



**LIMBS**  
INTERNATIONAL  
**2019**  
ANNUAL  
REPORT



# TRANSFORMING LIVES FOR 15 YEARS ...ONE STEP AT A TIME





## An Update from the President of LIMBS International

Over the past fifteen years, LIMBS International has given hope and a chance for a better quality of life for thousands of amputees in the developing world.

2019 was a very successful year for LIMBS. We expanded our clinical outreach and invested in technology. Our efforts culminated in international recognition for our technological innovation and Community-Based Rehabilitation.

### Major Milestones:

LIMBS was awarded the coveted **2019 Drucker Prize** for its Project Mobility program, including our innovative LIMBox® and Community-Based Rehabilitation programs. Now in its 27th year, the annual Drucker Prize celebrates nonprofit innovation by recognizing the world's most innovative nonprofit with an unrestricted (and much needed!) \$100,000 cash award.

LIMBS also acquired the molds and manufacturing rights for the **Niagara Foot** – one of the best prosthetic foot systems, designed for people living in harsh environments. Along with the new LIMBS Knee (in production – see page 10), our complete leg system should become the most highly functional, ultra-low cost above-the-knee (AK) prosthetic limb package in the developing world.

Of course, our primary mission is the welfare of our patients. Losing a leg is just the beginning of a cycle of hardship, which can also result in the loss of jobs, friends, family, acceptance, self-esteem, and hope. These desperate amputees are victims of accidents, infections, substandard medical care, diabetes, war and natural disasters. Sadly, most are condemned to a life of extreme poverty and misery.

This year, LIMBS fitted and provided rehabilitation services to hundreds of amputees. Every patient has a unique (and often heartbreaking) story to tell. For instance, a young girl who had never walked because she was born without a full leg, a gentleman who lost both legs in an accident, and an elderly woman who lost her leg to diabetes. In 2019, LIMBS helped to restore their lives.

My heart is filled with joy to witness the gratitude from each and every patient. It is a true blessing to give the gift of mobility.

I want to express my appreciation to our many volunteers, partners, donors and Board of Trustees for caring for and supporting LIMBS. Rest assured you are making a huge difference in people's lives.

In the coming decade, LIMBS will continue to develop new technologies as well as expand its clinical operations to fit and provide the highest quality rehabilitation services to thousands of needy amputees around the world.

A handwritten signature in black ink, appearing to read 'Oscar Gonzalez Montoya'.

Oscar Gonzalez Montoya



Roger Gonzelez, PhD, the Founder of LIMBS, was honored by the Board of Trustees with a custom oil painting for his many years of philanthropic work. Pictured from left to right: Eric Minelga, Sandra Martinez-Compton, Roger Gonzalez, Sandra Terrazas, President Oscar Gonzalez Montoya, Jim Hughey and Board Chairman John Busch, PhD.

# The Drucker Institute at Claremont Graduate University announced that LIMBS International is the winner of the highly prestigious 2019 Drucker Prize.



**The worldwide competition attracted over 400 applications.**

*(Below is an excerpt from the official Drucker Prize Press Release dated October 1, 2019)*

The organization's innovation combines technology with community support to transform the lives of amputees in developing countries. Its LIMBox program provides an ultra-low cost prosthetic knee to local partners trained to fit amputees on site. Community-based rehabilitation programs then make the prosthetic effective for patients through ongoing physical therapy, counseling and social advocacy.

Drucker Prize judges recognized LIMBS International for its holistic approach to accessibility and affordability. The judges also recognized the organization's promise to further leverage the discipline of innovation.

