

Annual Report

2017 - 2018



Every day our partners show up to work in hospitals on the frontline of the surgical safety crisis.

Despite broken equipment, limited resources, frequent power outages and barriers to continuing education, they show that **life-saving surgery is possible.**

As the only international non-profit organization targeting surgical and anesthesia safety in low-resource settings, Lifebox is committed to making that possibility a reality; for every patient, every time.

Our vision is a world where safe surgery is not a luxury. Our programs are designed to **strengthen systems that make surgery and anesthesia safer for millions of patients.** We support operating room teams working in the most challenging environments with the tools, training and partnerships they need to make each operation safer.

This year, our many partners and supporters like you have done so much to help us close the gap. Over the past two years we have worked in 45 countries, partnering with more than 30 organizations to help enable an estimated 7.5 million safer surgeries, and ensuring millions of lives are healthier and with better prospects thanks to our collective work.

To advance our work in the coming years, our new strategic plan focuses on the most critical pillars of surgical care: **teamwork, anesthesia safety, and surgical infection reduction.** Our approach remains rooted in the World Health Organization (WHO) Surgical Safety Checklist, a simple communications tool that can reduce complications and mortality in the operating room by up to 40 percent. **Pioneered by the founders of Lifebox a decade ago,** the Checklist provides surgical teams the foundation for building safe surgical systems.

Thank you so much for all the ways you have been a part of the Lifebox team this year. We look forward to working with you this upcoming year to ensure that from Ethiopia to India to Nicaragua we are making surgery and anesthesia safer, one operating room, one patient at a time.

“We started with a pretty simple goal and then built a movement around it. And I think the magic comes from recognizing that, just doing these simple things, we’re safeguarding individual patients one by one.”

Atul Gawande on the magic of Lifebox



Chair
Atul Gawande

A handwritten signature in black ink, appearing to read 'Atul'.



Global CEO
Kris Torgeson

A handwritten signature in black ink, appearing to read 'Kris Torgeson'.

2017 - 2018
at a glance

7,500,000

Patients having safer surgery

45

Countries worked in

33

Organizations partnered with

1,459

Healthcare workers trained

1,600

People introduced to the WHO
Surgical Safety Checklist



3,942

Oximeters distributed



2,119

Spare probes provided



36

Education workshops

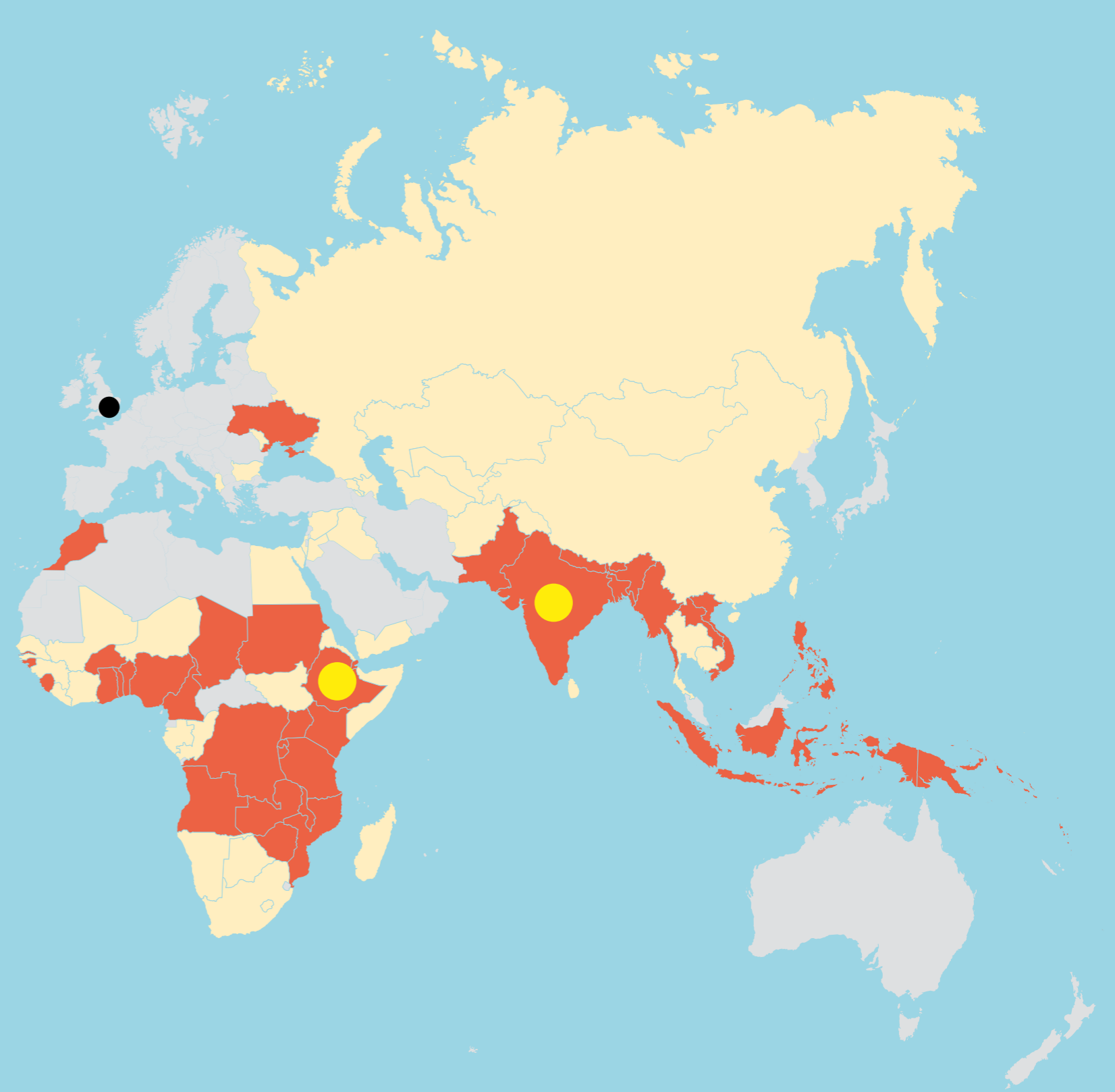
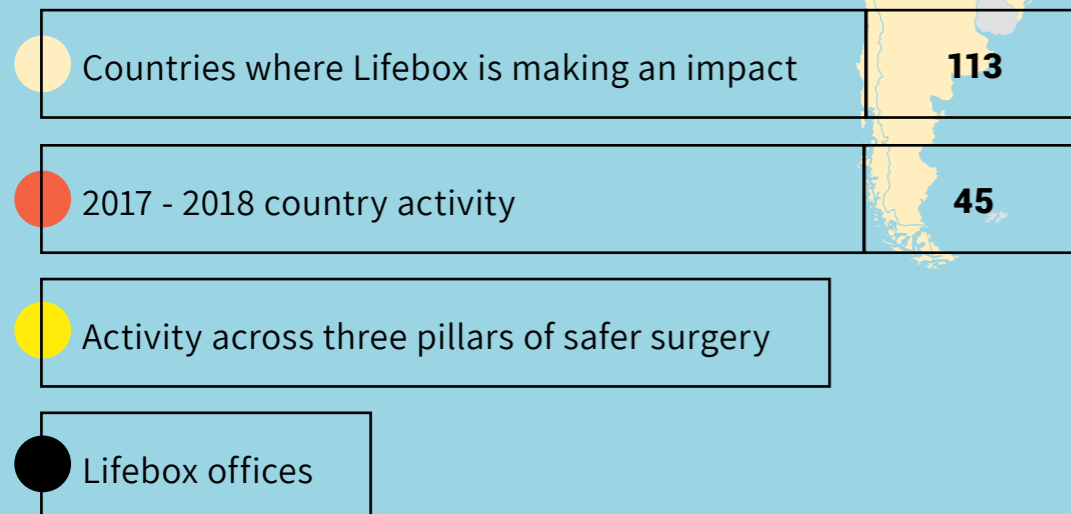
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New Lifebox trainers
trained



