

The Global Address

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From the editor

The Global Address has been on hiatus for a while and we hope you've missed it. Much has happened in a year and the team is eager to share the progress with you. In March 2013, we reported on the Greif-OSU-GHDP partnership, which was formed with a \$5 million gift from Greif, Inc. The funds are distributed between OSU, through its Office of Global Health, and the GHDP with each entity receiving \$2.5 million over five years.*

The mission of The Ohio State University Greif Neonatal Survival Program, as it has come to be called, is to improve the lives of mothers and infants in low-income countries using OSU's educational expertise to create a self-sustaining and scalable program of healthcare training and delivery. How best to do that while ensuring that momentum isn't lost when OSU eventually exits, occupies a central part of every discussion. The devil, as they say, is in the details. We hope you enjoy this special report on the work being done in Haiti.

Diane Gorgas, MD, has joined the Office of Global Health as Associate Director. In addition to being an outstanding clinician, she is also a writer, as evidenced by her columns in the Columbus Dispatch. Check out her article, Ebola and Beyond in this issue.

Life is change and the Office of Global Health is not immune. Read who is coming and (sniff, sniff) going on page 7.

Stay healthy.

Pamela L. Potter

Administrative Director, HSCGH

*GHDP is a collaboration among Partners in Health, Harvard Medical School's Department of Global Health and Social Medicine and The Brigham and Women's Hospital.

The Ohio State University Greif Neonatal Survival Program

The OSU Greif Neonatal Survival Program was created with a \$2.5 million gift from Greif, Inc., through its Greif Packaging Charitable Trust, to The Ohio State University (OSU) to establish healthcare training and delivery programs in developing nations with the goal of permanently improving health conditions in these regions. This gift is mirrored by a similar one to the Global Health Delivery Partnership (GHDP), comprised of Brigham and Women's Hospital's Division of Global Health Equity, Harvard Medical School's Department of Global Health and Social Medicine, and Partners In Health (PIH).

OSU participates in the program through the Wexner Medical Center and its Office of Global Health under the leadership of Daniel Sedmak, MD, Associate Director Diane Gorgas, MD, and the team of Pamela Potter and Jessica Small, program operations, and Monica Terez and Emily Shindeldecker, nurse clinicians/educators.



Initially, the education programs are being created and implemented in Haiti. OSU is focusing its expertise on improving neonatal survival through building in-country health care capacity by means of educational programs for health care workers at all levels, from physicians and nurses to community health care workers.

A central component of the OSU Greif Neonatal Survival Program is expanding to other low-income regions of the world, including Ethiopia and Kenya. The OSU team is working closely with PIH and learning from their highly effective models of in-country clinical care delivery and training of health care professionals and workers.



THE OHIO STATE UNIVERSITY

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Overview of Global Neonatal Mortality

Approximately three million neonates died in 2012, most in low-income countries. While deaths among children under the age of five have declined dramatically over the past two decades, the decline in neonatal deaths has lagged. The result is that 44% of all under-five deaths now occur in the first 30 days (Levels and Trends in Child Mortality, Report 2013. UN Inter-agency Group for Child Mortality Estimation). Three-quarters of these deaths occurred in the first week of life and just under half in the first 24-hours. The three most common causes of neonatal deaths are birth asphyxia, infections, and complications of prematurity. Associated factors include poor prenatal care, intrauterine growth restriction, absence of intrapartum care by a skilled birth attendant, and little or no medical care of ill newborns. It has been estimated that 50% or more of newborn deaths could be prevented if skilled clinical care was available at birth and during the early neonatal period.

OSU Greif Neonatal Survival Program

After extensive analysis of the state of neonatal care in Haiti, and based upon the literature on neonatal survival, OSU has created a neonatal care training program that consists of both continuing education programs in newborn resuscitation, e.g., Helping Babies Breathe® and the Neonatal Resuscitation Program™, taught by certified instructors, and a combined didactic and experiential course in specialized newborn care nursing. The latter is a six-week course involving lectures, clinical skills training, and mentorship in delivery units (L&D units and ORs) and in specialized newborn care units (SNCU). OSU's ambitious action plan is to develop curriculum to expand in-country capacity and create a clinical site that offers a neonatal nurse training program. To enable the latter, and provide newborn care where none exists, the OSU Greif Neonatal Survival Program has built a SNCU at L'Hôpital Sainte-Thérèse de Hinche.

Why Hinche?

