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the pulse

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On the cover

Col. (Dr.) Michael J. Sundborg, chief, gynecological oncology, Womack Army Medical Center at Fort Bragg, N.C., speaks with Navy Lt. (Dr.) Mae Wu, a third year obstetrics and gynecology resident at Walter Reed National Military Medical Center, during a mentorship moment in an exam room at the medical center Oct. 29. (U.S. Army photo by Sgt. A.M. LaVey)



FMIG teams up to fight homelessness and medical vulnerability

By Cmdr. Adam Saperstein, Dept. of Family Medicine



Photo by Navy Cmdr. Adam Saperstein

Members of the USU Family Medicine Interest Group prepare to interview members of the homeless community as part of the “100,000 homes” campaign.

More than 35 members of the USU Family Medicine Interest Group hit the streets recently, interviewing members of the homeless community in Montgomery County as part of the “100,000 Homes” campaign (www.100khomes.org), a national movement of communities working together to find permanent homes for 100,000 of the country’s most vulnerable and chronically homeless individuals and families.

Working as volunteers for Bethesda Cares, a local non-profit organization whose mission is to serve the working poor and homeless population in Montgomery County, students and Family Medicine faculty conducted a homeless vulnerability index—an essential component of prioritizing the needs of each individual.

John Mendez, outreach specialist for Bethesda Cares, best explained the importance of this survey.

“Previous approaches to homelessness have missed the mark,” he said. “While well-intentioned, efforts have been focused on shelters and temporary solutions to a permanent problem. Realizing that ‘housing is health’ we now understand that this is the first key step to improving the quality of life of those who are homeless, while simultaneously

decreasing the economic impact of homelessness on the community.”

He went on to explain, “Studies have demonstrated that homeless people are more likely to use an emergency room for their health care, and utilize fire department and police services. If we can put them into supportive housing, programs have shown up to 90 percent will remain, at a substantial cost savings to the community.”

Having USU medical students involved in the program has been a boon for Bethesda Cares. “They are awesome,” said Mendez, “the students come with interview skills which put our clients at ease. They are also able to use their observations to recognize medical problems the clients may not reveal. Having this cadre of volunteers has a tremendous impact on our ability to accomplish our mission.”

Driven by the same altruistic spirit and belief in the greater good that led them to USU, the students enthusiastically embraced this opportunity. “I know I have exams coming up, so I thought I would just come out on Tuesday morning, but after seeing what an impact we are having, I had to come back [the next day],” said one first-year student.

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USU Alumnus sets up world-class residency program

By Sgt. A.M. LaVey

Army Col. (Dr.) Michael J. Sundborg knows women.

And it's this knowledge that brought him back to Fort Bragg after a long professional absence. Sundborg, an obstetrician and gynecologist specializing in gynecological oncology, is the director of graduate medical education for Womack Army Medical Center and was tasked with initiating an OB-GYN residency program here.

"This residency selects medical school graduates and trains them over a four-year period to become obstetrics-gynecology physicians," said Dr. Y. Sammy Choi, chief, clinical investigation service, WAMC. "(Sundborg's) job is to foster a culture of teaching and scholarly activities that are required by the Accreditation Council for Graduate Medical Education, the accrediting body for physician training programs in the U.S."

Setting up the new program at Womack was no easy task; the entire process took about ten years. In order for Womack to have a complete training program, the hospital must have all the departments for a resident to rotate through, like: general gynecology, urogynecology, pelvic reconstruction, gynecologic oncology, reproductive endocrinology and infertility, and maternal-fetal medicine.

"Because of Fort Bragg's population, we're now the only medical center in the region that has all the subspecialties for women's health," said Sundborg. "When I was a resident here in the 90s, we had to go to [the University of North Carolina at Chapel Hill for additional training.] Having all the subspecialties here will really be the key ingredient needed to make our program successful."

