

THIS PUBLICATION IS FREE TO SHARE

VOICES OF ONE SURGERY RELEASES THIS WORK UNDER A CREATIVE COMMONS ATTRIBUTION-NONCOMMERCIAL-NODERIVATIVES 4.0 INTERNATIONAL LICENSE. WHEREVER POSSIBLE, ALL WORKS WITHIN THIS PUBLICATION ARE ATTRIBUTED TO THE CONTENT CREATORS.

You are free to share, copy and redistribute this publication in any medium or format under the following terms:

Attribution — You must give appropriate credit, provide a link to the license, and indicate if changes were made. You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use.

Non Commercial — You may not use the material for commercial purposes.

No Derivatives — If you remix, transform, or build upon the material, you may not distribute the modified material.

PLEASE GIVE YOUR SUPPORT BY ADDING YOUR VOICE TO THIS MOVEMENT:

HTTPS://ONE.SURGERY/REGISTER

OR FOLLOW US:
FEATURES

04 Hold On, Dear Life
25 The One.Surgery Community Awards - 2018 Winners!
31 Shop at One Surgery
42 Your Voice

05 The Collateral Damage Of Covid-19 in Europe and India
Covid-19 has had an immeasurable impact on surgical services across the world, resulting in advanced surgical pathology and increasing complications. Front line surgical stories demonstrate the need for timely surgery.

14 A Difficult Airway In Burundi
A 3 year-old girl with noma was admitted to a district hospital located in the rural outskirts of Burundi. A case report was published following her successful surgery. We interview Dr. Gregory Sund about the case and challenges of surgical and anaesthetic care in Burundi.

19 Life Saving Advocacy
The Global Alliance for Surgical, Obstetric, Trauma and Anaesthesia Care (G4 Alliance) is the preeminent advocacy organisation for global surgery. Natalie Sheneman outlines the critical work the G4 Alliance is doing in transforming surgical care across the world.

26 Local Leadership Will Help Us Emerge From Covid-19 Stronger
Covid-19 has put incredible strains on healthcare systems around the world. Local, community-driven solutions have led the way ahead of global organisations.

32 Maternal Health Through The Eyes Of An Aspiring Neurosurgeon
Aliyu Ndajiwo, an aspiring neurosurgeon turns his attention to the vast issue of maternal health in Nigeria, and the solutions offered by the RAiSE Foundation.

37 The First Cryptocurrency Funded Global Surgery Research Publication
Publishing peer review research can be extremely expensive for authors and readers, so much so that is in unaffordable to most. The Journal of Global Surgery (ONE) completely changes this.
Dearest readers,

There are some things in life that we rarely have time to think about deeply, even though they touch us every day, such as the changing climate, government policies, the institutions of our society, and as we know well, access to healthcare. Having come into global surgery recently from the outside, where healthcare was a simple abstraction to me, I realized that there is actually great depth and complexity to surgery. It already touches the lives of so many people and still has room to help many more.

The world I work in every day is another one of those deceptively simple abstractions: money. Not the daily use of money, such as earning, spending, budgeting or speculating, but the mechanisms underlying the abstraction of money itself. Those mechanisms are complex and dysfunctional, and in some cases prejudicial and unjust. This worldwide dysfunction means that billions of people are underserved, taken advantage of, or even completely excluded from the legacy financial system. There is much potential to do better here also.

Similar to achieving access for safe surgery, we must ensure that everyone has access to safe, low friction and fair financial systems. By removing the barriers to access across the world, those of us without opportunities can become empowered, and those being held back can be liberated.

Financial freedom, and access to safe, affordable surgery are delicately intertwined, for a world with less poverty is indeed a healthier one. Our challenges are therefore a different facet of the same puzzle. I am thankful to One.Surgery, which first demonstrated these parallels to me, and I am inspired by the launch of their unique research journal, the Journal of Global Surgery (ONE) which beautifully demonstrates just how intimately connected our two worlds are.

With love always,

John Nieri

President of General Protocols
Banking on Freedom
www.generalprotocols.com
THE COLLATERAL DAMAGE OF COVID-19 IN EUROPE AND INDIA

ANONYMOUS

PHOTO BY ALEXANDER AASHIESH ON UNSPLASH
From Western Europe:

“The number of Covid beds on our intensive care has continued to increase this week and the surgical capacity for next week must be further reduced”, is now an everyday announcement in the hospital that I have heard dozens of times over the past year.

The media has usually focussed on the first part of this statement, but the consequences of the second part have often been underestimated.

As a fifth year medical student, I started my internship year in January 2020, curious and excited but above all still completely unaware of the new threat that would dominate medicine in the upcoming year. With all plans quickly shattered by that threat, I ended up visiting several surgical departments in different hospitals as an intern.

The first wave

The first wave, to be honest, was interesting from an intern’s perspective. Patients simply did not dare to come to the hospital out of fear of getting infected and only came if they really needed to, or couldn’t wait any longer. As a surgical intern, I saw impressive pathologies on a daily basis: extensive fractures, appendiceal ruptures, large wounds from accidents, abdominal abscesses, etc. People no longer came for everyday bruises and cuts, ankle sprains or vague abdominal pains, but instead, now almost all contusions turned out to be fractures and almost all abdominal pains were acute abdomens.

This is not what the usual population looks like in a surgical emergency room in Western Europe. Patients now postponed medical care for as long as possible, which they would still have to face once the first covid wave began to temper.
Meanwhile, our intensive care unit was becoming overcrowded and there was no room for many surgical patients. I saw major trauma patients who were intubated at the site of the accident, passing by four to five different hospitals before there was one hospital willing to admit and operate on them, with valuable time lost.

All elective surgery was postponed and urgent procedures could only continue if the patient was lucky enough to get a hospital bed, depending on the number of covid patients in the emergency room and intensive care at that exact moment. And secondly, the patient had to be lucky enough not to have been infected with covid the past few weeks, because surgery had to be postponed for several weeks after infection.

I remember a patient with bilateral high kidney stones that did not evacuate spontaneously and who needed a double J stent. He had been infected with covid four weeks prior without too many symptoms. However, his surgery was postponed for weeks as long as his covid test remained positive, until he finally went into renal failure and is now on life-long dialysis.

During the first wave, we were so focused on saving as many covid patients as we could, but deep down, everyone knew that all postponed elective care would eventually become urgent.

