications in other types of cancer as well.

Telltale Symposium

In addition to creating an environment that nurtures strong clinical, research and training programs, Yeh believes that it is the obligation of an academic department to provide continuing medical education opportunities to physicians in the community.

To this end, he and faculty and staff in the department, led by Ronald Batt, MD ’58, and Patricia Szymkowiak, have worked for the last six years to organize the Buffalo Symposium on Women’s Health.

the Buffalo Niagara Medical Campus and featured presenters from Stanford University School of Medicine and Columbia University College of Physicians and Surgeons, in addition to UB faculty from a number of clinical departments, including neurosurgery and anesthesiology.

The energy and enthusiasm surrounding this symposium is indicative of the positive momentum Yeh and his faculty and staff feel when they meet to discuss departmental goals for the future.

The benchmark the department uses in determining its five- to 10-year goals are medical school obstetrics-gynecology departments in the top 10 public universities within Association of American Universities (AAU), of which UB is member.

“I think it’s important that we think about this benchmark, and figure out how to get there if we can,” says Yeh. “We routinely talk about these things in our faculty and staff meetings.”

The fact that Yeh so consistently includes mention of faculty and

staff when he talks about departmental goals is no mere afterthought, but instead a signature of his leadership philosophy.

“None of the things I’ve accomplished as chair would have been possible without the outstanding faculty and wonderful support staff we have in the department,” he says. “Everyone has played—and will continue to play—really critical roles in helping to shape the

department and in getting it to move forward so that it be even better than it is.” **BP**

One measure of how solid the GYN-OB residency program is at UB is the fact that applications for the program are on the rise at a time when there is a declining interest in the specialty among medical school graduates nationally.

In its early years, the annual day-long symposium was small, mostly involving department faculty, but today it has evolved into an event that draws as many as 130 attendees.

In 2005, the symposium was a binational effort, involving faculty from MacMaster University in Hamilton, Ontario, Canada. In 2006, it was held at UB’s New York State Center of Excellence for Bioinformatics and Life Sciences on

“UB 2020 [the university’s strategic plan] is something that our department has been thinking about,” says Yeh, “both in terms of how we can work within its framework and ways we can contribute to it.

“We are always looking for ways we can improve—how we can compete more successfully for residents, grants, publications or new faculty members.”

For more information about the UB Department of Gynecology-Obstetrics, or to contact Dr. Yeh, e-mail Patricia Szymkowiak, assistant to the chair, at szymkow@buffalo.edu.