A world where safe surgery and anesthesia is not a luxury.

Lifebox works with surgical teams in more than 100 countries where there is no such thing as a 'routine' operation. Together with our partners we have made surgery and anesthesia safer for millions of patients worldwide.



Visit our interactive global impact map to learn more: lifebox.org/our-impact

What we do

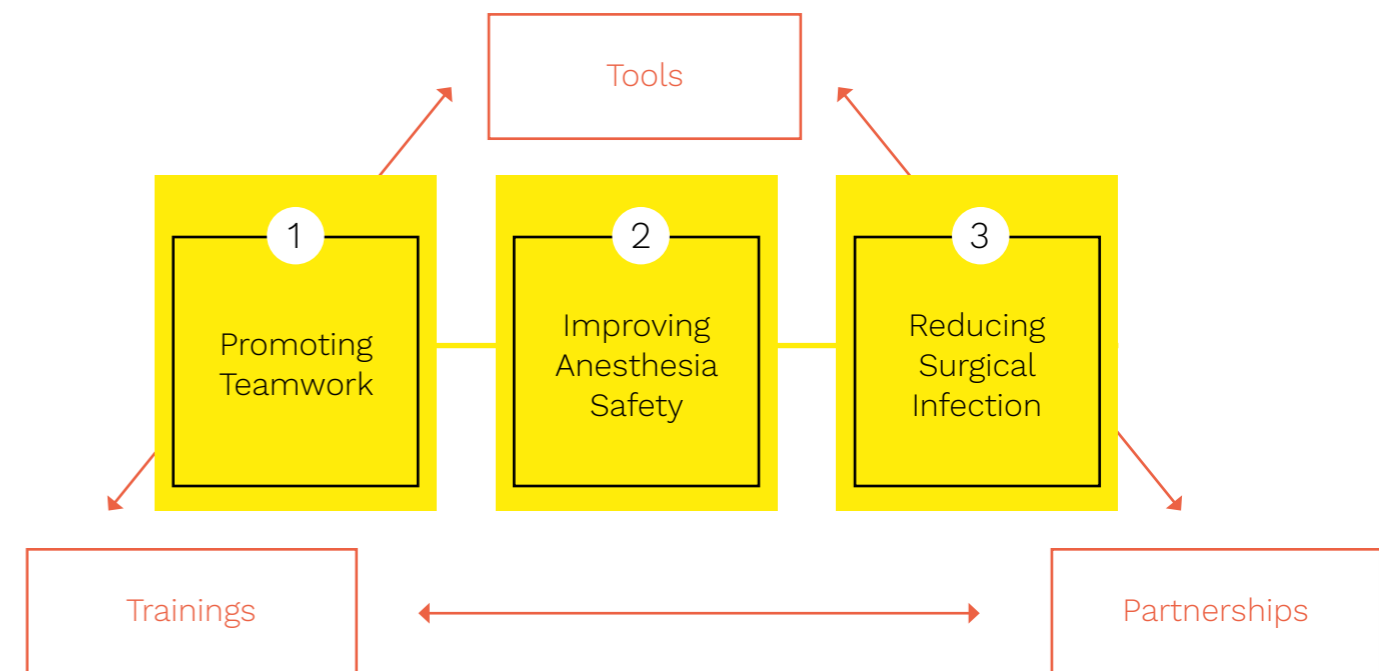
Building teams for safer surgery and anesthesia – one operating room at a time.



Menelik II Hospital surgical team engaged in Lifebox's Clean Cut program, Ethiopia. © Michael McCaskey

Our founders pioneered the WHO Surgical Safety Checklist a decade ago and established Lifebox to support its implementation around the world. Lifebox has successfully worked with surgical teams in over 100 countries to make surgery safer for millions of patients in low-resource settings. We are now launching an ambitious new strategy to reach millions more in the years to come.

