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Dear friends,

Indiana University (IU), through its leadership of AMPATH, has set itself apart as an internationally recognized leader in global health. Our unique partnership in Kenya is internationally recognized by policy makers, sponsors, and our academic peers as the gold standard for academic engagement in global health. It provides an important platform for education, research, health systems strengthening and improved health of individuals and their communities. Nurturing and expanding this relationship is essential to achieving our goal of making IU the preeminent academic leader nationally in global health.

All academic health sciences centers have the potential to improve global health. Many North American research based institutions aim to improve global health through focused, time-limited research and/or training projects located in various sites around the world. Indiana University Center for Global Health (IUCGH) has pursued a different model. By engaging without time limits in its signature partnership with Moi University and Moi Teaching Referral Hospital in Kenya, by holding itself accountable for the health of the population, and by leveraging the breadth of IU’s resources, the IUCGH has demonstrated how a North American university can:

- strengthen health systems and their institutions,
- improve the health of their communities,
- increase and enhance opportunities for research and training,
- affirm the values of the medical profession,
- produce better leaders in global health,
- demonstrate a replicable model of partnership,
- and produce lessons that can be replicated and scaled globally.

The Center would like to promote all of the outstanding work being performed by IU faculty, staff and leaders across the many campuses of Indiana University. We do our best to invite all those we are aware of to submit information for this annual compilation. However, we recognize there is likely much being done that is not highlighted in this document. If you are aware of additional activities, please let us know and we will include them in future outreach.

I would also invite anyone that would like to know more about the Center, or who has ideas about how to improve the work of the Center, to reach out to me. I would welcome the discussion.

Yours in health,

Robert M. Einterz, MD
Director
It has been seven years since the expansion of the ENLACE program to China. In that time, groups of Pediatrics, Med/Peds and Family Medicine resident physicians led by Dr. Debbie Hamby and Dr. Deanna Willis, have seen over 400 children. Last year, the groups performed assessments on 50 children in two orphanages as well as conducting medical education sessions for the orphanage workers.

Regarding the goals of the program, Dr. Willis states, “We have strived to create an environment where we identify the health needs of each individual child, empower the orphanage caregivers and administration to provide the best support possible for those care needs, while offering an experience for resident physicians to grow their skills and knowledge in developmental and medical assessment of children with special care needs and developmental delays.”

The ENLACE-China program will continue to work towards establishing lasting relationships with specific orphanages to build upon previous training.

ENLACE-Nicaragua is composed of two distinct service learning opportunities.

Alternative Spring Break is a week-long service learning program for interested medical and graduate-level health professions students which takes place in Nicaragua. In March 2017, 16 students traveled to Managua and the remote mountain town of Zacataloza. In 2017, in partnership with the Richard Fairbanks School of Public Health, Alternative Spring Break Nicaragua offered an interprofessional service learning opportunity for undergraduate and graduate public health students and medical students. Students constructed a composting latrine and sowed medical plants using the terracing method to combat soil erosion.

The Global Health elective is a four-week program open to Phase 3 medical students. Students live with host families and are immersed into the health care system of rural Nicaragua. In 2017, 15 students participated in the experiential learning in the Nicaragua public health care system. A 2017 Global Health elective participant notes, “I wouldn’t say that I have a deeper understanding of the Nicaraguan people...But perhaps I know not to cringe or laugh if I see someone drinking juice out of a little plastic bag; I will respect the fact that my patients – however they look – might have dressed their best for their appointment; and I will think twice before passing judgment on the young 20-something mom with multiple, multiple children. These are scenes of the ordinary in Nicaragua, and I hope they stay with me for my life.”
School of Dentistry

The School of Dentistry is a well-established partner in global health and service learning programs. Although the School of Dentistry has conducted programs in numerous countries for years, in 2017 they changed the name of the “International Service-Learning” programs to “Global Service Learning” to include domestic service learning experiences.

Service Learning to Mexico

Seven dental students participated in the Mexico Global Service Learning trip to Mexico City and Zacatlan de las Manzanas, Puebla. Students provided preventative and restorative dental services to underserved populations in partnership with the Universidad Intercontinental in Mexico City. During the week-long 2017 trip, students saw over 600 patients and performed 473 fluoride varnish applications to children.

Faculty and dental students from UIC and IUSD with the staff, physician and dentist from Zacatlan Community Center.
Eleven dental students and one dental hygiene student travelled to Ecuador to provide dental services to 270 patients and fluoride applications to 337 additional child patients.