**Grace period**

After the first covid wave, surgical capacity were increased as the number of covid intensive beds had significantly decreased. Now it came down to catching up on the long surgical waiting lists as much as possible, especially before the second wave would hit us. More importantly, we were now confronted with the consequences of postponing all non-covid medical care.
Patients with a newly discovered small breast lump whose appointments were cancelled in February due to covid, now reappeared, five to six months later, with a fast-growing breast tumor of five centimeters. Patients with ovarian cancer whose surgery was postponed for three months now returned with extensive peritoneal metastases. I remember how in the OR we would open the abdomen, realize it was too late (no longer the same tumour of a few months ago), then silently and rather symbolically removed the ovaries before closing the abdomen back up.

Another case was that of a relatively young woman with a well encapsulated uterine sarcoma whose surgery was postponed for seven weeks. As she lay on the operation table, she told me that she had some limited blood loss over the last two days. When I inspected her with a speculum, it was not just blood but chunks of sarcoma tissue spilling in the vagina. The tumour capsule had ruptured both in the vagina and in the abdomen, although just one week ago on imaging, it was still intact. After an early diagnosis and weeks of postponing treatment, we were just a few days too late for a total resection with a favourable prognosis.

In the meantime, prior to every operation, there was also this terrible waiting for covid test results for each patient in the emergency department. In some hospitals, no matter the urgency of surgery, test results had to be known before the patient was brought to the operating theatre.

As a surgeon, you then anxiously waited every minute in suspense, hoping that your patient with septic shock from a ruptured extrauterine pregnancy or bowel perforation will make it until his/her covid test result is known within 6 to 24h, depending on your hospital's lab.

Thankfully, positive results were now rare and the wait often seemed like a waste of time, especially after witnessing some deaths for whom the wait was unfortunately too long. But if you then put this in the perspective with respect to the first wave, it is understandable why some hospitals held on to this so strictly.

For example, there was a surgeon who refused to wait on the covid test result until his patient was dead, and he operated on her with the necessary protective measures against covid. Subsequently, he himself had to be admitted to intensive care for several weeks and nearly died of covid. In every region, there are some nurses, doctors or other health care workers who died while bravely fighting for their covid patients. In times where we don't have enough hospital beds and barely enough staff, we cannot afford to put them at risk, even if it is to save more patients.

The second wave: ethical decisions, impossible decisions

It ultimately turned out to be the second wave that would hit us the hardest and cause the most ‘collateral damage’. At that time, I worked as an intern in one of the largest referral hospitals of the region. On government orders, surgical capacity was reduced to almost zero during two months to preserve as many hospital beds as possible for covid patients. Everything had to be postponed unless the surgeon could prove that the patient would be dead with 100% certainty within hours unless you operated on him/her. In that case, you were given a maximum of 8h of operating time per department per week, only for such extremely urgent cases for which even the burden of proof of rapidly approaching death was unfortunately high. Intracranial bleedings, brain and spinal tumours, everything had to be postponed.
The patients were admitted to the ward and we saw them deteriorate day by day, frustrated that we could save them if only we were allowed to operate.

I remember a young woman with a slow-growing meningioma pressing on the brainstem. She too was not allowed to have surgery and was admitted to the ward for weeks, with slow but certain neurological deterioration. Eventually she developed a hemiparesis and deteriorated faster and faster, but even then her rapidly deteriorating condition was not considered sufficient evidence of impending death so we were not allowed to operate. When the brainstem entrapment finally became very obvious, we were eventually allowed to perform surgery. She woke up with permanent hemiparesis and several other neurological sequelae that would not have been present if we wouldn't have had to delay surgery for so long.

As a student, during the second wave I learned about the natural evolution of glioblastomas and other neurosurgical conditions, now that surgery was unavailable and the waiting lists for radiotherapy and chemotherapy were very long. Patients who were diagnosed with a small glioblastoma during the first week of my internship at the consultation, died of it six weeks later due to lack of treatment. This confrontation and its impact on the patient and especially their families made me realize for the rest of my life how grateful we should be for the treatments we have now.

The consultations were tough, telling patients that they had a treatable condition but that no treatment was available due to the covid crisis. Patients and their families begging not to delay their treatment until it was too late, mothers crying to save their children. And doctors guaranteeing that they will operate on them as soon as it is possible, knowing deep down that for some it will be too late. When I cycled back home in the evening and...
saw partying young people in the streets without mouth masks, it always made me feel angry and sad at the same time. Sometimes I wished they would be confronted with the patients, the individual humans, who themselves so strictly followed the covid measures, but who still have to die because of others who ignore those measures and who are even given priority when it comes to hospital beds.

The severe restrictions on operating time and the number of hospital beds also implicated daily ethical discussions. This was by far one of the toughest issues for us as surgeons during the second wave. Every day we had to decide who was going to be treated and who was not. In other words, this often came down to: who was allowed to live and who was going to die. Every time an urgent trauma was brought in, we had to decide whether or not to give the patient the surgery he/she needed. If we operated on him/her, it also implied that if another patient were to be admitted later in the week, also with an urgent trauma, we would not have any surgical time left and thus would not be able to save the next patient. On the other hand, if we didn’t operate and no one else would be admitted that week, we didn’t save the patient while having valuable operating time left at the end of the week (which we always used for semi-urgent cases).

For example, we decided to operate on an urgent trauma on Saturday, thereby running out of our 8h operating time for that week. On Sunday afternoon, a 4-year old boy was admitted with intracranial bleeding who had been hit by a truck. The boy had already passed several hospitals with the ambulance but there was no room for him anywhere. He would die without immediate surgery, but we weren’t allowed to operate him by the hospital management.

So we ‘borrowed’ some operating time from the maxillofacial surgery department, who still had some operating time left, although this was not allowed by the hospital rules. The little boy was fortunately saved and healed well, but we received a caution from the hospital administration that we should not have broken the rules to save the child. Next time, they would further reduce our operation time, at the expense of our patients’ lives.

**The third wave: acceptance**

A baby was born to a mother who tested covid positive. The infected father was not allowed to be present at birth. The baby was immediately taken away from the mother, who had barely been able to look at her. The parents had to wait to see their child until the covid tests were negative. Two weeks after becoming a father, the father had never held his baby. The parents only knew what their baby looked like through pictures taken by the nurses and it was only after two and a half weeks of suffering that they were allowed to see and touch their first child for the first time.

Meanwhile, in other surgical departments, decisions on who gets treatment and who will be postponed with all the associated risks are still made on a daily basis. Although it was shocking at first, it is now seems the normal state of affairs. Medical staff have now become accepting of the collateral damage.