The Central Plateau Department is one of 10 administrative areas of Haiti, with Hinche serving as the capital city of the Department. The population of Hinche is estimated to be 122,300, but the immediate catchment area is approximately 250,000 people from



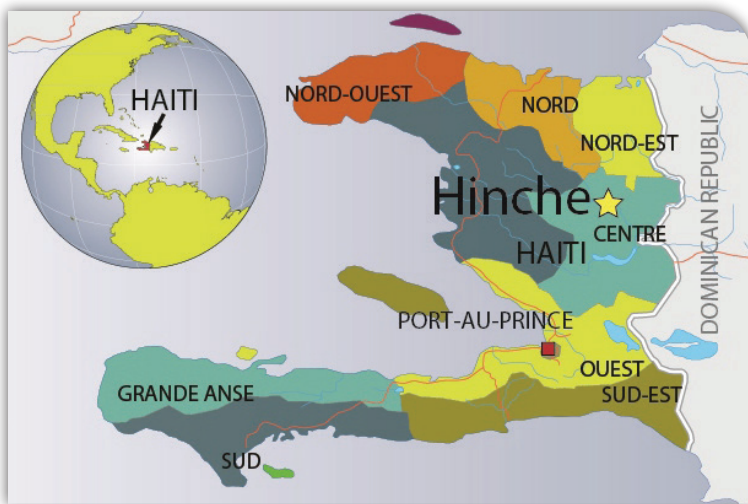
L'Hôpital Sainte-Thérèse

the arrondissement of Hinche, which includes Hinche, Maissade, Thomonde, Cerca, and Carvajal, as well as neighboring communities in Thomassique and Cerca la Source. In its role as the Department-level referral hospital for the Plateau, it serves over 700,000 people. L'Hôpital Sainte-Thérèse, built in the 1930's by U.S. Marines, is currently run by the Haitian Ministry of Health and Partners In Health. L'Hôpital Sainte-Thérèse is approximately a 3-hour drive from Port-au-Prince and a 1.5-hour drive from Hôpital Universitaire de Mirebalais, built and operated by Partners in Health and the Haitian Ministry of Health. Given the geographic centrality of Hinche, the existing connection with Partners In Health, the support and collaboration of the current hospital director, and the evident need for education and clinical training around newborn survival, the decision was made to establish the new OSU Greif Neonatal Survival Program in Hinche at L'Hôpital Sainte-Thérèse.

The Results

As of July, 2014, the OSU Greif Neonatal Survival Program (OGNSP) has trained over 350 nurses and physicians in newborn resuscitation, created a neonatal nurse training program that has graduated seven nurses, and built a SNCU at L'Hôpital Sainte-Thérèse. Two additional Haitian nurses were hired and began training in September. The Haitian nurse graduates are supported by the OGNSP and have already resuscitated and cared for hundreds of newborns. Additionally, these nurses, and the L'Hôpital Sainte-Thérèse SNCU, will serve in the training of future neonatal nurses in Haiti.

Under the direction of Monica Terez, RN, C, BSN, the clinical nurse manager of the Haiti project, over 1000 teaching and training hours have been provided by OSU faculty and staff with one-third of those hours being donated. Those hours of side-by-side training are vital in ensuring that nurses are well-versed in skills critical to caring for newborns including resuscitation techniques and prevention and management of hypothermia. OSU neonatal nurses Karen Lojo, Jenn Rutherford, Kate Taylor, Sherry Yoder and Kristin Westerfield (Cincinnati Children's) donated over 300 hours of their time as trainers/mentors, literally saving lives and training others to do so. The ripple effect of their efforts will be felt through the lives of Haitian families for years to come.



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Preterm babies often need interventions to prevent hypothermia, a condition in which the baby is unable to maintain a normal body temperature. The methods used to warm the baby vary depending on the severity of the condition and the equipment available but can include skin-to-skin contact (kangaroo care), a warming bed or incubator, warm blankets or towels, and a warm delivery room. Of the deliveries attended by OSU Greif-supported nurses, over 20% have required resuscitation and almost 70% have needed a warming intervention—a clear indication of the tremendous need for these services and for trained personnel to provide them.



Monica Terez, Estève Manoucheka, nurse educator, Hôpital Sainte-Thérèse and Daniel Sedmak in the soon-to-be SNCU during the renovation phase

Plans for Year 2

Neonatal Survival Program

A major intent of the program is the development of a cadre of in-country neonatal nursing clinical educators and leaders. OSU and Zanmi Lansante (Partners in Health in Haitian Creole) are collaborating on the first Haitian Ministry of Health (MSPP)-approved Neonatal Nursing Certificate Program in the country, scheduled to begin in October. Co-created and co-directed by OSU and ZL, the up to 9-month intensive training program will accept up to 25 college-trained nurses from hospitals around the country. Planned next steps in the neonatal survival program include, in alignment with the Haitian Ministry of Health, roll-out of the neonatal training program to other department district hospitals.