Sundborg was born into an Army family at Fort Campbell, Ky., and came to Fort Bragg as an enlisted medical specialist in the 82nd Airborne Division in 1978. After

completing a degree in biology on a ROTC scholarship at then-Methodist College, Sundborg was commissioned and spent time as a field artillery officer with the XVIII Airborne Corps, as well as in Korea. He transferred over to the medical corps after completing his doctorate in medicine at the Uniformed Services University of the Health Sciences in 1994.

It was during a tour in Iraq as the commander of the 1st Forward Surgical Team that Sundborg said he really felt the need to give back to military medicine.

"Our medical training program for military gynecologists became very important to me and I really saw a new role for me and that was to start mentoring doctors-in-training," he said. "These are the doctors who will be taking care of our wives, daughters and mothers."

A medical residency is a graduate-level study of medical practices under the tutelage of a more senior doctor in the specialty of the student's choice. These programs are post-doctoral, usually paired with an internship, and are generally required for medical licensure.

Currently, Womack has five residents who are rotating through all the OB-GYN departments, spending time in each subspecialty in order to increase medical knowledge within their chosen specialty.

"This is one of the only places in the military that provides such a program," said Sundborg. "Now other medical centers have to send their people here, while ours get to stay in one place during their training period. This is the only program in the Army and maybe the [Department of Defense] that has that ability."

Not only does the Womack program top the chart when it comes to curricular training, but with 10 percent of the Army's active-duty force, Fort Bragg's unique population provides access to a wide variety of cases for the residents to be exposed to.

"Here at Fort Bragg, we can offer all the services that they'll need throughout their lifetimes," said Sundborg. "The Army is now 15 to 20 percent female and we are able to provide them with the medical care they need as professional warfighters. Our patients' ages range from young children to a growing number of veterans and retirees."

Many people may not realize that Womack's OB-GYN department is the busiest in the Army and the second busiest in the entire DoD in terms of volume and the types of services offered.

"Fort Bragg is a natural place for me to mentor young doctors," said Sundborg. "We are afforded many training opportunities and are now able to share them with other people through this program. It really is a point of personal satisfaction that I get to mentor these doctors."

Residents come to Fort Bragg from Walter Reed National Military Medical Center, Portsmouth Naval Hospital, Madigan Army Medical Center and numerous other medical centers throughout the Department of Defense.

Sundborg's mentees seem to be more than satisfied with his performance as a women's health mentor. Two former residents, Air Force doctors trained at Walter Reed, recommended him for the Armed Forces District of the American College of Obstetricians and Gynecologists' Professor of the Year award.

"It was immediately evident that Dr. Sundborg has a love for the profession ... and a sincere interest in resident education," said Air Force Capt. (Dr.) Kristen Zeligs, an OB-GYN at Walter Reed. "He has proven to be not only a talented teacher, but also a dedicated mentor."

Zeligs studied under Sundborg as both a medical student at the USU and as a resident at Fort Bragg.

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Congratulations

Congratulations to the following USU M.D. program alumni who were recently selected for promotion to Colonel, Medical Corps, U.S. Army:

Bailey, Edward - Class of 1997 - Selected Below Zone

Bojescul, John - Class of 1996

Cable, Benjamin - Class of 1996

Choi, Yong - Class of 1996

Crum, William - Class of 1996

Davis, Alan - Class of 1996

Eccles, Thomas - Class of 1999

Edwards, John - Class of 1996

Gates, Daniel - Class of 1996

Geracci, James J. - Class of 1996 - Selected Below Zone

Goodwin, George R. - Class of 1996

Grammer, Geoffrey - Class of 1996

Gray, Sharette - Class of 1996

Hsu, Daniel - Class of 1996

Malik, Jamil - Class of 1995

Malish, Richard - Class of 1996

Mysliwicz, Angelia - Class of 1996

Mysliwicz, Vincent - Class of 1996

Pitney, Aaron - Class of 1996

Rice, Matthew - Class of 1997

Rosen, Irene - Class of 1999

Singh, Niten - Class of 1997

Soltis, Christopher - Class of 1999

Tanaka, Joel - Class of 1996

Overall, 102 officers were considered for promotion IN ZONE. Of those, 74 were non-USU (72.5%) and 28 were USU graduates (27.5%). Of the 74 non-USU officers considered, 45—or 60.8%—were selected for promotion. Of the 28 USU alumni considered for promotion in zone, 20—or 71.4%—were selected.