One might ask whether the greatest harm from the virus was not all the covid deaths themselves, but the collateral damage that the virus has caused. It is even worse to consider that this is happening in a high-income country with one of the best health care systems in the world, which implies that the consequences in other countries must be way more devastating.
An insight from halfway around the world

Thousands of miles away, in the resource constrained region of India, the story was not very different. There were obvious side-effects of covid-19 on surgical and elective hospital care. Elective cases were indefinitely postponed or cancelled and emergent cases could only be operated with a negative covid-19 test results. Often the test results took 48-72 hours to be reported, a long time for any emergent case to rapidly deteriorate or worse, turn fatal.

The first wave, in 2020, fortunately didn’t hit India as hard as it could have, considering that it houses some of the most highly dense regions of the world with an extremely broken public healthcare infrastructure.

As physicians, we did hear of colleagues falling ill or distant friends and relatives calling us for telemedicine consultations or second opinions. Most of them thankfully recovered over time with symptomatic care. The disruption to our medical training and social life was in real life more than the fatality and overburdened healthcare we expected. In retrospect, this narrative could have been biased considering what we saw and witnessed in the second wave in April 2021.

April and May 2021 were the worst couple of months that most healthcare professionals may have witnessed in their lifetime. What started off as a slow tinkering of covid like illnesses exploded into a tsunami of seriously ill, nearly fatal, fast deteriorating mountain of caseloads. I worked as a physician in a rural non-profit hospital and before I could realise, I was managing cases throughout the day, often blurring into late nights. When not directly seeing cases, like many other colleagues, I was giving pro-bono telemedicine consultation over phone calls late into the night.
More often than not, I was teaching lay people with no previous knowledge of medicine, on how to operate oxygen cylinders, how to monitor oxygen, and how to administer oxygen to critically ill. If that was not enough, we would often receive phone calls from patients who were gasping for breath desperate for any means to secure hospital beds. Throughout that month, I had made multiple visits to far-strung villages with little-to-no facilities, to cremation grounds to bid farewell to relatives, and then back to hospital to see cases that were still flocking in. More than I can count on my hands, I had to resuscitate elderly patients at their homes in distant villages with no technical or personnel support.

Often, I was lucky enough to stabilise them enough for them to be transported to a healthcare facility. But where will they go, when all hospital beds are occupied, there is a dearth of oxygen supply, and physicians are either scared or overburdened? Once, a patient came back after failing to secure a hospital bed and pleaded for home care. Without enough of a healthy workforce and without basic equipment, that seemed impossible at that moment. The situation was not any better in well-resourced corporate hospitals in metropolitan cities. We heard anecdotes from security and administration teams on how people came in with real sacks of money and pleaded for hospital beds.

Throughout the second wave, most physicians like me went through inconceivable accounts of ethical and moral conundrum. The second wave ended and with it the cases came down just as fast, but the mental anguish and horrible stories will stay in our minds for the lifetime.
However, there was another story that didn’t get any media coverage or public attention. Medical education in India was suffering its biggest challenge. For most of 2020 and 2021, medical students remained out of medical schools. They could not dissect the cadavers, or peek through the microscopes, or even attend clinical rotations—much critical practical aspects of learning medical skills. In many places, medical students and interns were recruited in covid care with no training or skills. At other places, examinations and rounds were conducted virtually, thereby contributing to lack of student-physician-patient encounters and missing out on most essential period of their medical career. Residents and postgraduates suffered just as much, at times more. Residents of all specialties were impulsively thrown into covid care. Residents who had joined the institutes to train in orthopedics, ENT, dermatology, psychiatry, pathology were all now taking care of covid cases.

They didn’t mind being a small help to dealing with this gargantuan pandemic, but they were losing out on critical years of the training. Already competing to participate in cases and surgeries, the lack of surgical cases or outpatient flow was creating big hindrances in their career plans and skill acquisition. In residency, as much as in life, most vital skills are acquired hands-on, in the hospital, with direct patient encounters, and most of them were losing out on it.

Western Europe or South Asia, the collateral damage of covid-19 has extended far and wide, from deferral of necessary surgeries to damage to medical education. We have all borne the cost of mismanaging the pandemic or ignoring the warnings. The ripples will be felt long after the pandemic in its current form is over or everyone is immunized.

ABOUT THE AUTHORS

The authors of this article kindly wish to remain anonymous. Given the harrowing nature of their individual experiences, One.Surgery respects this wish.
NOMA, a short introduction to the disease

Noma is an opportunistic infection of facial tissues occurring in malnourished children, most commonly in sub-Saharan Africa. It results from a combination of malnutrition, compromised immunity, and complex bacterial infections, with fusobacterium being frequently implicated. According to a review article published in the Lancet, “poverty is the key risk factor in Africa and elsewhere.” If untreated, mortality in the acute phase can be as high as 80%–90%. Children who survive are usually left with severe facial deformities and are often stigmatized and hidden from the community.

A 3 year-old girl with noma was admitted to the Kibuye Hope Hospital, a district hospital located in the rural outskirts of Burundi. She was suffering from severe malnutrition and a large left-sided facial defect. Even though difficult anaesthesia was to be expected, ventilation and oral intubation was manageable. Thus, she successfully underwent several wound debridements. Despite these successful interventions, the child failed to gain weight and another operation became necessary. However, this time, upon preoperative assessment it was discovered that the girl now suffered from severe trismus.

Trismus or ‘lockjaw’ refers to restriction in opening the mouth. It is a relatively common complication in Noma patients and has devastating consequences. In anaesthesia, management of these difficult airways generally involves a fibre-optic bronchoscope to directly visualize the airway and guide the endotracheal tube. Nevertheless, paediatric fibre-optic bronchoscopes are expensive and almost never available in low-resource settings.

Anaesthesiologist Gregory Sund and his team creatively came up with a different approach. After verification of successful mask ventilation, Dr. Sund intubated the patient directly through the facial defect and successfully secured the airway. The intervention subsequently proceeded without any complications.

This case reflects the difficulty of airway management in low-resource settings, where diseases are often complicated and advanced, but adequate equipment unavailable. In the following interview, Dr. Sund sheds light on his work and experience as an anaesthesiologist and teacher in Burundi and Kenya.
Can you give us a brief introduction to your work in Burundi and Kenya?

In 2014, I took a year-long sabbatical from my job in the US to work with a team of American missionary physicians in Kibuye, Burundi. I had met this team in 2010 during a short trip to Kenya, and when they decided to settle in Burundi, the surgeon on the team contacted me to ask if I might be able to come out for a few months to help improve their anesthesia capacity. After my family and I arrived in Burundi and got settled, we realized that there was much more than a year’s worth of work to do, so we committed to continuing to work there long term.