Strategic Plan Lifebox's Three Pillars of Safer Surgery



What we do

The building blocks of ensuring safe surgery for every patient:

- Increasing **teamwork**
- Reducing **surgical** infection
- Improving **anesthesia** safety

How we work

Working together to drive quality improvement:

- Providing essential **tools**
- Offering **training** opportunities
- Building **partnerships**

How we measure and amplify our impact

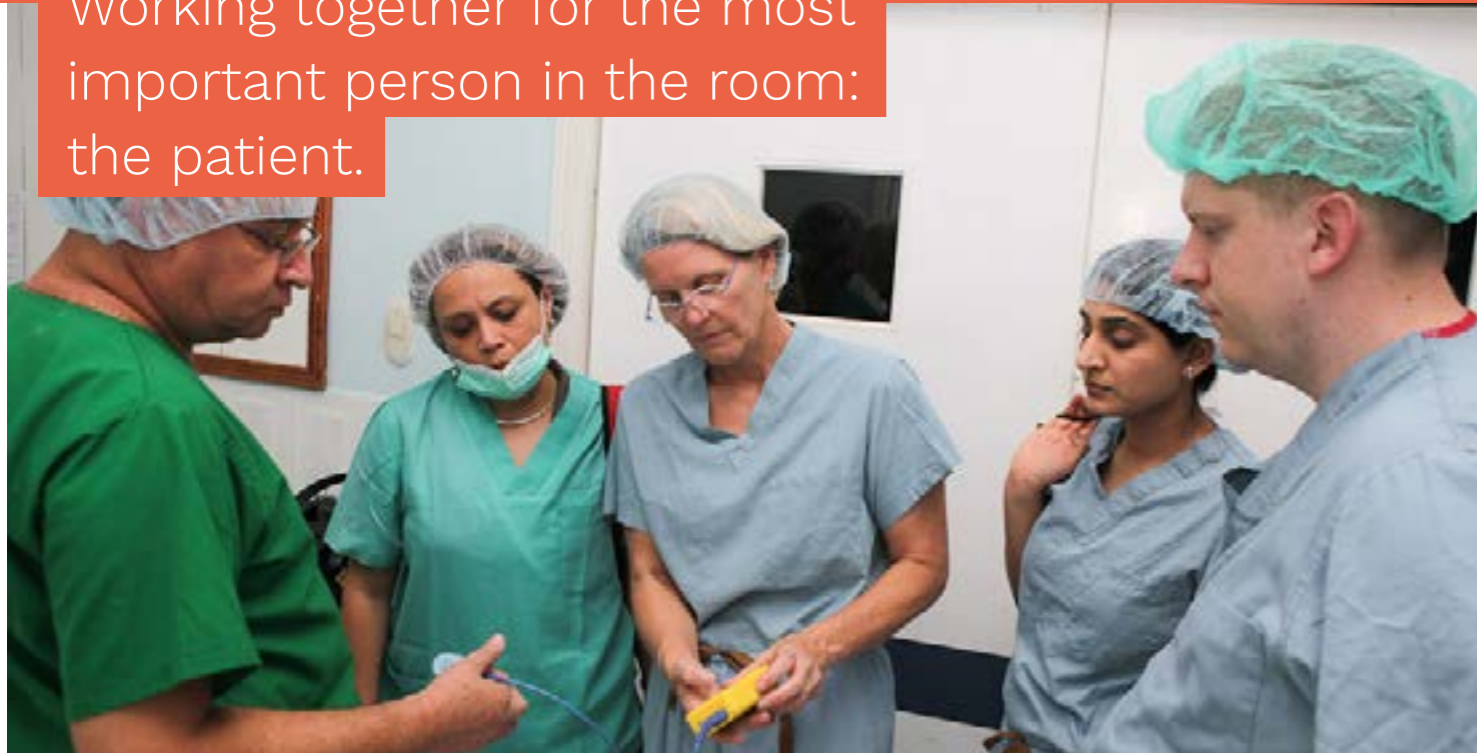
Robust monitoring and evaluation to improve the impact of our work and build awareness of the global surgical safety crisis.

Sandbox

Space for innovation and new opportunities that can help us achieve our ambitious goals.

Teamwork

Working together for the most important person in the room: the patient.



2012 visit to Honduras by the University of Florida. © Lifebox

Teamwork can be the hardest part of meaningful patient safety and the biggest key to its success. From the surgeon and anesthesiologist to sterilization technicians, operating room nurses and hospital management, Lifebox seeks to enable a multidisciplinary approach to patient safety.



“Recently I was called to help with a C-section for a mother expecting twins. She was bleeding heavily, on the verge of cardiac arrest, and we were about to lose her. The team worked all night.”

Anesthesiologist, Ethiopia
Dr Rediet Shimeles

Tools

When the lights go out, emergency surgery is performed by the glow from a cell phone. Patient and surgical staff safety is at risk. Lifebox is closing the gap in surgical lighting by developing a rugged, low-cost, high-quality **surgical headlight** for low-resource setting teams that will ensure one of the most fundamental components of safe surgery: a reliable light source.

Training

Lifebox short and longer-term training courses and programs focus on increasing compliance with proven standards for quality improvement and building a broader culture of surgical teamwork, because everyone has a part to play in patient safety. Trainings range from self-learning and on-site simulation to the multi-disciplinary SAFE OR course we are piloting with co-founders the to Association of Anaesthetists and World Federation Of Societies of Anaesthesiologists (WFSA), as well as partners the Royal College of Surgeons of England (RCSEng), the Association for Perioperative Practice (AfPP), Royal College of Obstetricians and Gynaecologists (RCOG), and the Royal College of Anaesthetists (RCOA).

Partnerships

Colleague-to-colleague, we are building relationships with professional societies at the national and international level, breaking down the silos to forge a multidisciplinary approach. Our **Lifebox McCaskey Surgical Safety Teamwork Fellows** - six Ethiopian nurses, anesthesiologists, surgeons who are champions for safer patient care - are working alongside each other to develop quality improvement projects and long term teamwork and leadership skills.

Anesthesia safety

Sleep without fear, surgery without pain.



