SECONDASSIST

dedicated to improving surgical care in developing countries

Overview

February 2010

SECONDASSIST

Eleven years ago, I went to Senegal for the first time as a Peace Corps Volunteer. When I arrived in my village the people of Samba Diarry were wondering what this alien was doing in their midst. I could barely string a sentence together in Pulaar, let alone get water from a well, farm my own food, or do anything useful for the people around me. I was completely dependent upon my host family for my every survival need.

Accordingly, my first six months there were relentlessly humbling. However, after three years of life in this village, the community of once-strangers became my second family. It was this experience working and living in a rural community in West Africa that provided the foundation for my career in medicine and the desire to make quality health care accessible to those who need it. The artificial divide of “me” vs. “them” was bridged, and there is no going back.

Now, as a surgeon-in-training, my experiences in Senegal inspire my vision of making quality surgical care accessible to the people who suffer from diseases best treated by surgery but live in countries where hospitals are either too far away, too expensive, or extremely ill-equipped to treat them. I have found some like-minded colleagues who feel the same way and we created Second Assist, a non-profit organization, to help us achieve this goal.

Second Assist's operating philosophy evolved specifically from the most important lesson that I learned while working in West Africa: Never make assumptions. Any successes I had in my job there were a product of patience, waiting to understand certain cultural nuances before acting, collecting information about the people I lived with, and learning about their priorities. I learned from failed plans, both others' and my own, which were made with the best of intentions.

All of our activities are underscored by this principle. Right now, there are very few surgeons doing public health research in developing countries. Most surgeons who work internationally do so by going there for short periods of time, operating, and then leaving. While that approach provides critical short-term care, it does not address the deep need to train and support the local doctors and public health practitioners to better help the patients in their communities. This is where Second Assist comes in.

Second Assist's name is based on the surgical hierarchy in the operating room: the surgeon operates, the first assistant helps and operates, and the second assistant is there to provide whatever help possible when and where the surgeon and first assist need it most. Our philosophy is to provide support, technical assistance, or other resources to help physicians and scientists in developing countries work on the surgical issues that they see as priorities. They are the real experts, and we want to help them succeed in saving lives in their own communities.

Catherine Juillard
Founder/Executive Director
Second Assist

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OUR MISSION

Second Assist is dedicated to improving surgical care in developing countries through supporting collaborative research, educational exchange, and program implementation.

THE PROBLEM

An estimated 234 million operations are performed annually, but the quality and access to care for surgical patients varies widely. Surgically treated diseases range from the treatment of cancer to the repair of a fractured bone after an automobile accident to the delivery of a newborn by cesarean section from a mother with obstructed labor. The World Health Organization (WHO) estimates that by the year 2020, injuries due to road traffic accidents alone will exceed the impact of HIV, TB or malaria, all diseases that currently receive the bulk of public health funding. It is estimated that without adequate surgical services, 10% of a country's population will die from injuries and 5% of pregnancies will result in maternal death. A woman with breast cancer in the United States has an estimated 89% chance of surviving five years; in sub-Saharan Africa, a woman with breast cancer has a 32% chance. Appropriate surgical intervention is one of the key differences in these survival rates. Improving access to quality surgical care in developing countries has the potential to dramatically decrease the morbidity and mortality that result from not just one disease, but from a wide range of surgically treated diseases.

The challenges to improving surgical services in the developing world are myriad. Reliable data to help inform policy decisions is emerging but scarce. Understanding the patterns of injury and other surgically treated diseases and the barriers to access to surgical care in developing countries is critical. Without a basic understanding of the problem there can be no long term solution; a young woman with obstructed labor in Gambia, a father with punctured lung in Senegal, or a mother with breast cancer in rural Cameroon will continue to die every year.

According to estimates from the WHO, death and disability due to trauma in Cameroon is on par with that caused by malaria. Unfortunately, most of the data sources that the WHO relies on to make these estimates are of poor quality and are thought to grossly underestimate the problem. In order to best design programs and policy to prevent and treat diseases that are amenable to surgical intervention, the nature and extent of the problem needs to be better understood. We believe that this can only be done by partnering with local experts and assisting them in the manner that they see best fits their local culture and practice.

