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Global Health *link*

ENCOURAGING ACTIVISM IN GLOBAL HEALTH THROUGH KNOWLEDGE, INNOVATION AND ENGAGEMENT

Maternal and Child Health Initiative The First Minute of Life

Drs. Susan Niermeyer and Eric Simoes, Co-Directors, Maternal and Child Health Initiative in the Center for Global Health, Colorado School of Public Health.

Ask Susan Niermeyer, MD about the first sixty seconds of a newborn's life and she will tell you it is called the "Golden Minute". It is during this minute we expect every newborn to take his first breath of oxygen, fill his lungs and push it back out. And so, life begins.

Unfortunately, this is not always so easy, especially in high altitude regions of the world. Dr. Niermeyer has dedicated her work to making sure every newborn has an opportunity to live life to his fullest by ensuring that first breath.

Helping Babies BreatheSM, is an initiative of the American Academy of Pediatrics (AAP), in consultation with the World Health Organization (WHO), and in collaboration with the United States Agency for International Development, Save the Children/ Saving Newborn Lives, the Eunice Kennedy Shriver National Institute of Child Health and Human Development, Laerdal Medical AS, and a number of other global health organizations.

The initiative is near and dear to Dr. Niermeyer's heart, who previously served as co-chair of the American Academy of Pediatrics Neonatal Resuscitation Program Steering Committee and is currently editor for the publication *Helping Babies Breathe*.

Sixty seconds can mean the difference between life and death for a newborn who isn't breathing. That's the window of time a health provider has for resuscitation before a baby suffers injury from lack of oxygen. Some know from experience how quickly that Golden Minute[®] can tick by.

When a baby is born not breathing, simple techniques like rubbing him dry, keeping him warm, and suctioning his mouth may be all that is needed to save a life. Even more babies can begin to breathe on their own after taking a few breaths thru a simple ventilation device.



This global initiative teaches essential skills to birth attendants in developing countries by teaching these, and other essential skills to birth attendants, the initiative should have a dramatic impact on reducing infant mortality worldwide.

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Dr. Yeatman having fun with locals in Malawi

Social Considerations for HIV/AIDS Research in Malawi

Dr. Sara Yeatman shares her work

The Global Health Link recently took the opportunity to connect with the University of Colorado Denver faculty member Sara Yeatman, MsC, PhD. Dr. Yeatman currently has two projects in Balaka, Malawi concerning healthy and safe reproduction in a region that has about 12% prevalence of HIV/AIDS.

The first project, Tsogolo la Thanzi (TLT) is an ongoing panel study of 2500 young men and women (ages 15-24). The goal of this study is to learn how young people make life decisions while facing the dual realities of creating a family and the risk of sexually transmitted HIV.

Dovetailing with and leveraging the information gathered from TLT, Dr. Yeatman's second project, Young Adults Responses to Anti-Retroviral Therapy (YARA), is a collection of data designed to examine how improvements in access to Anti-Retroviral Therapy (ART) influence the societal perception of HIV/AIDS for rural Malawians entering the peak ages of infection.

Both projects are vital for understanding the social complexity of the HIV/AIDS epidemic in Malawi, and also for learning how the availability of anti-retroviral drugs has evolved Malawian's perceptions of risk, childbearing, and potentially having a healthy life despite infection.

The Social Significance of Childbearing

For a demographer, sub-Saharan Africa is an area that is quite suitable for research. Explaining the sub-fields of demography and her interest in this region Yeatman says, "There is a lot of fertility in sub-Saharan Africa, and unfortunately a lot of mortality in sub-Saharan Africa, and there is a lot of migration as well. Being most interested in fertility and reproductive health, it made sense to focus in Africa."

In Malawi, where the average woman has six children, Dr. Yeatman quickly learned that the ABC's of HIV prevention (Abstinence, Being faithful, and Condom use) were not so easily applied. "Fertility is really important to female and male identity and with HIV there are real consequences for people who are HIV positive, which reduces their fecundity, but people still very much want to have children."