The start of anesthesia administration in a hospital in Khanty-Mansi, Russia 2016 (Photo by Dr Baklanov). © Lifebox

A scalpel is sharp, but anesthesia is often the mystery that patients fear most. In low-resource settings, risk of death from anesthesia alone can be several orders of magnitude higher than in well-resourced countries. Lifebox is committed to improving the safety of anesthesia for every patient, every time.



“Lack of access to modern anesthesia tools, monitoring and training in low-resource settings contributes to high mortality in surgery.”

Anesthesiologist, Honduras
Dr Carolina Haylock-Loor

Tools

Robust and rechargeable, Lifebox’s pulse oximeter is the cornerstone of our safe anesthesia programs. Today more than 18,000 devices are making surgery safer for thousands of patients in over 100 countries, and thanks to a grant from the Bill & Melinda Gates Foundation we’re improving the device for children under five years old.

Training

A multi-language curriculum arrives with every oximeter, and larger scale workshops in pulse oximetry and Checklist implementation are developed with local partners. Visiting and local Fellowships create global champions for safe anesthesia. Partnering with co-founders - the Association of Anaesthetists and the WFSA - on specialized SAFE courses for obstetric and pediatric anesthesia helps meet critical demand for ongoing education.

Partnerships

No one is more aware of the risks of anesthesia than the provider themselves. They are the patient’s greatest safety advocate, playing a leading role in global surgery advocacy and going above and beyond to partner with Lifebox.

From Cameroon, where we’re working region by region with the Cameroon North Westerner’s Association of Anesthetics (CAMNOWAA), to Central America, where we’re strengthening regional cooperation through a joint project with the national anesthesia societies of El Salvador, Guatemala, Honduras and Nicaragua, every Lifebox project is co-conceived and co-delivered to support anesthesia safety where it is most needed.

Reducing surgical infection

Catastrophic for the patient and destructive to the system.



SPECT Founder Christina Fast demonstrating proper instrument cleaning technique at Black Lion Hospital, Ethiopia 2018. © Lifebox

Death from cesarean section, appendectomy, and hernia repair is 4-20 times higher in low and middle-income countries than in Western Europe, and surgical site infections are a major cause. By focusing on the fundamentals, from sterile surgical instruments to team compliance with infection prevention standards, Lifebox is working with partners to reduce mortality and complications from surgical infection in a scalable, sustainable fashion.

Tools

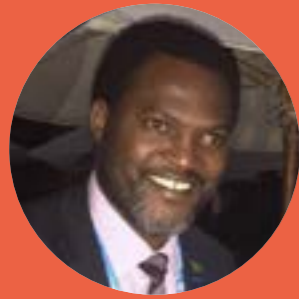
Clean Cut is an intensive, facility-based intervention which uses the Checklist to engage a whole hospital team - from providers to management - in improving compliance with six critical infection prevention standards. Learning from the pilot site funded by GE Foundation in Ethiopia, which saw a 180% improvement in the use of appropriate hand hygiene to a 92% improvement in the proper timing of prophylactic antibiotics, we developed a 'Playbook' to share the lessons of Clean Cut to more surgical teams.

Training

Surgery is not safe when instruments are not clean. Our new short course in instrument maintenance and sterilization, developed in partnership with the **Sterile Processing Education Charitable Trust (SPECT)**, is a rare educational opportunity for colleagues with one of the most important and most overlooked roles in the surgical ecosystem.

Partnerships

We are expanding Clean Cut in Ethiopia with the Oromia Regional Health Bureau, in support of the **Federal Ministry of Health's Saving Lives Through Surgery (SaLTS)** mission. Working in partnership with the Safe Surgery 2020 collaborative, we will move to hospitals and new countries, learning from hospital teams as they mentor, benchmark and support each other.



“Having been a patient made me really appreciate and look at what we do in a different light. Because I was usually the privileged one, cutting up people and trying to fix them.

This time around I was on the other side and went through problems that they face, the waiting time, the lack of pain medication, the lack of safety in theatre, the lack of family support by your bedside when you are alone – because you can die.”

Surgeon, Zambia
Dr Emmanuel Makasa



Impact and research

The evidence base for global surgery in low and middle income countries is minimal.



Surgical team review their checklist as part of the Kybele Project in Armenia 2015. © Lifebox

But published data on gaps, targets, and insight from locally-led quality improvement initiatives is essential for putting it on the map.

Robust monitoring and evaluation are key components of all Lifebox programs. We are committed to sharing our findings in publications and at conferences whenever possible.

Some of our key contributions this year:



Surgeons using their mobile phones as source of lighting in operating room. © Lifebox



© Lifebox

World Journal of Surgery

Volume 41, Issue 12 (December 2017)

80 percent of providers report that the quality of their surgical lighting presents a patient safety risk. Only 9 percent are regularly able to use a surgical headlight.

Impact of surgical lighting on intraoperative safety in low-resource settings: a cross-sectional survey of surgical providers.

Anaesthesia

Volume 72, Issue 6 (June 2017)

36 percent reduction in risk of an oxygen desaturation event and improved test scores after pulse oximeter distribution and anesthesia safety training.

Lifebox pulse oximeter implementation in Malawi: evaluation of educational outcomes and impact on oxygen desaturation episodes during anesthesia.

Journal of the American College of Surgeons (JACS)

Volume 226, Issue 6 (March 2018)

Mapping the steps involved in surgical infection prevention helps identify opportunities for improving adherence, contextually relevant solutions, and results in superior compliance with antiseptic standards.

Developing process maps as a tool for a surgical infection prevention quality improvement initiative in resource-constrained settings.

BMJ Open

Volume 8, Issue 1 (January 2018)

Challenges for pulse oximetry in paediatric pneumonia management, changes in service provision, and opportunities for improved use across paediatric clinical settings in low-income countries.

Opportunities and barriers in paediatric pulse oximetry for pneumonia in low-resource clinical settings: a qualitative evaluation from Malawi and Bangladesh.