Two USU graduates were also selected for promotion above zone.

In addition, USU graduates accounted for 100% of the BELOW ZONE selections.



A number of USU medical students participated in this year's Marine Corps Marathon recently. This year the students added a slight twist, by carrying ruck sacks the entire 26.2 miles for charity. For every \$20 donated a pound was added to their ruck sacks. The team raised more than \$4,200.

100,000 homes..

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Navy Capt. (Dr.) Mark Stephens, chairman of the Department of Family Medicine, was quick to recognize the value of this experience. "Medical school is intense and has the potential to be socially isolating. Given this reality, it is important for our students to engage with the wider Bethesda community to gain an understanding of healthcare issues occurring 'outside the gates.'"

The FMIG looks forward to a continued relationship with Bethesda Cares, and is collaborating with local leaders to expand its community involvement, which currently includes "Get Up, Get Out, Get Fit," "Tar Wars," and support for local running events.

For anyone interested in these and other FMIG opportunities, contact the FMIG co-presidents: Mark Pratt (mark.pratt@usuhs.edu) and Steve Warner (steven.warner@usuhs.edu) or FMIG faculty advisors: Army Maj. Chris Bunt (christopher.bunt@usuhs.edu) and Navy Cmdr. Adam Saperstein (adam.saperstein@usuhs.edu).

Elster selected as new surgery department chair

By Gwendolyn Smalls, USU External Affairs Media Affairs Officer

Navy Capt. Eric Elster, a transplant surgeon and researcher at the Naval Medical Research Center, was selected as the new chair of the Norman M. Rich Department of Surgery for the F. Edward Hébert School of Medicine, Uniformed Services University of the Health Sciences.

Elster, who formerly served as director of surgical services and chief of surgery at the Role 3 hospital in Kandahar, Afghanistan, will retain his position as a senior investigator in the Regenerative Medicine Department at NMRC in Silver Spring, Md., where he actively pursues research in combat casualty care and wound failure.

“Dr. Elster is an established leader in transplant surgery and military medicine. He is an internationally recognized clinical scientist, academic scholar and educator, said Larry W. Laughlin, M.D., Ph.D., F. Edward Hébert School of Medicine dean. “Doctor Elster was the outstanding choice for this prestigious and critical position.”

Elster earned his undergraduate degree in interdisciplinary studies from the honors program of the University of South Florida. He

followed with his Doctor of Medicine degree from USF through the Armed Forces Health Professions Scholarship Program. Elster completed his residency training in general surgery at the National Naval Medical Center here and a transplant fellowship at the National Institutes of Health.

Among his military assignments, Elster has served as surgeon with the 31st Marine Expeditionary Unit in Okinawa, Japan; attending surgeon, Naval Hospital, Yokosuka, Japan; ship’s surgeon for the USS Kitty Hawk; staff senior scientist, NMRC; attending surgeon, general and transplant, NNMC, WRAMC, and the Walter Reed National Military Medical Center. In 2005, he was assigned as deputy department head, Regenerative Medicine department, NMRC. He has held an appointment to the USU surgery department faculty since 1999.

Elster is a diplomate with the American Board of Surgeons, a Fellow of the American College of Surgeons, a Fellow of the Southeast Surgical Congress, and a member of the American Society of Transplantation, American Society of Transplant Surgeons, Association for Academic



Navy Capt. (Dr.) Eric Elster, new chair of the Norman M. Rich Department of Surgery for the F. Edward Hébert School of Medicine, Uniformed Services University of the Health Sciences.