**"It would have been easy for LIMBS International to be satisfied with its technical achievement of a \$20 functional prosthetic," said Zach First, executive director of the Drucker Institute. "But it often takes social innovation to make technical innovation effective. And LIMBS International exemplifies this in the way they married their innovative prosthetic with an equally innovative local physical-therapy model. Thanks to their work, innocent victims of war and disease get a second chance to stand on their own two feet."**

Oscar Gonzalez Montoya, President of LIMBS International said, "We are greatly honored to be selected for the 2019 Drucker Prize. We look forward to implementing the new innovative solutions that were inspired during the application process – addressing accessibility challenges, and engaging communities to assist amputees in the developing world. We are thankful for this opportunity to increase our impact around the world."

Administered annually since 1991, The Drucker Prize, formerly known as the Peter F. Drucker Award for Nonprofit Innovation, is given to a social-sector organization that demonstrates Drucker's definition of innovation: "change that creates a new dimension of performance." Judges look for programs that are highly effective and have made a difference in the lives of the people they serve, as well as for those organizations that demonstrate a capacity to further leverage the discipline of innovation.



*Yvette and Roger Gonzalez, PhD, Oscar Gonzalez Montoya and Zach First of The Drucker Institute.*

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# THE NEED

*(According to the World Health Organization)*

**40 MILLION AMPUTEES**  
in the developing world

**95%**  
lack access to prosthetic devices or assistance

**1 MILLION  
AMPUTATIONS PER YEAR**  
one every 30 seconds!



In industrialized countries, the cost of high-end prosthetic leg systems range from \$10,000-\$80,000 and rehabilitation services are widely available. However, in developing countries, prosthetics are generally unavailable, unaffordable, or impractical, and rehabilitation programs rarely exist. The disparity between the need and available solutions leave millions of amputees without hope of ever regaining their mobility, independence, and dignity. Amputees often become social outcasts and beggars.

Unfortunately, where assistance is available, amputees do not have the resources to pay for the help they desperately need. The average daily income is only \$2. Amputees can not afford to travel to clinics, or pay for lodging, a new limb and a prosthetist to fit them. But there is hope...

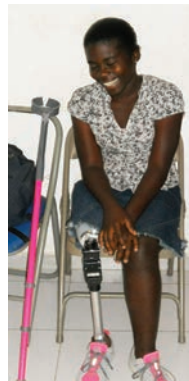




# OUR MISSION

LIMBS International engages communities and transforms lives through affordable, sustainable prosthetic solutions and rehabilitation services in developing countries. LIMBS believes that every individual – regardless of race, religion, ethnicity, economic status, or nationality – deserves love, compassion, respect, and the opportunity to become a productive member of society. Everyday we work to give people hope and a chance for a better life.

**To date, LIMBS has provided over 6,000 prosthetic devices to low-income amputees in 49 countries around the world. And we're just getting started...**



# 2004-2019 **Transforming Lives for 15 Years!**

Over the last fifteen years, LIMBS International has bridged the gap between technology and affordability. In a world where the majority of research and development is focused on expensive first world solutions, LIMBS is committed to engineering the cost out of prosthetic systems without sacrificing quality. As a result, LIMBS is able to provide amputees with a durable, efficient, stable leg system at a fraction of the cost of other available relief devices.

In 2004, the original polycentric knee was developed at LeTourneau University in Longview, Texas when LIMBS International was known as LEGS (LeTourneau Engineering Global Solutions). An engineering professor, and ultimately the founder of LIMBS, Roger Gonzalez, PhD, challenged a group of students to create an inexpensive, highly functional knee that could be fabricated using simple materials and tools, right in the countries where they were desperately needed.

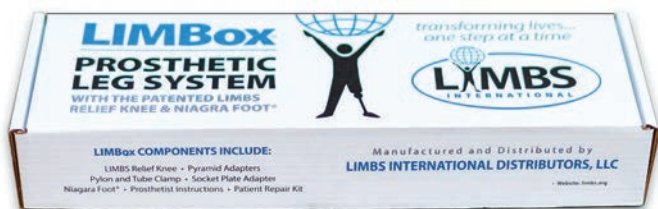
When the initial knee joint prototype was ready, the team traveled to a CURE clinic (AIC Bethany Crippled Children's Center) in Kenya to field test their new invention. Based upon the positive outcomes of the original patients and feedback from the clinic's staff, it was the beginning of a great humanitarian endeavor that continues to evolve – making a life-changing impact on the lives of thousands of amputees.