OUR WORK

Second Assist co-founder and executive director, Dr. Catherine Juillard, is working with the Ministry of Public Health in Cameroon and the Central Hospital of Yaoundé to collect data to better estimate the types and number of injuries occurring in Yaoundé, Cameroon's capital city. Second Assist is providing technical support for the institution of a trauma registry that will document the epidemiology of injuries seen at the capitol city's largest hospital. The results of this study will inform the Ministry of Health's policies for injury prevention and trauma care.

Second Assist now has the opportunity to work with the WHO on a new project—developing and pilot testing a checklist for injured patients in emergency rooms around the world. Every year an estimated 5.8 million people die from injury and many more suffer chronic disability. We believe it is possible to substantially reduce that number. The WHO Patient Safety Programme recently developed a surgical safety checklist that significantly reduced patient mortality and morbidity by over one-third. A trauma checklist has the potential to systematically prevent complications during the initial assessment and management of injured patients. While a checklist cannot replace the adequate training of medical staff, it can, as we saw with the surgical safety checklist, help clinicians remember items that are likely to be forgotten—much like an airplane pilot uses a checklist before takeoff and landing.

The WHO Department of Violence and Injury Prevention and the WHO Patient Safety Programme are working with trauma experts from around the world to draft an initial trauma checklist and supporting manual. An international consultation with 28 experts from 16 different countries was recently held in Rio de Janeiro to develop the first draft of the WHO Trauma Care Checklist. A formal pilot study of the trauma checklist will be conducted before widespread dissemination. Second Assist has the opportunity to support the pilot testing of the WHO Trauma Care Checklist in several low- and middle-income countries. The goal of the trauma checklist will be to ensure that simple standards of care are applied to every patient, every time for severely injured patients around the world.

SECOND ASSIST / WORLD HEALTH ORGANIZATION TRAUMA CARE CHECKLIST PROJECT

The World Health Organization has defined surgical safety as a priority in their Patient Safety Programme. Following on the successful development and pilot testing of the Surgical Safety Checklist, the WHO and Second Assist aim to dramatically improve the safety and care of trauma patients globally through the design of a Trauma Checklist.

Concept

Second Assist is uniquely positioned to partner with WHO on both the creation and implementation of the Trauma Checklist. Dr. Angela Lashoher, board member and co-founder of Second Assist, is currently managing the Trauma Checklist project at the WHO in Geneva. Through her, Second Assist will contribute technical expertise in the design of the checklist and guidance in the selection of field pilot testing sites. Second Assist's previous work in Cameroon and contacts in other low and middle income countries has allowed us to provide the project with potential collaborators. One of the proposed pilot sites is with Second Assist's partners in Cameroon, where Second Assist has just completed data collection on trauma epidemiology. Second Assist also has contacts in Mumbai, India, who are also a potential pilot site for the checklist.

Needed Investment

The total cost of pilot testing the Trauma Care Checklist project is estimated at $353,290 US. In order to partner with WHO on this project, Second Assist will contribute $100,000 US ($30,000 of which has already been raised) to be used towards data collection and documentation, including training and salary for data collectors in the lowest income countries participating in the pilot test. Pilot testing is scheduled to begin in the spring of 2010 and will continue for 12 months. This data collection will provide information on the clinical impact of the checklist on both the process of care and on patient morbidity and mortality.

Scope

Second Assist will collaborate with WHO to determine site selection, design of the Trauma Care Checklist tool, and coordination of pilot testing. The entirety of Second Assist's financial investment will directly fund data collection and documentation in the lowest income sites included in pilot testing. Initial preparation for this project is already underway. On October 29th and 30th, the WHO sponsored a meeting in Rio de Janeiro, Brazil, which included surgeons, emergency health care professionals, and public health representatives from 16 countries, including: Cameroon, Colombia, El Salvador, India, Ghana, Mexico, Colombia, Romania, Sri Lanka, South Africa, Thailand, Uganda, and Vietnam. A critical component of this meeting included sessions dedicated to discussing the design, pilot testing, and potential impact of the Trauma Checklist. Led by Second Assist's co-founder, Dr. Angela Lashoher, these sessions had a particular focus on gathering and integrating input from professionals representing low and middle income countries. Their input will be used to draft the Trauma Care Checklist, which will then be subject to further scrutiny and revision from these and other health care professionals who live and work on the ground in developing countries throughout the world.