Dr. Yeatman further impresses the social significance of raising a family by explaining, "As a woman, it's one of your main responsibilities to have children, and a man's responsibility to give your family children. It will often happen that a marriage will break up if a couple cannot have children."

"I've found that it's those who receive a negative diagnosis that are the most surprised. By the time you're going to get tested at a testing center, you're pretty convinced you're HIV positive,"

Sara Yeatman, MsC, PhD

Again, how does a young adult negotiate and navigate the conflicting goals of avoiding HIV while honoring the long-emphasized necessity of creating a family? As with any dilemma, strategies are formulated.

Strategies and Coping

For Malawians in the reproductive age group, social networking is an effective, albeit imperfect, method for reducing risk of exposure. Dr. Yeatman describes the inquiries that precede choosing a partner, "Increasingly over the last 15 years we've heard that before picking a partner someone will ask their friends about that partner, and who that person's partners were." If a person is known to have had a previous partner that was symptomatic, this social networking, or sexual networking, helps with decision-making, and the avoidance of exposure. Another tactic is psychological preparedness.

Dr. Yeatman shares her thoughts about the diagnoses she's observed, "I've found that it's those who receive a negative diagnosis that are the most surprised. By the time

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you're going to get tested at a testing center, you're pretty convinced you're HIV positive. There is this uncertainty that everyone walks around with, even right after leaving a testing where they've been told they're negative."

Conversely, with a positive diagnosis there is surprising optimism. Dr. Yeatman continues, "It's really interesting to see people who have a positive diagnosis, they leave [the counseling session] and they're full of hope. Because they can have medicine, but there are also these other little strategies, like you know you have to eat well, so you're going to try to get a little more meat, maybe include some more vegetables."

The post-testing 20-minute counseling session is one aspect of the Tsogolo la Thanzi study that has yielded valuable insight about the subtleties of health psychology in this high prevalence setting. Dr. Yeatman explains, "We are looking at whether being consistently reassured that they are negative [for HIV/AIDS] helps people invest in their future, and decide to stay in school, and maybe buy more fertilizer for this year because they know they're going to be around."

Conflicting Ideals

Like all medical relief efforts that take place abroad, HIV/AIDS interventions in sub-Saharan Africa must be context specific. In the case of Malawi, the extreme significance and symbolism of raising a family is a necessary, though not always acknowledged, consideration for researchers and physicians. In an effort to describe the social precedent of childbearing, Dr. Yeatman remarks, "Lots of people have HIV, and not many people don't have children. Thinking about stigma, everyone knows someone who's got HIV; it doesn't mean you're going to be telling everybody about it,



Dr. Yeatman (on left) in Malawi, Spring 2009

but if you don't have children, everyone is going to know about that."

The ongoing Tsogolo la Thanzi investigation and the Young Adults' Responses to ART study inform researchers how young Malawians make life decisions regarding the often conflicting ideals of personal wellness and family growth.

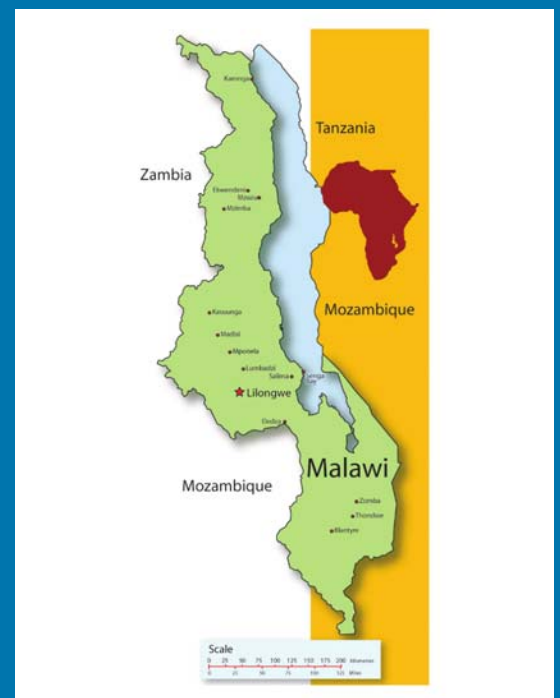
Dr. Yeatman and her colleagues will continue to gather insight from these projects and develop approaches to create sound, culturally sensitive interventions for at-risk populations in sub-Saharan Africa.