Clean Cut training launch, Ethiopia 2018 (Photo by Sarah Kessler). © Lifebox



Lifebox Pulse Oximeter with Gates Paediatric Probe in Malawi 2017 (Photo by Eric McCollum). © Lifebox

British Journal of Surgery

Volume 105, Issue 8 (July 2018)

The work behind the decade-long journey of a life-saving communication tool, and the challenges surgical teams face implementing it in low-resource settings.

Ten years of the Surgical Safety Checklist.

American College of Surgeons Clinical Congress

(Press release on JACS article)

A 180 percent improvement in the use of appropriate hand hygiene prior to surgery, a 92 percent improvement in proper timing of prophylactic antibiotics, and an increase in the use of sterile indicators to confirm use of sterility of surgical instruments from 7 percent to 87 percent at our Clean Cut pilot site in Jimma, Ethiopia.

Surgical Checklist can help prevent life-threatening infections for patients in low-resource settings.



Staff preparing for a C-section in Rwanda 2014 (Photo by Amber-Lucero-Dwyer). © Lifebox



Infection reduction in India. © Lifebox

Click to read: lifebox.org/professional/publications

Communications and advocacy

Storytelling that's older than surgery.

The challenge of advocating for safer surgery globally - its complexity - also happens to be its strength. Needing surgery can be as urgent at birth as in old age. For every patient who makes it to a safe operating room, and for everyone that does not, there's a story.

Here are some stories that Lifebox has been proud to help tell:



Jane Feinmann wrote an award-winning story of safer surgery in Mongolia for **Mosaic Science**.

Read on: bit.ly/littleyellowbox

Mother and her newborn in Mongolia. A Lifebox pulse oximeter was used during and after the birth. © Dr Ron George

Music: Atlas: Four, a song by Sleeping At Last

Atul Gawande lent the sound of his oxygen saturation and heart rate from the Lifebox Pulse Oximeter to the opening of singer-songwriter, producer and composer Ryan O'Neal's 'Four'.



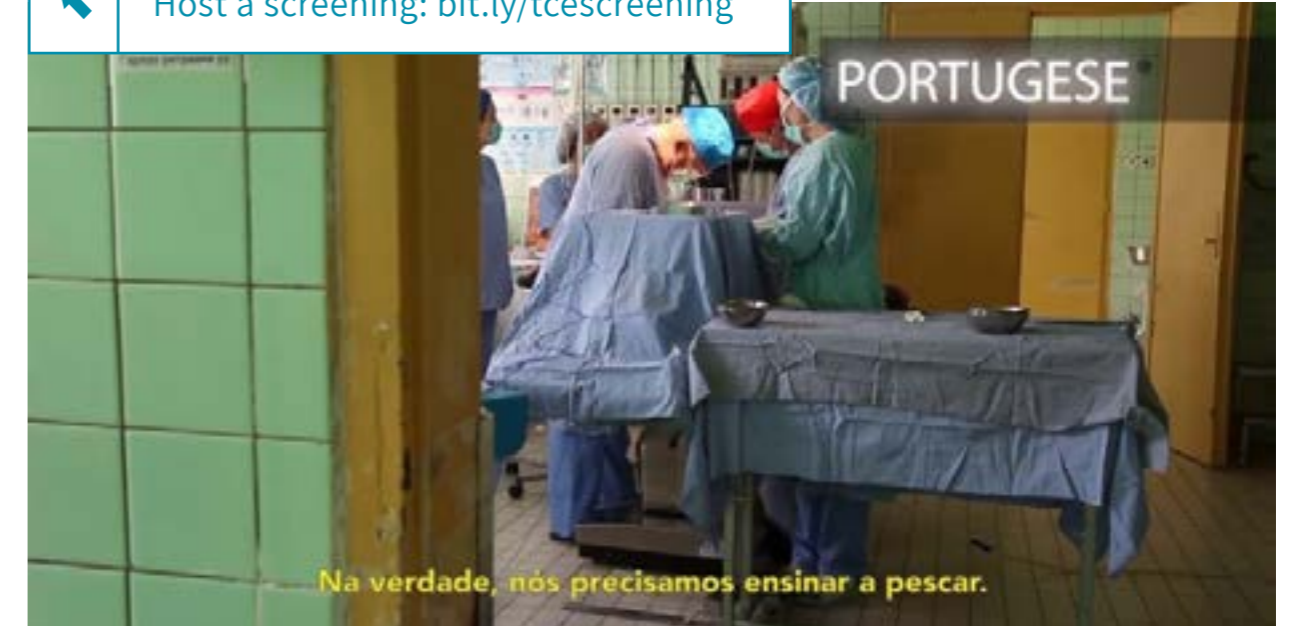
Listen to the beeps: bit.ly/atlasfour

Image cover of the single "Four". © Sleeping at Last (Ryan O'Neal)

Cinema: The Checklist Effect

Award-winning documentary from Lifebox and director Lauren Anders Brown of Collaborate: ideas & images is now available in 12 languages, with thanks to the International Student Surgical Network (InciSioN).

Host a screening: bit.ly/tcescreening



Screenshot from "The Checklist Effect" in Portuguese. © Lauren Anders Brown

A new taxonomy for global surgery

There's no single cause of unsafe surgery in low-resource settings. We're making the problems easier to diagnose - and harder to ignore.

DEADLIEST CONDITIONS

#27

UNSTERILITIS

n. lack of sterilization in low-resource operating rooms

This killer originates in the operating room and breeds disease in the recovery room. That's why operation fundamentals like skin decontamination and instrument sterilization are essential—and exactly the type of training we and our global partners provide with the Clean Cut program.

Help us prevent unsterile conditions from ravaging hospitals worldwide.

Fund the cure at lifebox.org/donate



Fund the cure at lifebox.org/donate

“The Deadliest Conditions campaign was created to illuminate the societal ills that hamper the best efforts of medical professionals in resource-poor countries. The campaign offers up previously unseen conditions, like ‘deoxygenosis’ and ‘unsterilitis,’ that arise when surgeons and anesthesiologists don’t have the simplest tools”.

Deborah Lotterman,
precisioneffect chief creative officer.

Thank you to our creative partner precisioneffect for their originality and creativity in designing *The Deadliest Conditions* campaign to raise awareness of the dangers of unsafe surgery.