Eleven students and two dental hygiene students travelled to Haiti to provide services to 430 patients and 594 fluoride treatments for children.

In the spring, a group of rising second-year dental students travelled to Newcastle, England to study at the Newcastle University School of Dental Sciences and to provide oral health education at community centers. Notably, this year, students had the opportunity to visit “Drop-in Center for Refugees and Asylum Seekers,” where students conducted oral screenings. In the summer, a group of English students from Newcastle University visited Indianapolis. Reflecting on the importance of the exchange program, Dr. Joan Kowolik writes, “It is important to realize that as our electronic world develops and grows, the world apparently reduces in size. All students have access to teaching methods across the world and they need to experience quality healthcare worldwide.”
The School of Nursing continues to focus its global health work on improving global nurse education. Dr. Mary Beth Riner shares about the global health mission of the School of Nursing: “The School of Nursing is committed to advancing nurse educator excellence in both clinical facilities and academic institutions. By working closely with colleagues in Kenya and Liberia to target identified professional development needs, IU School of Nursing and IU Health nurse leaders are providing education and mentoring on role development for educators.” The School of Nursing provided three short-term study abroad programs in Spain, Swaziland, and China with hopes of expanding study abroad programs to garner more student participation in international experiences.

In Kenya, Dean Newhouse conducted a workshop on Implementation Science and Quality Improvement for departments at Moi Teaching and Referral Hospital. Additionally, a workshop was provided on the role development of clinical nurse educators at MTRH, which had been listed as one of their priorities. Under the direction of Dr. Janice Buelow, Associate Dean for Academic Operations and Professor at the School of Nursing, a partnership between the IU School of Nursing and the Moi University School of Nursing in Eldoret, Kenya is in the building stages. Dr. Buelow and her post-doctorate student will travel to Eldoret at the beginning of 2018 to build a research team and to further explore areas of partnership. They are planning to submit a Fogarty grant in July 2018.

While on sabbatical during spring 2017, Dr. Mary Beth Riner taught at the University of Liberia and aided in stabilizing the new RN-BSN program and graduating the first class in December 2017. This partnership, along with Moi University, will aid in the establishment of an Institute for Advancing Global Nurse Educator Excellence (AGNEE).
School of Public Health

The School of Public Health’s study abroad programs promote global health and allow students to experience health systems in various countries. Three new programs were created under the School of Public Health, including two “Health Systems Around the World” programs, which allow students to compare health systems in Nicaragua or Sweden with those in the United States. Additionally, the “Swaziland Multidisciplinary Health Studies” program joined 13 student participants with the University of Swaziland, the Peace Corps and the U.S. NGO, SOHO.

Beijing Children’s Hospital Heart Center

A team of Indiana University physicians led by Dr. Mark Turrentine and Dr. Marcus Schamberger traveled to Beijing, China to perform several complex pediatric cardiac surgeries. The trips are in cooperation with the surgical team at Beijing’s Children’s Hospital and have been ongoing for several years. In that time, physicians from IU and Beijing Children’s Hospital have visited each other multiple times.

Dr. Li (Chief Cardiac Surgeon at Beijing Children’s Hospital), Dr. Turrentine and Dr. Schamberger
AMPATH

AMPATH-Kenya is an alliance of Moi University, Moi Teaching and Referral Hospital, and the AMPATH Consortium (a consortium of North American academic health centers led by Indiana University) that aims to enhance the Government of Kenya’s health system in western Kenya. AMPATH-Kenya is developing an integrated health system in the public sector across all levels of the health system using a community-based, population health approach. The system, inclusive of both primary and specialty care services, is designed to host and nurture training and research activities. Indiana University anchors the AMPATH Consortium and the consortium’s institutional relationships with Moi University and Moi Teaching and Referral Hospital.

AMPATH’s activities are situated in a network of communities and in Ministry of Health (MoH) facilities serving a population of more than 4 million people in western Kenya. This AMPATH-MoH system aims to deliver a package of primary care services inclusive of HIV/AIDS care and control, maternal-child services, and essential/basic prevention services and medical care for burdensome health problems. AMPATH’s specialty care services, centered on the campus of Moi Teaching and Referral Hospital in Eldoret, consist of emerging Centers of Excellence in cardiopulmonary diseases, diabetes, mental health, and oncology.