Unfortunately, high school options for our children were quite limited in Burundi, and last year the opportunity arose for me to transfer my work to Kijabe, Kenya. So, my family and I moved to Kenya in August of 2020. The hospital I now work at in Kenya is unique in that it is in a rural location, but yet attracts trainees of differing specialities from all over East Africa. In the year I have been there, I have had the great privilege to teach surgeons, anesthetists and other providers from Kenya, Burundi, Tanzania, Ethiopia, South Sudan, Somaliland, DRC and elsewhere. So, while the immediate need was greater in Burundi, I believe the long-term potential of the work in Kenya is more wide-ranging.

The story of the little girl illustrates some important struggles, what is the most difficult struggle you faced and how did you overcome it?

There have been many struggles, some of them more emotional in nature and some more practical. Among the practical struggles, I can give you one example that I encountered, however, the solution came not from myself but from a teammate. Hypothermia is something we always struggle with during anesthesia, especially when we don’t have tools like forced hot air blankets. And believe it or not, where I worked in Burundi was quite cold due to its elevation. So, the engineer on our team took an old broken refrigerator. He then lined it on the bottom with 5 light bulbs and connected a heat sensor that is normally used to control the temperature of reptile cages. With this “warming fridge” we were able to stock IV fluids and blankets, which made a big difference in our battle against hypothermia.

Did you have any updates about the girl in your case report/updates from the family of the girl?

Sadly, the girl we reported on died from complications related to malnutrition shortly after we took care of her. Malnutrition affects the majority of children under 5 years of age in Burundi and makes it extremely difficult to heal from other illnesses.
Is Noma a common problem in Burundi and Kenya?

Noma is much more common in certain West African countries, but it certainly can affect any population where malnutrition is common. During my five years in Burundi I only saw a handful of cases of Noma.

Have things changed for the better since you first started working in Burundi?

I certainly hope they have changed for the better. I would say medical education in general is improving in Burundi as it is in most of Africa. I believe this is in part do to an increasing global awareness of inequities in healthcare and greater investment in educating physicians both at the national as well as the international level.

What still needs improvement?

My impression is that while many countries in Sub-Saharan Africa are escalating the number of generalist physicians, the opportunities for specialist training are still quite limited. The result is far too few surgeons, anesthesiologists, pediatricians, etc. And the few that are working in these countries tend to take jobs in the urban areas, leaving most rural district hospitals without any specialty care. One of the consequences of this specialist workforce shortage is delays in access to emergency and elective surgical care, which results in worse outcomes for patients. I saw many patients in Burundi, who needed an emergency laparotomy, who languished at another hospital, sometimes for days, because that hospital did not have a surgeon on staff, before they finally made it to our hospital.

What inspires you when working in Burundi/Kenya?

I am inspired by the extraordinary talent I have encountered, both in Burundi and in Kenya. There is so much potential in these countries among the current workforce. What they need now is opportunities to harness that potential. In Burundi, precious few of our medical school graduates were ever able to find a residency position, in part because there is simply a shortage of programs but also because, even if accepted, they did not have the financial ability to enroll in these programs. Whereas in the US, residents are paid for their work, in most of Sub-Saharan Africa, residents are required to pay tuition to the hospitals where they are working.

What are your goals for the future?

I’m not sure I can call it a goal, but more of a hope, that in my lifetime I will see significant increases in qualified and compassionate and well-trained physician and non-physician anesthetists working across Sub-Saharan Africa, some of whom are willing to go to the harder rural areas to care for those patients who are so often neglected.
Burundi is a small landlocked country in East Africa with a population of 11.8 million people. According to 2016 data, Burundi has the lowest surgeon population ratio in East, Central and Southern Africa at 0.18 surgeons per 100,000 people. There are currently approximately six physician anaesthesia providers working in the country, with the majority of anaesthesia care being provided by 328 non-physician anaesthesia providers.

Kibuye Hope Hospital is located in the central region of Burundi (Gitega Province). Established as a mission of the Free Methodist Church of Burundi in the 1940’s, Kibuye Hope Hospital (KHH) is now in the care of Hope Africa University. KHH aims to serve the community around it and has already been designated as a regional medical center. It is also the main training hospital for Hope Africa University’s medical program, and is the hospital of reference for 12 rural clinics. KHH is serving nearly a tenth of Burundi’s area, providing needed emergency, primary and specialized medical care. To serve these people Kibuye Hope Hospital has an excellent staff of Burundian doctors, as well as dedicated specialists and visiting professionals.

About the author

Gregory Sund grew up in Vienna, Va. He attended the University of Washington and earned a B.A. in Near Eastern Languages and Civilizations. He then attended medical school at Mount Sinai School of Medicine followed by training in anesthesiology at Virginia Mason Medical Center in Seattle. He completed a cardiac anesthesia fellowship at Emory University. After completing his studies he made multiple short-term medical mission trips and has seen first-hand the value of medical education in underserved areas.

It is his desire is to help raise up a generation of well-equipped East African physicians and non-physician anesthetists. For this reason he taught anesthesia and critical care medicine to medical students and nurse anesthetists at the Hope Africa University in Burundi. Currently, he’s working in Kenya to train and disciple physicians and non-physician anesthetists who come to Kijabe from several countries in East Africa to help battle the severe shortage of qualified anesthetists and improve provision of safe anesthesia.

The works of Dr. Gregory Sund and his family can be supported at https://give.serge.org/donate/gregory-and-stephanie-sund
LIFE SAVING ADVOCACY

NATALIE SHENEMAN FROM THE G4 ALLIANCE
Formed in 2015, the Global Alliance for Surgical, Obstetric, Trauma and Anaesthesia Care (G4 Alliance) is the preeminent advocacy organization for global surgery. The G4 Alliance is a coalition of more than 60 nonprofits, professional societies, academic institutions, and other civil society organizations, united in the common cause of universal access to safe, timely, and affordable surgical, obstetric, trauma and anesthesia (SOTA) care. Through its convening power, the G4 Alliance builds consensus and fosters collaboration among the diverse actors involved in promoting surgical care globally, and participates in global health and development policy dialogue at the multilateral, regional and national levels.

Building Political Priority

Advocacy for global surgery is not without its challenges. As observed by Yusra Shawar, Jeremy Shiffman, and David Spiegel in 2015—the same year that the G4 Alliance was founded—surgical care, even among global health advocates and public health policy makers, has historically been a “low global health priority.” According to a framework developed by Shiffman for assessing factors that shape health policy prioritization, the global surgery movement is plagued by a host of issues: decentralized leadership, internal conflict about strategy, misconceptions about returns on investment, missed policy opportunities, lack of data on needs and potential solutions, and the reality that the surgical scale-up needed in low- and middle-income countries (LMICs) is a complex, health systems strengthening endeavor that requires strong political will and significant resources.