QR Code

Simply hold your smart phone camera over the code with the “QR setting” turned on, or use a QR scanner app.

Partnerships

It makes perfect sense that teamwork outside the operating room is just as critical. Lifebox is committed to working in partnership with individuals and organizations taking different routes to a shared goal: safer surgery for everyone.

Our co-founders

Lifebox was founded by four of the world's leading medical professional organizations: Association of Anaesthetists, the Brigham and Women's Hospital, the Harvard T.H. Chan School of Public Health and the World Federation of Societies of Anaesthesiologists.

Through fundraising, program development and advocacy, we work closely together to promote and deliver on shared commitments to safer anesthesia and surgery on a global scale.



Stanford University Extreme Team, instrument scoping in Ethiopia 2018 (Photo by Thomas Weiser). © Lifebox

Design for Extreme Affordability

A program at Stanford University recognizing that complex problems need multidisciplinary solutions, and that teamwork dissolves hierarchy when lives are on the line. We were proud to partner with an 'Extreme Team' this year, bridging engineering, design and business to explore truly responsive, design-driven solutions that will support our surgical site infection reduction work in Ethiopia.



The Surgical Equity Prize



How do you develop solutions when the problem itself is so complicated? The Challenge Prize Centre at Nesta, which uses prizes as mechanisms for solving complex world problems, is taking on global surgery. We are partnering with their team, the G4 Alliance and the WFSA on a Surgical Equity Prize. By leveraging expertise, pooling resources and building momentum, the goal goes far beyond articulating the challenges of safer surgery on global scale - the aim is to solve them.

With thanks

For making a life-saving difference.

Special thanks to our key supporters, founders and donors:

AGARTD - Asociación Guatemalteca de Anestesiología, Reanimación y Tratamiento del Dolor/ Guatemalan Association of Anaesthesiology, Resuscitation and Pain Treatment
 Alexander Hannenberg
 AMAES - Asociación de Médicos Anestesiólogos de el Salvador / Association of Medical Anaesthesiologists of El Salvador
 American Society of Anesthesiologists Charitable Foundation
 ANARE - Asociación Nicaragüense de Anestesiología y Reanimación / Nicaraguan Association of Anaesthesiology and Resuscitation
 Angela Enright
 Ann Mullen
 Apollo Hospitals
 Ariadne Labs
 Association of Anaesthetists
 Atul Gawande
 Bill & Melinda Gates Foundation
 Brigham & Women's Hospital
 British Association of Indian Anaesthesiologists (BAOIA)
 Canadian Anesthesiologists Society
 International Education Fund
 CARE International
 Chicago Bears Foundation
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 Indian Society of Anaesthesiologists (ISA)
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 Jason Yeung
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 Michael McCaskey
 Michele & Howard Kessler
 New Zealand Society of Anaesthetists
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 SHARD - Sociedad Hondurena de Anestesiología, Reanimación y Dolor / Honduran Society of Anesthesiology, Resuscitation and Pain
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 The Australian Society of Anaesthetists (ASA)
 Interplast Australia & New Zealand (Interplast)
 New Zealand Society of Anaesthetists (NZSA)
 The Lord Ribeiro KT CBE

Governance

Lifebox is steered by a Global Governance Council.

With decades of experience spanning clinical work, research, community engagement and resource management, the GGC has its roots in the WHO Surgical Safety Checklist and its eye on the future of global safe surgery.



Chair
Atul Gawande

UK Board

US Board



Iain Wilson



Pauline Philip



Alan Merry



Angela Enright



Isabeau Walker



Deborah Lotterman



Alex Hannenberg



Tom Weiser



Bill Berry



Jason Yeung

Special Advisors



Michael Bernstein



Faye Evans



Ed Fitzgerald



Colin Hughes

Lifebox 2017-18 fiscal year financial accounts

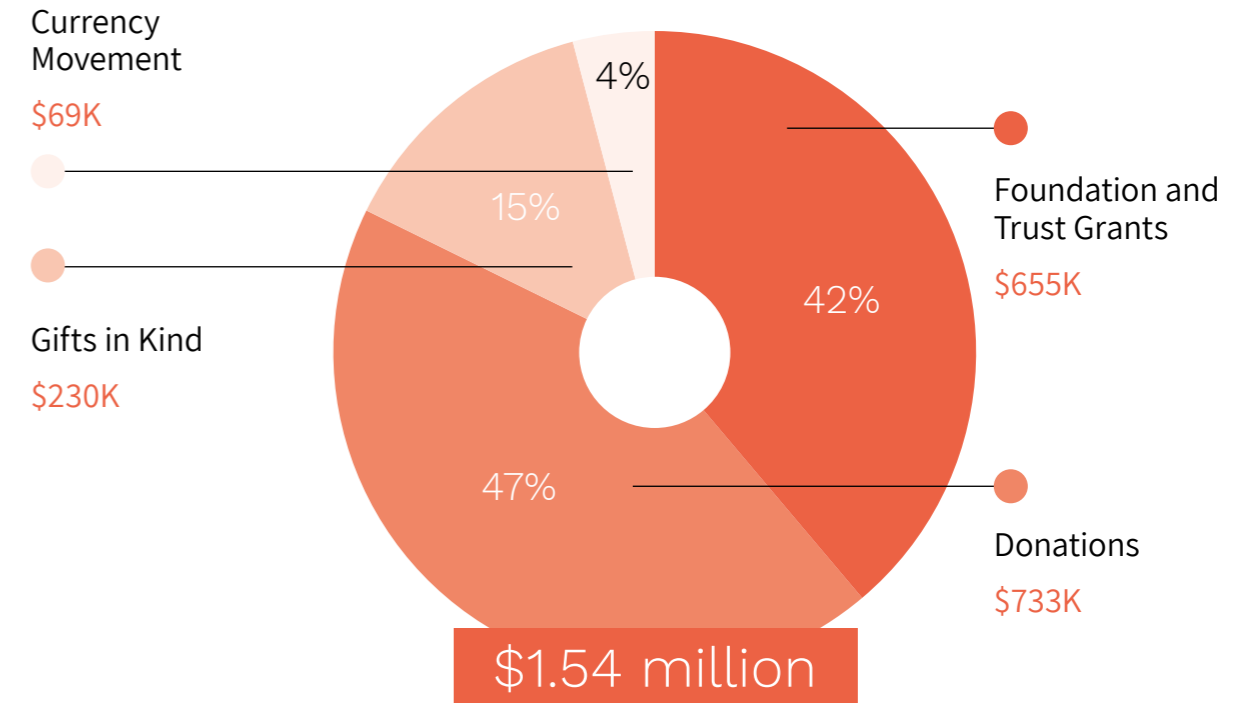
OPERATING REVENUE	2017/18	2016/17	Changes
Trusts & Foundations	655,152	894,754	(239,602)
Donations	716,320	629,239	77,081
Gifts in Kind	229,667	265,883	(36,215)
Other Revenue	16,484	3,525	12,959
Currency Gains	(69,322)	92,860	(162,182)
Total Revenue	1,548,302	1,896,261	(347,959)

