



# 2017 ANNUAL REPORT

## INTERNATIONAL MEDICAL OUTREACH

Sustainable Healthcare Through Donations and Education



## OUR MISSION

The International Medical Outreach (IMO) program, a collaborative partnership between Heineman Medical Outreach, Inc., and Atrium Health (formerly Carolinas HealthCare System),\* provides medical and educational assistance globally to promote sustainable healthcare and enhanced living standards in underserved communities.

## OUR IMPACT

Over more than 60 years, the IMO program has touched the lives of thousands of patients and families in nearly 45 countries. Ongoing support from institutions, individuals and non-profit partners allows IMO to offer free educational opportunities to international medical personnel and free equipment to hospitals and clinics worldwide.

## OUR COMMITMENT

Unlike most charitable organizations, IMO spends 100 percent of donated funds on designated projects. We do not use donations on fundraising or administrative expenses.

\* In February 2018, Carolinas HealthCare System changed its name to Atrium Health. In this report, Carolinas HealthCare System is referred to as Atrium Health.

## DEAR FRIENDS AND COLLEAGUES,

For more than 60 years, IMO has coordinated and delivered resources and programs to support the spread and sustainability of medicine and education globally. The impact of our work has reached individuals and families in nearly 45 countries to date. Our projects continue to grow in size and scope, opening the doors to more innovative, world-class medicine and services to patients of ranging ages and ailments.

In 2017, IMO was part of a collaborative effort to enhance critical care services for children in and near Escuintla, Guatemala. With support from numerous partners, including Guatemala's President and First Lady, we helped establish the largest neonatal and pediatric intensive care unit (NICU-PCU) of its kind in Central America. The unit opened after years of planning, education and research supported by IMO and its partners. It has allowed families of infants and children to access safer care faster, a matter of survival for many youth (see page 4 for the full story).

The Escuintla NICU-PCU is one vision of the many that IMO has turned into reality with the support of donors, volunteers and partners who continually donate funds, goods and services to our program. They are critical to the survival of our projects, which oftentimes flourish into educational and research opportunities that contribute to projects' sustainability. Providers, technicians and students in hospitals in the United States and abroad engage in medical and equipment training that enhance patient care and prolong the effectiveness of new programs. The tracking of successes also allows them to identify areas for improvement or for opportunities for newer treatments that can raise a hospital's or a country's medical profile. See pages 6-9 for more information on our research and education efforts.

Thank you to all of our donors, partners and volunteers for your ongoing support – it is because of you that our program has achieved all that it has and continues making an impact both at home and abroad!



**FRANCIS ROBICSEK, MD, PhD**  
Vice President  
International Medical Outreach  
President  
Heineman Medical Outreach, Inc.



**THERESA R. JOHNSON**  
Director  
International Medical Outreach



Thank you to everyone who helped make the Escuintla NICU-PCU a reality.

Partners and volunteers are critical to the survival of IMO Projects, which often flourish into educational and research opportunities that can contribute to projects' sustainability and the overall health of the community.

## AT A GLANCE

The IMO program provides material and organizational assistance to healthcare institutions and clinics worldwide. We donate new, used and refurbished medical equipment and supplies, and we offer training and consultation services. We work side by side with care providers and with government officials dedicated to improving the quality of life in their communities.



## SEVEN-YEAR IMPACT

**44 Countries**  
with IMO initiatives  
(full list, page 12)

More than  
**1 Million**  
lives touched

More than  
**\$32.4 Million**  
of medical and electronic  
equipment donated  
(value if purchased new)

**412,000 Pounds**  
of medical and computer  
equipment recycled

## WE ARE ABOUT HELPING PEOPLE

It is a pleasure to share the progress and impact of our work and to watch each year as projects rise from infancy and transform into sustainable, life-altering programs. Their growth and stability are the result of multiple phases of planning and investments, with our most valuable tool unquestionably being **people**.

Every IMO project begins with a commitment to make people a critical part of the process. From needs assessments to end evaluations, they are involved every step of the way. During site visits, for example, we seek perspectives from community residents, site staff and leaders, and elected officials, to name a few. Each voice and suggestion contributes to our donation decisions, as do their commitments to do what is necessary to sustain all new equipment and services.