Feedback from the pilot testing on the content of the Trauma Care Checklist will be incorporated before widespread dissemination of the tool. There currently are no similar bedside tools that exist to remind clinicians of actions that should be taken during the initial evaluation and resuscitation of trauma patients. Much like a pilot uses a checklist during emergency landing procedures, nurses and doctors will use the Trauma Care Checklist during the evaluation and resuscitation of trauma patients to remind the team of certain critical items that should be completed. This checklist is not meant to replace adequate training but rather to support best practices in trauma care. Because it is estimated that up to 26% of trauma deaths in the emergency room may have been prevented with appropriate management, we are hopeful that this checklist will be a low-cost, easy to use intervention that is applicable, in even the lowest resource settings, to help save lives.

A working draft of the Trauma Checklist is currently undergoing preliminary field testing this January and February. During this preliminary field testing, front line providers will give feedback on the usability of the Trauma Care Checklist to further refine the tool. Formal pilot testing of the Trauma Care Checklist is scheduled to begin in March of 2010 and will continue for 12 months. The final version of the checklist, which includes feedback from the formal pilot test will be ready for dissemination in April of 2011.

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World Health Organization

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In reply please refer to:

Your reference:

Dr. Catherine Juillard
Second Assist

30 November, 2009

Dear Dr. Juillard,

I am delighted to learn of Second Assist's interest in helping to pilot test the WHO Trauma Care Checklist, particularly in several low and middle income sites. We look forward to collaborating with you on this project and will be sure to use the support you can give towards this project to fund pilot sites in low- and middle-income countries.

This project has the potential to improve trauma care in an affordable and sustainable fashion and so is of keen interest to us at WHO.

We are looking forward to working with you on this exciting project.

Sincerely,

Charles Mock

Charles Mock, MD, PhD, FACS
Department of Violence and Injury Prevention and Disability

Total Budget for WHO/Second Assist Trauma Checklist Project

Expenditure	US$
Data Collection	$260,000
Site Visits	$44,646
Communications	$5,000
Documentation	$3,000
Overhead	$40, 644
TOTAL BUDGET	**$353, 290**

Second Assist's Contribution

Data Collector (1 FTE for 12 months)	US $
AFRO—1st Pilot site	$15,000
AFRO—2nd pilot site	$15,000
WPRO—1 pilot site	$25,000
SEARO—1 pilot site	$20,000
EMRO—partial funding for 1 pilot site	$10,000
Communications	$5,000
Documentation	$3,000
Miscellaneous	$7,000
TOTAL	**$100,000**

SECOND ASSIST—LOOKING AHEAD

Almost 6 million people die each year from injuries; an unknown number beyond this suffer death and disability from other surgically treated diseases. The scale of this problem is enormous, but we believe Second Assist is uniquely poised to bring critical resources to bear on the solution. We envision a formalized network of regional experts in key countries who will source and support projects, and share data and learnings to create innovative solutions that will serve millions of patients over time. We know that success requires:

- projects emerging organically from each community, based on the strengths, needs, and resources of each specific context, spearheaded by local physicians, scientists, or public health practitioners
- Second Assist staff in key regions, serving as country leads, who will support local experts, provide technical assistance, share best practices, and help leverage the resources of Second Assist's global network
- Second Assist's global network of like-minded medical practitioners, all committed to collaborating to find the scaleable, innovative solutions that will ultimately save millions of lives.

It will require learning, funding and time to achieve the vision we hold for Second Assist. To that end, we plan to spend the next five years focused on identifying projects and growing our global network of collaborators.

SECOND ASSIST—FIVE YEAR PLAN

Second Assist's First Project

Exploring Data Sources for Trauma Epidemiology in Cameroon

Led by Dr. Juillard, this project was initiated in October of 2008. Dr. Juillard lived in Yaoundé, Cameroon, focusing on partnership-building with the Central Hospital of Yaoundé and the Ministry of Health of Cameroon for the first 6 months. During that time, Dr. Juillard volunteered in the Emergency Ward of the Central Hospital, allowing her to learn about the needs, resources, work flow, and perspectives of local physicians and nurses. Nine research assistants were trained in data-collection and a local supervisor was integrated into the project, allowing it to continue after Dr. Juillard returned to the United States in May, 2009. Data collection spanned 6 months, from April 2009 through October 2009, including hospital, police, and newspaper sources for information on the causes and mechanisms of trauma, socio-economic backgrounds of those injured, and care rendered upon arrival to the emergency ward. This information will be used to guide Ministry of Health policy on injury prevention and trauma care and could provide a model for similar projects in other low-income settings. Data entry and analysis will be completed in spring 2010.