The AMPATH-MoH system is developing a replicable model of universal health coverage by (1) building a health care system in western Kenya that delivers quality health services effectively and efficiently; (2) developing community-based and group-based mechanisms of wealth creation; and, (3) collaborating with Kenya’s National Hospital Insurance (NHIF) to ensure that that health care delivery system is financially accessible to all people.

In the coming year, they will also be working to expand and adapt the AMPATH Medical Record System (AMRS) to serve the needs of AMPATH’s UHC/Population Health initiative. The informatics team are leading the development and implementation of this expansion, inclusive of a strategic plan, milestones, and expected outputs and outcomes. Additionally, work has begun on developing a universal health coverage monitoring and evaluation plan. Outcome measures will include individual and population health indicators pertinent to the treatment and control of hypertension, diabetes mellitus, mental illness, and cancer.

The AMPATH Consortium welcomes academic medical centers’ participation in activities of health care delivery, health care system building, education/training, and research. Indiana University serves as the AMPATH Consortium’s secretariat. In Kenya, Indiana University anchors the AMPATH Consortium and the consortium’s institutional relationships with Moi University and Moi Teaching and Referral Hospital.

These accomplishments would not have been possible without support from faculty involvement across Indiana University and the IU School of Medicine. Since inception virtually all of the major IU School of Medicine departments and many sub-specialty divisions have joined the effort including Medicine, Pediatrics, Ob/Gyn, Surgery, GI, Radiology, Pathology, Oncology, and Palliative Care. Other schools involved include Dentistry, Public Health and Law. Further, this fiscal year the IU Center for Global Health development office brought in more than $15 million in philanthropic gifts and in-kind product donations for the AMPATH program.
Interdepartmental Global Health Residency Track

Nine IU School of Medicine residents were selected this year to participate in the IU Center for Global Health’s Interdisciplinary Global Health Residency Track. This year’s group of residents specialize in family medicine, med-peds, OB/GYN, general surgery, internal medicine, and psychiatry.

Residents meet with a global health mentor, prepare a scholarly project, attend quarterly half-day conferences, and complete an international or local-global experience.

Medical Student Education

This year, three rising second-year students were selected as Slemenda Scholars and traveled to Eldoret, Kenya for eight weeks during the summer. The students participated in rounds, collaborated on field projects and worked alongside Moi University medical students.

Another group of rising second-year students were selected as the first Global Health Summer Education interns. The group of five students researched and developed new curricular activities for the Center for Global Health Education program.

Both groups of students presented their work at the IU Medical Student Research Day.

Kenyan Student and Registrar Exchange Program

Since the inception of AMPATH, 269 Kenyan students have rotated at AMPATH Consortium institutions. This year, four Kenyan medical students and two dental students completed rotations at IU during the six-week student exchange program.

In addition, two registrars spent three months on rotations at IU. They are two out of 33 registrars who have rotated in North America.
Reciprocal Innovation

Reciprocal innovation (often called ‘global-local’) programs bloomed this year, as was evidenced by the attention received from the NIH Fogarty International Center. The FIC highlighted the IU Center for Global Health ‘global-local’ programs, which were a major part of the most recent CTSA renewal application, in news releases.

IUCGH leadership will lead Indiana's efforts to foster reciprocal innovation by serving as the administrative core for the Indiana CTSI’s new Global Health Innovation Research Exchange (G*HIRE). This initiative seeks to develop a stable and resourced infrastructure to support reciprocal exchange and demonstrate the utility and impact of G*HIRE through the selection, implementation and evaluation of reciprocal global health innovation projects in Indiana. Current demonstration projects aim to find solutions to the high infant mortality rate in certain geographic areas within Indiana, the opioid addiction crisis, and other community identified health challenges.

D43 Implementation Science Fellows

In part under IU School of Medicine mentors, eight Kenyan D43 Implementation Science Fellows completed their mentored research projects and together they have published more than 22 peer-reviewed manuscripts. Several trainees were invited to attend the Annual FIC Chronic, Non-communicable Diseases and Disorders Across the Lifespan Conference in May 2017 at the NIH Neurosciences Center in Bethesda, MD. There was also a 3 day writing workshop organized as part of D43 training grant held at NIH for fellows and other interested investigators prior the annual FIC meeting in May.
EDUCATION & TRAINING

T-32 Training in Sexually Transmitted Diseases
Led by Dr. Kara Wools-Kaloustian (IUSM), the primary goal of this multidisciplinary training program is to train MD and PhD scientists for projective and sustainable careers in research related to sexually transmitted infections and other infections of global health significance. The second goal of this grant is to ensure that our fellows receive training in the practices, procedures, and languages of collaboration necessary for creating and working in a productive team (team science). The third goal of this grant is for graduates to assume positions in academic institutions, government, or industry related to addressing infectious diseases of global health significance.