Often times recipient sites need help, which is why IMO also enlists professionals and organizations to assist. We are humbled by these partners, who continually devote countless hours to educating and working alongside staff and leaders abroad. Such trainings and teamwork often result in improved patient care, equipment maintenance and even enhanced career prospects for those in rural communities.

It is about people helping people, a notion that IMO strives to build into every project and one that distinguishes our programs from those of similar charitable organizations. We encourage and facilitate collaborations that often lead to the sharing of material and social resources for improved community health. Connecting and involving people allows us to expand the reach of wellness and education, and can help make sure that no one is left too far behind.



**FERNANDO PAIZ**  
Vice President  
Heinenman Medical Outreach, Inc.



## THE PEGGY HYNES PEDIATRIC FACILITY: THE LARGEST NICU-PCU OF ITS KIND IN CENTRAL AMERICA

The IMO program was part of a large collaborative effort to expand and renovate a 10-bed neonatal and pediatric intensive care unit (NICU-PCU) in Guatemala's National Public Hospital in Escuintla. The unit, inaugurated by the Guatemalan President and First Lady in March, grew to 36 beds, making it the largest of its kind in Central America. The NICU-PCU was dedicated in honor of Margaret Pardee Hynes, wife of Heineman Board member James E. S. Hynes, and the opening was attended by local, national and international dignitaries.

For the last three years, IMO has worked to enhance infant and pediatric health care in Guatemala, a country with a higher-than-average number of premature births. Hospitals in rural areas such as Escuintla are often ill-equipped to care for the number of youth in need of intensive care. This often results in up to three babies sharing a crib, increasing the spread of illnesses. Only months prior to the opening of the Escuintla NICU-PCU, IMO donated medical equipment to the 10-bed NICU at the National Public Hospital of Chimaltenango. In 2018, we plan to build two more NICU-PCUs in Guatemala, in Puerto Barrios and San Benito, Petén.

To help Escuintla care providers get adjusted to new NICU-PCU equipment and enhance patient care, physicians from Atrium Health's Levine Children's Hospital are providing ongoing consultation and special training facilitated by IMO. Providers from Atrium Health are also helping train Escuintla providers (pages 6-7).

Key supporters included the Guatemalan First Lady's foundation (Secretaría de Obras Sociales de la Esposa del Presidente, or SOSEP), Chiquita Brands International, the Bissell Family Foundation, Electromecánica Company, Heineman Foundation for Research, Charitable and Educational Purposes, Inc., the Leon Levine Foundation, and Mr. and Mrs. James C. Olsen.



With support from IMO, volunteer providers from LCH are increasingly traveling to pediatric departments in Guatemala as well as hosting providers from abroad in Charlotte, NC. These exchanges have become increasingly necessary as our programs introduce new equipment in hospital NICUs and PCUs.

"Working with the doctors and nurses [in Guatemala] has been incredibly inspiring and rewarding," says LCH PICU Medical Director Dwight Bailey, DO, who is leading the training and education exchange. "I know how much this equipment means to them and their patients and how important this work is for both of our organizations."



(Left to right) The NICU-PCU at the National Public Hospital in Escuintla before and after the equipment donations. The Guatemalan SOSEP foundation and Chiquita Brands were critical to transporting equipment donations, which included ventilators, patient monitors, incubators, infant warmers and cribs.



Guatemalan President, Jimmy Morales, and Margaret Pardee Hynes shake hands at the opening. The NICU-PCU was dedicated to Mrs. Hynes, whose family joined her for the opening.





## HEALTHCARE EDUCATION CROSSING BORDERS

The IMO program coordinates and supports healthcare training to share and examine best practices, enhance patient care and to ensure the short- and long-term use of donated equipment. We facilitate educational exchanges between physicians, technicians, nurses and residents abroad and in Charlotte, NC, interactions that often expand provider knowledge and yield collaborative research opportunities.



From classroom education to training in the operating room, Charlotte-based providers share their expertise and experiences with counterparts abroad. In Antigua, West Indies, volunteer physicians and nurses from Atrium Health provide education on wound care and vascular care, including echocardiography, vein mapping and vascular surgery. Providers from Mount St. John's Medical Centre in Antigua have responded positively and enthusiastically to these opportunities.