OPERATING EXPENSES	2017/18	2016/17	Changes
Program Expenses	1,545,908	1,375,413	170,495
Fundraising	141,865	123,187	18,678
Management Expenses	96,364	311,605	(215,241)
Total Expenses	1,784,137	1,810,205	(26,068)

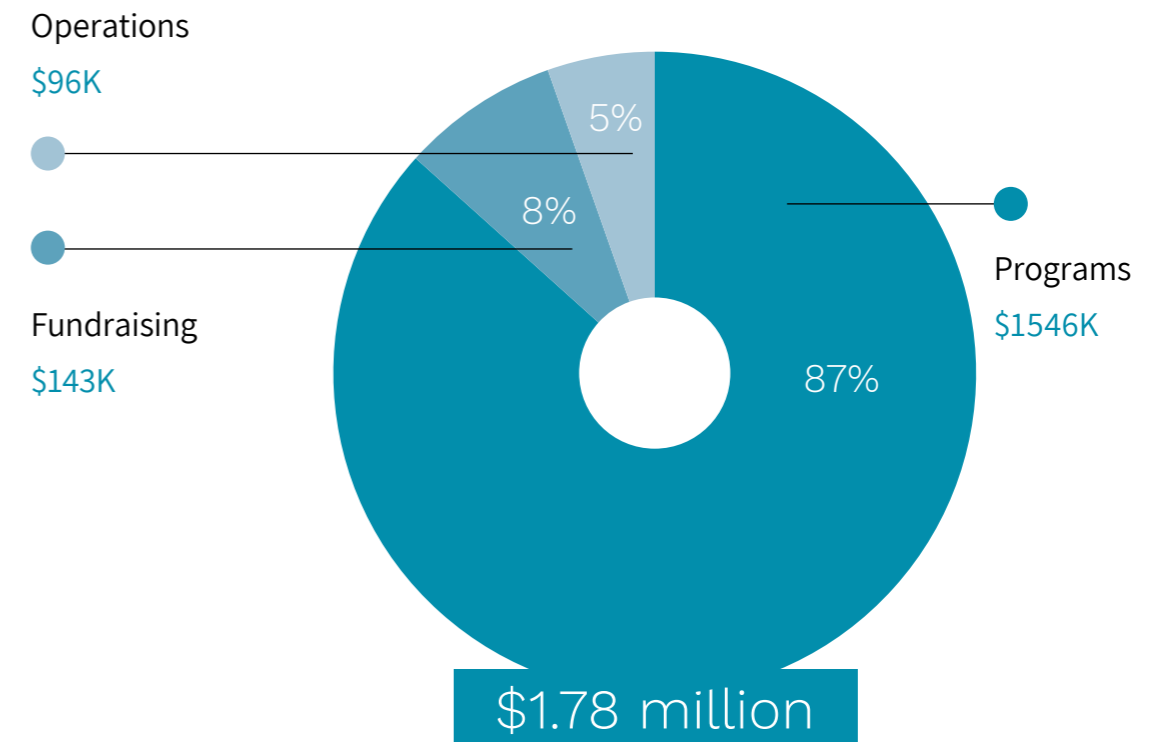
Surplus/Deficit (235,835) 86,056 (321,891)

COMPOSITION OF NET ASSETS	2017/18	2016/17	Changes
Unrestricted Funds	784,979	835,573	(50,594)
Currency Reserve	62,466	117,825	(55,358)
Restricted Funds	282,543	412,424	(129,882)
Total Net Assets	1,129,988	1,365,822	(235,834)