Over the past six years, the G4 Alliance has intentionally worked to address many of these obstacles within the global surgery community and in the larger global health policy environment. This work has led to the crystallization of a G4 Alliance theory of change—one based on the mobilization of a strong civil society, which acts as a public voice, accountability mechanism, and implementation partner in government-led, surgical systems strengthening. Through grassroots links to communities, G4 Alliance members of all size and scope add their unique perspectives to a global conversation on creating sustainable surgical systems.
In practice, this strategy means multiple virtual meetings of the G4 Alliance membership and of various member-driven working groups within the Alliance. Coalition-building is a slow but critical process. Each member organization of the G4 Alliance has one primary representative on the Permanent Council—a remarkable network of experts and advocates. The Permanent Council meets on a monthly basis, on Zoom, to share updates and opportunities, and to discuss emergent issues. Members of the Permanent Council have also formed working groups to pursue collectively-identified advocacy priorities. These working groups advance research, conduct outreach, and form partnerships on behalf of the coalition, within each of their individual focus areas.

**G4 Alliance Working Groups**

The eight G4 Alliance working groups are chaired by members of G4 Alliance organizations, but are open to participation by non-members, including students and trainees.

The Perioperative Case Log Database Working Group aims to address the gap in surgical data by establishing a usable and internationally-accepted perioperative data collection and storage module. This group is coordinating with various data collection initiatives in Africa, as well as the World Health Organization (WHO) and the University of Oslo, which maintains the District Health Information Software (DHIS2) platform.
The Latin America and Caribbean Working Group is promoting knowledge sharing and collaboration among organizations operating in the region, and expanding the reach of G4 Alliance advocacy. They have led the adoption of simultaneous interpretation at G4 Alliance events and translation of written materials. The group also hosts a monthly, “First Tuesday” webinar series and discussion in English and Spanish, with presenters from G4 Alliance member organizations and other key partners.

The G4 Alliance general Advocacy Working Group is strengthening linkages between multilateral, regional, and national advocacy through the various United Nations (UN) mechanisms for supporting the WHO and other UN agencies in holding countries accountable to their political commitments—commitments that include World Health Assembly (WHA) Resolution 68.15 on emergency and essential surgical care and a recent Human Rights Council Resolution on preventing maternal morbidity and mortality. The working group is also creating a series of white paper policy documents on topics ranging from surgical care in humanitarian settings to nutrition and food security, and building relationships with other advocacy initiatives.

Another G4 Alliance advocacy-focused working group led the way in creating the Global Alliance for Prevention of Spina Bifida F, a multidisciplinary team researching and advocating for folate fortification for the prevention of congenital neural tube defects. The group’s goal is to achieve the sponsorship and adoption of a WHA resolution on folate fortification in 2022.

In 2020, the US Government Resource Mobilization Working Group, with leadership provided by G4 member Mobile Surgery International, secured the first-ever language on surgical care in the US government appropriations explanatory report for the US Agency for International Development (USAID), recommending that the agency prioritize treatment of neglected surgical conditions. In 2021, the working group successfully expanded this language to address surgical systems strengthening through national planning. The G4 Alliance is currently garnering Congressional support for a funding allocation of USD $100 million toward implementing this language in fiscal year 2022. A letter of support for this request was recently signed by 16 US surgical societies. The working group publish a series of opinions in The Hill and an article in the Journal of Public Health Policy on the critical role of surgical care systems in building health systems resilience and pandemic preparedness.
Interprofessional workforce development is one of the systems-wide challenges facing global surgery, especially in LMICs. The Nursing and Midwifery Working Group brings together nurses, midwives, and other allied professionals involved in surgical and obstetric care. The working group focuses on developing advocacy training and resources, and on highlighting the important role that this cadre of health workers plays in the surgical care system.

The International Standards and Guidelines Working Group is a large and geographically diverse initiative, which aims to consolidate the body of recommendations and published literature on quality improvement and standards for surgical services. Through regional expert panels and a Delphi study, the working group has completed two iterations of systematic reviews on quality improvement processes, interventions, and structures in LMICs, published in the World Journal of Surgery in April and July of this year.

Finally, the Tracking Surgical Indicators Working Group conducts research on surgical, anesthesia, and obstetric (SAO) provider density, one of several key indicators of progress towards global targets for surgical care. The working group’s recent analysis of SAO density in 21 countries was published in the International Journal of Surgery Global Health.

Outreach and Partnership

The G4 Alliance has also participated as an official campaign partner in two advocacy initiatives led by Seed Global Health, recognizing the WHO Year of the Nurse and Midwife in 2020 and Year of Health and Care Workers in 2021. These campaigns have provided opportunities to build advocacy alliances within the broader global health community, beyond the network of professionals focused on global surgery.
Members of the G4 Alliance also helped launch and facilitate the Transformational Dialogues in Global Surgery in an effort to tackle the impact of neocolonialism in education, training, funding, and practice. An ongoing survey research project is collecting perspectives from practitioners in the field of global surgery.

The G4 Alliance has also hosted various webinars with external partners, including the Global Health Council, the Global Initiative for Children’s Surgery, the Global Surgery Foundation, and the Harvard Medical School Program in Global Surgery and Social Change.

Looking Forward
The theme of the recent semiannual meeting of the Permanent Council—normally taking place in Geneva ahead of the WHA, but this year hosted virtually—was “Telling the Story: Advocacy for Surgical, Obstetric, Trauma and Anaesthesia Care.” During the two-day event, the stories of patients, providers, and communities were featured, orienting the work of G4 Alliance members and global allies around these shared experiences. In the years ahead, the G4 Alliance will continue to center its activities on these voices, eliminating barriers to collaboration and building an advocacy ecosystem that links countries, disciplines, and people at all levels of the health system.

About the author
Natalie is an advocacy associate for the Global Alliance for Surgical, Obstetric, Trauma and Anesthesia Care (G4 Alliance). She is also a master of business administration and master of public health dual degree candidate at the University of Illinois at Chicago, focusing on social enterprise and finance for global health and development. Previously, Sheneman worked for the Institute for Global Health at Northwestern University. She attended Carleton College, where she earned a BA in international relations.