Over the next six years, teams of LEGS/LIMBS engineers, prosthetists and students traveled to many other countries, such as Bangladesh, Sierra Leone, Senegal, India, and Bolivia to train local prosthetists to manufacture the knees, using special custom-made jigs, basic tools and machinery. The model of partnering with existing organizations touches every aspect of LIMBS. This synergy is most evident in the partnerships between LIMBS and international prosthetic clinics that work on the front lines.



In 2011, in order to maintain better quality control, LIMBS began to work with United Surgery in Bangladesh to produce the LIMBS Knee for greater distribution to clinics and international organizations. Those knees were manufactured and assembled by hand. Now, the revolutionary new LIMBS IM Knee will be injection-molded (see page 10).



In 2014, LIMBS created the LIMBox® – a ready-to-use, full-leg system. With the exception of a custom-made socket, it contains all the components needed to fit an AK (above-the-knee) amputee, including a LIMBS Knee, pylon, necessary hardware and Niagara Foot. The LIMBox® is distributed to clinics and prosthetists around the world.



Students remain an integral part of LIMBS via its partnership with The University of Texas at El Paso (see page 11). In addition to developing and testing prosthetic devices, they conduct gait analysis sessions using sophisticated motion camera systems to assess patient's stride length, cadence and energy consumption.



In 2014, LIMBS launched its Community-Based Rehabilitation (CBR) program. Patients receive pre-prosthetic rehab, gait training, physical therapy and exercises to improve their overall strength, enhance oxygen flow to promote wound healing, decrease scar tissue and minimize pain. Plus, we pay special attention to their emotional and psychological needs. For more details (see pages 12-13).



LIMBS Board Chairmen: Richard Lewis (2012-2016) and John Busch, PhD. (2016-Present).

Over the years, LIMBS has partnered with qualified prosthetic companies to provide components for secondary devices, such as "aqua limbs" in developed nations. All monies generated from such commercial sales are used to underwrite our humanitarian endeavors.



# CLINIC UPDATES



LIMBS continues its clinic partnerships in Mexico (Mexico City, Oaxaca, Cuernavaca, and Guadalajara), El Salvador, Columbia, Turkey and Indonesia. In 2019, we engaged two new communities: Poza Rica, Mexico and Liberia, Africa.

## Indonesia, Asia

Over the past three years, our partnership with Rumah Sakit Immanuel (Immanuel Hospital) in Lampung has helped more than 50 amputees to walk again. As more and more amputees learn about our work there, LIMBS is expanding its services.

Indonesia is a big country. Traveling is expensive and distances are long, making it difficult for a patient to get to a hospital or clinic to get fitted with a prosthetic leg and receive rehabilitation services.

Under normal conditions, it takes at least 1-2 weeks to make a socket, build a complete leg and provide rehab services for each patient. Most amputees are poor and can't afford the trip, a leg, rehab or lodging.

In the spring of 2020, one of our partners helped to fund a house to provide room and board for the patients who live outside the area.

Ideally, LIMBS would like to eventually provide similar lodging for all our patients, but funds are lacking.



*A place for patients to stay during fitting and rehab. Many patients also help out!*

## Liberia, Africa

Located on the West Coast of Africa, Liberia is a country with many economic and medical challenges. 83% of its population lives in poverty. There are many amputees living there as well as in neighboring countries like Sierra Leone – where LIMBS has partnered with Mercy Ships.

In developing countries, a team effort is often required to tackle the enormous need. Thanks to our network, LIMBS has established partnerships with the Monrovia Rehabilitation Center (MRC), Eternal Love Winning Africa (ELWA) hospital, and The Liberian Bible Society (LBS). Also, Jonathan Slager has been named LIMBS' Director for East Africa and he has many ambitious plans.