Surgery, Society of University Surgeons, and the Surgical Infection Society. He has written and published extensively on transplantation, combat wounds and regenerative medicine.

HPRC Health Tips

USU’s Human Performance Resource Center Health Tips are intended to provide the USU community with information to help develop and maintain a healthy lifestyle. Check out the HPRC website at: <http://hprc-online.org>.

Set your calorie goals

Chubby cheeks on little ones are cute, but you want your child

to outgrow them. The number of obese and overweight children has almost tripled since 1980, resulting in an increase in cardiovascular disease and other health issues—a trend reflected in the body-fat condition of today’s military trainees. Doing activities as a family not only gets kids moving, but also gets you moving! Children need at least 60 minutes a day of play involving moderate to vigorous exercise. This can be done throughout the day— at

recess, during after school activities, playing at home—and doesn’t have to be done all at once.

Let’s Move! has a list of simple steps you can do to encourage your child to live a healthy lifestyle. One idea: Have a house rule of doing jumping jacks during television commercials. For even more ideas, check out the CDC’s Strategies and Solutions (<http://www.cdc.gov/obesity/childhood/solutions.html>) for parents and communities.

Discovery leads to development of vaccine to help prevent Hendra virus

Courtesy of USU external affairs

A scientific discovery made in the laboratory of Christopher C. Broder, Ph.D., professor of microbiology and immunology at the Uniformed Services University of the Health Sciences has led to the development of a vaccine to aid in the prevention of the deadly Hendra virus. On Nov. 1, Pfizer Animal Health announced that the new vaccine, called Equivac® HeV, is now available for use in Australia.

Since its first appearance in 1994, the Hendra virus has killed more than 80 horses and four of the seven people infected to date. An equine vaccine is crucial to breaking the cycle of Hendra virus transmission from flying foxes to horses and then to people, as it helps to prevent the horse from both developing the disease and transmitting the virus to other horses and people. Experiments have shown that vaccinated horses survived infection by Hendra virus and have shown no evidence of virus, disease, replication or shedding of the virus, a critical finding to help prevent transmission.

The vaccine is derived from original work by Broder and Katharine Bossart, Ph.D., a USU alumna and assistant professor at Boston University School of Medicine. Their work was supported by the National Institute of Allergy and Infectious Disease, part of the National Institutes of Health.

“The vaccine component is a soluble portion of a Hendra virus G glycoprotein, known as Hendra-sG,” says Broder. Bossart developed Hendra-sG while a graduate student in Broder’s laboratory at USU. “This glycoprotein is critical in mediating viral infection. If you block its function, you block virus infection. We have shown it to be highly effective in preventing Hendra virus and the related Nipah virus infection when it is used as a vaccine in

animals. Vaccinated animals make antibodies to Hendra G, and these antibodies will subsequently prevent virus infection.”

To date, Hendra virus has been found only in Australia. The nation experienced an unprecedented number of 18 outbreaks across Queensland and New South Wales in 2011, during which 22 horses died or were euthanized. Authorities detected the first case of Hendra virus antibodies in a dog within a natural environment that same year. The virus has appeared seven times in 2012, causing equine deaths and serious cases of human exposure to infection. In July 2012, a woman with significant exposure risk was given an experimental human monoclonal antibody therapy on a compassionate use basis. Dimitar Dimitrov, Ph.D., of the NIH, working in collaboration with Broder, developed the antibody, known as m102.4.