To learn more about the G4 Alliance and to get involved, contact Natalie Sheneman, Advocacy Associate at natalie.sheneman@theg4alliance.org.
ANKIT RAJ & ROSHAN RADHAKRISHNAN
THE ANAESTHETIST BEHIND THE MASK
Voices of One Surgery, Issue 1, June 2018 p15-19

GERALD MWAPASA
THE MOBILE PHONE SURGICAL CLINIC
Voices of One Surgery, Issue 3, October 2018 p10-14

OMAR ABDALLAH
A CRANIOTOMY IN CONFLICT
Voices of One Surgery, Issue 3, October 2018 p5-9
LOCAL LEADERSHIP WILL HELP US EMERGE FROM COVID-19 STRONGER

BY MACKINNON ENGEN (FROM WATSI) & SUSANA OGUNTOYE, KATE SCHWED AND BRIAN NJOROGE (FROM KUPONA FOUNDATION)
As we approach a new, worrisome phase of the COVID-19 crisis, there are many changes in how the world approaches global health. Not only has the pandemic exposed the broken sutures among key players in the sector, it has also underscored how essential the often-forgotten local communities are in achieving health equity. At the onset of the pandemic, many foreign staff and volunteers were understandably evacuated back to their home countries before borders closed, leaving local staff and communities to take charge. While the global health community lauds itself as a vanguard of justice and equity, such a move during a once-in-a-generation health crisis proved that the sector, while still beneficial, largely relied on the efforts of the community rather than the traditionally more visible foreign professionals.

In fact, for far too long, the wealth of local expertise, knowledge, and passion has been sidelined by international teams and often Western-based headquarters. During the pandemic, aid agencies and development organizations in the Global North have had their own woes too as the US and Europe reported record highs in average new cases and COVID-related deaths. As a result, local staff have, therefore, had more say and freedom when faced with situations that need immediate action. This necessary expediency as a result of the pandemic has meant that local communities have now taken a seat at the decision-making table. It is our hope that they will stay there.

Local organizations across the Global South have shown resilience in tackling this global health crisis and sustaining access to critical health services, including essential surgery. In response to the pandemic, there have been incredibly innovative solutions led by local communities, building upon multi-sectoral partnerships and therefore bypassing the often NGO-rife global health space.

As noted in Harvard Business Review, “about one-fifth of these innovations have come from low- and middle income-countries.” Safe Hands Kenya (SHK) saw 40 private companies and social enterprises form an alliance to rapidly respond to the pandemic last year. The initiative leveraged local knowledge and capacity to distribute masks, hand washing stations, and disinfectants while conducting awareness campaigns on how to prevent COVID-19 infection. SHK bypassed most restrictive aid processes to reach over 1.3 million people in a month. This innovative model has now been nominated by Fast Company as one of the World Changing Ideas of 2020. Health practitioners must recognize the importance of regional and local multi-sectoral partnerships, as even though they can translate into a multitude of challenges and complexities, they can also tap into local leadership and knowledge to provide solutions for the problems communities seek to solve.

SAFE HANDS KENYA IS A MISSION-DRIVEN ALLIANCE OF KENYAN ORGANISATIONS DEPLOYING FREE SOAP, HAND-WASHING STATIONS AND MASKS TO KENYANS, AND DISINFECTING PUBLIC SPACES, AS A FIRST LINE OF DEFENCE AGAINST COVID-19.
For forward-looking nonprofits, not as much has had to change. Watsi, which directly funds patients who need life-saving surgeries through crowdfunding, adopted a local and patient-first model from their founding in 2012. They focus on actively listening to a patient’s own story and needs, and then work to provide direct funding for their cost of medical treatment. Watsi partners with leading local medical providers to refer patients in need of surgery through a system of trust and transparency that supports the local hospitals to set their own priorities on what will have the most impact on patients’ lives. This has led to an open and effective relationship between Watsi and its medical partners in communities around the world, which ensured limited disruptions to patient care during the pandemic.

Additionally, with the majority of their funds coming from individual contributions, Watsi has been able to sustain its model through COVID-19 as harder-to-pin down grants remained scarce.

Global health has always been about eliminating health disparities in vulnerable communities. While this is possible through global cooperation, it can only be achieved by making space for local voices and perspectives in both the development and implementation of solutions. How can we ensure that local communities lead the discussions at the table? This calls for decolonization of the sector with changes such as funding models moving away from bureaucratic, top-down traditional models.

Naw Ree is a nurse and midwife at a local Watsi Medical Partner in the Thai-Burma border region.
For Kupona Foundation, a nonprofit committed to delivering high-quality healthcare to those who need it most in Tanzania, the pandemic has highlighted the need for unrestricted funding. Kupona’s local partner, Comprehensive Community Based Rehabilitation in Tanzania (CCBRT), a leading specialist healthcare provider in Tanzania and a lynchpin in their healthcare system, had to prioritize the needs of the community while directing funds towards infection, prevention, and control efforts, as well as staff coverage and salaries due to increased sick and bereavement leave, depleting financial reserves.

As many conventional funders direct their aid to specific projects, and restricted funds to specific COVID needs within the pandemic, this has stifled the broader work of some health organizations such as CCBRT, with salary and administrative costs that still have to be met.
Now more than ever, nonprofits in the Global South must have the discretion to channel funds where necessary and most impactful as evidenced by some funders who have wisely provided much-needed unrestricted mini-grants within this crisis period.

As we navigate out of the pandemic, we wish to hear more directly from the people in whose communities global health organizations work. Additionally, innovation and partnerships must be based on shared values, trust, social justice, and mutual accountability to deliver collective impact to those who need it most. Moving forward, it is our hope that the local communities will take center stage in all conversations as they advocate for change driven by local needs, and not a global solution in search of a problem.

ABOUT THE AUTHORS

Mackinnon Engen serves as the Executive Director of Watsi. As a global health and humanitarian professional, her experience spans the UN, international and local NGOs, and academic sectors across Asia, Africa, Europe, and the Americas. Her research includes topics of organizational leadership and effectiveness, economic impact of health interventions, emergency food security, and the humanitarian impact of climate change.

Susana Oguntoyé serves as the Executive Director to Kupona Foundation. She has almost two decades experience in health research and policy, as well as design, monitoring, evaluation, and implementation around health services development, with a particular focus on international development and global health systems strengthening.

Brian Njoroge is a Partnerships and Communications Officer at Kupona Foundation. He is a 2020-21 Princeton in Africa Fellow and is interested in working in marginalized communities to create change through policy and critical development.

Kate Schwed is an External Communications Advisor at Kupona Foundation. She is a freelance copywriter based in Brooklyn, NY.
EXCLUSIVE GLOBAL SURGERY MERCHANDISE!
HTTPS://SHOP.ONE.SURGERY

WE ACCEPT
PayPal

ALL SALES SUPPORT THE ONE.SURGERY PROJECTS
MATERNAL HEALTH
THROUGH THE EYES OF AN
ASPIRING NEUROSURGEON

ALIYU NDAJIWO
“You have a lump on your right breast. The ultrasound result suggests the same. We have to surgically remove it, take it to the lab, and examine it to determine if it’s cancerous or not. You do not need to worry, we are here with you.”