In Guatemala, volunteer physicians and nurses from Atrium Health provide education in a range of specialties, including infectious disease, emergency medicine (e.g., advanced life support and point-of-care ultrasound) and heart care. Guatemalan physicians, technicians and nurses nationwide travel to Guatemala (City) to receive these training certifications, which allow them to educate providers in their rural hospitals and clinics.

## ADVANCING MEDICINE AND HEALTHCARE THROUGH RESEARCH

The IMO program funds research by healthcare providers who pursue sustainable, innovative approaches to advancing medicine globally and locally. Research is supported in conjunction with the Heineman Foundation for Research, Educational, Charitable and Scientific Purposes, Inc., Carolinas HealthCare Foundation and the James H. Heineman Endowment.



### Additional Funded Projects Led by Atrium Health Providers

**Andrew McWilliams, MD, MPH**  
Project: Leveraging Health IT & Analytics to Transform Pediatric Asthma Care

**Jennifer M. Pope, MD**  
Project: Ambulatory Blood Pressure Monitoring in Childhood Cancer Survivors

**Lee Morris, MD, MSPH, DTM&H**  
Project: Combating Nosocomial and Drug Resistant Infections in Children in Guatemala

**Nilanjana Ghosh, MD, PhD**  
Project: Peripheral Blood Immune Profiling as a Predictive Biomarker for Clinical Outcomes in Diffuse Large B Cell Lymphoma

**Saad Usmani, MD, FACP**  
Project: Peripheral Blood Immune Profiling as a Predictive Biomarker for Survival Outcomes in Multiple Myeloma Patients Receiving Novel Immunotherapy Based Treatment

### Jeko Madjarov, MD,

cardiothoracic surgeon with Atrium Health's Sanger Heart & Vascular Institute, leads a project aimed at developing a new cardiac device called an extracardiac defibrillator.

Currently patented, the device offers a new approach to using a defibrillator or a pacemaker that is less invasive and offers better long-term results. It has been thoroughly tested in animals, and a prototype will soon be ready to implant in humans. "This may result in something significant," says Madjarov. "It is critical for research to be supported in its initial stages or it will have a difficult time succeeding."

### Physicians, faculty and

residents at Atrium Health's Carolinas Medical Center are implementing and assessing the impact of a new point-of-care ultrasound in a NICU-PICU in Guatemala. **Erin Noste, MD,**

Director of Global Emergency Medicine (EM), is leading the project with EM Ultrasound Faculty Denise Fraga, MD.

In addition to equipping the NICU-PICU with an ultrasound machine, they will provide training for pediatric physicians in the ICU and ED. Training physicians to routinely perform ultrasounds for diagnostics and procedures can help them to make medical decisions faster and provide safer care. Machine use and impact on care and safety will be tracked.

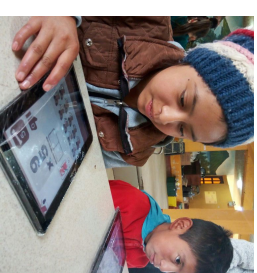
## ADVANCING EDUCATION WITH TECHNOLOGY

For six years, IMO has collaborated with the Sergio Paiz Andrade Foundation to collect, donate and install refurbished desktops, laptops and tablets in rural Guatemalan public schools. To date, we have donated **20,000 computers** in more than **1,500 rural public schools**, reaching more than **500,000 students** (total value \$9.2 million if purchased new). Microsoft Corporation, Kahn Academy, VALENTINIA and NAAT provide operating systems, programs and educational platforms for teachers and students.

IMO also facilitates educational sessions to help Guatemalan teachers to adapt to the technologies in their classrooms and to enhance their daily teaching skills. More than 90 percent of teachers in our programs have had no prior formal teacher training. Over the past four years, certified teachers from North Carolina have held multi-session professional development training in five schools in four rural towns, supporting and encouraging more than 130 Guatemalan teachers.



Above: A North Carolina volunteer educator presents classroom teaching concept to Guatemalan school teachers.



Right: Guatemalan students using tablets donated to their school by IMO and its partners.

"Education is the most powerful weapon which you can use to change the world."