The Hendra virus, and the similar Nipah virus, both members of the paramyxovirus family, are highly infectious agents that emerged from flying foxes in the 1990s to cause serious disease outbreaks in humans and livestock in Australia, Bangladesh, India, Malaysia and Singapore. Recent Nipah outbreaks have resulted in acute respiratory distress syndrome and encephalitis, person-to-person transmission, and greater than 75 percent case fatality rates among humans. A collaborative group led by Broder published its groundbreaking Hendra and Nipah virus work in two articles in *Science Translational Medicine*, including the Aug. 2011 article that describes the Hendra-sG vaccine’s ability to completely protect nonhuman primates from Nipah virus infection, paving the way for a potential human-use vaccine, and the Oct. 2011 article that describes

a breakthrough in the development of an effective therapy against both viruses now in development for use in humans.

Broder and Bossart collaborated with a team at the Commonwealth Scientific and Industrial Research Organization’s Australian Animal Health Laboratory in Geelong, Australia, to advance the Hendra vaccine technology. The bio-security facility at AAHL is the only laboratory in the world where Hendra virus challenge testing of the vaccine in horses could have been accomplished—work under the direction of Deborah Middleton, DVP. The technology used to develop the vaccine was licensed from The Henry M. Jackson Foundation for the Advancement of Military Medicine, Inc. by Pfizer Animal Health, who joined the collaborative effort two years ago, bringing its development and regulatory expertise to facilitate the unprecedented rapid development, approval and deployment of the breakthrough vaccine.

The recent work to develop and evaluate the Hendra vaccine was jointly funded by CSIRO; Pfizer Animal Health; the Australian government through its Department of Agriculture, Fisheries and Forestry; and the Queensland government through its Department of Employment, Economic Development and Innovation. NIAID provided funding to support production of the vaccine component in the U.S.

USU Alumnus sets up world-class residency program...

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“Sundborg demonstrates a true passion for resident education,” said Zeligs. “His unyielding enthusiasm for learning and clinical medicine is contagious and is evident by the high praise his students have for him after working with him.”

Womack colleagues agree that he was a good choice to set up the Bragg program.

“As a mentor, teacher, researcher and writer, Colonel Sundborg embodies the traits needed to establish and sustain the rigors of such a residency program,” said Choi, who also serves as Sundborg’s deputy.

From the earliest of times, one has learned a skill or trade from an older, wiser person. Whether you are a parachute rigger or a brain surgeon, the knowledge is acquired over time and then passed on.

“Medical residencies are really the last bastion of apprenticeship for professional services,” said Sundborg. “When you go to medical school and read your textbooks, you’re getting an introduction to medicine, but it’s not until you get to your residency that you learn to become a doctor.”

Like a genealogist, doctors are able to trace their lineage back to great doctors of the past times thanks to residency programs like Womack’s.

“You are in a true apprenticeship and it will be that mentor who will share with you his legacy which will allow you to practice medicine to the fullest degree,” said Sundborg.

New portal gives students more access

By M. Cindy Dambreville, James A. Zimble Learning Resource Center administrative office



A James A. Zimble Learning Resource Center representative tells a medical student about the new Medical Student Portal website that provides fast and convenient access to the Learning Resource Center’s top electronic resources for students here.

The medical student portal is a new website that provides fast and convenient access to the Learning Resource Center’s top electronic resources for medical students. The website, which was developed in response to user feedback, helps medical students quickly locate the most commonly used resources without navigating the extensive holdings managed in the electronic resources website. The portal also includes specialized tips and guides for common medical student questions and assignments.

The portal is best accessed through the link on the LRC’s ER page er.lrc.usuhs.mil. It can also be accessed directly at www.lrc.usuhs.mil/medstuportal. The landing page

offers links for exam prep resources, E-textbooks, researching medical literature, mobile and Smartphone resources, the LRC’s training opportunities, and UpToDate.

Also featured on the portal is a staff directory that helps students identify and contact individuals in the LRC with specific questions. A calendar lists the classes offered by the LRC’s reference staff. These classes include endnote, systematic review tips, and many of the LRC’s other resources.

The LRC intends to tailor this site to the needs of the medical students. Students may log into the site with their SSO to post comments and feedback. These replies will help the LRC improve the website and keep it current.



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