This perhaps is the most common set of words I’ve communicated with patients that come to the cancer screening centre I coordinate in my hometown of Minna in Nigeria.

Life has its many surprises. What does an aspiring neurosurgeon have to do with breast and cervical cancer? Or vesico-vaginal fistula (VVF) repairs? Or even travelling around to all the corners of my home state, with the obvious danger of insecurity, to assess the quality of maternal and child health service delivery across primary healthcare facilities?

Yes, there are neurosurgical cases everywhere that we all know require immediate intervention. Managing neurosurgical cases in places like this is very difficult in the sense that there’s no single neurosurgeon in the state or even a neurosurgical facility with the relevant equipment in the state. Neurosurgery is still not seen as an important public health issue. The medical officers here aren’t trained to perform basic neurosurgical procedures like the burr-hole procedure. Head injuries remain very common here due to many reasons like road traffic accidents (RTA), with no strict policy on the use of helmets for motorcycle riders and on-going armed conflicts from the bandits ravaging our society, and yes Boko Haram is still doing what they have been known to be doing globally; wrecking havoc to the society. It’s quite interesting and at the same time very sad to know that these have become the norms in our society, just like COVID is to the world.

In 2020, an opportunity came for me to work in the non-governmental organization, RAiSE Foundation, founded by Her Excellency Dr. Amina Abubakar Bello, wife to the Governor of my state, and also a daughter to one of Nigeria’s former Head of State during the military regime. She is a consultant obstetrician and gynecologist, and a strong global voice in the fight against cancer and in improving women’s health.

The organization works on many interventions to improve the health services of women in the state. The organization is at the forefront of the fight against cancer in Nigeria. For personal reasons, I wanted to join this fight and this is what drew me to work for the foundation. We provide free breast and cervical cancer screening and advocacy services, and even help with the logistics and management of our cancer patients. RAiSE foundation also works in the maternal and child health space by providing all the necessary tools and items women in community need to access safe childbirth services. RAiSE also provides emergency transport services for women, especially in hard to reach areas to access quality maternal health services. We train healthcare workers on safe maternal and child health practices. The foundation also has a VVF centre where we perform free obstetric fistula surgeries for women in the country.
Although during my internship year I had a vague idea on the numerous challenges women face in accessing safe, affordable healthcare, I only truly saw the reality and gravity of the problem while working as the medical/surgical programs coordinator at RAiSE foundation.

We all know that cancer is a leading cause of death globally. And in the sub-Saharan African region, it is predicted that there would be an 85% increase in cancer burden by 2030. Approaches to minimise the burden of cancer in sub-Saharan Africa in the past few years have had little success because of low awareness of the cancer burden and a poor understanding of the potential for cancer prevention. In Nigeria, over 70,000 deaths annually are attributable to cancer with women being affected the most.

The top five commonest types of cancer in the country are breast cancer, cervical cancer, prostate cancer, Non-Hodgkins lymphoma, and liver cancer. The type of cancer that causes the most death in Nigeria is breast cancer, followed immediately by cervical cancer, then prostate cancer. Compared to developed nations, we have a saddening mortality rate for many forms of cancer.

IN NIGERIA, 51% OF ALL BREAST CANCER CASES RESULT IN DEATH COMPARED TO 19% IN THE USA.

Over 70% of Cancer patients in the country present to a facility in the late stages (III and IV). And believe me, most Nigerians still believe cancer is a “foreign person’s disease” or some mystical or magical demonic attack “juju’ sent forth to innocent people by evil people or the Supreme Being as a sort of punishment. Hence society insists women have to visit traditional healers or faith based leaders with zero to no knowledge on the pathology of cancer and its management for a cure. Some live in denial because their spiritual/religious leaders make them believe that they can never catch cancer or it is not in their portion.

The reality hits when the cancer has spread and the symptoms have become so obvious that they finally resort to visiting the healthcare facilities they can afford to visit with the cancer already at an advanced stage, and perhaps only palliative care can be rendered.
Late presentation and poor awareness still remains the major reasons for the enormous burden of cancer in our society. But whilst cancer still looms large, women also still face the same old challenge of surviving pregnancy or childbirth. In the most developed countries, the lifetime risk of a woman dying during pregnancy, childbirth or postpartum/post-abortion is 1 in 4900, whereas in Nigeria, a woman has a 1 in 22 lifetime risk of dying in the same situation. There are still numerous skilled workforce, infrastructural, equipment and supplies, and information management challenges hindering the growth or rather the improvement of our maternal and child healthcare delivery services which would require a more holistic approach in tackling. The truth is the government with all its resources cannot do it alone, and this is where organizations such as RAiSE come in to play to partner with the State government and help improve the poor maternal health indices.

Obstetric fistula (OF) is mainly caused by prolonged obstructed labor. OF still remains a huge menace within our society largely due to the existence of some socio-cultural beliefs and the socio-economic state and poor health facilities. It is estimated that about 2 million women globally are living with irreparable vesico-vaginal fistula (VVF) which is a type of OF, and about half of these 2 million women from developing countries were from Nigeria. The prevalence of OF is 3.2 per 1000 births in Nigeria, and about 50,000 - 100,000 new cases are estimated to occur annually in the country. This backlog of cases may take up to 83 years to clear at the present rate of repairs. OF is entrenched in poverty, largely affecting women of low socio-economic status, with no or lower levels of education, and typically women living in rural areas with preference for unskilled home deliveries as well as women engaged in performing harmful traditional practices, or forced to marry at a very young age.
Although free VVF camps are quite common in this part of the world, the country has less than 15 dedicated VVF centres, and the ratio of specialists to patients is very low. At the RAiSE foundation VVF Centre in Kontagora, Nigeria, we perform free OF repairs to hundreds of women across the country, and we rehabilitate them and assist them in acquiring skills that will empower them and help them reintegrate back into the society that for the most part has stigmatised and neglected them.

As a physician that is mostly drawn towards the mystery and the pathologies of the most glorious organ in our body which is the human brain, I cannot close my eyes on what I see every day. The majority of women health issues may not only be just peculiar with my country Nigeria, but it is in the size of our population, and the paucity in our health workforce, funding, infrastructure, equipment and supplies and other factors that bring it to limelight. There are many other conditions affecting women that I may have not mentioned, but I believe improving access to safe emergency and essential surgical care is key.