To see more of Dr. Yeatman's work, go to the Center for Global Health website under Our Projects at <http://globalhealth.ucdenver.edu>

Malawi

- **Population:** 14,846,000 (2008)
- **National language:** Chichewa
- **Per capita income:** US\$ 290/year (2008)
- **Life expectancy:** 53 (2008)
- **Under 5 Mortality Rate:** 100/1,000 live births (2008)

Tobacco production drives Malawi's economy, accounting for roughly 60 percent of recent exports. Nearly 90 percent of the population works in agriculture, primarily cultivating tobacco, tea, sugarcane, corn and tapioca.



Maternal and Child Health Initiative

The First Minute of Life

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Instructional tools include a dry towel, a suction bulb and a hand-operated bag-and-mask resuscitator. A big part of the campaign is expected to be a newborn mannequin, made by a Norwegian medical device company and soon to be distributed by the thousands to village clinics.

Trainers use flip-chart books with little text and emphasize practicing the maneuvers. The training kit for six students includes a washable, brown plastic mannequin filled with about two quarts of water, which gives it the weight and floppiness of a non-breathing newborn. The person running the simulation has three squeeze bulbs connected by tubes to the mannequin. One produces a cry and another a pulse in the umbilical cord. The third makes the chest rise (as does air blown into the mouth).

“All people who care for babies at birth can learn to protect healthy babies, and to help babies who do not breathe well on their own,” said Dr. Niermeyer. “We believe that Helping Babies BreatheSM can be a catalyst to increase skilled attendance at birth, build linkages between communities and health facilities, and strengthen health systems. There is the potential to save hundreds of thousands of lives each year.”

The World Health Organization estimates that 1 million infants die each year from birth asphyxia, or the inability to breathe immediately after delivery. Approximately the same number of stillbirths each year is linked to events during labor. A significant percentage of these may be live born babies who simply do not breathe or move at birth, but could be resuscitated with simple measures.

Helping Babies BreatheSM is being targeted to the 63 countries participating in Millennium Development Goal 4, which aims for a reduction in under-5 child mortality by two-thirds from 1990 levels by the year 2015. Neonatal mortality, or death in the first month of life, accounts for more than 40 percent of child mortality worldwide. The materials have been tested in five pilot sites in Bangladesh, India, Kenya, Pakistan, and Tanzania. More information is available at www.helpingbabiesbreathe.org.

The Center for Global Health, Colorado School of Public Health is launching a Maternal and Child Health Initiative under the co-direction of doctors Susan Niermeyer and Eric Simoes.

Helping Babies BreatheSM is one of the projects in the Child and Maternal Health Initiative. The Initiative comprises a collaboration of existing projects focused on



bettering the help of mothers and children by implementing sustainable practices across the globe.

Susan Niermeyer, MD, MPH, FAAP who is a Professor of Pediatrics in the section of Neonatology at the University of Colorado, School of Medicine. Susan practices and teaches clinical neonatology at Children's Hospital of Colorado, University Hospital, and community hospital nurseries in the Denver area.

In 2009 she completed a master's in public health with a concentration in epidemiology from the Colorado School of Public Health.

“All people who care for babies at birth can learn to protect healthy babies, and to help babies who do not breathe well on their own,”

Susan Niermeyer, MD, MPH, FAAP

Dr. Niermeyer's clinical and educational areas of emphasis include neonatal resuscitation and cardiopulmonary physiology in infancy. Her research interests center on adaptation in the neonatal period, with a focus on cardiopulmonary

adaptation and low birth weight at high altitude. High-altitude research has included study of infant oxygenation in Lhasa, Tibet, studies of infant birth weight and cardiopulmonary adaptation in La Paz, Bolivia, studies of pulmonary hypertension and cardiopathies in Peruvian children, and analysis of the relationship of maternal smoking and birth weight at high altitude in Colorado.