Expansion of the resuscitation training led to Ethiopia in July 2014 with courses delivered at the University of Gondar and Addis Ababa University. A visit to the Kenyan Ministry of Health is scheduled for fall, 2014 to investigate the potential of implementing the OSU neonatal nurse training program and resuscitation education throughout the district hospitals, starting in the Narok region in the southwest.

In addition to nurse training, a visiting neonatologist program is in development wherein OSU neonatologists deliver core lectures to pediatricians in low-income countries. This will include both online courses and in-person/in-country training, the latter of which will consist of both didactic lectures and clinical mentoring.

Interdisciplinary Efforts

Faculty in the College of Nursing are leading the development of the antenatal and postnatal care delivery education program for nurses. Plans are in motion to involve the College of Public Health in the neonatal training program to formally assess its efficacy.

"The first full year of the project has exceeded our expectations and convinced us that we are moving in the right direction



Estève Manoucheka, nurse educator, Monica Terez and Sharon Ryan, director, OSU Nurse-Midwifery and Women's Health Specialty Programs

to create a cadre of well-trained neonatal nurses. Integrating our training with the aims of the Haitian Ministry of Health and our partner hospitals will allow us to have a substantial impact on improving the outcomes for mothers and babies, said Program Director Daniel Sedmak, MD. Embedding our personnel in Haiti for months at a time will allow them to consistently reinforce existing training and provide the opportunity for relationships to grow and flourish."

Education With Impact

"...we finished our training and it was early January and I was called to a delivery with Trofort (another nurse). The mother was 13-years-old. She was pushing and pushing and the baby came out and NOTHING! There was no heart rate, no breathing. Nothing. I was thinking—please remember the training. My heart was beating fast. The mother was screaming saying, "Miss! Miss! DO something! Save my baby!" So we bag breathed the baby and we did cardiac compressions because there was nothing. We were afraid but kept trying to remember what we learned. Soon, the baby started to breathe and the heart rate was good. My hands were shaking and I was sweating. When I heard the baby cry, I said, "Mwen santi mwen soulaje" a Kreyol saying which means, "Now I am relieved!" That baby lived. Trofort and I still talk about it."

Lelia Dorcin, Nurse Manager
Hôpital Sainte-Thérèse SNCU



Building a Newborn Care Unit

July 2013



April 2014



If you want to train and mentor nurses in neonatal intensive care, it is important to create a space designed to accommodate the special needs of these babies. In early May, 2013, Jean Daniel Laguerre, MD, medical director, Hôpital Sainte-Thérèse, offered a space, to the OSU Greif Neonatal Survival Program, with the idea that it could be renovated into a Specialized Newborn Care Unit.

The proffered room measures 22.5 feet long by 6.5 feet wide. Its cement walls are painted dark green, the only light in the room is natural sunlight that streams in from a rear positioned window, consisting of uncovered holes in the concrete wall measuring approximately 4 feet by 3 feet. By July, 2013, renovation had begun. The fixtures were removed, the plumbing reconfigured, and the cement flooring dug up. The cement lattice in the back window was removed. Rudimentary tools lined the walls of the “unit” as Haitian construction workers slowly transformed the room.

Two coats of white paint and a baby footprint and heart design border by a local Haitian artist removed any trace of the room’s previous purpose. Installation of an air conditioner to maintain temperature stability in the room and construction of a “nurses’ sta-

tion,” cemented the transformation. The station measures 5.5 feet long by 3 feet wide, includes desk space, shelving for supplies and equipment, and a refrigerator for storing breast milk for mothers whose babies are too weak to breast feed. A full length glass door was added to the entrance of the unit to further insulate the air flow. The room was now fresh, light and clean—ready for the next step.

On February 24th, the equipment for the unit, donated by Ganim Medical Inc., in Delaware, Ohio, arrived from Port-au-Prince following a two-month journey from Ohio. It included 3 infant cribs, 3 radiant warming beds, 1 portable radiant warmer, 2 incubators, 7 pulse oximeter monitors, 2 cardiac monitors, 2 syringe pumps, and 6 IV poles. The unit can hold 7 infants and will include an area for mothers to visit, hold, and breast feed their babies.