— Nelson Mandela



## THE CENTRAL AMERICA ECHO NETWORK



1. UNICAR – Guatemala City
2. Quetzaltenango
3. Escuintla
4. Cuijapa
5. Totonicapán
6. San Benito Petén
7. Quiché
8. Zacapa
9. Cobán
10. San Salvador
11. Copán Ruinas
12. Belize City
13. Antigua, West Indies (Vascular and Cardiac)
14. Carolinas Medical Center (Charlotte, NC)

In 2017, Centro Medico Ixchel in Copán Ruinas, Honduras, joined the network with an echocardiography machine. Previously, its capabilities were limited to performing ultrasounds.



The echo technician from Copán (third from the left) with her trainers from Atrium Health's Sanger Heart & Vascular Institute.

## COMMUNITY OUTREACH FOR HEART HEALTH

Over the past three years, IMO has partnered with hospitals and clinics in North Carolina, Belize and Guatemala to provide free medical screenings to residents in remote areas. Healthcare providers perform routine medical exams for patients of all ages, followed by on-site EKGs (electrocardiograms) and echocardiography (echo) scans if residents are found at risk for heart valve disease and other cardiac anomalies. Residents also are educated on heart valve disease, signs of stroke and healthy living at these events.

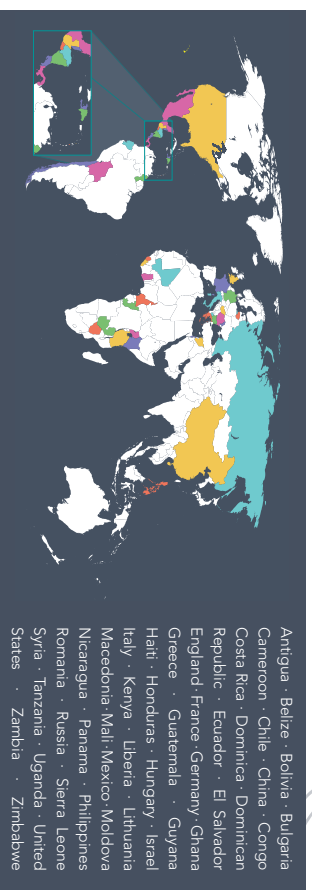
In 2017, services were offered in Orange Walk and Corozal in Belize, and Escuintla in Guatemala. In Belize, patients were screened by nursing students, echo technicians and physicians from Carolinas College of Health Sciences, Atrium Health's Sanger Heart & Vascular Institute, Karl Heusner Memorial Hospital and the Guatemalan Heart Institute (UNICAR). Of 250 medical screenings, 22 percent of patients were diagnosed as needing additional cardiac evaluations or treatment. In Guatemala, patients were screened by echo technicians and physicians from UNICAR. Of 170 medical screenings, 23 percent of patients were diagnosed as needing further evaluations or treatment.



Volunteer healthcare providers in Escuintla, Guatemala, and in Corozal, Belize, at the outreach event, funded by Edwards Lifescience Foundation.



## OUR GLOBAL REACH



### ANTIGUA, WEST INDIES

IMO continues sending volunteer surgical teams from Atrium Health's Sanger Heart & Vascular Institute and from the University of Florida Health Shands Hospital to Mount St. John's Medical Centre. They provide surgical support for kidney dialysis access and complex vascular graft cases. Medical education and training of Mount St. John's providers continues both on-site and in Charlotte, NC.

### BELIZE

IMO collaborated with Karl Heusner Memorial Hospital (KHMH), among others, in hosting the third annual Heart of Belize Community Outreach event in the remote towns of Orange Walk and Corozal. Twenty-two percent of residents were diagnosed at risk of heart disease and referred to KHMH for additional tests and treatments. Read more about this event on page 11.

### Patient Stories: Maria Mena and Presley Rancharan

Like others in their communities, Orange Walk resident Maria Mena and Corozal resident Presley Rancharan were at risk for heart failure. They traveled to KHMH for diagnosis and mitral valve replacement surgery, performed by Adrian Coye, MD, Chief Executive Officer at KHMH, and by Atrium Health Sanger Heart & Vascular Institute, cardiology and cardiac teams. Cardiac services established at KHMH five years ago helped make such diagnoses and surgeries possible. Today, Mena and Rancharan are healthier, active members of their communities.