GOALS FOR 2010

- **Pilot testing of WHO/Second Assist Trauma Care Checklist**
- **Launch trauma registry in Yaounde, Cameroon**
- **Identify partners/build relationships in Cameroon and India for further work**
- **Build upon the relationships by Dr. Juillard in Yaounde, Cameroon to create a Trauma Registry at the Central Hospital of Yaounde.**

  A Trauma Registry is the cornerstone of any Quality Improvement Program in Trauma Care and will provide evidence-based identification of weaknesses, creation of potential solutions, implementation of the solution, and confirmation of improvements in outcomes.[3]

GOALS FOR 2011 TO 2014

- **Complete pilot study of WHO Trauma Care Checklist; incorporate feedback from pilot into checklist; disseminate checklist globally**

  The pilot study of the Trauma Care Checklist will start in the spring of 2010 and continue for 12 months. Results of the Trauma Care Checklist pilot study will be incorporated into the final draft of the checklist before widespread dissemination. Second Assist will aid in the dissemination of the checklist through our networks in low- and-middle income countries.

- **Collect baseline data for Trauma Registry for future trauma quality improvement program in Yaounde, Cameroon**

  A Trauma Registry is the cornerstone of Quality Improvement in Trauma Care. Initial data would be collected and analyzed, in anticipation of future expansion into a Quality Improvement Program

- **Implement and scale Trauma Registry to become a trauma quality improvement program in Yaounde, Cameroon**

  Additional components of Quality Improvement would be introduced, including regular review of the trauma registry data, identification of sentinal or adverse events, peer-review of select cases, scheduled sessions for staff input to correct system failures, and further analysis of subsequent data to assess results

- **Conduct a local needs assessment in order to identify and launch at least two additional projects in West Africa based on local surgical priorities**

  The dissemination of the Trauma Care Checklist will provide Second Assist with a unique opportunity to leverage our existing trauma registry project because these projects are so closely aligned as aspects of Trauma Quality Improvement. Sites interested in a trauma registry are also interested in testing the Checklist and vice versa. Given that, we believe we can implement Trauma Registries and use them to assess and revise the Checklist in two additional sites—beyond the pilot sites—over the next five years, greatly expanding both our learnings, the network and impact on patients.

  Target countries: Senegal, Mali, Rwanda, Ghana, India

SECOND ASSIST — 2015 AND BEYOND

We believe that much of current international development and intervention, while well-intentioned, rarely, if ever, meets its full potential for one base reason—the disconnect between the local context and the proposed solution. Second Assist's approach is fundamentally opposite—we firmly believe that it takes the wisdom of many to serve many. Country leads will share the responsibility of culling the wisdom of many to find the most impactful and scaleable solutions for the unnecessary death and disability caused by surgically treated disease. These unique staff will bring specific qualities and skills to Second Assist's work, including:

- A long term commitment to the country that they serve (including necessary language skills)
- An established track record of working entrepreneurially and independently.
- Appropriate medical and/or scientific technical skills, which may include clinical expertise, research skills, academic medical expertise, hospital administrative expertise, public health training, etc.
- Personal experience in the country that s/he serves and/or deep understanding of how cultural values and perceptions interface with successful project implementation
- A strong learning orientation

The Country Leads will primarily seek and support Local Partners, whose work will be essential to all of Second Assist's impact. The Local Partners will likely be motivated scientists, public health workers, hospital administrators, government officials, physicians, etc. who hold a vision for how their country/region/city/hospital could better serve patients and simply need the support of Second Assist to search and/or implement their solution.

The Network will be populated with contributors ranging from Local Partners to international NGOs working in public health (eg. WHO). The network will create a new base of data driven knowledge about Surgical Public Health that will support the solutions that save and impact millions of lives over time. The strength of Second Assist's strategy lies in this emerging Network, which will grow, broaden and deepen over time as Second Assist expands.