For newborns it is a room of life and hope. For OSU and Greif, it is the culmination of a vision, months of investment in time, money, and passion to improve the lives of mothers and babies in one of the toughest places in the world to give birth and to be born.



My Take By Monica Terez, RN, C, BSN



My new position as Clinical Nurse Manager began a little over a year ago, specifically on June 24, 2013. I was given the option to begin my first day in the Global Health office or in Haiti. I thought Haiti was the most logical place for me to start. I had worked in Haiti previously beginning right after the earthquake in 2010 as a volunteer but this was something quite different. With boarding pass in hand, I took off from Columbus, Ohio to Port-au-Prince, Haiti via Miami. I exited the airport in Haiti not speaking any of the native language, which is Haitian Kreyol. I was met by a driver who spoke no English. It was a long 2.5 hour trip by car to my destination, the city of Hinche. I remember thinking, I have no idea how this will unfold, but I am trusting in my ability to unite my passion for this work, with the specific task of improving neonatal care and saving infant lives in the middle of the poorest country in the western hemisphere. It was a huge undertaking, but not daunting by any means.



The morning after arriving in Hinche, I set off to accomplish the task at hand: To begin building new relationships with Haitian colleagues that would set the groundwork for the monumental change that was about to take place in Hinche. The district

hospital, St. Therese, was about to establish newborn care for the first time in its 80+ year history. Approximately 2,500 infants are born at St. Therese each year. Until now, there has never been a skilled nurse to attend to their specific needs. There has never been an infant crib for them. Until now, an infant born there was never recognized in the hospital system as an individual patient. In many cases, their chance for survival was limited by the lack of skill and resources.

Fast forward to June 24, 2014, in the place of an empty, dilapidated room measuring 22.5 x 6.5 feet is a freshly renovated and well lit

Specialized Newborn Care Unit. It houses (at any one time) a total of 7 infants who are fragile, underweight, premature or otherwise too ill to be discharged home. Those infants are cared for 24-hours a day by a team of eight Haitian nurses who were specifically educated in neonatal nursing concepts and neonatal care. Skills were perfected via a competency-based program. On April 30, 2014, the Specialized Newborn Care Unit opened for the first time. The nurses welcomed their first patient by midmorning of that day. He was lovingly nicknamed "The King" by them. He stayed in the unit for eight days, after which time he was released home to his mother.

It is impossible for me to put into words what it feels like when I watch a Haitian mother walk out of the unit holding her well-swaddled infant in her arms. For some reason, those mothers walking out the door tend to look back once or twice. I would love to know why they look back. Is it hard for them to leave the room where the nurses provided a chance at life? Is it something that they want to make sure they never forget? Or is it just chance? I will never know. I do know this. There will be a day when I leave that unit for the last time myself. Like them, I will look back, and not just once, but perhaps two, three or four times. I know with fair certainty what I will be thinking. I will be thinking about the incredible opportunity I was given to unite my neonatal nursing expertise with the passion I have for serving the impoverished. I will be thinking about all the infant lives that were saved because Greif Corporation and Ohio State saw the value in educating Haitian nurses and doctors. I will be thinking about the challenges the nurses and I faced together all in the collective effort to save lives. Equally important, I will be thinking about the hope that is imparted from that mighty, albeit small room.



It will be difficult to top the success of this past year. I would call this a capstone of my nursing career, except that in many ways I feel like our work is just about getting started. I will not place limits on the possibilities. The possibilities are still out there for us to discover. And when we do discover them, we will give just as much energy, drive and passion to them as we have to the Specialized Newborn Care Unit, now fully functioning, in the central plateau in Haiti.

Ebola And Beyond



By Diane L. Gorgas, MD
Associate Director, Office of Global Health

All my friends and family knew I was traveling to Africa this summer as part of the [One Health](#) project. They knew I would be in Ethiopia. Yet every single person, upon seeing my safe return to the US, asked "You didn't see any Ebola, did you?" This was almost invariably said as they covered their mouth with their hands, or backed away from me, or both. I can't say I blamed them. There's a lot of fear out there.