The MRC is the only facility in Liberia equipped to help amputees. It has equipment for servicing amputees (left from an organization that worked previously in the country), plus a team trained to help people with disabilities. LIMBS looks forward to expanding our important work in Africa in the coming years.





## Poza Rica de Hidalgo, Mexico

Sometimes one man can make a difference. Andres came to Poza Rica (a city and municipality in the Mexican state of Veracruz) and became a taxi driver. Forced to sit for extended periods of time, he lost his leg due to diabetic complications, which caused him to lose his job.

A strong-willed individual, Andres found out about the LIMBS program in Mexico City (Caminando con Cristo) and contacted them.

Within a few weeks, he received a LIMBS prosthetic leg. Andres knew that other amputees in the Poza Rica community needed help too. He developed a team of volunteers to identify, fit and provide rehabilitation services for fellow amputees.

In 2019, working with the government and LIMBS, two more amputees received legs. In 2020, another ten patients will get the help they need. And there are twenty more amputees waiting for help.



Andres (far right) with his friends and future LIMBS patients.

## Guadalajara, Mexico

Since 2014, the Manos Hermanas “Hands in Service” Rehab Center in Jalisco State has maintained a very successful rehabilitation therapy program. To help patients recover full mobility, LIMBS has invested and equipped the nonprofit organization.

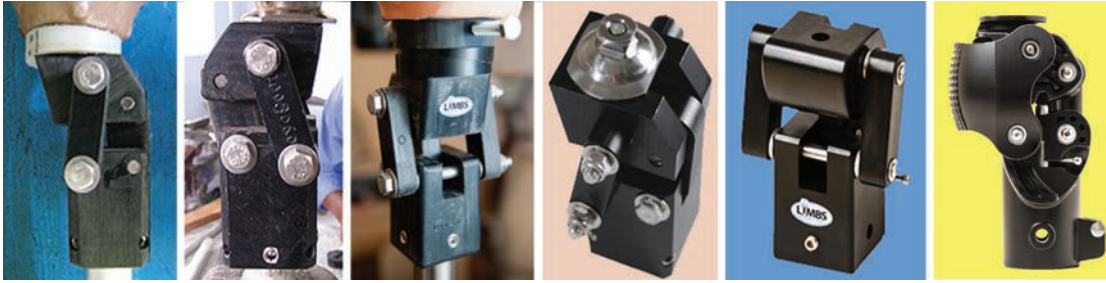
Lead by Hiram Navarro, MD, the clinic has helped approximately 300 patients to walk again. The team has grown and now has a part-time physical therapist to provide rehabilitation to patients. LIMBS has produced a special Rehabilitation Manual, which serves as an excellent training tool for our many volunteer therapists.

Manos Hermanas is very involved in its community. It also runs home plantations to provide produce for poor families as well as a project to build dry latrines.



# NEW LIMBS KNEE

The Next Generation



The evolution of the LIMBS Knee (2004-2019).

The LIMBS Knee is a remarkable achievement in prosthetics engineering. Since 2004, the LIMBS patented polycentric knee has evolved from a simple joint (that could be manufactured abroad using basic tools) to a highly sophisticated, injection-molded device.

After extensive testing in U.S. labs and in the field to meet all ISO standards for prosthetic joints, the new LIMBS IM Knee is stronger, more stable and sleeker than previous generations. There is a greater emphasis on aesthetics, including a protective kneecap that will look more natural under a patient's clothing and make it easier to kneel.



For only \$1,000, LIMBS can provide an amputee with a custom socket, a full leg system, and rehabilitation services.

\*Costs vary by clinic and country.