Left to right: Dr. Coye with Orange Walk resident Maria Mena and Corozal resident Presley Rancharan (and family) during the third annual Heart of Belize Community Outreach event.

### GUATEMALA

Equipment donations continue to enhance healthcare and education nationwide. In 2017, IMO delivered 11 containers of medical and computer equipment and supplies with support from Chiquita and Secretaría de Obras Sociales de la Esposa del Presidente. Furthermore, efforts are ongoing to renovate NICUs and PICUs in public hospitals, with an ambulance recently donated to the Elisa Martínez Pediatric Hospital in Puerto Barrios to help with faster patient transfers. Community outreach events in remote areas are also now in place to screen patients for heart disease and to educate them on overall heart health and care.



### NICARAGUA

A mobile medical clinic donated by IMO to the Coen Foundation in 2015 continues adding rural towns to its routes, going from 6,800 medical consultations in 2016 to more than 7,650 in 2017. It currently serves 11 rural communities and educates residents on subjects such as personal hygiene, good nutrition, sexual health and medication compliance. IMO plans to donate another mobile clinic to expand the medical reach.

### Patient Story: Reyna

Two-year-old Reyna lives in rural Chinandega, where she was diagnosed with a heart defect at age 1 by a primary care physician working in the mobile medical clinic. Because the mobile clinic was stationed in Reyna's hometown, she was screened and surgically treated for a fatal condition that otherwise may have gone undiagnosed and untreated. Today, Reyna is thriving and healthy.



### OTHER NOTABLE PROJECTS

Donations of medical equipment and supplies to the following countries: **Dominica**, for hurricane disaster relief; **Greece**, to Team Rubicon; **Guyana**, to Sisters of Mercy of the Americas; **Haiti**, to Give Hope Global; **Kenya**, to Tenneek Hospital; **Mexico**, to public clinics; **United States (North Carolina)**, to Good Samaritan Clinic (Morganton), Community Free Clinic (Concord) and Holy Angels (Belmont); and **Zimbabwe**, to Eden Children's Village.

In North Carolina, IMO also donated printers to the Salvation Army in Charlotte and laptops to Charlotte-Mecklenburg Schools.





A majority of IMO projects are made possible thanks to ongoing support from Chiquita Brands, which provides transportation of large containers of our material donations. In 2017 alone, Chiquita shipped nine containers of computers and medical equipment and supplies, all valued at \$2.4 million if purchased new. Since 2013, it has transported more than 55 containers for IMO, oftentimes to the most remote of areas in countries throughout Central America particularly Guatemala.

## THANK YOU TO OUR NETWORK OF VOLUNTEERS, PARTICIPANTS AND SUPPORTERS,

ranging from healthcare providers, student nurses and school teachers, to corporate and philanthropic institutions and organizations. IMO's efforts are possible because of these dedicated partners, who devote countless hours and resources to support our program.



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St. Jude  
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Tanzania EMC  
Transtate Equipment Company  
University of Florida, Gainesville  
University of Florida Health Shands Hospital  
University of North Carolina, Chapel Hill





**Atrium Health**

**Atrium Health**, previously Carolinas HealthCare System, one of the nation's leading and most innovative healthcare organizations, provides a full spectrum of healthcare and wellness programs throughout the Southeast region. Its diverse network of care locations includes academic medical centers, hospitals, freestanding emergency departments, physician practices, surgical and rehabilitation centers, home health agencies, nursing homes and behavioral health centers, as well as hospice and palliative care services. Atrium Health works to enhance the overall health and well-being of its communities through high- quality patient care, education and research programs, and numerous collaborative partnerships and initiatives.

**AtriumHealth.org**



H E I N E M A N

**Heineman Medical Outreach, Inc.** (also known as The Heineman Foundation of Charlotte). Since its establishment in 1943, Heineman has pursued a variety of local and international research and humanitarian projects focused on providing medical assistance and education. Located on the campus of Atrium Health's Carolinas Medical Center in Charlotte, NC, Heineman works closely with Atrium Health to provide medical training across all disciplines to health providers abroad and medical equipment and supplies to countries in need. Heineman is a 501(c)(3) organization, and all contributions are tax deductible.

**Heineman.org**

**International Medical Outreach Program**

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