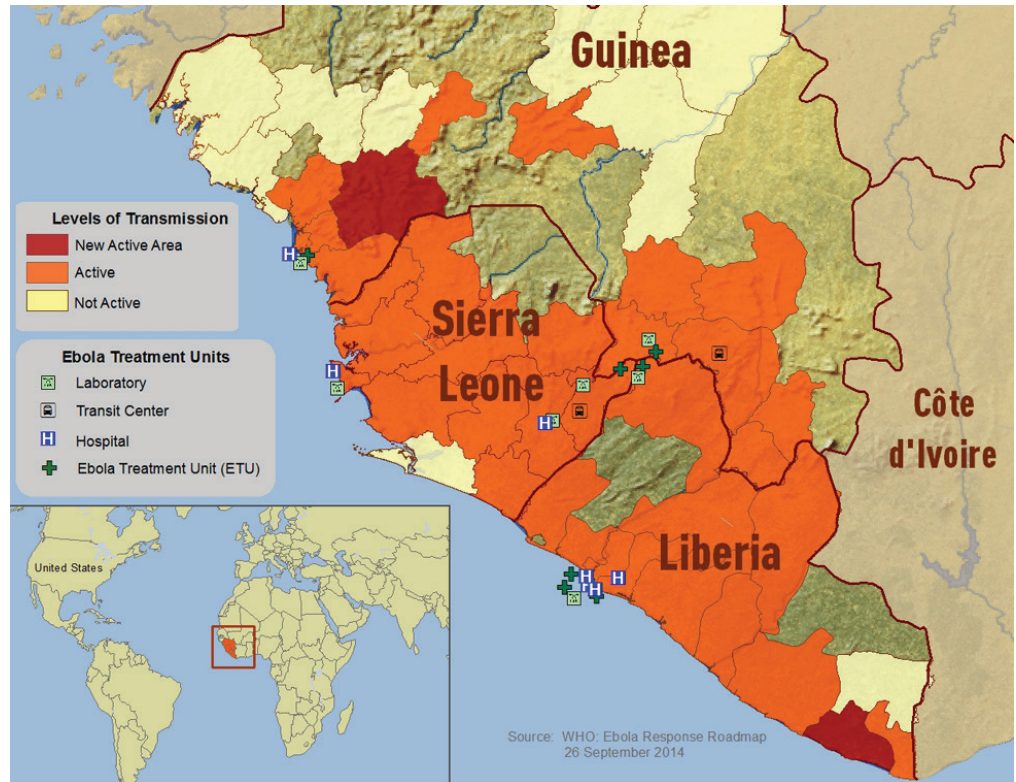
Ebola in West Africa initially had a mortality rate of 90% during earlier outbreaks. The current outbreak has claimed the lives of over 3,000 people and has a reported mortality rate of 60%. A fair sight better in terms of mortality percentages, but still sobering and not odds anyone is comfortable with accepting. The drop in mortality in the latest outbreak is largely due to advances in supportive care. Early recognition of the disease process followed by aggressive hydration, maintenance of oxygenation, correction of electrolyte imbalances and management of bacterial co-infections has been instrumental in decreasing mortality. Not because we are beating the virus, just controlling its downstream effects. But the 3,000+ victims of the disease are a record for Ebola. We have never seen an outbreak this big.

The idea of visiting East Africa and being "safe" from contacting the virus is a valid thought currently, but it does beg the question, "Can we contain Ebola?" Is anyone really safe? Can we contain it within its endemic zones of Sierra Leone, Guinea, Liberia, Benin, and Nigeria? Can we contain it within the endemic high risk neighborhoods within those countries? Can we contain it on the continent of Africa? There has been political unrest and protests in response to government imposed quarantine efforts, be it blockading a neighborhood, closing down airports, or even preventing family members from taking the body of a loved one who died from Ebola to their homes for a conventional home-based burial. The last of these is a

local custom in many West African cultures and likely is fueling the spread of Ebola.

One of the challenges of containment for Ebola is the prolonged latent phase of the disease. There can be up to a three week delay from exposure to symptom onset, making screening efforts based on symptomatology notoriously ineffective. The initial questions of "Will it make it to the US?" was answered with a resounding "yes" this week. The first de novo case surfaced in Dallas last week, in a traveler

But let's think beyond Ebola? That is the topic of concern for today, but what will be the pathogen, the infectious origin, for tomorrow? And what if the next outbreak has a respiratory spread route? What if your seatmate on your next flight could infect you with a cough? Swine flu, Bird flu, SARS, Middle East respiratory syndrome, are all spread this way. So as we discuss global health issues in regards to Ebola, we need to think beyond the pandemic of the day to prevention for tomorrow.



2014 Ebola Outbreak in West Africa - Outbreak Distribution Map, (Centers for Disease Control and Prevention)

who had stopped in four cities en route to Texas from Liberia. Now facing the real prospects of new disease on US soil, will Ebola spread like wildfire across the US, decimating a city's population and all the airline travel companions of the infected index case? Unlikely. Keeping in mind that the virus is spread through close contact through blood or body fluids, fellow airline passengers are not at great risk of contracting the disease, nor are those who have a casual social encounter with the infected person.