To evaluate its strength, LIMBS placed the knee under extreme loading conditions and implemented flexion tests. In comparison to other available knees, patients stated it has easier swing-through without significant loss of stability, a more normal gait pattern, lower energy expenditure, and more comfortable sitting and standing.

LIMBS prosthetic devices meet international, professional, and academic standards for functionality, durability and adaptability, while also being culturally acceptable to recipients. The new injection molding process can produce thousands of knees every year. Currently, the knees are manufactured and assembled in Mexico using both U.S. and globally-sourced components/materials. Soon, these knees will be distributed around the world to meet the enormous demand for low-cost and reliable prosthetic devices.



# NIAGARA FOOT

NOW Owned by LIMBS

For years, LIMBS International was the largest buyer of the Niagara prosthetic foot. The affordable and high quality foot was explicitly designed for individuals who live and work in rugged conditions in developing nations. LIMBS enjoys an excellent working partnership with its creator, Rob Gabourie. In 2019, LIMBS purchased the molds and manufacturing rights used to produce the foot. It is now officially called the "Niagara/LIMBS Foot."

Using impact-resistant DuPont Delrin® materials (also used in the LIMBS Knee), the updated Niagara Foot provides superior functionality, stability, durability and energy return capabilities. One of the benefits of the Niagara foot is that one size fits all. A prosthetist can trim the foot to create a smaller foot, and it can fit a patient with a larger foot size by using a foot cover. (Other humanitarian organizations can purchase the foot from LIMBS.)



# UTEP & LIMBS

A Thriving Partnership

Since 2012, LIMBS has partnered with The University of Texas at El Paso (UTEP), under the leadership of Dr. Roger Gonzalez. Students participate in engineering research and design (R&D) projects, lab and field testing, implementation, and patient assessment. The "Development of Low Cost Prosthetic Components" program mainly focuses on lower-extremity modular components, but also includes rehabilitation, patient outcomes, and upper extremity. Collaboration also extends to staff and students in other UTEP departments.



LIMBS is developing its next generation of prosthetic devices. While our current systems strike an optimal balance between affordability and functionality, more can be done. Current high-tech knees come at an inaccessible high cost, but offer the highest levels of restoration, such as stumble prevention and adaptive gait. LIMBS is on a mission to create the world's first affordable, smart electronic prosthetic knee. This device will be our first mid-range technology, and will expand our area of impact to patients with some disposable income. Current work being done by a PhD student at UTEP includes modifying LIMBS systems with sensors, processors, and advanced control mechanisms to achieve this goal.



# REHABILITATION (CBR)



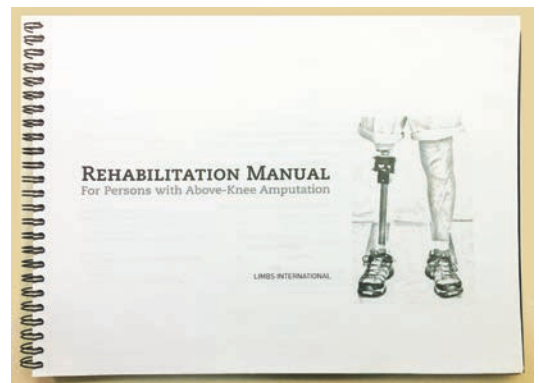
## Technology is just the beginning...

In 2014, LIMBS International introduced its **Community-Based Rehabilitation Program (CBR)** to provide critical services for our patients, including physical therapy, counseling, social reintegration and advocacy.

**LIMBS is the only nonprofit organization in the world that provides a full leg prosthetic system as well as a comprehensive rehabilitation program to improve the quality of life for amputees and their families.**

LIMBS is committed to a holistic approach for patient care. Amputees experience not only unimaginable physical trauma, but also crippling anxiety, frustration, and loss of dignity and livelihood. Being fitted for a new leg is just the first stage. Through our CBR program, LIMBS engages with local communities to provide multi-faceted rehabilitation therapy programs. In addition to learning to walk on their new leg, special attention is paid to the patient's emotional responses during the rehab process.