SYSU Medical Student Elective
Fourth year medical students get an in-depth look at a health care system in another country with the one month exchange program at Sun Yat Sen University (SYSU) School of Medicine in Guangzhou, China. As a part of the program, students train in a specialty or subspecialty area and are encouraged to compare and contrast health systems in the United States with those in China. Last year, three School of Medicine students spent a month at SYSU and twelve SYSU students spent a month in Indianapolis.

Office of International Affairs
With collaboration from the Office of International Affairs, global health-related study abroad programs have expanded throughout many disciplines, particularly Public Health and Social Work. In South Korea, the School of Social Work’s “Health/Behavioral Health Care and Inter-professional Collaboration” program completed its inaugural year. In addition to comparing health systems, the nine students participated in lectures and collaborated with students, as well as visiting health care facilities.

From Kenya, OIA held its first annual lecture series exchange between Moi University in Kenya and the IU School of Medicine, and in the spring, honored Dean Lukoye Atwoli, Dean of Moi School of Medicine for his achievements.
RESEARCH

IeDEA

IU has led the East Africa International Epidemiology Database to Evaluate AIDS (IeDEA) consortium – one of seven regional data centers funded by the NIH to provide a rich resource for globally diverse HIV/AIDS data. IeDEA is led by Dr. Kara Wools-Kaloustian (IUSM), in partnership with Dr. Constantin Yiannoutsos (Fairbanks Public Health), and houses expertise in merging, sharing, and analyzing routine data collected within HIV care and treatment programs, as well as proficiency in the design, conduct and analysis of implementation research.

IU School of Medicine Center for AIDS Research

IUSM faculty are working with the IUSM Center for AIDS Research (Indiana CFAR) to increase collaborative research throughout the state of Indiana in all aspects of HIV/AIDS prevention and care. As part of this effort, the Indiana CFAR plans to seek funding as an NIH Developmental CFAR in 2018. Since 2016, the Indiana CFAR has supported a pilot grant program for junior investigators seeking academic careers in HIV/AIDS research. Four of the 9 Indiana CFAR awardees have received funding to conduct pilot research in Western Kenya in partnership with the Center’s AMPATH Research Programs.

Pediatric Infectious Disease & Global Health Research Group

The Pediatric Infectious Disease and Global Health Research Group aims to improve the health of children globally through their research on malaria and HIV. Led by Dr. Chandy John, 8 IUSM research investigators are helping to solve infectious disease problems created by malaria and HIV, which are among the greatest causes of death and long-term disability in children worldwide. Both diseases also affect children in Indiana, who require protection from malaria when they travel to countries with malaria and who are still at risk for HIV infection, particularly in the perinatal/neonatal period and in adolescence. Partner research sites are in Uganda with Makerere University and in Kenya with the Kenya Medical Research Institute and Maseno University.

- Malaria research focuses on why children get severe malaria, what causes long-term developmental impairment in children with severe malaria, whether prevention of malaria and other infections can be improved in children with sickle cell disease, how malaria transmission affects immunity to malaria, and detection of malaria in low transmission settings.

- HIV research focuses on how to make sure children, particularly adolescents, take the medication they need for HIV, and how and when parents can best disclose to their HIV-infected children that they have HIV infection.
HEARD Partnership

Indiana University School of Medicine has joined the University Research Council’s Health Evaluation and Applied Research Development (HEARD) Partnership which promotes research opportunities related to USAID health and development goals. IUCGH is a technical resource partner for HEARD, providing regional expertise in East Africa. Dr. Rachel Vreeman sits on the global steering committee to establish a global Implementation Science Collaborative.

AMPATH Research Network

Co-led by Dr. Rachel Vreeman (IUSM) and Dr. Winstone Nyandiko (Moi University, Kenya), the network seeks to improve the health of the Kenyan population through the identification, development and dissemination of health systems information to influence the medical care, public health and public policy in Kenya and other resource-constrained areas of the world. This Research Network includes more than 100 active studies and a network of collaborators from 20 institutions in North America, Europe, and East Africa. There is a robust infrastructure for research including a system of peer research development groups to assist in mentoring new investigators and developing new research, an ISO-accredited laboratory, an IRB, a research and sponsored projects office, and cores in biostatistics, data management, informatics, and bioethics.