But how do we minimize that risk? How do we protect ourselves, our national population, and the world as a whole from emerging infectious threats? The answer doesn't lie at our borders, but instead lies in the nations of origin of these diseases. Investing in a strong healthcare system in emergent countries can save us billions of dollars and potentially save millions of lives in the US and other industrialized nations.

In addition to her global health role, Dr. Gorgas is an Associate Professor and the Residency Program Director of the Department of Emergency Medicine.

Outbreaks, Epidemics, and Pandemics, Oh My! By Diane L. Gorgas, MD

WHAT IS...

...the difference between an outbreak, an epidemic, and a pandemic?

A disease outbreak happens when an illness (regardless of absolute numbers of people afflicted) occurs in greater numbers than expected in a community during a given season. The term "community": can mean a very tight region, or even multiple countries, and its duration can last from days to years. An epidemic occurs when an infectious disease spreads rapidly to many people. A pandemic, by contrast, is a global event. HIV/AIDS is an example of a recent pandemic.

...it about Africa that makes the continent the birthplace of so many bad diseases?

The answer is many things. First, it's largely tropical climate means that the seasonal variation of colder climates doesn't exist. Many viruses are harbored in insects (mosquitos in most cas-

es) and in colder climates the viruses do not winter over well in larval stages of mosquitos. Also, Africa has sizeable populations of non-human primates. Notable viruses have initially infected apes and chimpanzees and subsequently become pathogens in humans. Lastly, because of a medical system stripped bare of resources, endemic diseases can spread rapidly and infect many before even being recognized as a unified illness, making efforts at containment difficult.

...the latest infectious outbreak we are just starting to monitor?

Chikungunya fever, a relatively new mosquito borne virus is now being seen in the US. It is endemic to warm weather areas, and presents much like a non-hemorrhagic form of Dengue fever with high fever, shaking chills, muscle aches, and joint pain. There is no vaccine for the virus and treatment is just supportive.

Faculty and Staff News in the Office of Global Health

Comings...

In August, the Office of Global Health added **Emily Shindeldecker, CNP**, to the team. An OSUWMC nurse practitioner, she has spent considerable time overseas, including Haiti, and worked in Port-au-Prince after the 2010 earthquake. Emily will principally serve as nurse educator on the Greif project. Currently she is based in Hinche, Haiti.



Diane Gorgas, MD, has joined the Office of Global Health as associate director in addition to her other responsibilities. Dr. Gorgas is an Associate Professor and Residency Program Director in the Department of Emergency Medicine. She has been active in Fort Liberte, Haiti since 2011 and has been involved with the OGH's Greif initiative for the last year.



The Office of Global Health is pleased to welcome **Lynnsay Sinclair**. She will replace Jessica Small as the program manager of the Global Health Elective program. Lynnsay most recently served as a program coordinator in the Department of Surgery and prior to that worked in the Med 3-4 office so she brings a good understanding of medical education and student needs with her.



Goings...

We will soon say goodbye to **Jessica Small**.

Many of you know or have worked with Jessica over the last 10 years. Her title is program manager and she works with the medical students on their international electives, but like an iceberg, that is only the most visible part of her work. If you have enjoyed the look of our newsletters, that's Jessica as well. She has so many different skill sets that, ideally, we would hire three people to replace her. She has been with the office from the beginning and we owe much of our success to her hard work. Jessica's new job will be that of full-time mom as she and her husband Chris welcome a baby girl, and that is an offer we couldn't match! Jessica's final day will be November 3 (if the baby agrees).



Daniel Sedmak, MD, is retiring from his full-time role as Executive Director of the Health Sciences Center and the Office of Global Health, effective January 31, 2015. Dr. Sedmak created and directed the Office of Global Health since 2005. He also served as the Principal Investigator, along with Mary Ellen Wewers, PhD, MPH, on a Fogarty International Grant in 2008, which led to the creation of the Health Sciences Center for Global Health. This includes a number of educational initiatives including the GISGH and the Metro High School Global Health Program. His impact on the global health programming in the medical center is so significant it is impossible to imagine it without him. Through the generous Greif gift, he now leads the OSU Greif Neonatal Survival Program, and serves as the visionary for where we can and should go as a program. Dr. Sedmak will continue with the program on a part-time basis.