A strong will from the government to enact the right policies and implement them with support from other organizations will really help in strengthening the Nigerian healthcare system entirely, which would help mitigate most of these unfortunate conditions afflicting many Nigerian women. I believe in RAiSE Foundation, we have done so much but I strongly believe that there is so much still to be done. The future of Nigeria’s healthcare system is ours to build.

ABOUT THE AUTHOR

Aliyu is a physician and an aspiring neurosurgeon from Nigeria, currently working with the RAiSE Foundation as Medical/Surgical co-ordinator. He’s also a team member of One.Surgery.

The RAiSE Foundation can be found here:

Website: Raisefoundation.org.ng
Twitter: @RaiseFDN
Instagram: RaiseFDN
The First Cryptocurrency Funded Global Surgery Research Publication

Powered by Bitcoin Cash
In August 2021, One.Surgery launched the Journal of Global Surgery (ONE), the first ever peer reviewed scientific journal with a new ground-breaking community funded model, powered by Bitcoin Cash. The current scientific peer review publishing industry is fraught with multiple economic barriers to the scientific community: authors facing charges up to $3000 to simply publish one peer reviewed article, whilst readers face financial barriers to accessing scientific research (with costs up to $45 just to access an article). The peer reviewers, the very core of the scientific community, and who often work on a voluntary basis, receive no compensation for their time from the journal profiteering from the scientific work resulting in a multibillion dollar publishing industry where little or none of the funding returns back to the community. One.Surgery set out to change this with a journal model that promotes financial transparency, whilst offering affordable, ethical, and accessible access to science to everyone in the world, with no financial barriers.

The concept is very simple: authors do not pay a dime to publish with the journal whilst the journal covers all the costs, including offering stipend rewards to the peer reviewers. The journal then transparently publishes the cost to create the article, accounting every dollar.

The journal then simply asks the readership to cover the cost, in a crowdfunding model, where Bitcoin Cash micropayments (and Paypal macropayments) contribute to the article paywall, lowering it with each payment. Any contributor gets instant early access to the article, whilst helping to pay the overall price tag for the whole community. Once the article costs are covered, the article is open access for all.
HOW THE JOURNAL MODEL WORKS

1. AUTHORS SUBMIT THEIR WORK AS USUAL
As standard practice, authors will submit their scientific work through a custom built manuscript submission platform to the journal.

2. THE WORK UNDERGOES PEER-REVIEW
Again, as standard practice, the work undergoes peer review by a body of peer reviewers affiliated with the journal. As an appreciation, peer reviewers earning a small stipend in Bitcoin Cash for their work, which they can claim or donate to charity.

3. IF ACCEPTED, THE JOURNAL PUBLISHES THE ARTICLE WITH A TRANSPARENT PRICE TAG
Once the article is accepted, edited and undergone typesetting, the journal will publish the article and submit it to relevant databases and archives. The journal will also publish to the readers the exact expense it paid to create the article, including a breakdown of all fees. With modern web software, it is anticipated this price tag will be approximately $50-$100 per article.

4. ANY BITCOIN CASH MICROPAYMENT CAN ACCESS THE ARTICLE
The journal will accept any size of bitcoin cash payment to access the article, ranging from a micropayment of $0.10, to the full price tag of the article. Anyone who makes any size of payment, will have full downloadable access of the article. Furthermore, any payment received for the article will lower the overall article price tag, til the price becomes $0. Once $0 is achieved, the journal has recouped its full publishing costs, and the article is opened to the entire community as community owned, copyright free. For example, if an article is published with a price tag of $75, anyone in the community can choose to pay the entire fee to open up the article (for example, the author, a philanthropist, an invested university etc), or, multiple users throughout out the world can combine to simply pay a minimum amount each to access the article whilst slowly contributing to create a lower remaining price tag.

HOW DOES BITCOIN CASH WORK AND OPEN UP THE PAYMENT SYSTEM FOR THIS NEW JOURNAL

Bitcoin Cash is a cryptocurrency established in 2017 with a thriving and dedicated online community.

This currency allows instant peer-to-peer payments with minimal transaction fees. It is borderless and permission-less, meaning anyone in the world with a basic internet connection can create a wallet and transact with the currency, with no barriers, restrictions or red-tape.

By utilising such innovative technology and with the journal being able to accept micropayments (with no added fees), it truly means anyone in the world can obtain a bitcoin cash wallet and access peer reviewed science with any payments they choose to afford, and also contribute to the overall community funding to create open access, high quality, peer review work - ensuring no financial resources ever leave the scientific community.
The first ever community and cryptocurrency funded peer review scientific article in history!

In August 2021, the Journal of Global Surgery (ONE) launched in beta mode, and on the 15th August 2021, released its first peer review article, with a $76 paywall. Within a few hours, history was made, with the entire paywall paid by various members of the community, whilst simultaneously raising money for a partnered global surgery charity too.

Here is a recap of how Bitcoin Cash flowed through the entire global community, with just a single article.

- $10 Bitcoin Cash sent to three peer reviewers in three continents for peer reviewing the article.
- $10 Bitcoin Cash was donated by one peer reviewer to a surgical charity in Cambodia
- $10 Bitcoin Cash was sent to the editor - who donated it back to the journal
- $15 Bitcoin Cash was sent to the type setter - who donated it back to the journal
- $2 Bitcoin Cash was made available to the author to claim (remains unclaimed at time of print)

And the most amazing aspect: 14 readers all contributed in Bitcoin Cash payments to pay off the $76 price tag, allowing the whole world to have open access to the publication.

The first ever community and cryptocurrency funded peer review scientific article: Empowering The Rural Surgeons, The Way Forward For Meeting The Surgical Needs Of Rural Areas
doi: 10.52648/JoGS.1136
The journal is packed full of new, innovative ideas, with an integrated type-setting system (to reduce type-setting costs), Twitter networking (allowing the author to tweet from the Journal and embed the tweet into the article), a live dashboard of journal statistics and free video abstracts coming soon.

We have successfully demonstrated the utility of our paradigm changing journal model, and the immense borderless, instant, transmission of research in a fully transparent, sustainable, scalable and community funded way.

We now seek peer reviewers in the global surgery community to join our journal, offering their skills and experience to ensure we maintain the highest publishing standards, and we invite authors from all over the world to submit their work with us:

The Journal Of Global Surgery (ONE)
https://jogs.one
Ours is a circle of friendships united by ideals

Juliette Gordon Low
THANK YOU FOR SUPPORTING US!

HTTPS://ONE.SURGERY