Revenue

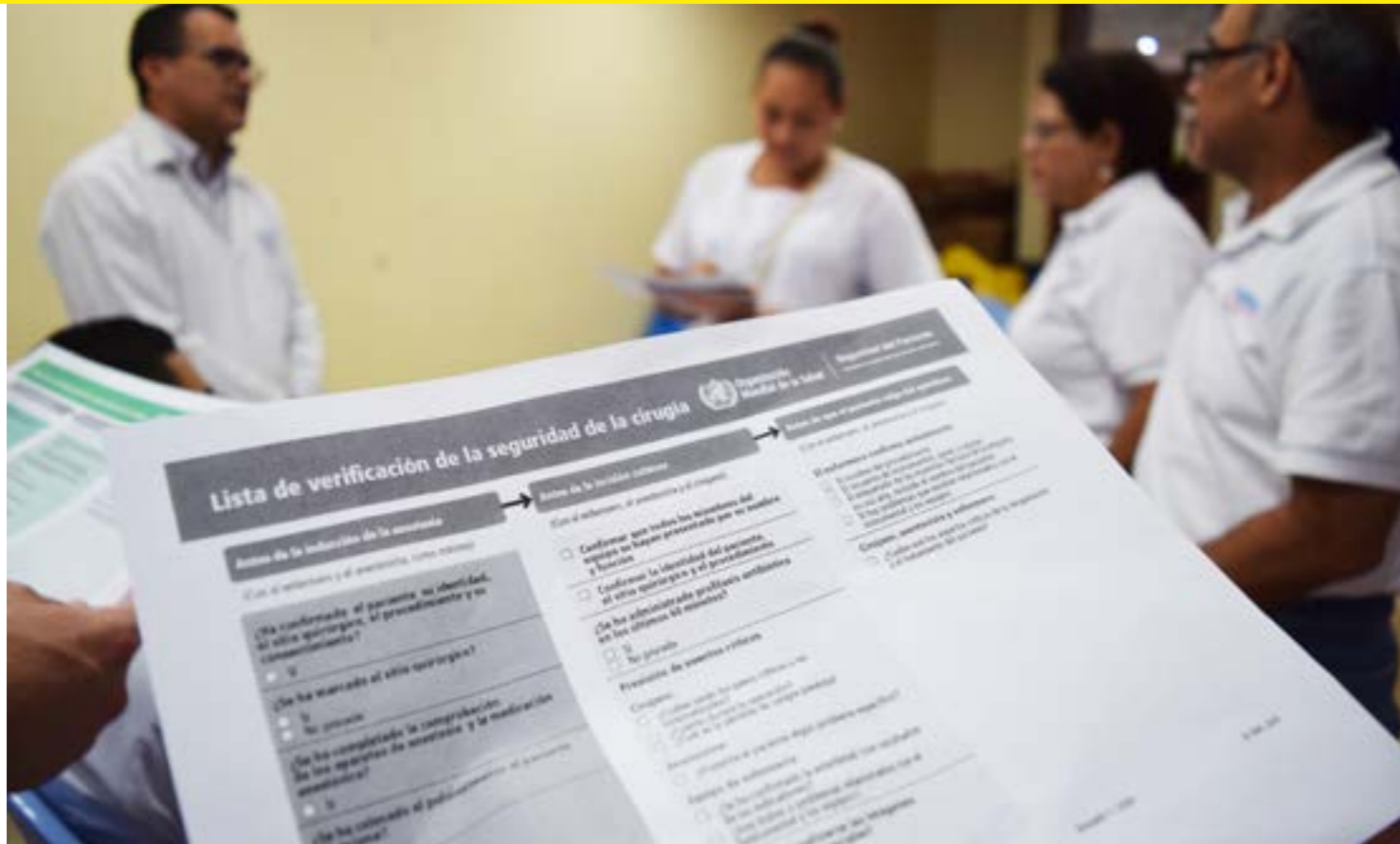


Expenses



Net Assets	Mar 31st '17	Mar 31st '18
	\$1.37 m	\$1.13 m

10 Years of the Surgical Safety Checklist



Surgical Safety Checklist being used in a Nicaraguan operating room 2017 (Photo by Jared Forrester) © Lifebox

The Checklist is at the heart of Lifebox's work to make surgery safer through teamwork, safer anesthesia and infection reduction.

This year, on its 10th anniversary, we are celebrating - and interrogating - its life-changing impact.

Effective implementation of the Checklist can be challenging, but its transformational role in the global safe surgery movement is undeniable. How did 'a simple piece of paper' spread so far and fast - and what happens next? Tom Weiser and Alex Haynes, who worked to demonstrate the Checklist's impact in a landmark study 10 years ago, reflect on what we have learned since in a leading article for the British Journal of Surgery.

Read 10 years of the Surgical Safety Checklist: bit.ly/checklistbjs



Atul Gawande and Ilona Kickbusch discuss the Checklist at the Graduate Institute Geneva. © GHC / S. Deshapriya.

Community

Snapshots of the support Lifebox has received over the last 18 months.

Reception, Boston



Photo by Joyce Chang. © Lifebox

Last fall, a reception at the home of Dr. Faye Evans in Boston brought many Lifebox friends and supporters together. Special thanks to the Development Advisory Council for their support in making this event such a success.

Reception, Aspen



© Lifebox

Screening, Philadelphia



© Lifebox

The Kimmel Center in Philadelphia hosted a special screening of the award-winning documentary “The Checklist Effect” followed by an incredible host committee featuring Dr. Elizabeth Drum, Dr. Gordon Morewood, Dr. Rebecca Barnett, Dr. Daniel Dempsey and Dr. Michael Green.

Dr. Atul Gawande spoke at a reception for new friends of Lifebox in Aspen this Spring. Special thanks to our gracious hosts Judith Barnard and Michael Fain, along with Susan Sherwin who helped make this event a resounding success.



© Lifebox

London to Paris

Anesthetists from Chesterfield Royal Hospital took their love of cycling (and lycra) from Tower Bridge, London to the Eiffel Tower, Paris, to raise life-changing funds for safer anesthesia worldwide.



© Lifebox

Fisher and Paykel Healthcare Ltd

A group of cyclists from Fisher and Paykel Healthcare Ltd set off on a 200km voyage from Maidenhead to the annual CARE convention at Warwick University to raise funds to support Lifebox’s global work.



© Lifebox

Northern Ireland

Dr Stephen Cullen along with The Northern Ireland Group of Anaesthetists in Training and the Northern Ireland Society of Anaesthetists organised a charity gala at Ulster Museum, Belfast featuring a reception, a meal, music, dancing and auction benefiting Lifebox.

Development Advisory Council

Lifebox would like to extend a heartfelt thank you to the Development Advisory Council members who have worked hard this year to make our events so successful and to help Lifebox grow our development efforts.

Alex Hannenberg, Chair	Fiona Hodgson	Susan Sherwin
Joan Archer	David Lawrence	Alix Smullin
Annie Davis	Ellen Offner	Thaddeus Thompson

Thank you for being such great partners in our work to support safe surgery for millions across the globe through the funds you have raised, the time you have given and the resources you have provided.



Lifebox Foundation (UK)
131 - 151 Great Titchfield street
London, W1W 5BB

UK: +44 (0) 203 286 0402




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Lifebox Foundation, Inc (USA)
195 Montague Street
14th Floor, Brooklyn, New York 11201

US: +1 (617) 963 0225

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