We provide educational seminars and clinics to teach volunteers about the keys for successful rehabilitation. Our partnerships with many church and community groups have empowered a small army of well trained, caring individuals to help amputees and their families with therapy programs, understanding how to care for their prosthetic devices, and techniques for dealing with the emotional challenges of limb loss and recovery.





Over the last five years, our CBR programs have expanded throughout Mexico, Latin America, Turkey, Indonesia and Liberia with fittings and rehabilitation. Approximately 60% of amputees who are fitted with a new leg at one of our affiliated clinics also receive free physical therapy.

A 2018 independent study analyzed the impact of our CBR programs in four Mexican cities (Mexico City, Oaxaca, Guadalajara, and Cuernavaca). Researchers found that patients enjoyed higher levels of community integration and inclusion – and felt more comfortable and respected in their communities.

LIMBS is constantly raising the bar for humanitarian relief organizations by listening to the populations we serve and then creating new outreach programs to give amputees a much better quality of life.



*"I just wanted to die after I had my amputation. I had to walk with crutches, and suffered discrimination, even from my own family. But I'm much happier now after I got a prosthetic leg with a LIMBS knee. If I hadn't got a new leg, I don't think my life would have improved." – Teddy Velasco*

*"Having my two prosthetics legs has helped me. It has brought new hope. My self-esteem is back." – Alberto Vazquez*

*"I want to thank you for the leg you gave to me. Now I can go everywhere. I wish you can keep helping more amputees." – Sergio Madera*



# FINANCES

**LIMBS future is brighter than ever!**

Over the last 15 years, LIMBS has relied on small and medium size donations from many loyal supporters and church groups (up to \$40,000) as well as the occasional major grant (ie., “Boeing Moves The World” employee well-being initiative in 2017 and The Drucker Prize in 2019). We work hard to stretch every donated dollar by keeping our overhead as low as possible. Now more than ever, **we need major donors to fund our work** in order to dramatically expand our humanitarian outreach to help many more amputees.

LIMBS is positioned for huge growth in the coming years. With our new mass-produced LIMBS knee, upgraded LIMBox® and a proven Community-Based Rehabilitation program, LIMBS is uniquely qualified to grow exponentially – expanding our current clinical operations and moving into new regions. In order to provide the life-changing gift of mobility, **LIMBS needs substantial, escalating support** to hire more staff, subsidize clinics and donate LIMBoxes to prosthetists, healthcare facilities and hospitals throughout the developing world.

For 2020, LIMBS has set a goal to raise \$250,000 to help a minimum of 400 amputees around the world. Despite the devastating impact of the COVID-19 pandemic on our operations, we will assemble and test the first batch of new LIMBS knees, and wherever possible, continue to provide fittings and rehabilitation services.



## NOTEWORTHY FACTS:

- In 2018 and 2019, 90% of our income was invested in Direct Aid & Program Services.
- For only \$1,000, LIMBS can provide a patient with a LIMBox, custom-fitted socket and rehabilitation services.
- LIMBS will work with donors on targeted spending, including special sponsorships for clinics.



LIMBS hopes to launch the first fully-equipped, standalone Mobile Prosthetics Clinic to provide on-site care to lower limb amputees in rural, underserved areas in Mexico. From patient evaluation and consultation to custom fabrication, fitting, and gait training, it will be staffed with certified prosthetists and rehab volunteers. **A great sponsorship opportunity for a major donor.**

<https://www.guidestar.org/profile/27-4334121>



Note: LIMBS International was incorporated in 2010. All of LIMBS U.S. 990 Tax Reports (2011-2019) are available for review.  
U.S. EIN: #27-4334121

**LIMBS International has the highest rating from GuideStar – the world's largest source of information on nonprofit organizations.**

Guidestar's Seals of Transparency are meant to build on each other: A nonprofit earns the Bronze Seal by providing necessary information, mission, leadership team and board names, basic program information, etc. Once an organization has earned a Bronze Seal, it must provide its financial information to earn the Silver Seal. Next, the nonprofit needs to share qualitative information about goals, strategies, and vision to earn a Gold Seal. And finally, metrics to show that progress has been made toward its mission to earn GuideStar's highest seal of approval: Platinum.