The AMPATH Research Network has been awarded more than $112 million in cumulative direct research awards from the NIH, CDC, the Bill and Melinda Gates Foundation, USAID, and others. 73% of these awards came from the NIH. Investigators have published more than 540 publications in peer-reviewed journals like the Lancet, the New England Journal of Medicine, JAIDS, and JGIM.

Photo courtesy of Dr. Rachel Vreeman
BiCCHEC

The Binational/Cross-cultural Health Enhancement Center (BiCCHEC) exists to support and promote the health of Latinos in Indiana and abroad. The department of Cariology, Operative Dentistry and Dental Public Health at the School of Dentistry administers the program and conducts research to support the program’s projects.

Last year, BiCCHEC participated in service missions to Mexico in partnership with the Universidad Autonoma del Estado de Yucatan and the Universidad Intercontinental in Mexico City. BiCCHEC researchers received Indiana CTSI funds to address dental caries in a specific indigenous population in Yucatan, Mexico, and they also received NIH funds for a project in partnership with the National Institute for Public Health in Mexico to examine the impact of exposure to fluoride on neurodevelopment in Mexican children.

CTSI Global Health Pilot Grants

In 2017, the Indiana Clinical and Translational Sciences Institute (CTSI) in partnership with the IU Center for Global Health’s Research program awarded six pilot grants awards of $20,000 each to encourage innovative ways to address global health challenges.

2017 CTSI Global Health Pilot Grant Awardees

<table>
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<tr>
<th>Proposal Title</th>
<th>PI</th>
<th>Institution</th>
<th>Award</th>
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<tr>
<td>1. Phylogenetic Inference of Vertical versus Horizontal HIV Transmission among Adolescents in Western Kenya</td>
<td>John Humphrey</td>
<td>IU School of Medicine</td>
<td>$20,000</td>
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<td>2. Evaluation of locally-sourced compression therapy for treatment of chronic venous leg ulcers and management of Kaposi sarcoma leg lymphedema in western Kenya</td>
<td>Sonak Pastakia</td>
<td>Purdue</td>
<td>$20,000</td>
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<tr>
<td>3. The Epidemiology of Trauma and Trauma-Related Resources at a National Referral Hospital in Western Kenya</td>
<td>Connie H Keung</td>
<td>IU School of Medicine</td>
<td>$20,000</td>
</tr>
<tr>
<td>4. Facilitating Home Hospice Care Via Telecommunication in Kenya</td>
<td>Kenneth Cornetta</td>
<td>IU School of Medicine</td>
<td>$20,000</td>
</tr>
<tr>
<td>5. Strengthening the Adolescent HIV Care Cascade in Western Kenya: A qualitative study investigating critical gaps in care and potential interventions</td>
<td>Leslie Anne Enane</td>
<td>IU School of Medicine</td>
<td>$20,000</td>
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<tr>
<td>6. Pan African DrPH Strategic Leadership Training Needs Assessment: Kenya and Nigeria</td>
<td>Suzanne Babich</td>
<td>IUPUI</td>
<td>$20,000</td>
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Source: 2017 Global Health Research Report
The Ryan White Center for Pediatric Infectious Disease and Global Health is a national leader in global pediatric infectious disease research. Research focuses on infections that are among the leading causes of death and disability in children worldwide, malaria and HIV. Malaria research focuses on parasite and host factors that lead to severe malaria in children, complications of severe malaria, including neurodevelopmental impairment, malaria and other infections in children with sickle cell disease, and effects of changing transmission on malaria immunity. IUSM Malaria researchers in the Center include Chandy John, Andrea Conroy, Dibya Datta, Tuan Tran and Min Zhang. HIV research focuses on adherence to HIV medications, stigma in HIV, disclosure of HIV status to children, and evaluation and treatment of HIV in adolescents and neurodevelopmental impairment in infants exposed to HIV. IUSM HIV researchers in the Center include Rachel Vreeman, Leslie Enane, and Megan McHenry.

Dr. Chandy John says about the Ryan White Center’s work, “Our work is leading to advances in understanding and care of HIV and malaria in children, two of the biggest health problems in children worldwide.”
LEADERSHIP

CENTER LEADERSHIP

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MISSION

The IU Center for Global Health develops mutually beneficial partnerships across disciplines, schools and countries for the primary purpose of creating and implementing sustainable programs that improve health and human flourishing in underserved areas worldwide, and preparing a critical mass of health education and health research experts in these communities to become the next generation of local, national and global health leaders.