Underlying her interest in neonatal resuscitation and high-altitude physiology in infants and children is a strong commitment to the health of children around the world, including those in isolated and less-developed regions.

Eric A. F. Simoes, MB, BS, DCH, MD is a Professor of Pediatrics, Section of Pediatric Infectious Disease at the University of Colorado, School of Medicine. Dr. Simoes carried out many of the studies that provide the scientific foundation for the World Health Organization Integrated Case Management of Childhood Illness.

Over the past twenty years, Dr. Simoes successfully collaborated with researchers throughout the world as well

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as in Colorado on respiratory infections in premature infants.

He has conducted numerous collaborative studies on the epidemiology, prevention and treatment and pathogenesis of respiratory infections (both viral and bacterial) in India, the Philippines, Europe and Indonesia.

His work with premature infants over the past 20 years has in part led to the development and licensure of two products for respiratory syncytial virus (RSV) prophylaxis (RSV –

IGIV, and palivizumab). Studies carried out in premature infants have assessed the effects of prevention of RSV on long term respiratory morbidity. Dr. Simoes has a broad background in infectious diseases with specific training and expertise in epidemiology and molecular virology.

To read more about Drs. Niermeyer and Simoes's global health projects, visit *Our Projects on the Center for Global Health website at: <http://globalhealth.ucdenver.edu>.*



Student Scholarship Recipients for 2011

Full-time, currently enrolled students in good standing in one of the University of Colorado health-related programs may apply for these scholarships. The application cycles begin at the beginning of each calendar year and are due April 1st.

The **Robinson Durst Student Scholarship** selection has been completed for 2011. The recipients are as follows:

- Bietel Belay (University of Colorado, School of Medicine) – *Evaluating the Burden of TB in Shimelba & Mai Aini Refugee Campus - Ethiopia.*
- Christine Tagliaferri (University of Colorado Denver, Health and Behavioral Science, PhD Candidate) – *Advocating on behalf of commercial sex workers for better working conditions, greater access to health resources & protection from HIV/AIDS – Dominican Republic*

The **Rotary Student Scholarship** selection has been announced for 2011. The recipients are as follows:

- Bietel Belay (University of Colorado, School of Medicine) – *Evaluating the Burden of TB in Shimelba & Mai Aini Refugee Campus - Ethiopia.*
- Clark Berngard & Jennifer Bishop (University of Colorado, School of Medicine) – *Understanding the Relationship between*

Maternal Height and Infant Growth and Development in the Western Highlands of Guatemala – Guatemala, Western Highland Region, Municipalities of Chimaltenango

- Erica Borresen (Colorado School of Public Health, MPH Candidate) – *World Health Organization Internship in Framework Convention on Tobacco Control – Geneva, Switzerland*
- Emily Chasco (College of Liberal Arts and Sciences, PhD Candidate) – *Understanding Factors that influence the Prevention & Treatment of Cervical Cancer in the Developing World– Mwanza, Tanzania*
- Gretchen Domek (Graduate Medical Education, Pediatric Residency) – *International elective based at the Presbyterian Church of East Africa – Chogoria, Kenya*
- Devin Patchell (Colorado School of Public Health, MPH Candidate) – *Educate & facilitate preventive care among impoverished communities – Be'er Sheva, Israel*
- Marcus Salmen (University of Colorado, School of Medicine) – *Community Initiative for the Improvement of Personal Health Organization – Mfangano Island, Suba District, Kenya*
- Christine Tagliaferri (University of Colorado Denver, Health and Behavioral Science, PhD Candidate) – *Advocating on behalf of commercial sex workers for better working conditions, greater access to health resources & protection from HIV/AIDS – Dominican Republic*

The Robinson Durst Student Scholarship is funded by the Robinson Durst Student Scholarship endowment fund and the Rotary Student Scholarship by the following Rotary Clubs: Rotary Denver, Fitzsimons Rotary, Southeast Rotary and University Hills Rotary. If your Rotary Club would like to be a part of the Rotary Student Scholarship, please contact Michelle Shiver at the Center for Global Health at michelle.shiver@ucdenver.edu

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