*"I cried because I had no shoes until I met a man who had no feet."*

**LIMBS technology is present in 49 countries.**

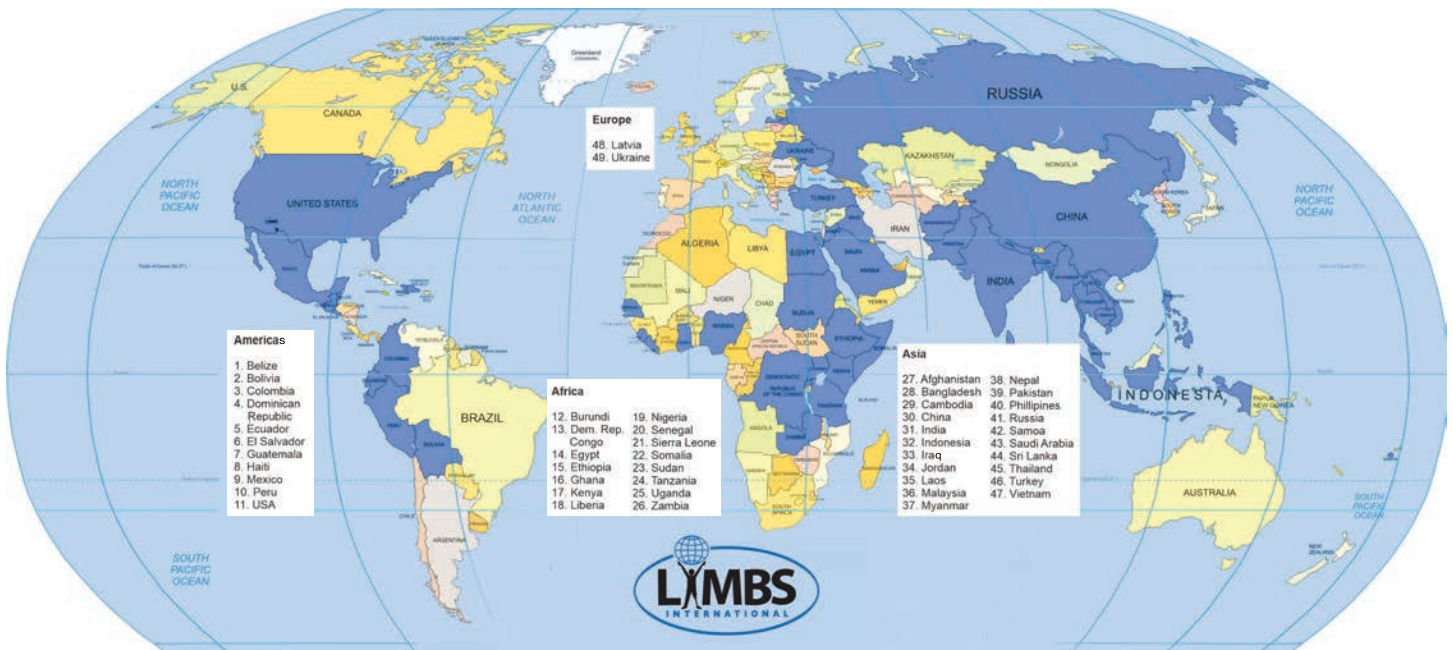




Photo courtesy of Humanity & Inclusion (hi.org)

*"There is no exercise better for the heart than reaching down and lifting people up."*

– John Holmes



**TRANSFORMING LIVES ... ONE STEP AT A TIME**

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