Dr. Juillard and Dr. Lashoher will both have completed their surgical training by 2015, and they plan to then live full time in West Africa directing Second Assist's global work. Pending funding, country leads will be established in at least four countries, with multiple projects underway in each. The network will be established, connected and active—collaboratively researching, sharing and implementing data driven solutions while focused on patient impact.

[1] Clarke JR, et al Comparisons of Survival Predictions Using Survival Risk Ratios Based on International Classification of Diseases, Ninth Revision and Abbreviated Injury Scale Trauma Diagnosis Codes. J Trauma, 2005; 59:563-569.
[2] Haynes AB, Weiser TG, Berry WR, et al. A Surgical Safety checklist to reduce morbidity and mortality in a global population. N Engl J Med. Jan 29 2009; 360(5): 491-499.
[3] Mock CM, Juillard CJ, Brundage S, et al. Guidelines for Trauma Quality Improvement Programmes. World Health Organization: Malta; 2009.

SECOND ASSIST BOARD OF DIRECTORS

Dr. Catherine Juillard *Co-founder and executive director of Second Assist*
Dr. Juillard was a Peace Corps Volunteer for three years in West Africa, where she partnered with the Ministry of Health to create a system of rural community health workers. Dr. Juillard is currently a surgeon-in-training at UCLA Medical Center and has a Masters degree in Public Health from Johns Hopkins University, where she was awarded the prestigious Sommer Scholarship, a full scholarship awarded on the basis of merit and intended for "future leaders of public health." In 2007 she received the UCLA Cardiothoracic Surgery Junior Resident Award, in 2006 she was selected as the UCLA's Surgical Intern of the Year, and in 2005 she was honored with UCLA's Viola Hyde Scholarship Award for Women in Surgery. She received her M.D. from UCLA and an A.B. in English Literature from Stanford University, where she was a member and captain of Stanford's two-time NCAA champion volleyball team.

Dr. Angela Lashoher, *Co-founder of Second Assist*
Dr. Lashoher received her B.A. in humanities from the University of Texas, Austin and was awarded a National Security Education Program grant to study in Senegal for one year as an undergraduate. She obtained her M.D. from Baylor College of Medicine in Houston, Texas. Dr. Lashoher is currently a surgeon-in-training at the Johns Hopkins Hospital, holds a Masters degree in Public Health from Johns Hopkins University, and she has National Institute of Health (NIH) funding to complete a doctoral degree in public health. Dr. Lashoher is also currently a World Health Organization Patient Safety Scholar in Geneva, Switzerland.

Dr. Kristin Chrouser
Dr. Chrouser earned her undergraduate degree in biology from Princeton University in 1995, her medical degree from Mayo Medical School in 2000, and completed residency in urology at Mayo Clinic College of Medicine in 2006. She spent a year as a fellow with IVU (International Volunteers in Urology) traveling through eight countries, focusing on international urologic reconstruction and surgeon education. She completed her MPH at Johns Hopkins Bloomberg School of Public Health in 2008, with a concentration in health leadership and management. She is in urologic surgical practice in Baltimore, Maryland with Chesapeake Urology Associates. Her research interests include improving surgical outcomes in vesicovaginal fistula patients and developing international programs that evaluate and improve surgical access, quality, and efficiency in underserved areas. Her clinical focus is on general urology and urologic reconstruction, especially the repair of urethral strictures and vesicovaginal fistulas.

Maureen McLaren
Maureen brings deep experience in education and technology to the board of Second Assist. Maureen has held leadership positions at several leading firms building out eLearning programs, including McKinsey & Company. She currently works in the Talent Management field at one of the world's leading Software as a Service solution providers. A former teammate of Catherine Juillard and Anne Wicks on the national championship Stanford women's volleyball team, Maureen holds both bachelors and masters degrees from Stanford University. She holds an NCAA record six national championships as a student-athlete (volleyball and swimming).

Anne Wicks

Anne brings 12 years of philanthropy and non-profit management experience to the board of Second Assist, working with organizations including the Lucile Packard Foundation for Children's Health, the National Parks Conservation Association and Teach For America. Anne is currently the director of institutional giving for American Public Media/Minnesota Public Radio. She holds a B.A in American Studies and a M.A. in Education from Stanford University as well as an M.B.A. from the University of Southern California. A former captain of Stanford's women's volleyball team, Anne was part of three national championship teams, two as a player and one as an assistant coach.